

CORPORATE BOARDS, OWNERSHIP STRUCTURE AND FIRM PERFORMANCE IN AN ENVIRONMENT OF SEVERE POLITICAL AND ECONOMIC CRISIS

ABSTRACT

This study examines the relationship between board and ownership structures and firm performance in an environment of severe political and economic crisis. Using panel data from the Zimbabwe Stock Exchange (ZSE) for the period 2000-2005, we split the period into pre-presidential election period (2000-2002) (a relatively stable political and economic period) and post-presidential election period (2003-2005) (a hostile political and economic period) to capture the differences in the political and economic landscape. We find that board size, ownership concentration and executive directors' share ownership increased whilst the proportion of non-executive directors reduced in the post-presidential election period. Employing a system Generalized Method of Moments (GMM) approach, we find that performance is positively related to board size and ownership concentration in the post- (but not in the pre-) presidential election period. The results also show that performance is negatively related to executive directors' share ownership in the post-presidential election period, but positively related in the pre-presidential election period. The proportion of non-executive directors is negative and significant in both periods. These findings support the notion that the effects of board and ownership structures depend on the nature of the firm's environment, and therefore have important implications for policy-makers.

Keywords: Corporate governance structures; firm performance; political and economic crisis; rule of law and enforcement, political theory.

1. Introduction

Over the last decade, there has been extensive research devoted to firm-level corporate governance in different countries. In this respect, studies have examined the relationship between corporate governance mechanisms and organisational outcomes such as firm performance (e.g., Agrawal and Knoeber, 1996; Yermack, 1996; Haniffa and Hudaib, 2006; Coles et al., 2008), management earnings forecasts (e.g., Karamanou and Vafeas, 2005; Ajinkya et al., 2005) and earnings management (e.g., Peasnell et al., 2005). Collectively, these studies show that corporate governance mechanisms are important for organisational outcomes. However, the studies have mostly examined ‘the stable or growing firm—that is, the focus is on effectively managing the successful organisation’ (Daily et al., 2003, p. 377) and most importantly, the focus has been on managing firm performance in stable operating environments. Relatively little research has examined managing firm performance in a crisis environment, financial or otherwise (Daily et al., 2003). The exceptions are those studies that have investigated corporate governance effects on performance in (1) weak legal environments (e.g., Claessens et al., 2002; La Porta et al., 2002; Klapper and Love, 2004; Dahya et al., 2008), (2) financial crisis (e.g., Mitton, 2002; Joh, 2003; Baek et al., 2004) and (3) financially distressed firms (e.g., Daily and Dalton, 1994) or firms subject to stock exchange listing suspension (Mangena and Chamisa, 2008). Nonetheless, these studies were all conducted in environments in which the political and economic environment was stable and the legal systems were functional.

In this study, we add to the literature by examining the relationship between corporate board and ownership structures (board size, non-executive directors, executive directors’ share ownership and ownership concentration) and firm performance in an environment of severe political and economic crisis, and where the rule of law is not functional. To our knowledge, no study has examined corporate governance effects in an environment of severe political and economic crisis. A political and economic crisis, coupled with a dysfunctional legal system, creates high levels of

uncertainty and can significantly impact on firm performance (Pearson and Clair, 1998) or even threaten the firm's survival (Mitroff et al., 1988). In such an environment, the managerial agency costs are expected to increase---managers are provided with the ability and incentive to expropriate wealth (e.g., La Porta et al., 2002; Klapper and Love, 2004; Berglof and Claessens, 2006). This is because constraints on managers' ability to expropriate wealth are absent (Roe, 2003; Gourevitch, 2003) and since the legal systems are dysfunctional, effective prosecution may be minimal.¹ In this context, corporate governance becomes the only credible mechanism to protect shareholders and may substitute for the broken down legal systems in dealing with the agency problems (La Porta et al., 1998; La Porta et al., 2002; Klapper and Love, 2004). However, the set of corporate governance structures that are required for effective monitoring may differ from those in stable operating environments because the nature and size of agency costs are different. This implies that the conventional corporate governance model might not be appropriate in dealing with the agency-related problems.²

Our argument draws from the political theory (Roe, 2003; Gourevitch, 2003; Pagano and Volpin, 2005) which argues that the political and social context in a country determines the size of managerial agency costs that shareholders have to bear. Roe (2003) argues that the political and social environment in a country determines the legal system and the quality of the legal system determines shareholders' rights and how those rights are protected. The quality of the legal system argument is similar to La Porta et al. (1998), but Roe (2003) argues that where there is political and social instability, the effectiveness of the law in protecting shareholders is diminished leading to increasing agency costs. Faced with this problem, Roe (2003) suggests that shareholders will reshape the firm's corporate governance structures in order to ward off any threats resulting from the political and economic instability. For example, they may be inclined to increase share ownership concentration (Roe, 2003) or to increase the size of the board (Dalton et al., 1999;

¹ In normal operating environments, even when the legal systems are weak, shareholders have some protection via the law.

² We use the phrase 'conventional corporate governance structures' to refer to the Anglo-American model of corporate governance, which generally recommends (1) boards that are composed of majority non-executive directors; (2) diffuse share ownership; and (3) managerial ownership.

Adams and Ferreira, 2007) to enhance the quality of monitoring. In line with this, the organisation science literature (Scott, 2003; Aguilera et al., 2008) suggests that different corporate governance structures are more or less effective depending on the context of the different organisational environments. Recent empirical studies on the determinants of board structure have also shown that firms structure their boards in response to the complexity of the firm (Adams and Ferreira, 2007; Linck et al., 2008; Coles et al., 2008). In this case, firm complexity has been defined in terms of firm size, scope of operations or the extent of reliance on external funding (Klein, 1998; Coles et al., 2008). In this study, we view the political and economic crisis, with a dysfunctional legal system, as another dimension of complexity for which shareholders may need to deploy a different set of corporate governance mechanisms that they consider appropriate in responding to the resulting agency problems and improve firm performance.

We use panel data drawn from annual reports published by the Zimbabwe Stock Exchange (ZSE) listed firms over a six-year period from 2000 to 2005, inclusive. Zimbabwe, as a country, provides a unique setting in which to investigate the issues raised for three reasons. First, in the study period, the country was embroiled in a political and economic crisis and was widely considered an archetypal example of a country whose rule of law and its enforcement had broken down. The political and economic landscape that began in 1997, led to a disregard of property rights by the government and the breakdown of the legal system (US Department of State, 2005). Second, we are able to split the study period into two distinct periods: the pre- and post-presidential election periods, thus enabling us to capture the changing political and economic landscape. The pre-presidential election period (for our data 2000-2002) was considered a relatively stable political and economic environment, whilst the post-presidential election period (2003-2005) became a hostile political and economic environment, making it extremely difficult for firms to operate. This distinction allows us to explore the effects of corporate governance structures on performance in both a stable and hostile political and economic environment. Third, Zimbabwe adopted the UK Cadbury Report (Mangena and Tauringana, 2007), thus providing us with the opportunity to

examine whether the conventional corporate governance model is effective in an environment of political and economic crisis.³ Roe (2003) suggests that the effectiveness of corporate governance structures is affected by the political and social conditions in a country. Indeed as Okeahalam (2004) notes in the context of Africa, corruption is rife and politics often meddles in corporate affairs. Haniffa and Hudaib (2006) also argue that conventional corporate governance structures may be irrelevant to developing countries because the stage of economic and market development is low and institutions are weak.

We contribute to the literature in a number of ways. First, our study is the first to apply the political theory (Roe, 2003; Gourevitch, 2003) (La Porta et al., 1998) in examining the relationship between corporate governance and firm performance. Consistent with this theory, we find that board size, ownership concentration and executive directors' share ownership increased, whilst the proportion of non-executive directors reduced in the post-presidential election period. We interpret these changes as an attempt by firms to reshape corporate boards and ownership structures in order to cope effectively with the threats posed by the worsening political and economic crisis. The results reveal a positive relationship between performance and board size and ownership concentration in the post- (but not pre-) presidential election period, suggesting that performance increased with board size and ownership concentration. Second, we contribute to recent studies (e.g., Adams and Ferreira, 2007; Linck et al., 2008; Coles et al., 2008) suggesting that firms operating in complex environments require larger boards. Our results suggesting that board size is positively related to performance in a severe political and economic crisis add to these studies. Third, we provide the first evidence of the role corporate governance plays in managing firm performance in an environment of severe political and economic crisis with dysfunctional legal systems. Thus, we contribute to the literature on (1) legal systems and corporate governance efficacy (e.g., La Porta et al., 1998; Klapper and Love, 2004) and (2) effectiveness of corporate governance structures in crisis situations (e.g., Daily and Dalton, 1994; Mitton, 2002; Baek et al.,

³ Mangena and Taurigana (2007) show that compliance with the Cadbury recommendations by ZSE listed firms is very high.

2004). Finally, we offer evidence on corporate governance and performance in an African context, where very little is known about the effects of corporate governance structures in managing firm performance (see Mangena and Tauringana, 2007).

The remainder of this paper is organised as follows. We discuss in Section 2, the institutional environment under which the study is conducted. In Section 3, we discuss the theory and develop the hypotheses, and explain the research design in Section 4. In Section 5, we present the results of the analysis. Finally, in Section 6, we present a summary and conclusions.

2. Institutional environment in Zimbabwe

2.1 Political and economic environment in Zimbabwe

The political and economic crisis in Zimbabwe, which began in 1997, can be seen in two phases. The first phase, which covers the period 1997 to 2002, can be considered relatively stable compared to the second phase (post-2002 period), which saw the deepening of the political and economic crisis.⁴ In the first phase, the liberation war veterans (war vets) put considerable pressure on the government to compensate them for their war-time sacrifices to which the government acceded in 1997 and made an unbudgeted payment of about Z\$4 billion (Chitiyo, 2000 *The Herald*, 17 September, 1997). Further, in 1998, the government engaged in a costly war in the Democratic Republic of Congo, which, by 2000 had cost the country about US\$200 million. These two events put a strain on the foreign exchange reserves and added significantly to the fiscal deficit (Addison and Laakso, 2003). As a result, in 2000, the International Monetary Fund (IMF) and the World Bank suspended balance of payments support to the country. Consequently, the government turned to excessive use of bank finance, fuelling money supply growth and an upsurge in inflation. Inflation increased from 55.7% in 2000 to 134.6% in 2002 (World Bank, 2007; IMF, 2008).

Also in 2000, the government initiated a politically motivated fast-track land reform programme to redistribute land from white to black farmers. This caused disruption in agricultural

⁴ The crisis started easing from 2009 following the signing of the Global Political Agreement and the formation of a power-sharing government by the main political parties.

production and a decline in export earnings.⁵ Agricultural exports declined from US\$855.8 million in 2000 to US\$832.2 million in 2002 (IMF, 2008). Additionally, the country was isolated by most of the developed countries following a breakdown of the rule of law (Robertson, 2003). The politically motivated land redistribution process was conducted, in the main, without adequately compensating the white farmers, and as such was viewed as a disregard of property rights (U.S. Department of State, 2005). Although the environment was difficult, firms could operate relatively normal and there was general belief in the country that the environment would change for the better after the presidential election in 2002.

On the contrary, the crisis deepened following the violent and disputed presidential elections and uncertainty became gloomy. The breakdown of the rule of law escalated after the presidential elections in 2002. For example, the war vets extorted money from many firms with no action being taken by the law enforcement agencies, including the courts (Kriger, 2003; Goredema, 2003). Between March and April 2002, war vets demanded unlawful payments from a number of firms without falling foul of the law.⁶ Zimbabwe was further isolated from the international community and this affected firm operations (OECD, 2004). The economic situation deteriorated. Whilst real GDP shrunk by 4.5%, 2.6% and 4.4% in 2000, 2001 and 2002, respectively (average of 3.8%), in 2003, the real GDP growth fell by 10.4% (IMF, 2008) and by 5.8% and 6.5% in 2004 and 2005 respectively (World Bank, 2007) (an average of 7.7%). The uncertainty over the land redistribution programme also increased as further farms were listed for acquisition. Consequently, agricultural production declined further and agricultural exports fell from the US\$832.8 million in 2002 to US\$516 million in 2003 (IMF, 2008). Another manifestation of the economic crisis during the post-presidential election period was a dramatic increase in inflation from a yearly average of 134.6% in 2002 to 384.7% in 2003 (IMF, 2008). Although it subsequently dropped to a yearly average of 381.4% and 266.8% in 2004 and 2005, respectively (IMF, 2008), inflation remained

⁵ Although the Zimbabwean economy is well diversified, the agricultural sector has traditionally been the mainstay of the economy, accounting for approximately 40% of total exports (Robertson, 2003).

⁶ For example, Mechman Engineering was forced to pay out Z\$7m to 30 former workers. Other companies included Resource Drilling, Lobels Bakery, Macmed, Phillips Electric, and Scotco (The Independent, Thursday, 26 April 2002). Goredema (2003) reports that although 99% of these cases were reported to law enforcement agencies, only 8% were acted on.

significantly higher in the post-presidential election period. These inflationary pressures, coupled with an overvalued exchange rate, led to a dramatic increase in production costs and reduced export competitiveness and therefore acute shortages of foreign currency (OECD, 2004).⁷ The foreign currency problems resulted in shortages of raw materials and fuels. In 2004, the government reintroduced exchange controls (removed in 1994) and exporting firms were required to surrender their export proceeds to the central bank at the overvalued official exchange rate. A system of foreign currency allocation was introduced by the central bank, but failed to provide enough foreign currency to meet firms' requirements. Hence, firms resorted to the expensive 'parallel market' for foreign currency to buy inputs, thus affecting their profitability.

In 2004, the shortage of foreign currency became too politicised. The central bank, working with the government, accused some directors (or managers) of externalising foreign currency. Consequently, some were arrested, and in certain cases, lost their shareholdings to the government. For example, Econet Wireless had its directors arrested for purportedly externalising US\$1.3 million. Mutumwa Mawere, a director and major shareholder in SMM Holdings had all his firms taken over by the government, again for purportedly externalising foreign currency (see Financial Gazette, 6 July 2004). With this operating environment, the ability and incentives by managers to expropriate firm resources may increase (e.g., La Porta et al., 1998; Joh, 2003). In this case, we therefore contend that corporate governance is more critical in this environment to help curtail expropriation, deal with the problems and enhance firm performance.

2.2 Corporate governance and ownership structure

Corporate governance in Zimbabwe was first promoted by the Institute of Directors of Zimbabwe (IODZ) in the late 1990s. The efforts of the IODZ culminated in the publication in 2001 of the 'Principles for Corporate Governance in Zimbabwe: Manual of Best Practice' which recommended the adoption of the UK Cadbury Report. The ZSE amended its listing rules in 2002 and included a

⁷ In March 2003, the official exchange rate was set at Z\$824 for one US\$, which was well below the black market rate estimated at Z\$5,000 (OECD, 2004).

provision that requires firms to indicate in their annual reports the extent to which they comply with the Cadbury Report. Compliance has been widespread, especially on board issues (see Mangena and Tauringana, 2007). For example, the roles of the board chairman and chief executive officer (CEO) are separate, non-executive directors represent about 70% of boards and audit committees exist (Mangena and Tauringana, 2007).

In terms of ownership structure, the World Bank (2003) suggests that share ownership in Zimbabwean firms is concentrated. Mangena and Tauringana (2007) document share ownership of about 84% by the top-ten shareholders, of which approximately 45% was held by institutional investors and 39% by non-institutional shareholders. Ownership by managers is about 6% (World Bank, 2003; Mangena and Tauringana, 2007), which is very low compared to some countries (see Mitton, 2002; Haniffa and Hudaib, 2006).

3. Theory and hypotheses development

A majority of studies linking corporate governance structures to firm performance have drawn from the agency theory (Jensen and Meckling, 1976; Fama and Jensen, 1983) which posits that the separation of ownership and control results in managerial agency costs. Shareholders may deploy a range of corporate governance mechanisms (including board and ownership structures) to help reduce agency costs and improve performance (Filatotchev and Nakajima, 2010). In this study, applying a purely agency theory perspective may not be informative because it cannot capture effectively the political context in which the study is conducted. Accordingly, in developing our hypotheses, we integrate views from the agency theory with those from the political theory of corporate governance (Roe, 2003; Gourevitch, 2003).

The political theory (Roe, 2003; Gourevitch, 2003; Pagano and Volpin, 2005) argues that the political and social environment in a country affect the firm in important ways. It determines how the government affects the firm and the means by which the firm reacts to the political and social pressures to protect investors. The political and social environment defines the law, which

according to La Porta et al. (1998) determines the rights of investors as well as how well the rights are protected. When the legal system is strong, the level of agency problems is expected to be lower because 'active and well-functioning courts can step in and rescue investors from abuse by management' (La Porta et al., 1998, p. 1140). La Porta et al. (1998) and Berglof and Claessens (2006) argue that when the legal system is not functional, effective corporate governance arrangements could substitute for the weak legal systems in constraining the ability of managers to abuse or expropriate shareholders' wealth.

Accepting the importance of the legal system, proponents of the political theory argue that the legal system 'can matter...when politics enables it to matter--that is when property rights are assured, when enforcement and independent judges are allowed to work, and when the political balance in society gives it a place' (Gourevitch, 2003, p. 1831). In this context, the nature of the managerial agency costs depends on the political and social pressures in a country. To this extent, the firm will react defensively to political and social pressures by reshaping its ownership and corporate governance structures in ways considered appropriate to ward off the political and social threats, improve monitoring and firm performance. For example, firms may increase board size (Dalton et al., 1999; Adams and Ferreira, 2007) or increase ownership concentration (Roe, 2003).

3.1 Corporate boards and firm performance

The role of corporate boards has been examined extensively in the literature. Generally, the argument is that smaller boards are more effective because they are (1) more cohesive and faster in making decisions (e.g., Lipton and Lorsch, 1992, Vafeas and Theodorou, 1998), (2) candid in discussions of managerial performance (e.g., Lipton and Lorsch, 1992) and, (3) easier to coordinate, but difficult to manipulate by the CEO (e.g., Haniffa and Hudaib, 2006). The empirical evidence supports this argument, for example, Yermack (1996), Haniffa and Hudaib (2006) and Dahya et al. (2008) document a negative relation between board size and performance. However, the environment in Zimbabwe, especially after the presidential elections, might call for larger

boards to help cope with the threats of the severe political and economic crisis. In this context, firms may expand their boards, for example, by appointing directors with political connections. Political connections are a valuable resource for firms (Claessens et al., 2008). Politically connected firms could (1) get preferential access to scarce critical resources such as fuels and foreign currency and (2) ward off the threats of the political environment (Roe, 2003) such as extortion by war vets. Further, larger boards may bring more experience, knowledge and support on which the CEO can draw quality advice (Dalton et al., 1999; Adams and Ferreira, 2007) to handle the problems relating to the political and economic crisis. As Linck et al. (2008) and Coles et al. (2008) suggest, firms in complex environments require larger boards because they have greater advisory needs. Hence they may increase the variety of perspectives and skills available, foster synergistic contributions and facilitate wider and important linkages (e.g., Pearson and Clair, 1998; Dalton et al., 1999) that can improve performance in an extremely difficult environment.

Several studies have argued that non-executive directors (NEDs) can help to enhance value by protecting shareholder interests against managerial opportunism (e.g., Fama and Jensen, 1983; Weir et al., 2002; Dahya et al., 2008). Empirically, the relation between performance and NEDs is not well established. Some studies find a negative relationship (e.g., Yermack, 1996; Agrawal and Knoeber, 1996; Coles et al., 2008), others (e.g., Klein, 1998; Ho and Williams, 2003; Ramdani and van Witteloostuijn, 2010) find a positive relation and yet some find no relation (e.g., Weir et al., 2002; Haniffa and Hudaib, 2006). Conventionally, in Zimbabwe, NEDs could play a more important role in the post presidential election period. The unfriendly political and economic environment provides opportunities for managers to expropriate wealth given that the legal system is unable to prosecute effectively. For example, the threat of extortion by war vets and the fear of persecution by the governments could incentivise managers to expropriate. Hence we suggest, as do La Porta et al. (1998), that NEDs are the only credible protection available to shareholders against expropriation by managers. In this case, shareholders may reshape corporate boards by demanding more NEDs on the board to improve monitoring and to expand the advisory support for

the CEO (Coles et al., 2008) as well as to help deal with the political threats (Roe, 2003; Gourevitch, 2003). Hence we hypothesise the following:

H1: Firm performance increases with board size.

H2: Firm performance increases with the proportion of non-executive directors.

3.2 Ownership structure and firm performance

Filatotchev and Nakajima (2010) argue that ownership structure is an important corporate governance dimension that has profound effect on performance. Jensen and Meckling (1976) posit that share ownership by managers (or executive directors) helps to alleviate conflict of interests between managers and other shareholders. When managers own shares, they are more likely to take decisions consistent with wealth-maximisation, and as Hill and Snell (1988) point out, the share-based compensation schemes are attempts to align managers' interests with those of shareholders. Empirically, the evidence suggests share ownership by managers is beneficial to the firm (e.g., Short and Keasey, 1999; Perrini et al., 2008). Whilst the literature suggests that managerial share ownership is beneficial in a stable environment, we predict a negative relationship between managerial ownership and performance in the post-presidential election period. We take the view that because of the persecution of managers and confiscation of their investments by the politician (see Sub-section 2.1), managers with higher share ownership are likely to suffer greater losses than those with lower ownership in the event that their investments are confiscated. In this context, they might expropriate firm assets, for example by externalisation of assets, to reduce their losses.

In addition to managerial ownership, it is also argued that ownership concentration, on the one hand, may cause the controlling shareholders to be entrenched and optimise private benefits rather than shareholder value. For example, the controlling shareholders are able to determine the profit distribution and may sometimes deprive minority shareholders of their rights to share profits, via, for example, related party transactions (e.g., La Porta et al., 2002; Dahya et al., 2008). On the other hand, Shleifer and Vishny (1986) and Claessens et al. (2002) argue that controlling shareholders have

incentives and ability to monitor managers in order to protect their investments against expropriation. In line with this, Hoskisson et al.'s (2002) review of the literature shows that controlling shareholders have the ability to monitor managers and the influence to promote change beneficial to the firm. The monitoring role of controlling shareholders is particularly important in a crisis environment because the managerial agency costs are expected to be greater (Roe, 2003). La Porta et al. (1998) also argue that ownership concentration could substitute for a lack of legal protection in minimising expropriation by managers. In this context, ownership concentration may be an effective mechanism to resolve the agency problems brought about by the severe political and economic environment and improve performance. Some of the controlling shareholders may also have stronger political connections which are valuable.⁸ Hence, we hypothesise the following:

H3: Firm performance decreases with executive directors' share ownership.

H4: Firm performance increases with concentrated share ownership.

3.3 Control variables

We also include additional variables to control for other potential factors that may affect firm performance. Haniffa and Hudaib (2006) suggest that firm size may be related to firm performance. Large firms have the financial resources to weather the severe political and economic crisis. For example, they have the ability to generate internal funds and also have access to cheaper borrowings. However, in the context of Zimbabwe, they were more likely than smaller firms to be the target of political hostility and potentially to be accused of externalising foreign currency by the government. Gearing ratio can also be related to firm performance. As Short and Keasey (1999) contend, control over management actions is more effectively exercised by debt holders than shareholders. In Zimbabwe, banks play an important role of providing debt financing. Given the political and economic environment, banks are more likely to have strong incentives to monitor managers to ensure that they adhere to debt covenants and improve performance because poor

⁸ For example, shareholders, such as Nicholas van Hoogstraten, who controlled such firms as Wankie Colliery, were known to be connected to the Zanu PF government. Such connections may be used to (i) influence government policy decisions, (ii) ensure that the legal system do prosecute if managers expropriate, and (iii) secure scarce resources such as foreign currency and cheaper finance.

performing firms may be liquidated. In line with Durnev and Kim (2005), we include exports to control for differences in exposure to currency depreciation. Exporting firms may not be significantly affected by currency depreciation because they are able to use some of their export proceeds to pay for imported raw materials. Coles et al. (2008) suggest that the number of business segments can also influence performance. Firms operating in a number of sectors are likely to perform better due to the benefits of diversification. Finally, firms that are foreign controlled could benefit from parent support and be able to deal more effectively with the crisis.

4. Research Design

4.1 Data and Sample selection

Our data are drawn from annual reports which were published during 2000 to 2005 by firms listed on the ZSE. We choose this period for three main reasons. First, the ZSE rewrote its listing rules in 1998 and required firms to publish data on board and ownership structures, hence we can obtain the required data from the annual reports. Second, in November 1999, the Institute of Chartered Accountants in Zimbabwe and the ZSE formally determined that Zimbabwe was a hyperinflationary economy and required all listed firms to publish inflation-adjusted financial statements in accordance with International Accounting Standard 29 (IAS 29): ‘Financial Reporting in Hyperinflationary Economies’ (see Chamisa, 2007).⁹ The requirement to publish IAS 29 adjusted financial statements was effective for financial years beginning on or after 1 January 2000. Consequently, the first inflation-adjusted financial statements were published in 2000.¹⁰ Third, we are able to split the sample period into the pre- and post-presidential election periods (i.e., 2000-2002 and 2003-2005, respectively), thus allowing us to account for the worsening political and economic landscape in examining our hypotheses.

⁹ Zimbabwe adopts International Financial Reporting Standards (which subsume standards designated as IASs) as domestic standards, without modification, following a “due process” (Chamisa, 2000, p. 270)

¹⁰ For the year 2000, only those firms with a 31 December year-end were required to publish restated financial statements, whilst firms with year-end during the year could publish inflation-adjusted financial statements voluntarily. However, in later years, all firms were required to comply with IAS 29.

As at 31 December 2005, 79 firms were listed on the ZSE and for each firm, we requested for annual reports for the period 2000 to 2005 (inclusive) from various sources (the listed firms, transfer secretaries, stockbrokers and the ZSE). This process yielded a total of 352 annual reports out of a possible 474 annual reports. We eliminated 54 reports published by banks and insurance firms in line with previous studies (e.g., Weir et al., 2002; Ho and Williams, 2003). Further, we also eliminated 41 annual reports which did not include inflation-adjusted accounts because in all our analyses we use inflation-adjusted data as reported in the annual reports. The inflation-adjusted accounts are compiled in compliance with IAS 29. In line with IAS 29, all the firms in the sample adjusted their historical cost accounts using the consumer price index (CPI) and published inflation-adjusted accounts as the primary financial statements (subject to audit opinion).¹¹ This screening procedure resulted in 257 firm-years of panel data covering a total of 53 distinct firms.

4.2 Measures of firm performance

We develop two measures of performance using the inflation-adjusted data as discussed above: (1) Tobin's Q (QRATIO) (a measure of market valuation), and (2) return on assets (ROA) (a measure of operating performance). Consistent with prior studies (e.g., Haniffa and Hudaib, 2006; Dahya et al., 2008; Bozec et al., 2010), we calculate the QRATIO as the market value of the firm at the year-end, plus the book value of liabilities divided by the book value of total assets at the year-end as extracted from the annual reports. We measure ROA as profit before interest and tax for the year scaled to the total assets. Core et al. (2006) argue that ROA is a more powerful measure of operating performance than other accounting measures such as return on equity because it has more

¹¹ IAS 29 requires financial statements reported in the currency of a hyperinflationary economy to be stated (by applying a general price index) in terms of the measuring unit current at the balance sheet date and corresponding figures for the previous period(s) to be restated in the same terms. The restatement procedure (per IAS 29) involves the following steps. Monetary items (i.e. money held or items to be received or paid in money) are not restated. However, non-monetary assets and liabilities (not measured at fair value), components of owners' equity and all income statement items are restated. The gain or loss on the net monetary position is reported in the income statement. All the firms in our sample applied the CPI issued by the Zimbabwe Central Statistics Office to restate their financial statements. The basket of components making up the CPI did not change during the period covered by the study (see Reserve Bank of Zimbabwe, 2005). Furthermore, the way in which the CPI was applied in adjusting the historical cost accounts for inflation was consistent and attested by auditors (over 90% of whom are the "big-four" international audit firms).

desirable distributional properties. For example, total assets are strictly positive, but equity can be zero or negative.

4.3 Econometric estimation

In most prior studies, the standard approach in examining the relationship between performance and corporate governance variables has been to employ the ordinary least squares (OLS) model. However, OLS models are problematic in the context of panel data because they treat data as cross-sectional, thus ignoring the panel structure of the data (Roodman, 2009; Gujarati and Porter, 2009; Kohler and Kreuter, 2009). In this context, they violate the underlying OLS assumption that all observations are independent of each other. Accordingly, using Stata, we employ a system Generalized Method of Moments (GMM) approach (Blundell and Bond, 1998; Roodman, 2009) which is widely used in empirical analyses involving panel data (Elsayed and Paton, 2005; Capezio et al., 2010). This approach is more appropriate because it removes the contamination through an identified finite-sample corrected set of equations that are robust to panel-specific autocorrelation and heteroscedasticity (Roodman, 2009; Capezio et al., 2010). It achieves this by using lagged differences and lagged levels of instrument dependent and independent variables (Elsayed and Paton, 2005; Roodman, 2009; Capezio et al., 2010). The following model is therefore specified:

$$PERFORMANCE_{it} = p1EX_{it} + p2EW_{it} + V_i + s_{it} \quad i=1, \dots, N; t=1, \dots, T \quad (1)$$

Where:

PERFORMANCE is the dependent variable, which is measured using Tobin's Q (QRATIO) or return on assets (ROA) as discussed in Sub-section 4.2 above.

EX is a vector of strictly exogenous covariates. In our case, these are year and industry dummies.¹²

We consider these variables to be exogenous because they are not dependent on past or present error terms (Roodman, 2009).

EW is a vector of endogenous covariates, and some of these are potentially correlated with past and present error terms. These variables include our main variables (board and ownership structures) and control variables (firm size, gearing, foreign control, business segments and exports) and are all defined in Table 1.

V is the unobserved individual firm-level fixed effects.

e is the observation specific error term that is assumed to be auto-correlated, with the added assumption that V and s are not serially correlated.

θ and γ are vectors of the parameters to be estimated

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5. Empirical Results

5.1 Descriptive Statistics

For the descriptive analysis, we present in Table 2, the means for performance, board and ownership structures and control variables for the full period (2000-2005), for the pre-presidential election (2000-2002) and post-presidential election (2003-2005) periods and for each year. The mean QRATIO and ROA for the full study period 2000-2005 is 1.004 and 4.8% respectively. We observe that QRATIO and ROA increased from a mean of .957 and 3.3% in the pre-presidential election period to 1.043 and 6.2% in the post-presidential election period, respectively. The yearly data also show performance increased from .741 and 2.8% in 2000 to 1.146 and 6.9% in 2005 for QRATIO and ROA, respectively. These results suggest that even though the political and economic crisis worsened, firms improved their performance in the post-presidential election period.

¹² We classified our sample into five industries based on ZSE industry classification as follows: (1) mining and construction; (2) agriculture; (3) retail and services; (4) manufacturing, and (5) diversified industries.

INSERT TABLE 2 ABOUT HERE

Table 2 also illustrates that on average the size of the board is approximately nine members, thus consistent with previous studies (e.g., Okeahalam, 2004; Mangena and Tauringana, 2007). We observe an increase in the mean number of directors from about eight in the pre-presidential election period to about nine in the post-presidential election period. This increase seems to have occurred in 2003 and suggests that firms may have increased board sizes in the post-presidential election period perhaps to enhance their ability to deal with the worsening political and economic crisis. We however, observe a decrease in the proportion of non-executive directors from about 73.3% in the pre-presidential election period to 69.8% in the post-presidential election period. This decrease seems to have started in 2003 suggesting that the increase in board size was due to an increase in executive directors rather than non-executive directors. It would seem that firms adopted a strategy of hiring more executive directors in the post-presidential election period to build up a strong team of executives, perhaps with expertise, to facilitate quicker and more effective decision-making processes. Finally, for ownership structure, the mean executive directors' share ownership (for the full period) is 3.2%. Table 2 also indicates that executive directors' share ownership increased from 1.6% in the pre-presidential election period to 4.6% in the post-presidential election period. We also observe that the mean ownership concentration increased from 40.8% to 45.5%. This increase is consistent with Roe's (2003) argument that when faced with an unfriendly political and social environment, firms move towards greater ownership concentration as a means of coping with the threats from the environment.

5.2 Multiple Regression Results

We first present the univariate results in Table 3. As observed, both performance measures are significantly related to board size and proportion of non-executive directors, but not to executive

directors' and concentrated share ownership. Although these univariate results show the relation between corporate board and ownership structures and performance, the analysis does not control for other factors of performance. We therefore extend our analysis to a multiple regression setting using the system GMM estimator. We first examine multicollinearity problems among the independent variables in our model. Table 3 shows that all the correlation coefficients are well below the threshold of 8 (see Gujarati and Porter, 2009).

INSERT TABLE 3 ABOUT HERE

5.2.1 Regressions results

In Table 4, we report the system GMM estimates for both our performance measures based on robust standard errors.

INSERT TABLE 4 ABOUT HERE

We start the analysis by attempting to replicate the results of previous studies (e.g., Yermack, 1996; Weir et al., 2002; Haniffa and Hudaib, 2006; Dahya et al., 2008).¹³ The rationale for this analysis is to show the relationship between corporate boards and ownership structures in a stable operating environment. The results are reported under Model 1 for QRATIO and Model 3 for ROA. We find that board size is not significantly related to performance. These results are consistent with Ho and Williams (2003), but contradict other studies (e.g., Yermack, 1996; Haniffa and Hudaib, 2006; Dahya et al., 2008). We observe consistent with Yermack (1996) and Coles et al. (2008) that the coefficient of the proportion of non-executive directors is negative and significant at 1% level or better for both QRATIO and ROA. In terms of ownership structure variables, the coefficient of executive directors' share ownership is positive and significant at the 1% and 5% level or better for QRATIO and ROA, respectively. These results are similar to Short and Keasey (1999). With

¹³ However, unlike these previous studies, which use an OLS model, we use a system GMM approach with robust standard errors.

respect to ownership concentration, the coefficient is negative for both QRATIO and ROA, but only significant at the 10% level or better for ROA. Finally, for the control variables, we find that firm size is negatively related to QRATIO consistent with Dahya et al. (2008) and Bozec et al. (2010), but positively related to ROA, in line with Haniffa and Hudaib (2006). We also find that gearing is not significantly related to both QRATIO and ROA. Foreign control and business segments are not significant, but we observe a significant positive relationship between exports and performance at the 5% and 10% level or better for QRATIO and ROA, respectively.

In the second analysis, we test our hypotheses of the relationship between performance and our board and ownership structure variables in an environment of severe political and economic crisis. To test the hypotheses, we introduce in our system GMM model, a dummy variable, *Period*, measured as 1 if post-presidential election period and 0 if pre-presidential election period. As we discussed earlier, *Period* captures the differences in the political and economic landscape. Similar to Coles et al. (2008), we also interact *Period* with the board and ownership structure variables (i.e., *Board size*Period*; *Proportion of non-executive directors*Period*; *Executive directors' share ownership*Period*; *Ownership concentration*Period*). In our modelling (see Models 2 and 4, Table 4), the coefficients of *Board size*, *Proportion of non-executive directors*, *Executive directors' share ownership*, and *Ownership concentration* capture the effects of these variables in the pre-presidential election period (a stable political and economic period). These coefficients should not significantly differ from those in Models 1 and 3 for QRATIO and ROA, respectively. The coefficients of the interaction terms capture the incremental effects of the board and ownership structure variables in the post-presidential election period (a hostile political and economic period). The sum of the coefficients of the individual variable (e.g., *Board size*) and its interaction term (*Board size*Period*) reflects the total effect of the variable in the post-presidential election period. If board and ownership structures are important for performance in the post-presidential election period, we expect both the coefficients of the interaction terms and the sum of the coefficients of the individual

variables and their interaction terms to be positive and significant (see also Coles et al., 2008). We test the significance of the total effects using the Wald test (see bottom of Table 4 for the results).

We report the results in columns labelled Model 2 and 4 of Table 4 for QRATIO and ROA, respectively. First, our results on the control variables remain similar to those reported in Models 1 and 3. Second, for our main variables, we observe that the coefficient on board size is still positive, but not significant. However, we document that the coefficient of the interaction term (*Board size*Period*) is positive and significant at the 5% level or better. The total effects as measured by the sum of the coefficients of *Board size* and *Board size*Period* is positive and significant (see Wald tests at the bottom of Table 4), suggesting that performance increases with board size in the post-presidential election period. Therefore, our hypothesis 1 is supported. This finding is consistent with the political theory that when faced with increasing agency costs, firms may reshape their corporate structures to deal with the threats and improve performance (Roe, 2003). They are also in line with recent studies suggesting that firms with extensive advisory needs require larger boards and perform better as a result (e.g., Linck et al., 2008; Coles et al., 2008). We suggest, from these results, that as the political and economic crisis deteriorated, the increase in board size brought a variety of knowledge, experience and linkages to support the CEO to deal effectively with the environment, and thus benefiting the firm.

With respect to the effect of non-executive directors, the coefficient of the proportion of non-executive directors is negative as Models 1 and 3, whilst the coefficient of the interaction term (*Proportion on non-executive directors*Period*) is positive for both the QRATIO and ROA models, but not statistically significant. The total effects are negative and significant. Hence hypothesis 2 is not supported--the proportion of non-executive directors does not benefit the firm in an environment of severe political and economic crisis. These results challenge the conventional wisdom that more non-executive directors buttress the board's monitoring role. A possible explanation for these findings is that firms might have reduced monitoring and ceded more discretion to executive directors (Burkart et al., 1999; Coles et al., 2008). The reduction in the

proportion of non-executive directors in the post-presidential election period seems to support this view (see Table 2). As Mitroff et al. (1988) and Pearson and Clair (1998) suggest, ceding decisions to a team of executives is a critical strategy in successfully managing the firm in a crisis environment.

For ownership variables, we find that the coefficient for *executive directors' share ownership* is positive and significant as in Models 1 and 3, suggesting that share ownership by executive directors benefits the firm in a stable operating environment. However, for both QRATIO and ROA, the interaction term, *executive directors' share ownership*Period*, is negative and significant at the 5% level or better. Thus hypothesis 3 is supported. Nonetheless, the total effect of executive directors' share ownership is not significant, suggesting that the overall effect of executive directors' share ownership is neutral. Finally, the coefficient of ownership concentration is not significant, but the interaction term (*Ownership concentration*Period*) is positive and significant at the 5% level or better, for both the QRATIO and ROA models. The total effects of ownership concentration on performance are positive and significant, thus supporting our hypothesis 4. These results are consistent with the argument that when the political pressures are severe (Roe, 2003) and/or the legal systems are weak (La Porta et al., 1998), ownership concentration might be an efficient monitoring mechanism.

5.2.2 Further analyses

To enhance the robustness of our results, we perform further analyses on the relationship between our corporate board and ownership structures and firm performance. These additional analyses suggest that our proposition that certain corporate governance structures are important in an environment of severe political and economic crisis is still being supported. First, in the context of the results in Table 4, we run separate system GMM regressions for the pre- (2000-2002) and post- (2003-2005) presidential election periods. To the extent that board size and concentrated ownership are more important in complex or severe crisis environments, we expect these variables to be more

associated with QRATIO and ROA in the period 2003-2005 than in the 2000-2002. The results are reported in Table 5.

INSERT TABLE 5 ABOUT HERE

Our results show that for the period 2000-2002, board size and concentrated ownership are not significantly associated with QRATIO and ROA. The proportion of non-executive directors is negative and significant whilst executive directors' share ownership is positive and significant. In the period 2003-2005, both QRATIO and ROA are positively related to board size and negatively related to the proportion of non-executive directors at the 5% level or better. We find that performance is negatively related to directors' share ownership at the 5% level or better, but positively related to ownership concentration at the 5% level or better. Overall, the results support those we reported in Table 4.

Second, following Roodman (2009), we conducted the Hansen test and Arellano-Bond second order autocorrelation test (AR2) to assess the reliability of our estimates as well as to ensure that our results do not derive from methodological problems. The Hansen test allows the testing of the null hypothesis that instruments are not correlated with the error term, and thus tests the validity of instruments. The AR2 tests the null hypothesis that there is no second-order serial correlation in the disturbance term (Roodman, 2009). If the two hypotheses are not rejected, then it implies that the system GMM approach is an appropriate model for our analysis. We find that for all the models (see bottom of Table 4 for the tests results), the Hansen test results are not significant, indicating that the instruments are valid and are not correlated with the error term. The Arellano-Bond (AR1) tests are all statistically significant suggesting that the levels used to instrument the first-differenced equation provide weak instruments. We fail to reject the AR2 tests, thus providing evidence that the error terms in the system of equations are not serially correlated and orthogonality has been achieved (Roodman, 2009). These tests indicate that the system GMM approach is valid.

Finally, we use alternative measures for firm size. Larcker et al. (2007) suggests that large firms are more likely to have larger boards than smaller firms (Larcker et al., 2007). We therefore dichotomised firm size at the median of total assets. Firms with total assets below the median are classified as small, whereas those with total assets at and above median are considered large firms. We replicate the regressions by replacing the log of total assets with dummy variables, assuming 1 if large (at and above median) and 0 if small (below median). We also re-run the regressions using the log of total sales as a measure of firm size (see Haniffa and Hudaib, 2006). In both cases, our results remain largely similar to those in Tables 4 and 5.

6. Summary and Concluding Remarks

In this study, we use the system GMM approach to examine the relationship between board and ownership structures and firm performance in an environment of severe political and economic crisis, and where the legal systems are dysfunctional. We draw from the political theory (Roe, 2003) to examine the issue. Using data drawn from the ZSE for the period 2000-2005 inclusive, we split the study period into pre-presidential election period (2000-2002) (a relatively stable political and economic environment) and post-presidential election period (2003-2005) (a hostile political and economic environment) to capture the differences in the political and economic landscape. We find that in the post-presidential election period, the size of boards, executive directors' share ownership and ownership concentration increased, whilst the proportion of non-executive directors reduced. Firm performance (Tobin's Q and return on assets) is positively related to board size and ownership concentration in the post-presidential election period, but not in the pre-presidential election period. We document that the relationship between performance and executive directors' share ownership is positive in the pre-presidential election period, but negative in the post-presidential election period. The relation between the proportion of non-executive directors and performance is negative irrespective of the period. Overall, our results suggest that large boards and ownership concentration are more important in an environment of severe political and

economic crisis. These findings are interesting and support the literature suggesting that the effects of corporate board and ownership structures on performance depend upon the environment of the firm (see La Porta et al., 1998; Roe, 2003; Coles et al., 2008).

In interpreting the results, however, some limitations need to be noted. First, we only examined a limited number of corporate governance variables. Other board structures such as the audit, remuneration and nomination committees and board meetings may also be associated with firm performance. Second, political connections can be a valuable resource (Claessens et al., 2008) in an environment of political and economic crisis and therefore can also influence firm performance. However, given the limited data, these variables could not be included in the analyses.

In spite of the limitations, taken overall, these results have implications for both local and international investors. They are also relevant to policy-makers and firms in African countries (and other developing countries), as they attempt to improve corporate governance. The results suggest that corporate governance regulations need to consider the nature of the environment rather than adopting a one-size-fit all approach to corporate governance (Coles et al., 2008). Future research could employ firms drawn from a number of African stock exchanges and examine different organisational outcomes such as disclosure and earnings management.

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Table 1: Definition of variables included in the regression models

<i>Variable</i>	<i>Definition</i>
<i>Performance Measures</i>	
QRATIO	Firm performance (Tobin's Q), measured as the market value of the firm, plus the book value of liabilities at the financial year end divided by the book value of total assets at the end of the financial year.
ROA	Firm performance (Return on assets), measured as profit before interest and tax for the year scaled to the total assets at the end of the financial year.
<i>Corporate Board Structure Variables</i>	
Board size	Total number of board members at the beginning of the financial year, extracted from previous year's annual report.
Proportion of non-executive directors	Board composition, measured as the number of non-executive directors at the beginning of the financial year scaled by total board members at that date extracted from previous year's annual report. We do not distinguish between affiliated and independent non-executive directors because the information is not available.
<i>Ownership Structure Variables</i>	
Executive directors' share ownership	Executive directors' shareholding, measured as the number of equity shares held by all executive directors, including non-beneficial shareholding held scaled by total number of equity shares outstanding at the beginning of the financial year, extracted from previous year's annual report.
Ownership concentration	Concentrated share ownership, measured as the number of equity shares held by non-institutional shareholders (individual or other firms) with shareholding of 10% or more (Dahya et al., 2008) scaled by total number of equity shares outstanding at the beginning of the financial year, extracted from previous year's annual report. We exclude institutional investors because they are not actively involved in corporate governance (see World Bank, 2003; Mangena and Chamisa, 2008).
<i>Control Variables</i>	
Assets	Firm size, measured as the natural log of total assets at the beginning of the financial year extracted from the previous year's annual reports.
Gearing	Gearing ratio, measured as total debt at the beginning of the financial year scaled by total assets at that date, extracted from the previous year's annual reports.
Exports	Exports, measured as a dummy variable taking the value of 1 if the firm reports export sales in the financial statements, 0 otherwise.
Business segments	Dummy variable, scored 1 if firm has two or more business segments, 0 otherwise.
Foreign control	Dummy variable, scored 1 if more than 50% of the shares are held by foreigners and, 0 otherwise.

Table 2: Descriptive statistics (means) for dependent and independent variables

Variables	Full Period (2000-2005)	Pre-presidential election period (2000-2002)	Post-presidential election period (2003-2005)	2000	2001	2002	2003	2004	2005
Performance measures									
Tobin's Q (QRATIO)	1.004	.957	1.043	.741	.951	1.105	1.203	.784	1.146
Return on Assets (ROA)	.048	.033	.062	.028	.043	.060	.119	.031	.069
Board and ownership structures									
Board size	8.685	7.957	9.302	7.737	7.658	8.234	9.109	9.311	9.543
Proportion of non-executive directors	.714	.733	.698	.733	.734	.733	.718	.704	.674
Executive directors' share ownership	.032	.016	.046	.025	.013	.023	.023	.056	.048
Ownership concentration	.422	.408	.455	.396	.415	.407	.430	.429	.435
Control variables									
Assets	328,662	10,349	598,886	10,264	5,292	11,439	83,638	261,830	1,472,900
Gearing	.427	.430	.424	.435	.447	.413	.412	.432	.429
Business segments	2.093	2.059	2.122	2.031	2.146	2.000	2.065	2.111	2.196
Firm-year observations	257	113	144	30	38	45	48	49	47

Table 3: Correlation matrix

Variables		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1	Tobin's Q (QRATIO)	1.000										
2	Return on assets (ROA)	.299***	1.000									
3	Board size	.166**	.133**	1.000								
4	Proportion of non-executive directors	-.108*	-.135**	.108*	1.000							
5	Executive Directors' share ownership	-.033	.009	-.091	.008	1.000						
6	Ownership Concentration	.069	-.017	-.043	-.123**	-.015	1.000					
7	Foreign control	-.083	-.016	-.085	-.023	-.034	.088	1.000				
8	Business Segments	.038	.092	-.136	-.077	.176***	-.190***	-.168***	1.000			
9	Exports	-.047	.094	.195***	.219***	-.007	-.066	.036	.118*	1.000		
10	Assets	-.055	.044	.189***	-.081	.002	.049	.027	-.034	.0189	1.000	
11	Gearing	.060	-.133	-.153**	-.146**	-.074	-.067	-.082	.208***	.009	-.020	1.000

***. Significant at 1% level
 **. Significant at 5% level
 *. Significant at 10% level

Table 4: System GMM results for the relation between board and ownership structures and QRATIO and ROA

	QRATIO Model		ROA Model	
	Model 1	Model 2	Model 3	Model 4
Corporate board structure variables				
Board size	.0644 (.0509)	.0194 (.0286)	.0742 (.0461)	.0078 (.0129)
Board size*Period	-	.0987*** (.0348)	-	.0244** (.0115)
Proportion of non-executive directors	-.5166*** (.1147)	-1.3577** (.6790)	-.6761*** (.2181)	-.8788*** (.2493)
Proportion of non-executive directors*Period	-	.7819 (.6007)	-	.1019 (.2605)
Ownership structure variables				
Executive directors' share ownership	.5801*** (.1290)	1.9231** (.8969)	.1991** (.1167)	.8771** (.4339)
Executive directors' share ownership*Period	-	-1.9126** (.8771)	-	-.8578** (.4282)
Ownership concentration	-.2135 (.2309)	-.1122 (.2566)	-.1758* (.1007)	-.1646 (.1258)
Ownership concentration*Period	-	.6946** (.2983)	-	.2403** (.1057)
Control variables				
Log assets	-.3509*** (.0521)	-.2037** (.0819)	.0228** (.0111)	.0490*** (.0114)
Gearing	.0252 (.2372)	-.0613 (.3463)	.0140 (.0235)	-.0299 (.0272)
Foreign control	-.0003 (.0107)	-.0024 (.0130)	.0014 (.0046)	-.0005 (.00051)
Business segments	.0603 (.0521)	.0353 (.0339)	.0164 (.0115)	.0114 (.0132)
Exports	.0736** (.03271)	.0954** (.0397)	.0742* (.0451)	.0973* (.0535)
Period	-	.1322 (.7249)	-	-.4169 (.2450)
Year dummies	Included	Included	Included	Included
Industry dummies	Included	Included	Included	Included
Constant	-4.0553 (.8263)	2.7811** (1.2326)	-.0626 (.3594)	-.03967 (.3519)
Observations	257	257	257	257
Hansen test of over-identification	38.3800	37.2400	42.9000	41.59000
Arellano-Bond test for AR (1)	-2.6500***	-2.5200***	-3.3600***	-3.3600**
Arellano-Bond test for AR (2)	-1.2500	-1.5800	-1.6600	-1.2600
Total effects of board and ownership structures (F-test using Wald test)				
Board size		.1181***		.0322**
Proportion of non-executive directors		-.5758**		-.7769***
Executive directors' share ownership		.0105		.0193
Ownership concentration		.5824**		.0757**

Robust standard errors are in parentheses

***. Significant at 1% level; **. Significant at 5% level; *. Significant at 10% level

Table 5: System GMM results for the relation between board and ownership structures and QRATIO and ROA: Pre- and Post- presidential election periods

	QRATIO Model		ROA Model	
	Pre-presidential election period (2000-2)	Post-presidential election period (2003-5)	Pre-presidential election period (2000-2)	Post-presidential election period (2003-5)
Corporate board structure variables				
Board size	-.0821 (.0604)	.1369** (.0671)	.0032 (.0156)	.2176** (.0911)
Proportion of non-executive directors	-1.7092** (.8796)	-.5496** (.2919)	-.5451** (.2313)	-.4813** (.2337)
Ownership structure variables				
Executive directors' share ownership	.6535*** (.2385)	-.5653*** (.1941)	+.0730** (.0320)	-.3355** (.1509)
Ownership concentration	.4956 (.5523)	1.4626** (.7859)	-.1729 (.1490)	.2017** (.0996)
Control variables				
Log total assets	-.0602 (.0863)	-.1028** (.0448)	.0247 (.0232)	.0487** (.0191)
Gearing	-.4427** (.1273)	-.4212** (.1094)	-.3663*** (.1518)	-.6828*** (.1634)
Foreign control	.0999 (.1144)	-.0267 (.0532)	.0985 (.2658)	.0779 (.0706)
Business segments	.0797 (.2366)	.0342 (.1295)	.0296 (.0556)	.1041 (.2635)
Exports	.2481** (.1116)	.5022** (.2279)	.0661* (.0340)	.2031** (.0822)
Year dummies	Included	Included	Included	Included
Industry dummies	Included	Included	Included	Included
Constant	-.1579 (.7725)	.1239 (1.2609)	-.3569 (.2223)	-1.0884** (.4393)
Observations	113	144	113	144

Robust standard errors are in parentheses

***. Significant at 1% level; **. Significant at 5% level; *. Significant at 10% level