Board Independence and Firm Financial Performance: Evidence from Nigeria

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Abstract

This study examined the relationship between board independence and firm financial performance, using data of varying sample size (ranging from 89 firms for regression to 205 firms for descriptive analysis) obtained from the Nigerian Stock Exchange for the period 1996 through 2004. The key results were that share ownership was highly concentrated in Nigeria, and this structure tended to engender board structures with close family affiliations in which the chief executive officers (CEOs) were active members of audit committees. While family affiliation of board members was found to support firm growth, we found evidence that audit committee membership of chief executives hurt firm performance. We also found that foreign chief executives performed better than their local counterparts. These results suggested the need for Nigerian firms to adopt better corporate governance mechanisms in order to make the boards of directors more independent, avoid unnecessary intervention of CEOs in important committees, and in that way aid financial performance.

Acknowledgements

1. Background to the study

The board of directors has long been recognized as an important corporate governance mechanism for aligning the interests of managers and all stakeholders to a firm. The need to adopt the right corporate governance mechanisms is driven by the agency problem and the associated free-rider problem that makes it difficult for any single investor or stakeholder to bear the cost of monitoring managers. The central role of board of directors in this process has therefore been recognized and in recent years has gained significant attraction for at least two reasons. One, both transition countries and other developing countries are struggling to attract resources for investment in an increasingly competitive global environment. Two, events at Enron and several other large corporations suggest the need for policies to promote board independence and other aspects of corporate governance. Levine (2004) also sees a link between corporate governance and the economy, arguing that it has the capacity to foster economic growth. According to him sound corporate governance makes it more likely for owners of capital to monitor the activities of managers either directly through voting on crucial matters or indirectly through the board of directors. This helps to protect shareholder interest and promote savings, investment and economic growth. Oman et al. (2003) argue along similar lines, but see the importance of corporate governance on growth through a different channel. For them, well-governed firms are better able to raise productivity and aid economic growth.

Both Oman et al. (2003) and Morck and Yeung (2003) argue that different forms of ownership structures are associated with different sets of agency problems. In countries such as USA and UK, where share ownership is widely diffused, the agency problem is more common between managers and shareholders. In contrast, in developing countries characterized by concentrated equity ownership, the agency problem is most predominant between controlling shareholders and minority shareholders. As discussed later in this study, controlling shareholders acquire and maintain effective control over firms beyond what can be justified by their equity interest, and that they often take advantage of that control to expropriate resources from minority shareholders. Developing countries can ill afford to maintain structures that perpetuate expropriation of minority shareholders since such countries are in need of additional, especially outside, resources to support investment and growth. Foreign investors may be scared of such expropriation and might well argue for effective control of the firms themselves. However, the political backlash such action would unleash could cause political resistance to such levels of foreign control. Thus, strengthening board independence and other forms of firm-level governance is important, and particularly so in developing countries with weak institutions that need to attract foreign resources.

Beyond helping to resolve agency problems between managers and other stakeholders, corporate governance is important to the economy (Levine, 2004; and Oman et al., 2003). In developing countries with weak legal institutions it is sometimes difficult for foreign investors to seek legal redress when a developing country partner violates a contractual agreement (Collier, 2006). Since there are no global law enforcement agencies to deal with the concomitant problems (Collier, 2006), it could be argued that strengthening board independence and other firm-level mechanisms of corporate governance could help ameliorate the weakness. This would encourage foreign investment, with significant ramifications to the economy.

The issue of board independence and corporate governance in general has long been neglected in Nigeria. It was not until November 2003 that a code of corporate governance was developed, which, as discussed below, makes a specific set of recommendations on how to promote board independence and corporate governance. The relative neglect of corporate governance in Nigeria's public policy is perhaps a reflection of the paucity of research in this area in the country. We know of only two empirical studies on corporate governance in Nigeria: An unpublished work by Adenikinju and Ayonrinde (2001) and a study by Sanda et al. (2005). Both studies have important limitations. While Adenikinju and Ayonrinde (2001) make no attempt to examine the relationship between board independence and corporate performance, Sanda et al. employ a narrow set of measures of board independence, reporting no significant relationship between the proportion of outside directors on the board and firm performance. By employing a wider set of variables serving as measures of board independence and using a more recent Nigerian data set, this report extends our understanding of the relationship between board independence and firm performance in Nigeria.

Corporate governance and the more specific issue of board independence have suffered neglect not only in academia as mentioned above, but also in the area of policy. Before the introduction of a code of corporate governance, there were three main pieces of legislation that influenced the operations of enterprises. The first is the Companies and Allied Matters Act 1990 which prescribes the duties and responsibilities of managers of all limited liability companies. Second, the Investment and Securities Act (ISA) 1999 requires the Securities and Exchange Commission to regulate and develop the capital market, maintain orderly conduct, transparency and sanity in the market in order to protect investors. Third, the Banks and other Financial Institutions Act 1991 empowers the Central Bank of Nigeria to register and regulate banks and other financial institutions.

This legislation had evident gaps and was not comprehensive in terms of provisions for corporate governance. Taking note of the deficiencies of the existing legislation, the Securities and Exchange Commission in partnership with the Corporate Affairs Commission set up in June 2002, a committee to develop a draft code of corporate governance. The code, launched in November 2003 (Ndanusa, 2004), makes several recommendations for improving corporate governance in general, but gives a more detailed account of ways to promote board independence. Amongst other recommendations of the code is that the Audit Committee should comprise at most one executive and at least three non-executive directors. Members of that committee must be able to read and understand financial reports. There is a recommendation that the post of CEO should be separated from that of the chair, unless it is absolutely necessary for the two to be combined, in which case the code recommends that a strong, non-executive director should serve as vice-chair of the board. Other provisions of the code related to strengthening board

independence include the recommendation that non-executive directors should chair the audit committee, in addition to the requirement that a non-executive director should have no business relationship with the firm. These provisions also include a recommendation that provides that the non-executive directors should be in the majority, and that a non-executive director should chair the remuneration committee, the membership of which should comprise wholly or mainly of outside directors. However, it is observed that the code is silent about an equally important committee the appointment committee for gauging board independence. Moreover the code lacks legal authority, as there is no enforcement mechanism and its observance is entirely voluntary (Nmehielle and Nwauche, 2004). Recognizing the potential problem to effective governance that family affiliation of board members could cause, the committee recommended that in order for the board to be "truly independent, (outside) directors should not be connected with the immediate family of the members of the management".

It is apparent from the above that Nigeria's code of corporate governance does not take full account of such provisions in codes of corporate governance developed much earlier in other countries such as the UK and USA. In the USA, the Sarbanes-Oxley Act 2002 heralded the start of new far-reaching measures aimed at strengthening corporate governance and restoring investor confidence (Jensen and Fuller, 2002). Building on the progress made in the reports by Cadbury (1992), Greenbury (1995), and Hempel (1998), in 2003, the UK started to implement the New Combined Code, an outcome of the Company Law review and a report by the Higgs Committee (2003). In both countries the new set of regulations has recognized the importance of non-executive directors and has made special provisions aimed at promoting their independence and corporate governance.

The main objective of this study was to examine the relationship between measures of board independence and the financial performance of firms listed in the Nigerian Stock Exchange (NSE). This broad objective was divided into five specific objectives, one each for the five measures of board independence:
- To examine whether performance is affected by the extent of family affiliation on the board of directors;
- To ascertain the extent to which firm performance is influenced by the tenure of chief executive officer (CEO);
- To investigate whether there is a significant relationship between the proportion of outside directors on the board and firm performance;
- To assess the influence of the audit committee structure on firm performance.
- To examine the relationship between interlocking directorship and firm financial performance.

In line with the above objectives, five hypotheses were tested. The hypotheses propose that there is no significant relationship between firm performance and:
- Family affiliation of board of directors;
- CEO tenure;
- Proportion of outside directors on the board;
- Audit committee structure; and,
- Interlocking directorship.

The rest of this report is organized into four sections. Section 2 covers a review of literature and an overview of the theoretical framework. Section 3 covers the methodology while Section 4 presents the results of the study. The final section concludes the report.

2. Literature review

The literature on the relation between board independence (as a corporate governance device) and firm performance has registered significant growth, buoyed mainly by studies from developed, and to a lesser extent some developing, countries. The rapid growth in the literature is perhaps motivated by the realization that left to itself, the market system does not have the capacity to address the problems of agency. However, it is in order to present an overview of what the literature says about the main ways in which the market mechanism might help alleviate the agency problem. As Fama (1980) argues, the managerial labour market does recognize the current and previous performance of every manager and therefore has the capacity to encourage good managers who perform well and punish those who do not. This market mechanism provides an incentive for managers to promote shareholder wealth and to deter the pursuit of interests that may be injurious to the health of the firm. Another market mechanism for dealing with the agency problem is through the market for corporate takeover. Managers of poorly performing firms run the risk of losing their jobs once the firm is acquired by other firms. Fearing this prospect, managers act as a team, each realizing that his or her job security is dependent on the performance of every manager in the team. This gives each manager the incentive to monitor the behaviour of the other managers in the team. Without pre-empting the outcome of the literature review, it may be in order to stress that in Nigeria and other developing countries with weak institutional structures, and where corruption is endemic, the ability of the market to discipline weak-performing managers will be limited. This point is underscored in the work of D'Souza et al. (2001: 6) who assert that, "For managers to feel the full disciplining pressure of the capital market, the rights of the individual shareholder (particularly the voting rights) must be enforced by the country's legal system". In view of this, it could be argued that in Nigeria where legal institutions are weak, the ability of the capital market to impose the necessary disciplinary mechanism will be greatly limited.

Despite the presumed ability of the market to help align the interests of all parties interested in the wellbeing of the firm, sporadic cases of corporate malfeasance have continued unabated, promoted either by the managers hired to protect the firm, or orchestrated by the controlling shareholders. A number of reasons have been given for the inability of the market to serve as an effective disciplining device. One, insiders know the enterprise better than outsiders. Therefore managers will not allow a takeover bid to succeed unless the buyer is ready to pay more than the value of the firm. In order to take a decision on whether to raise a bidding, a bidder could bear the personal cost of researching the ailing firm. If he raises his bidding, this could send a signal to other bidders to raise their own bidding as well. Thus, the market for corporate takeover, designed to

solve the agency problem, is itself afflicted with the very problem it is intended to solve. Second, the market for corporate takeover may fail to work because managers could take actions such as poison pills to deter takeover. Third, managers could develop incestuous relationship with the board of directors, a relationship that could cause the market system to fail to discipline them. These are amongst the reasons why it is often claimed that the market system may not be properly equipped to deal with the agency problem.

Given the weakness of the market system to handle the problem of agency, a broad spectrum of corporate governance measures have been suggested as effective mechanisms for promoting corporate performance. This study provides an overview of these mechanisms, with more detail on these aspects of board independence either ignored or mentioned briefly in Sanda et al. (2005). The literature surveyed is divided into two categories: The first concerns board characteristics, and the second concerns other control variables affecting firm performance.

Board characteristics

Three aspects of board characteristics are discussed in this section. We begin with a review of the literature on board size, followed by that on board composition, and then on the importance of family domination on the board of directors.

Board size, the total number of directors (including the chairman) on the board, has been a subject of significant research in terms of its relationship with firm performance. It is argued that within a certain range, the larger the board, the more effective it is in its statutory function of monitoring the management. While there may be no one-size-fits-all recommendation for the optimal size of board, a board size of 10 is often recommended. Yermack (1996: 186) draws on previous literature to support the need to "limit the membership of boards to 10 people, with a preferred size of eight or nine". However, recent evidence by Sanda et al. (2005) is consistent with a recommendation for a board size of 10.

Board composition, which refers to the number outside directors, when expressed as a proportion of total board membership, is a good measure of board composition. A board dominated by outside directors is more likely to be independent of management than one with a preponderance of inside directors, and therefore more likely to protect the interests of other stakeholders. As mentioned earlier, the importance of outside directors has been recognized even at the level of policy, with codes of corporate governance paying a special attention to the need to have a reasonable proportion of them on the board of listed firms. Empirical evidence has shown that properly constituted boards with the right mix of non-executive directors tend to contribute more to performance than boards with a predominance of inside directors (see, for example, Weisbach, 1988; Fosberg, 1989; Hermalin and Weisbach, 1991; Mehran, 1995; Yermack, 1996; John and Senbet, 1998; Bhagat and Black, 2001). A closely related issue is the participation of non-executive directors on the main committees of the board. John and Senbet (1998) argue in favour of a committee structure that gives the non-executive directors a key role especially in the audit, remuneration and appointment committees. This recommendation seems to be acceptable to policy makers. In Nigeria for example, the new code of corporate governance provides that the non-executive directors should be in the majority, and that

a non-executive director should chair the remuneration committee, the membership of which should comprise wholly or mainly of outside directors. In a recent empirical study, Hayes et al. (2004) report no relationship between the fraction of outside directors serving on a committee and the performance of the firm. This finding runs counter to the findings reported in a review by John and Senbet (1998), which supports greater participation of outside directors on the major committees of the board. However, there is a distinction between outside directors and independent directors. An outside director with business interests in the firm would compromise the independence that one would expect such an outsider to gain. Thus, only outside directors with no business interest other than membership of the board are regarded as truly independent.

The results so far have been mixed. As a measure of board independence, the ratio of outside directors sitting on the board has been found to be closely related to firm performance (Zahra and Stanton, 1988; and Wade et al., 1990). In contrast to the above, evidence of a negative relation has also been reported (Agrawal and Knoeber, 1996; Daily and Johnson, 1997; and Weir and Laing, 2001), while some studies have reported no significant relation (Hermalin and Weisbach, 1991; and Bhagat and Black, 2000).

A number of reasons have been advanced to explain the disparate findings. A key explanation, perhaps, is the difficulty often encountered in the measurement of board independence and the concomitant differences in the measures of such independence. While some studies have relied upon CEO turnover following poor performance as a measure of board independence (Udueni, 1998; Liang and Li, 1999; and Shivdasani and Yermack, 1999), some have attempted to gauge it using multiple or interlocking directorships (Gilson, 1990; Kaplan and Reishus, 1990; and Shivdasani, 1993), and yet another group has used the number of outside directors appointed during the tenure of the CEO as a proxy for board independence (Core et al., 1999; and Ghosh and Sirmans, 2003). Other researchers such as Klein (1998) and Hayes et. al. (2004) have undertaken studies using as their measure of board independence the fraction of outside directors serving on each committee (this is often referred to as committee structure). Yet others have considered the issue of a busy director as one sitting on three or more boards (Ghosh and Sirmans, 2003). The extent to which the board of directors may serve as an effective tool for the promotion of board independence depends in part on the extent to which the members are involved in other assignments. It is assumed that the greater the number of boards on which a person sits, the less time they will have on a single board. This assumption has a drawback in the sense that membership of other boards could enrich experience and widen exposure, both of which could have positive effects on firm performance. Despite the potential gains of multiple directorship, the literature considers as busy a director sitting on three or more boards (Ghosh and Sirmans, 2003). Directors who are too busy are unable to pay attention to strategic issues for effective governance and discipline of the executives. In the UK, the phenomenon of multiple directorships has led the National Association of Pension Funds (NAPF) to call for a limitation on the number of non-executive directorships an individual can hold at the same time to not more than five (Pass, 2004).

A CEO who has family on the board of directors could inflict deleterious consequences for the firm and its performance. In the face of poor performance it is likely that firms with family relations sitting on the board will find it harder to rid themselves of poor-performing

chief executives. The network of friends and relations on the board could make it difficult for this to happen. The results obtained from the analysis of variance showed that family dominated boards tend to have a large number of directors sitting on their boards.

Each of these measures of board independence is fraught with pitfalls. Take the case of multiple directorships, for example. While persons with track records of performance as independent directors might get appointed to several other boards, such multiple appointments could thin out the director's available time for monitoring, reducing the effectiveness of the board in its monitoring role. Thus the link between multiple directorship and corporate performance could be a tenuous one.

A second methodological issue believed to have contributed to the lack of a coherent picture is the sampling technique. According to Coles et al. (2004), most studies on board independence have been conducted on the basis of data from large publicly held firms. According to them, for this category of firms, the link between independence and firm performance is not very clear, in contrast to small firms, for which the link is more straightforward.

Family control of boards can be gauged by the presence or absence of members of the same family sitting on a board. It should be clear from the outset that the concern in this study is whether there are two or more members of the same family sitting on a board; the concern is not on the extent of family ownership. It is therefore of interest to examine this strand of literature the effect of family domination on firm value. Boards with several members of the same family are less likely to be effective at replacing a CEO in the event of poor performance especially when such a CEO is a family relation (Shleifer and Vishny, 1997, 1998). However, some scholars (such as Tsai et al., 2006) take exception to the argument that family-controlled boards could engender CEO entrenchment and therefore serve as a setback to other classes of shareholders. Tsai et al. (2006) see the impact of family-controlled boards in a more positive light. Their argument is that in a family-controlled board, a member of the family is often motivated by the bond of family ties to promote organizational, rather than individual, goals, since the success and continuity of the family business is of paramount importance. Thus, they reason, family-controlled boards could in fact be more effective than other boards in mitigating the agency problem and thus aligning the interests of the managers and shareholders.

However, like other scholars on the subject, Tsai et al. (2006) are not oblivious of the possibility that family-controlled boards may protect the interests of the family even when such interests run counter to those of other shareholders. An example of this is the tendency for such boards to use family connection, rather than performance, as a basis to extend the tenure of a chief executive. The novelty of the argument by Tsai et al. (2006) is that it presents a more balanced view of the impact of family-dominated boards. Indeed, the authors test the two hypotheses using data drawn from listed firms in Taiwan. They report evidence in favour of their thesis that compared with other boards, family-dominated boards tend to be more effective in relating CEO turnover with performance.

Despite the finding by Tsai et al. (2006) of a positive contribution of family domination of boards of directors, some researchers cast a less positive view of it. Morck and Yeung (2003) have advanced a reason why one should expect family-controlled boards to

pursue interests that may hurt minority shareholders. Their argument runs as follows. In boards without the influence of family connections, share ownership tends to be more diffused, limiting each shareholder's risk to the relatively small investment they have made in the shares of the firm. Thus, boards of firms with diffused ownership are better able to pursue risky, high return projects, since each shareholder's risk exposure is comparatively small. In contrast, family-dominated boards are not characterized by such diffused ownership the interest of the family is often significant. Thus, in order not to expose the family to significant levels of risk, such boards will pursue low-return, lower risk projects, an objective that may hurt small shareholders. Thus, the conflict of interests between families with significant investment and the small shareholders will continue to prevail, the authors argue. Indeed, Morck and Yeung (2003) buttress this argument by referring to previous literature that suggests that stock prices tend to rise on the news of death of a long-tenured CEO.

Although they recognize the importance of devising ways to address the problem of agency between managers and other stakeholders, Oman et al. (2003), argue that this problem tends to manifest itself in different ways, depending on the pattern of ownership structure. In countries such as the UK and the USA where shares are widely diffused, the traditional manager-owner agency problem tends to be most visible. In contrast, in many other countries where share ownership is highly concentrated, the most relevant manifestation of the agency problem is the tendency for controlling shareholders to expropriate minority shareholders, using a number of strategies such as multiple classes of shares and pyramidal ownership structures. Such mechanisms enable the controlling shareholders to have effective control over the firms in which they have vested interest. What is more, such schemes enable them to have more control over the firms than can be justified by their ownership control.

Despite the absence of a coherent picture, a number of stylized facts seem to emerge from the literature. One possible conclusion is that a CEO who performs poorly is more likely to be replaced than one who performs well (Shivdasani and Yermack, 1999). A second empirical tendency is for CEO turnover to be more sensitive to performance when the board is independent (Liang and Li, 1999). Finally, there is the tendency for the probability of independent directors being added to the board to rise following poor firm performance, just as board independence has the tendency to decline over the course of a CEO's tenure (Udueni, 1998).

Other control variables

Investigating the effects of the above characteristics of the board of directors requires controlling for certain other variables such as firm size. The size of the firm is an important variable that needs to be controlled for in any reduced form regression involving board characteristics and corporate performance. In fact, this variable has been controlled for even under different model specifications. The use of the number of employees as a control for firm size and a number of other studies has been reported in the literature (Bigsten et al., 1997; Mayers et al., 1997; Shivdasani and Yermack 1999; and Sanda et al., 2005).

Ownership concentration is another control variable. It refers to the proportion of shares controlled by the largest shareholders. Ownership concentration is believed to enable the controlling shareholders to bear the personal costs of monitoring, and hence to contribute towards solving the agency problem. However, two problems are associated with this. It is often the case that members of the same family might take control of a significant proportion of equity, and even make this control very visible through their participation as board members. Levine (2004) points out that this could have adverse consequences not only for the firm but for the entire economy as well. Where the family members constitute an important influence on the board, they can translate their equity control into actual power. Where such control is spread through their participation in an array of firms, their influence could be so overwhelming as to cause the government to adopt policies that negate the spirit and letter of private entrepreneurship. The adoption of policies to protect local industry, and the introduction or maintenance of subsidies are some of the ways in which such equity control could produce power and cause the adoption of inappropriate policies. The literature on corporate governance has long regarded ownership concentration as an important mechanism for ameliorating the problem of agency (Shleifer and Vishny, 1997). In many countries, with the notable exception of the USA and the UK, share ownership tends to concentrate in a few families, posing a new set of challenges for corporate governance. As we learn from Morck and Yeung (2003), Oman et al. (2003) and others, ownership concentration could instead be harmful to governance because managers may be hired to protect the interest of controlling shareholders, often with utter disregard to, or to the detriment of, the interest of minority, public shareholders. In view of the debate on the possible implications of ownership concentration on corporate governance and policy, we examine the patterns of such concentration in Nigeria.

It is also important to take note of the importance of foreign CEOs as a control variable. In a recent study on corporate governance in Nigeria, Sanda et al. (2005) report significant difference in performance between firms with foreign CEOs and those with local ones.

Theoretical framework

Agency theory provides the theoretical underpinning upon which the literature on corporate governance has flourished. The theory states that in the presence of information asymmetry the agent is likely to pursue interests that may hurt the principal, or shareholder (Ross, 1973; Fama, 1980). Within the context of the stakeholder theory, the problem of agency has been widened to allow for multiple principals. Thus, instead of treating shareholders as the sole group whose interest the agent should protect, the stakeholder theory sees other groups such as employees of the firm, creditors, government etc. also as having equally vital stakes in the performance of the firm, a fact amply demonstrated by the thousands of job losses, reduced tax revenues, high costs of litigation etc that came in the wake of such high-profile corporate frauds as occurred at Enron, Global Crossing, Parmalat and Worldcom. Since there are many stakeholders, the agent is sometimes confronted with the difficult choice of meeting competing stakeholder interests. Extending the stakeholder theory, Jensen (2001) proposes the enlightened

stakeholder theory and further suggests that by pursuing the goal of maximizing long-term value of the firm, managers could serve the interests of all stakeholders. Sanda et al. (2005) note that this criterion has not been subjected to empirical verification.

In a review of the stakeholder theory, John and Senbet (1998) note that the multiplicity of principals tends to give rise to conflicting interests. The authors note the vitality of board independence and committee structure as means of overcoming the agency problem. They also emphasize the importance of board size, noting that after a point, increasing the size of the board could be detrimental to firm performance.

3. Methodology

Sources of data

Data for the period 1996 through 2004 were obtained from the Abuja and Lagos offices of the NSE, the Abuja Office of the Security and Exchange Commission and from a Lagos-based stockbroking firm. The choice of this period was informed by a couple of factors. First, computerization of stock price records started after 1995, leaving the researchers to rely on newspapers for stock price information. As the project started in 2006, the year 2004 was the latest for which annual reports were available. Many firms take at least a year to publish their annual financial reports.

For each of the nine years of our study, the Factbook published by the Nigerian Stock Exchange was obtained from Abuja Office of the NSE. Annual reports and accounts of listed firms were obtained from the Lagos office of the NSE. The annual reports were the source of information on some important variables of interest such as director shareholding, board composition, audit committee structure, equity ownership concentration and CEO nationality. A major problem encountered in obtaining this sort of information from Lagos was that the office did not have past annual reports for many of the firms listed in the stock exchange for many years of our study. As a result, data required for regression analysis were obtained for only 89 firms. To make matters worse, some annual reports were unavailable for some years for some of the 89 firms. These constraints limited the scope of the sample used for regression analysis. One source of consolation, however, is that the 89 firms (see Appendix 1) covered nearly all the sectors of the stock exchange, and the major players in the market are represented in the sample. (It should be noted however that only regression results are based on this sample; some descriptive results are based on all the companies in the NSE). The stockbroking firm provided daily stock prices for all listed firms over the period of study. The data were then used to compute annual stock returns. The Securities and Exchange Commission in Abuja provided access to its annual reports, from which data on price-earning (PE) ratios for all listed firms were obtained.

Variable measurements

There are two categories of variables for this study. In the first category are measures of firm performance: ROA, ROE, PE ratio and stock return; in the second are measures of board independence along with some control variables. The measures of board independence are:

- CEO tenure.
- Proportion of outside directors on the board.
- Audit committee structure.
- Interlocking directorship.
- Family affiliation of board of directors.

CEO tenure is measured as the number of years the CEO has served on the board. We therefore expect to include a dummy variable to capture the effect of CEO tenure and the method of creation of this dummy is given in Table 1.

Table 1: Variables and their measurement

ROA	Obtained by expressing net profit as a proportion of total assets.
ROE	Obtained by computing net profit as a proportion of equity value.
PE ratio	Data obtained directly from the Securities and Exchange Commission so no calculation was performed.
Return	For each firm in the sample, year-on-year percentage change in stock prices are calculated and used as proxy for stock return.
Board size	The number of directors sitting on the board of a firm in a particular financial year.
Board size squared	A variable created by taking the squares of board size mentioned above.
Firm size	Two measures of firm size are used. One, the total number of employees in the firm is used as a control variable in all regressions. However, for some other purposes we used total assets to define small firms as those with total assets below the average for the market, and large firms as those with assets above the average. A dummy variable was therefore created, taking a value of 0 for large firms and 1 for small ones.
Family dummy	Some firms in the Nigerian Stock Exchange have members of the same family sitting on their boards. A dummy variable was therefore created, taking a value of 1 for such category of firms, and 0 otherwise.
Interlocking directorship	A firm is considered as having an interlocking directorship if the CEO is sitting in other firms as a non-executive director.
Busy directorship	The number of boardrooms in which in a given year a director appears as a member.
Tenure dummy of CEO	From the Factbook that gives summary of financial reports of firms, every CEO makes one or more appearances, ranging from 1 to 9 in our data. By computing the average number of such appearances, we created a dummy variable, taking a value of 0 for CEOs with tenure of less than the average, and 1 otherwise.

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Table 1: Continued

CEO foreign dummy	A dummy variable taking a value of 1 if the CEO is foreign and 0 otherwise.
Ownership concentration dummy	The number of controlling shareholders varies from one firm to another. To obtain a proxy for ownership concentration, we divided the proportion of shares owned by the controlling shareholders by the number of controlling shareholders. Taking the average for all firms, we obtained a dummy variable taking a value of 1 for a firm falling above the average, and 0 otherwise.
CEO audit membership dummy	A dummy variable taking a value of 1 if the CEO is a member of the audit committee and 0 otherwise.
Board composition	Defined as the number of outside directors as a proportion of board size.

ROA = return on assets; ROE = return on equity; PE ratio = price-earning ratio.

Methods of analysis

Two methods of data analysis were employed and the results were therefore divided into two to reflect this categorization. The first type of analysis was descriptive analysis, which provides some frequencies, averages and where possible comparison of means (through t-tests). Results based on this method of analysis are presented in Section 4. The second method of analysis is regression analysis. Given that the data had both spatial and temporal dimensions, ordinary least squares (OLS) was regarded as inappropriate, necessitating the adoption of the fixed-effects regression. According to Yermack (1996: 194) "the fixed-effects framework represents a common, unbiased method of controlling for omitted variables in a panel data set".

Model specification

As shown below, four models were estimated. On the left hand-side are measures of firm performance, namely ROA for Equation 1, ROE for Equation 2, PE ratio for Equation 3 and stock returns for Equation 4.

$$
\begin{aligned}
ROA_{it} = {} & \beta_0 + b_1 Boardsize_{it} + \beta_2 Boardsizesq_{it} + \beta_3 Logfirmsize_{it} + \quad (1) \\
& \beta_4 FamilyDummy_{it} + \beta_5 CEOTenureDummy_{it} + \\
& \beta_6 CEOForeignDummy_{it} + \beta_7 OwnconcentDummy_{it} + \\
& \beta_8 CEOAudiMemDummy + \beta_9 BoardComp_{it} + \\
& \beta_{10} InterlockDirDummy_{it} + \varepsilon_{it}
\end{aligned}
$$

$$
\begin{aligned}
ROE_{it} = {} & \beta_0 + b_1 Boardsize_{it} + \beta_2 Boardsizesq_{it} + \beta_3 Logfirmsize_{it} + \quad (2) \\
& \beta_4 FamilyDummy_{it} + \beta_5 CEOTenureDummy_{it} + \\
& \beta_6 CEOForeignDummy_{it} + \beta_7 OwnconcentDummy_{it} +
\end{aligned}
$$

$$\beta_8 CEOAudiMemDummy \qquad \beta_9 BoardComp_{it} +$$
$$\beta_{10} InterlockDirDummy_{it} + \varepsilon_{it}$$

$$
\begin{aligned}
PERATIO_{it} =\ & \beta_0 + b_1 Boardsize_{it} + \beta_2 Boardsizesq_{it} + \beta_3 Logfirmsize_{it} && + \quad (3)\\
& \beta_4 FamilyDummy_{it} \quad + \quad \beta_5 CEOTenureDummy_{it} && +\\
& \beta_6 CEOForeignDummy_{it} \quad + \quad \beta_7 OwnconcentDummy_{it} && +\\
& \beta_8 CEOAudiMemDummy\ b_9 \quad BoardComp_{it} && +\\
& \beta_{10} InterlockDirDummy_{it} + \varepsilon_{it}
\end{aligned}
$$

$$
\begin{aligned}
RETURN_{it} =\ & \beta_0 + b_1 Boardsize_{it} + \beta_2 Boardsizesq_{it} + \beta_3 Logfirmsize_{it} && + \quad (4)\\
& \beta_4 FamilyDummy_{it} \quad + \quad \beta_5 CEOTenureDummy_{it} && +\\
& \beta_6 CEOForeignDummy_{it} \quad + \quad \beta_7 OwnconcentDummy_{it} && +\\
& \beta_8 CEOAudiMemDummy \qquad \beta_9 BoardComp_{it} && +\\
& \beta_{10} InterlockDirDummy_{it} + \beta_{11} 1996Dummy_{it} + \beta_{12} 1997Dummy_{it} && +\\
& \beta_{13} 1998Dummy_{it} + \beta_{14} 1999Dummy_{it} + \beta_{15} 2000Dummy_{it} && +\\
& \beta_{16} 2001Dummy_{it} + \beta_{17} 2002Dummy_{it} + \beta_{18} 2003Dummy_{it} + \varepsilon_{it}
\end{aligned}
$$

A total of 12 regressions were run and reported in this study. The first four regressions involved estimating the above four equations using the entire sample. The second set of four regressions was based on the use of data for only large firms to estimate the above set of equations. The third and final set of four regressions utilize data on small firms only to estimate the above four equations.

Four measures of firm performance (ROA, ROE, PE ratio and Stock Return) are regressed against a set of control variables as well as measures of board independence. The control variables are board size (both the linear and quadratic measures of it), firm size, measured by the natural logs of number of employees of the firm and four dummy variables: The first, family connection dummy (FamilyDummy), taking a value of 1 in firms with evidence of family members on the same board; the second CEO tenure dummy (CEOTenureDummy) taking a value of 1 in firms with long tenure CEOs; the third, Foreign CEO dummy (CEOForeignDummy) taking a value of 1 in firms with foreign chief executive officers; and the fourth, ownership concentration dummy (OwnconcentDummy) taking a value of 1 in firms with ownership concentration above the mean values. Two measures of board independence are added to the set of regressors. The first is CEO membership of audit committee, which takes a value of 1 in firms where the CEO sits on the audit committee. The second measure of board independence is board composition, computed by expressing the number of outside directors as a proportion of board size. Interlocking directorship is also one of the regressors, aimed at gauging whether participation of board members on boards of other listed firms has any significant relation with performance. Finally, year dummies are included in the right-hand-side variables of Equation 4, but not for other equations because in those cases we do not reject the null hypothesis that the time dummies are not jointly significant.

4. Results

Two types of results are presented this section: Descriptive statistics, and results based on regression analysis.

Descriptive statistics

The descriptive statistics provided are for the following variables: Board size, patterns of family affiliations, CEO tenure, busy or interlocking directorship, ownership concentration, and audit committee structure.

As shown in Table 2, although both the number of firms and the number of directors increased over time, the average size of the boards of directors has changed little, hovering within a narrow range of 8.4 for most of the years and a peak of 8.6 in 1999.

Table 2: Yearly distribution of directors and average size of board of directors

Year	Number of directorships	Number of firms of board	Average size of board
1996	1173	139	8.4
1997	1428	168	8.5
1998	1423	170	8.4
1999	1412	164	8.6
2000	1382	162	8.5
2001	1532	182	8.4
2002	1574	187	8.4
2003	1618	193	8.4
2004	1716	204	8.4

While the overall board size was fairly constant over time, there are considerable differences across industries. As shown in Table 3, average size of board has varied widely across the different sectors, ranging from a minimum of 6.0 in the maritime sector to a peak of 10.6 amongst firms in the breweries sector.

Table 3: Sectoral distribution of directorships

Sector	Number of directorships	Number of firms in 2004	Average board size
Agriculture	385	5	8
Airlines	57	2	6.3
Automobiles	407	6	7.7
Banking	2002	36	9.8
Breweries	603	7	10.6
Building Materials	653	8	9.1
Chemicals & Paints	461	7	7.3
Commercial/Services	82	1	9.1
Computer & Office Equipment	390	6	7.2
Conglomerates	718	9	9.2
Construction	389	5	8.4
Emerging Markets	796	17	7.4
Engineering Technology	222	3	8.9
Food/Beverages & Tobacco	1069	13	9.2
Footwear	119	2	7.4
Healthcare	716	11	7.5
Hotel	7	1	7
Industrial/Domestic	797	12	7.8
Insurance	1191	21	7.6
Machinery (Marketing)	180	3	6.7
Managed Funds	57	1	7.1
Maritime	6	1	6
Packaging	537	8	8.4
Petroleum (Marketing)	635	8	9.1
Printing & Publishing	243	4	7.1
Real Estate	49	1	7
Textiles	487	6	9

A second variable requiring closer investigation is family affiliation. In Table 4 we present three kinds of information in three panels concerning family relations in Nigerian boardrooms. Panel A shows the variations over time in the number of firms with two or more members of the same family on their boards. The number of firms with family affiliation increased over time, from 37 in 1996 to 54 in 2004, and fluctuated in the intervening period (Table 4). However, when expressed as a proportion of total number of firms listed in the NSE, the number of firms with family relations on their boards accounted for roughly one-quarter of all firms, ranging from a minimum of 24.1% in 1998 to a maximum of 27.5% in 2001.

Panel B of the table provides a picture of the actual number of family-affiliated directors on the NSE. In 1996, a total of 87 directors had relatives on the boards of listed firms in Nigeria. This accounts for 7.4 % of all directors. Over time, the number of directors in this category accounted for a stable proportion of all directors, ranging from 7.2% in 1999 to a maximum of 8.7% in 1997.

In Panel C (Table 4), we present a distribution of firms by the frequency of family-affiliated directors. Clearly, boards with two members of the same family appear to be the most common. For example, out of a total of 37 firms that reported having family-affiliations in the boardrooms, 28 had only two members of the same family on the board.

This compares with six firms for which there were three family members or with two firms which had four family members.

Table 4: Family affiliation in Nigerian boardrooms

Sector/Year	1996	1997	1998	1999	2000	2001	2002	2003	2004
Panel A									
Firms with family affiliation	37	51	41	41	40	50	49	51	54
Firms in the NSE	139	168	170	164	162	182	187	193	204
Percentage	26.6	30.4	24.1	25	24.7	27.5	26.2	26.4	26.5
Panel B	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Affiliated directors	87	124	108	101	99	126	123	130	139
Directors in the NSE	1,173	1,428	1,423	1,412	1,382	1,532	1,574	1,618	1,716
Percentage	7.4	8.7	7.6	7.2	7.2	8.2	7.8	8	8.1
Panel C									
No. of affiliated directors	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
					No of Companies				
2	28	38	27	30	29	34	34	35	37
3	6	6	6	5	5	8	6	6	7
4	2	6	5	5	5	7	8	9	8
5	1	0	2	0	0	0	1	0	0
6	0	1	1	1	1	1	0	1	2

The third issue of interest in this section is CEO tenure. From the data set of the directors, a subset comprising only the CEOs and managing directors was extracted, giving a total of 410 observations. We computed the number of years each CEO had stayed in that position. From the results in Table 5 it is clear that most of the CEOs (157 or 38.3%) had spent only a year in the boardroom. Whether those in this category had abdicated this post is unclear. What is certain is that there were a good number of CEOs who had retained their positions for fairly long, with about 33% of them holding the position for four years or longer.

Whether CEOs with long tenure are associated with better-performing firms was investigated further by separating the CEOs into two groups. The first group had boardrooms with family members and the second had no evidence of such family relations. An independent t-test suggested significant differences in CEO tenures of the two categories of firms. In particular, CEOs in the first group (family relations) had held the position for an average of 3.9 years, compared with the average of 2.91 years for those without a family relation on the board. Do short-tenure CEOs perform better than the long-tenure ones? This question was investigated using three measures of performance (ROE, ROA and PE ratio). In each case an independent t-test suggested no significant difference in performance of the two categories of CEO-tenure firms. Thus, these results, based though they are on simple independent t-tests, seem to indicate that although family connections might contribute towards the elongation of CEO tenure, there is no evidence to suggest that such elongation adds any value by way of better performance.

The fourth variable of interest is busy directorship and the closely related concept of interlocking directorship. Table 6 shows the results on multiple, or busy directorship. The results in Panel A of the table indicate that most directors sit on one board and this proportion changes little across the years.

Table 5: CEO tenure

CEO Tenure (Years)	Number of CEOs	Percent
1	157	38.3
2	63	15.4
3	55	13.4
4	32	7.8
5	28	6.8
6	21	5.1
7	22	5.4
8	18	4.4
9	14	3.4
Total	410	100
Average CEO tenure in the sample		3.09 years

Panel B of the table shows the distribution in relative terms. The general picture emerging from the table is that the proportion of directors sitting on one or two boards ranged from 97.68% in 2002 to 98.30% in 2000. The proportion of directors sitting on more than two boards peaked at 2.32% in 2002, compared with the lowest proportion of 1.7% in 2000.

Table 6: Multiple or busy directorships

PANEL A	Frequencies							
Year	1	2	3	4	5	6	No. of Directors	No. of director-ships
1996	955	79	16	3	0	0	1053	1173
1997	1127	109	15	7	2	0	1260	1428
1998	1117	107	17	9	1	0	1251	1423
1999	1129	100	18	6	1	0	1254	1412
2000	1111	100	15	4	2	0	1232	1382
2001	1169	132	18	10	1	0	1330	1532
2002	1231	118	23	8	1	0	1381	1574
2003	1249	134	26	3	1	1	1414	1618
2004	1339	137	27	4	0	1	1508	1716

Panel B	Relative frequencies					
Year	1	2	3	4	5	6
1996	90.69	7.50	1.52	0.28	0.00	0.00
1997	89.44	8.65	1.19	0.56	0.16	0.00
1998	89.29	8.55	1.36	0.72	0.08	0.00
1999	90.03	7.97	1.44	0.48	0.08	0.00
2000	90.18	8.12	1.22	0.32	0.16	0.00
2001	87.89	9.92	1.35	0.75	0.08	0.00
2002	89.14	8.54	1.67	0.58	0.07	0.00
2003	88.33	9.48	1.84	0.21	0.07	0.07
2004	88.79	9.08	1.79	0.27	0.00	0.07

Closely related to busy directorship is the concept of interlocking directorships. There appears to be wide variations over time in the occurrence of interlocking directorships in the NSE. The results (not shown in any table), showed that in 1996 two CEOs sat as directors of companies other than the ones they were spearheading. By 1997 this number had increased with nine CEOs involved in 21 interlocking directorships. This level was maintained in 1998, but over the next two years, it underwent a precipitous decline, falling to five in 1999 and deteriorated further to two by 2000. Over the three years to 2003, the number of interlocking directorships increased, rising from seven in 2001 to eight in 2002 and 13 in 2003. By 2004, it declined somewhat, with the number of interlocking directorships falling to eight by that year. Despite the oscillations in the frequencies of interlocking directorships during the period of study, there appeared to be a sluggish upward trend.

Ownership concentration is the next issue of interest. In several important ways, this study found significant concentration of shares in a few hands in Nigeria. To obtain a first measure of ownership concentration, the number of shareholders for each of the sample companies was obtained. Aggregation of these for all sample firms, gave an estimated total of 2.5 million shareholders. Such an aggregation as undertaken here leads to overestimation of the actual number of shareholders since investors with shares in more than one company were counted as many times as the number of companies in which they had equity stakes. Yet, the total number of 2.5 million shareholders is far lower than Nigeria's population of 140 million people. To look for other indicators of ownership concentration, the 90 firms in the sample were ranked by ownership concentration. A total of 38 firms with the most concentrated shareholding structure reported that between two and 239 individuals controlled more than 70% of all equity. Wide variations were observed even amongst these firms. In particular, for 11 of the firms, no more than 10 persons were in control of more than 70% of equity. In another category of firms with the next most highly concentrated patterns of share ownership were 14 companies in which more than 70% of equity was controlled by between 11 and 40 persons. This compares with the remaining 13 firms in which between 41 and 239 individuals exhibited this level of ownership control. We examined the pattern of director shareholding since this is important in its own right as a corporate governance tool, but also for its implications on ownership concentration. When they own shares, directors represent a small proportion of total shareholders even in countries with highly concentrated shareholding structures. Thus, one may consider director shareholding as a variable related to ownership concentration. Indeed, if directors owned a large proportion of shares, this would increase ownership concentration (see Sanda et al., 2005 for further information). This study found that director shareholding was low, averaging 12%. Most firms reported very low levels of director shareholding; a median of 3.3% was obtained. However, for a quarter of the firms in the sample, directors owned more than 14.5% of shares.

The final variable of interest in this section is audit committee structure. Our results showed that three elements of audit committee structure seemed to weaken the independence of such committees. First, the CEO was a member of the audit committee in nearly 30% of the firms. Second, even in firms in which the CEO was not a member of the committee, there was a preponderance of executive directors (who typically may be

subservient to the CEO) on audit committees. The data indicate that executive directors were in the majority in 47.5% of the firms, compared with 28.8% and 23.8% of cases in which they were in parity with or were outnumbered by other members of the committee, respectively. Finally, CEO membership in audit committees increased the predominance of executive directors on such committees. An independent t-test, which grouped firms into whether the CEO was a member of the audit committee, showed that at 1% level, firms in which a CEO was a member, had a significantly larger proportion of executive directors on the committee, compared with other firms. In sum, CEOs and executive directors dominated audit committees, and it would appear that other members of the board of directors did not make similar appearances on the committees. This suggests that audit committees, as they are commonly constituted in Nigerian listed firms, tend to exhibit features that may impede their independence from the management of the firms. Moreover, these features do not conform with the provisions of Cadbury (1992), Greenbury (1995) or Higgs (2003) for the UK or the Sarbanes-Oxley Act (2002) for the USA.

Regression results Fixed effects models

The regression results are presented in Tables 7, 8 and 9. As shown in these three tables, a number of variables had significant coefficient estimates. They were: Board size, board size squared, firm size, family dummy, tenure dummy, CEO foreign dummy, CEO audit membership, board composition and year dummies. We discuss the results on these variables in turn.

From the results in Table 7, the family connection dummy had positive signs in all the four specifications, but was significant in two of them. This seems to indicate that for Nigerian firms, family affiliation of board members is good for firm performance. This conclusion does not change whether regression is applied only to large firms (Table 8) or for small ones (Table 9).

The CEO tenure variable had significant positive signs in two out of four specifications (Table 7). This suggested that CEO experience tends to make positive contribution to firm performance. This conclusion was upheld for both large (Table 8) and small (Table 9) firms.

CEO nationality (a dummy variable taking a value of 1 for foreign CEOs and 0 otherwise) had positive and significant coefficient estimates in two of four specifications in Table 7. The same variable had a significant positive coefficient estimate in one specification (for large firms, in Table 8) and two for small firms (in Table 9). These results suggest that firms tend to register better performance if the CEO is a foreigner.

CEO audit membership had a negative coefficient estimate in all the four specifications and was significant in one of them (Table 7). However, when the data were split and separate regressions run for large and small firms, the signs of the coefficient estimates tended to wander, with a mixture of positive and negative signs for both large (Table 8) and small (Table 9) firms. Wherever the variable was significant, however, it had a negative coefficient estimate (Tables 7, 8 and 9). These results suggest that CEO membership of the audit committee hampered firm performance.

Board composition exhibited a positive coefficient estimate in all but one specification in Tables 7, 8 and 9. The variable had a significant and positive coefficient estimate in each of the three tables, suggesting that outside directors made a positive contribution to firm performance.

Interlocking directorship presented a rather mixed picture. As seen in Table 7 for the entire sample, this variable showed no significant relationship with firm performance. However, when regression was run on data for large firms, a significant and negative relationship was found in one specification (Table 8). However, a positive (and significant) relationship was found in one of the specifications for small firms (Table 9). These results seem to suggest that CEOs running large firms should not be involved in the boardrooms of other firms, since that could hurt the performance of firms in which they serve as chief executives. For small firms, CEO directorship of other firms could actually help improve the performance of the firms of which they serve as CEOs.

Where the time dummies appeared as regressors, the results showed that they had a significant negative sign. Since a dummy variable was created for each of the years 1996 through 2003, and none was created for 2004 (to avoid the well-known dummy-variable trap), negative coefficient estimates on the time dummies could be a reflection of better macroeconomic performance of Nigeria in the first five years of the new millennium compared with the late 1990s.

5. Conclusion

This study investigated the relationship between firm performance and a number of proxies for board independence. For the period 1996 to 2004, we provided descriptive statistics for all the firms listed on the NSE, and ran fixed effects regressions for 89 firms for which the relevant data required for regression were available. Our results showed that certain measures of board independence (such as board composition, CEO tenure, family ownership and CEO nationality) had significant positive effect on firm performance. They also showed that while CEO membership of audit committees hurt firm performance, interlocking directorship tended to help performance of small firms, but hurt that of large ones.

These results have important implications for policy in Nigeria. One major implication is that foreign investors through the actions of foreign chief executives resident in Nigeria do contribute to the performance of Nigerian firms. The country therefore needs to strengthen policies to improve firm-level corporate governance in order to attract such investors and bolster overall growth. The regulatory authorities in Nigeria need to strengthen the independence of board of directors by, for example, ensuring that CEOs are not members of audit committees since there is evidence that such membership is injurious to the performance of a firm.

A word of caution: Our study leaves many questions unanswered. One of these is whether Nigerian firms are afflicted with expropriation of minority shareholders. A related unknown issue is whether there is a bi-directional causality in which board independence is both the cause and consequence of firm performance. There is also a concern that our approach did not take into account the endogeneity problems associated with family ownership. These issues are potential areas for further empirical scrutiny.

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Appendix 1: List of firms for which data was available for regression analysis

7-Up Bottling Company Plc.
Academy Press Plc.
Access Bank Nigeria Plc
Acen Insurance Company Plc
Aluminium Manufacturing Company Plc.
Aviation Development Co. Plc
Avon Crowncaps & Containers Plc.
B. O. C. Gases Plc.
BCN Plc.
Benue Cement Company Plc.
Berger Paints Plc.
Beta Glass Company Plc.
C & I Leasing Plc.
Cadbury Nigeria Plc.
CAP Plc.
Cement Company of North (Nigeria) Plc.
CFAO (Nigeria) Plc.
Conoil Plc.
Cooperaive Development Bank Plc
Cornerstone Insurance Plc.
Crusader Insurance Plc.
Cutix Plc.
DN Meyer Plc.
Dunlop Nigeria Plc
EIB International Bank Plc
Ekocorp Plc.
Evans Medical Plc.
First Aluminium Nigeria Plc.
First Assurance Plc.
First Atlantic Bank Plc
First Bank of Nigeria Plc
Flour Mills (Nigeria) Plc.
Glaxo SmithKline Beecham Consumer Nigeria Plc.
Guaranty Trust Bank Plc

Appendix 1: Continued

Guinea Insurance Plc
Guinness (Nigeria) Breweries Plc
Hallmark Paper Products Plc
Inland Bank (Nigeria) Plc
Intercontinental Bank Plc
John Holt Plc.
Law Union & Rock Insurance Plc
Liberty Bank Plc
Linkage Assurance Plc.
Lion Bank of (Nigeria) Plc
Livestock Feeds Plc
Longman Nigeria Plc
Manny Bank Plc
May & Baker Nigeria Plc
Mobil Oil (Nigeria) Plc
Morison Industries Plc
NAL Bank PLc
NCR (Nigeria) Plc
NEM Insurance Plc
Nestle Foods (Nigeria) Plc
Niger Insurance Plc.
Nigeria Ropes Plc.
Nigeria-German Chemicals Plc
Nigerian Bottling Company Plc
Northern (Nigeria) Flour Mills Plc
Oando Nigeria Plc
Omega Bank Plc
P S Mandrides & Company Plc
Pharma-Deko Plc
Poly Products (Nigeria) Plc
Pressco Plc
Prestige Assurance Plc
Regent Bank Plc
Royal Exchange Assurance Plc
Texaco Nigeria Plc
The Okomu Oil Palm Plc
Thomas Wyatt (Nigeria) Plc
Total Nigeria Plc
Tourist Company of Nigeria Plc
Trade Bank Plc
Trans International Bank
Trans-Nationwide Express Plc
UACN Plc.

Appendix 1: Continued

Unic Insurance Plc
Unilever Nigeria Plc
Union Bank of Nigeria Plc
Union Ventures & Petroleum Plc
Universal Trust Bank Plc
University Press Plc
UTC (Nigeria) Plc
Van Leer Containers (Nigeria) Plc
Vitafoam (Nigeria) Plc
Vono Products Plc
Wema Bank Plc
West African Providence Insurance Company Plc.

Table 7: Regression results: Whole sample

Independent variable	Measures of firm financial performance			
	2	3	4	5
	ROA	ROE	PERATIO	Stock Return
Board size	0.107 (1.18)	-0.087 (-0.21)	3.629 (2.14)**	-0.004 (-0.06)
Board size squared	-0.006 (-1.39)	0.002 (0.07)	-0.196 (-2.46)**	0.0001 (0.04)
Log of No. of employees (firm size)	0.015 (1.05)	0.337 (1.96)*	0.527 (0.92)	0.020 (0.83)
Family dummy	0.077 (0.10)	2.735 (2.57)**	6.689 (3.02)***	-0.051 (-0.36)
Tenure dummy of CEO	-0.060 (-0.63)	0.654 (1.99)**	-0.025 (-0.01)	0.858 (2.02)**
CEO foreign dummy	0.166 (2.61)***	3.052 (5.20)***	-0.412 (-0.25)	0.079 (1.41)
Ownership concentration dummy	-0.058 (-1.00)	0.369 (1.05)	-0.568 (-0.37)	0.065 (1.60)
CEO audit membership dummy	-0.025 (-0.44)	-0.612 (-1.66)*	-1.498 (-1.10)	-0.045 (-0.99)
Board composition	0.127 (1.01)	3.610 (3.62)***	5.108 (1.09)	0.060 (0.44)
Interlocking directorship	-0.049 (-1.05)	0.334 (0.91)	-0.335 (-0.22)	0.003 (0.07)
Yrdum96				0.125 (1.21)
Yrdum97				-0.071 (-0.67)
Yrdum98				-0.412 (-5.32)***
Yrdum99				-0.330 (-3.96)***
Yrdum00				-0.112 (-1.23)
Yrdum01				0.081 (0.81)
Yrdum02				-0.286 (-3.31)***
Yrdum03				-0.172 (-2.01)**
R^2	0.04	0.24	0.03	0.20
F	4.98***	6.24***	2.67***	6.76***
N	348	331	322	371

Table 8: Regression results: Large firms

Independent variable	Measures of firm financial performance			
	2	**3**	**4**	**5**
	ROA	**ROE**	**PERATIO**	**Stock Return**
Board size	0.441	0.583	3.579	0.001
	(1.77)*	(1.66)*	(1.18)	(0.01)
Board size squared	-0.026	-0.039	-0.192	-0.0004
	(-1.90)*	(-1.99)**	(-1.20)	(-0.08)
Log of No. of employees (firm size)	0.244	0.374	-1.147	0.002
	(2.04)**	(1.25)	(-0.79)	(0.03)
Family dummy	0.624	2.550	6.699	-0.187
	(2.07)**	(2.14)**	(1.60)	(-1.02)
Tenure dummy of CEO	-0.183	0.858	2.357	0.186
	(-1.09)	(2.32)**	(1.07)	(2.43)**
CEO foreign dummy	0.211	2.600	-1.019	0.145
	(1.05)	(2.82)***	(-0.43)	(1.41)
Ownership concentration dummy	-0.350	-0.500	-0.960	-0.031
	(-2.30)**	(-1.50)	(-0.49)	(-0.43)
CEO audit membership dummy	0.017	0.080	-2.382	0.016
	(0.16)	(0.19)	(-1.14)	(0.21)
Board composition	0.003	1.995	16.004	0.134
	(0.01)	(1.46)	(2.24)**	(0.72)
Interlocking directorship	-0.125	-0.647	2.716	0.024
	(-1.29)	(-2.00)**	(1.10)	(0.38)
Yrdum96				0.191
				(0.98)
Yrdum97				-0.258
				(-1.35)
Yrdum98				-0.462
				(-2.61)**
Yrdum99				-0.405
				(-2.29)**
Yrdum00				-0.253
				(-1.34)
Yrdum01				0.124
				(0.62)
Yrdum02				-0.361
				(-2.04)**
Yrdum03				-0.206
				(-1.21)
R^2	0.17	0.26	0.10	0.30
F	2.48***	2.07**	4.93***	4.75***
N	153	142	140	149

Variable definition is same as indicated in Table 7. The only difference from Table 7 is that the regression procedure is applied only to the large firms firms with total assets above the average for the entire sample.

Table 9: Regression results: Small firms

	Measures of firm financial performance			
	2	3	4	5
Independent variable	ROA	ROE	PERATIO	Stock Return
Board size	-0.046 (-1.02)	-1.169 (-1.34)	4.929 (1.19)	0.113 (0.93)
Board size squared	0.001 (0.74)	0.061 (1.44)	-0.256 (-1.40)	-0.006 (-0.92)
Log of No. of employees (firm size)	0.008 (0.63)	0.203 (1.03)	0.430 (0.59)	0.022 (0.56)
Family dummy	0.095 (1.00)	3.727 (2.34)**	2.525 (0.59)	0.099 (0.49)
Tenure dummy of CEO	0.100 (2.59)***	0.404 (0.76)	-3.450 (-0.93)	0.056 (0.65)
CEO foreign dummy	0.159 (4.25)***	3.281* (4.26)**	0.571 (0.22)	0.050 (0.51)
Ownership concentration dummy	0.103 (2.96)***	1.415 (2.42)**	-1.680 (-0.65)	0.137 (1.60)
CEO audit membership dummy	-0.028 (-0.86)	-1.216 (-1.82)*	0.959 (0.42)	-0.040 (-0.47)
Board composition	0.073(0.58)	5.575 (3.78)***	-5.205 (-0.97)	0.252 (0.86)
Interlocking directorship	0.006 (0.15)	1.712* (2.60)*	-3.846 (-1.39)	0.097 (1.05)
Yrdum96				0.058 (0.41)
Yrdum97				-0.070 (-0.36)
Yrdum98				-0.561 (-4.11)***
Yrdum99				-0.361 (-2.06)**
Yrdum00				-0.035 (-0.23)
Yrdum01				0.012 (0.08)
Yrdum02				-0.298 (-2.23)**
Yrdum03				-0.154 (-1.11)
R^2	0.20	0.29	0.05	0.23
F	6.89***	6.61***	2.06**	3.69***
N	195	189	160	144

Variable definition is same as indicated in Table 7. The only difference from Table 7 is that the regression procedure is applied only to the small firms firm s with total assets below the average for the entire sample.

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