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March 2009

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**DO INDEPENDENT BOARDS BEHAVE DIFFERENTLY? EXAMINING THE
VOLUNTARY ADOPTION OF BOARD MONITORING MECHANISMS**

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ABSTRACT

We ask whether firms with an independent board of directors are more likely than firms without an independent board to adopt recommended corporate governance practices designed to enhance the board's monitoring capabilities. Using hand-collected data from Canadian firms listed on both American and Canadian stock exchanges, we find that firms with both types of boards voluntarily adopt corporate governance practices and that independent boards are no more likely to adopt these practices than their non-independent counterparts. One exception to this statement is the formation of board committees. When boards are independent, the audit and compensation committees are far more likely to be staffed exclusively with independent directors. For other voluntary governance practices, the board's ability to adopt recommended practices is sensitive to the presence of a controlling shareholder.

1. INTRODUCTION

Regulators across several countries recommend that firms maintain a board of directors with a majority of independent directors. Despite the pervasiveness of this recommendation, few policy makers explicitly outline what they hope to achieve by recommending this practice. Presumably such recommendation is inspired by the belief that boards with a majority of independent directors ensure that the board operates in a manner that increases their efficacy, minimizes conflict of interests in board decision-making and ultimately increases firm performance. Whether independent boards in fact achieve these objectives is unknown. Indeed, the research so far has provided little evidence of a positive association between board independence and ultimate firm performance (Bhagat and Black, 2002).

To shed light on board independence, this paper takes a unique approach by focusing on board processes and behaviors rather than firm outcomes such as performance. It does so by examining a single task of the board advocated by agency theory: the responsibility of the board to act as monitors of management. The theory suggests that independent directors have particularly high incentives to demonstrate effective monitoring capabilities (Fama and Jensen, 1983). Therefore we ask whether independent boards are more likely than non-independent boards to voluntarily implement corporate governance practices designed to enhance the board's monitoring capabilities.

We examine the relation between board independence and the voluntary adoption of corporate governance mechanisms in the Canadian context. Canada provides the ideal environment for this study for two reasons. First, the Canadian regime has historically made corporate governance the responsibility of the board of directors. The basis for this position is found in the Report of the Toronto Stock Exchange (TSX) Committee on Corporate Governance

in Canada (the “Dey Committee”) which was adopted by the TSX in 1995. Most relevant are guidelines 1 and 10 from the committee’s recommendations. Guideline 1 states that “the board of directors of every corporation should explicitly assume responsibility for the stewardship of the corporation...” Guideline 10 from the Dey Committee’s recommendations states that:

Every board of directors should expressly assume responsibility for, or assign to a committee of directors, the general responsibility for developing the corporation's approach to governance issues. This committee would, amongst other things, be responsible for the corporation's response to these governance guidelines.

A second rationale for focusing on the Canadian environment is that until 2004 the country relied entirely on a “Best Practices” approach in which specific corporate governance mechanisms were not mandatory but recommended only. Although mandatory governance standards were implemented in the US and to some extent in Canada after the enactment of the Sarbanes-Oxley Act, voluntary approaches have historically been in place in many developed markets such as the UK and Australia, as well as in emerging economies such as Portugal and Cyprus. The voluntary nature of the Canadian governance guidelines and the responsibility of the board to respond to these guidelines allow us to examine the extent to which boards vary in their propensity to arm themselves with additional governance tools and whether this variation is systematically related to board independence. As such, this study contributes to the literature on board behavior and provides valuable insights for regulators on both the effectiveness of voluntary guidelines and the influence of independent boards.

The study makes use of a novel hand-collected dataset. Relying on the information circulars for firms listed on the TSX and contained in the TSX/S&P index during the years 1999 to 2003, information on firms’ corporate governance practices, board composition and the ownership structure of the firm’s shareholdings is collected. Although widely-held firms are

predominant in the US, Canada and many other countries have a relatively large proportion of family-owned firms and firms with the majority of controlling shareholders (Klein, Shapiro and Young, 2005; La Porta, Lopez-De-Silanes and Shleifer, 1999). Therefore, we controlled for presence of institutional investors, family or controlling shareholders and whether such shareholders. The firm's financial characteristics, year of observation, and whether the firm's stock is cross-listed on a US stock exchange are also used as control variables.

The results suggest that both independent and non-independent boards voluntarily adopt corporate governance practices designed to enhance their monitoring capabilities. At the same time, independent boards place a special emphasis on monitoring the management through the presence of independent committees. Historically, independent boards have been far more likely to have independent audit and compensation committees. While more non-independent boards have begun maintaining independent audit committees, the difference when compared to their independent peers remains significant and little improvement has been seen for compensation committees. An independent board's ability to adopt additional corporate governance mechanisms beyond independent committees is heavily by the presence of controlling shareholders. When one is present, the board emphasizes committee composition and is no more likely to adopt other mechanisms than non-independent boards illustrating that in many ways the behavior of these boards is similar. The results also show that voluntary adoption of monitoring mechanisms is greater in more recent years and increases if the firm is large or has shares cross-listed in the US.

The next section of the paper reviews the relevant literature used to derive the formal, testable hypothesis that independent boards differ in their propensity to voluntarily adopt monitoring mechanisms. This is followed by a detailed examination of the empirical context

which outlines governance guidelines in Canada, formally defines board independence and illustrates how it has changed in recent years, summarizes the shareholding characteristics of the sample firms, and provides details on the monitoring mechanisms examined in the study. The empirical methodology and control variables are then described. Empirical results and robustness tests are followed by a discussion of the contributions of the study, its limitations and implications for regulators.

2. RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

Agency Costs and the Role of the Board

Agency theory has long been used by researchers and practitioners in economics, finance, and general management to describe inherent conflicts of interest among the various stakeholders of a corporation. Broadly speaking, agency theory recognizes that managers who have the ability to make key decisions about the firm's operations may choose alternatives that directly benefit themselves at the expense of shareholders. Managers, for instance, may be tempted to divert valuable resources away from the best interests of the firm and use them for their own personal gain. The loss resulting from these actions and the expense of implementing mechanisms designed to reduce this opportunistic behavior are described as agency costs (Jensen and Meckling, 1976).

Traditionally, agency theory has been viewed as an accurate depiction of the relationship between management and shareholders in widely-held corporations. In such firms, separation of ownership (shareholders) and control (management) facilitates management's ability to act in self-serving ways since individual shareholders hold a relatively small portion of the company's shares. The large number of small shareholders typical of the classic Berle and Means (1932) view of the widely-held firm implies that a single small shareholder has neither the power nor the

incentive to devote significant resources to individually monitor management's behavior and undertake corrective action when appropriate (Shleifer and Vishny, 1986).

While widely-held corporations accurately portray firms in some countries, such as the United States, in other countries presence of large shareholders such as founding families, executives, or institutional investors is common given that the ownership of firms is concentrated (La Porta, Lopez-De-Silanes, and Shleifer, 1999). Agency theory is also applicable in this context since large shareholders are often either directly or indirectly involved in managing affairs of a corporation. As a result, conflicts of interest can still arise but may be driven primarily by the divergence of interests between large and small shareholders. Large shareholders may prompt management to behave in a way consistent with their own interests at the expense of smaller, minority shareholders. On the other hand, large shareholders may be better positioned to advocate for value-increasing changes in firm policy when significant conflicts between managers and shareholders do arise (Shleifer and Vishny, 1986). Clearly it is important to control for ownership structure in any analysis related to the evaluations of agency costs.

Given the prevalence of agency costs across all firms regardless of country or ownership structure, shareholders have devised a variety of ways for attempting to reduce these costs. A host of different mechanisms have been proposed such as increasing the firm's debt level to reduce the amount of cash under management's discretion (Jensen, 1986), creating compensation contracts aimed at aligning the interests of shareholders and managers (Holmström, 1999; Jensen and Murphy, 1990), and relying on the competitiveness of the market for a firm's products and its managerial talent (Fama, 1980). Most relevant to the current discussion is the use of the board

of directors as the active monitor with the ability to observe management's behavior and undertake corrective action as needed (Fama and Jensen, 1983).

Our understanding of board processes continues to evolve with recent research suggesting a stewardship role for directors. Under this perspective, directors view themselves to be actively collaborating with and advising the management of a firm. However, in most situations such a role is seen to be in addition to the more traditional function of the board as monitor so that directors strive to find a balance between acting as both monitors and advisors to the managerial team (Anderson, Melanson, and Maly, 2007; Adams and Ferreira, 2007).

Independent Directors and Board Monitoring

Given the importance of the monitoring of managers, it is unsurprising that many studies have been focused on improvements of the board's ability to undertake this task. Perhaps, one of the most common recommendations has been to ensure that independent directors are present on the board. These independent directors are unassociated with the firm's management team and are free from any business connections linking them with the company. Fama and Jensen (1983) propose that independent directors have particularly high incentives to effectively carry out the monitoring function since their reputation and the value of their human capital depends on their expertise in this area.

Consistent with the belief that independent directors can bring unique and meaningful insights to the operations of the board, is the prevalence of advocates for independent boards worldwide. Canadian guidelines initially recommended board independence with adoption of the recommendations of the Dey Committee in 1995 by Toronto Stock Exchange, while the US stock exchanges altered their listing standards to require companies to maintain a majority of

independent directors after the enactment of Sarbanes-Oxley Act (SOX) in 2002.² Outside the North American context, international organizations (like OECD) and the national stock exchanges in many countries have advocated the board independence. Given the call for independence from regulators and investors around the globe, many companies have responded. Studies by Chhaochharia and Grinstein (2007) and Lee and Carlson (2007) document significant recent increases in board independence for the US firms. In countries other than the US, the rate of adoption of independent boards has been somewhat lower than the US experience, but nevertheless the rate is becoming significant. Brennan and McDermott (2004) establish that a majority of Irish firms maintain independent boards while Tsipouri and Xanthakis (2004) find evidence of board independence among the largest Greek firms. Moving beyond a single country analysis, Dahya, Dimitrov and McConnell (2008) examine the prevalence of independent boards in a cross-country study of firms from 22 countries, and show that the pervasiveness of adoption independent boards is truly global in nature.

Whether boards with independent directors do in fact act as better monitors has been widely debated. If boards with relatively high proportion of independent members are better boards, we would expect this difference to be reflected in the firm's performance. Unfortunately, research linking board structure and firm performance remains inconclusive. The number of papers, including Bhagat and Black (2002), Finegold, Benson, and Hecht, (2007) and Klein, Shapiro and Young, (2005) in Canada have failed to find that the majority of independent directors results in improved financial performance of the firm.

² Although the Sarbanes-Oxley Act (2002), Pub. L. No. 107-204, 116 Stat. 745 was passed in 2002, it was not until 2003 that the Securities and Exchange Commission approved changes to the governance requirements of the US stock exchanges.

Board Processes vs. Performance Outcome

Since explorations of board composition and firm outcomes have provided inconclusive results, this paper proposes an alternative method for evaluating whether boards with a significant number of independent directors differ from non-independent boards in their propensity to monitor managerial behavior. This approach is unique in the sense that it focuses on board actions rather than firm outcomes such as performance, as the latter can be largely influenced by factors outside of managerial or board control. Instead our approach examines whether independent boards are more likely to adopt additional tools to assist them in their monitoring function. If independent directors do in fact have greater incentives to act as diligent monitors (Fama and Jensen, 1983), we would expect that they would equip themselves with additional tools to facilitate this role. This supposition is formally defined as hypothesis 1:

(H1): Firms with independent boards will be more likely to voluntarily adopt mechanisms designed to enhance the board's capability to monitor management than firms without independent boards.

This hypothesis can be viewed as an examination of the extent to which the board processes of independent and non-independent boards are similar. In this way, the research provides insights on the “black box of board process” (Leblanc and Schwartz, 2007) while also documenting the extent to which voluntary governance mechanisms are adopted by firms. The empirical context and the methodology used to test this hypothesis are described in the sections below.

3. EMPIRICAL CONTEXT

Several features of the empirical context warrant discussion. First, the specifics of Canadian corporate governance regime are outlined and are followed by the formal definition of

board independence. Second, summary statistics on the level of board independence for the sample firms over the five-year period under study is provided. The discussion is followed by examination of shareholder characteristics and ownership structure of the sample firms which reveal significant deviation from the common view of the corporation as widely-held entity. Finally, the precise monitoring mechanisms examined are described and summary statistics on their adoption rates are provided.

Applicable Regulations Related to Governance and Disclosure

Canadian corporate governance regime originated in 1995 when Toronto Stock Exchange (TSX) adopted the recommendations of the Dey Committee Report entitled “Where were the Directors?” Each company listed on the TSX was required to describe in its annual report or information circular whether or not it had adopted the guidelines produced by the committee. If a company decided not to adopt the recommended guidelines, it has to disclose the relevant explanation.

From 1995 to 1998, requirements regarding firm disclosure of these governance practices were not overly stringent or well-defined. Although a firm had been required to disclose its compliance with the recommended practices, no standardized format for such disclosure was recommended or mandated. A review of information circulars during this period indicates that the extent and the format of the disclosure have varied significantly, thus making it difficult to understand firms’ governance practices on a comparative basis. The situation changed in 1999 when the disclosure requirements were formally altered. With respect to information circulars issued for fiscal year 1999 and onwards, TSX required that firms had to disclose their

compliance with the recommended practices in a standard tabular format.³ As a result, 1999 marks the start of the sample period. No significant changes in disclosure requirements have been implemented during the period of this study.

The voluntary guidelines from the Dey Committee remain the foundation of Canadian governance regime. Except for Britain's Cadbury report issued in late 1992, the Dey Committee guidelines are one of the earliest adoptions of corporate governance rules among developed nations. Despite the relatively long history of the voluntary guidelines, it is clear that corporate governance of Canadian firms has had the potential to be heavily influenced by Canada's geographic proximity to the US, a country which issued its first formal statement on corporate governance two years after the Dey Report. Substantial changes to US corporate governance practices have been made since then culminating perhaps with adoption of the SOX in 2002⁴.

The governance practices contained in SOX also form an integral part of Canadian governance environment. This is due not only to the fact that several Canadian firms have their shares listed on US stock exchanges and therefore are bound by SOX but also to actions of non-cross-listed firms since the evidence suggests that some of these firms have begun to adopt the requirements set out in the SOX voluntarily (Anand, Milne and Purda, 2006). In examining the monitoring mechanisms that firms can but are not required to adopt, elements from both the Dey Committee guidelines and the SOX are included.⁵

³ In 1999, TSX stated that the disclosure should take a certain format. See letter from Clare Gaudet, Vice President Corporate Finance Services, Toronto Stock Exchange (Nov. 17, 1999) (on file with the authors).

⁴ A comprehensive list of corporate governance codes by nation can be obtained from the European Corporate Governance Institute at <http://www.ecgi.org/codes/>

⁵ Although the SOX was officially passed in 2002, many of its recommendations did not immediately take effect. In fact, none of the mechanisms that we examine were mandated for foreign firms for the fiscal year of 2003 and therefore their adoption before this time was voluntary. Of course Canadian firms with cross-listed securities may

The sample period ends in 2003 since in 2003 and up to the present year, cross-listed firms have had to comply with SOX. By 2004, Canadian governance regulations also evolved to include some mandatory elements. Therefore, 2003 marks the last year when adoption of corporate governance mechanisms to assist the board in monitoring firm management has been purely voluntary.

For each of five sample years, the proxy circulars for firms in TSX/S&P market index (formerly TSE 300) have been reviewed and data on the governance mechanisms employed by these firms has been hand-collected. In total, over 1200 proxy circulars have been examined. The precise mechanisms studied are described in a subsequent section.

Formally Defining Board Independence

Many of the guidelines suggested by the Dey Committee refer to the board of directors and its role. Perhaps most importantly, the Dey Committee recommended that the board should have a structure that enables it to act independently from management. Recommended aspects of this structure include appointing a chair who is not a member of the firm's executive team and maintaining the majority of independent directors. Securities regulation requires Canadian firms to include in the information circulars details on the members of the board and their relation to the firm with regard to whether they are "unrelated" or "independent". According to the report, independent directors are not involved in the firm management whereas unrelated directors are both independent and "free from any interest and any business or other relationship which could,

have begun to adopt these mechanisms in anticipation of required compliance. We address this issue in our robustness tests.

or could reasonably be perceived to, materially interfere with the director's ability to act with a view to the best interests of the corporation.”⁶

Thus, in our study, classifying each board member as “independent” involves a conservative approach which requires that the director is both independent and unrelated to the firm. While the term “independent” is used for brevity and consistency with the prior literature, it should be noted that the term is used in the stricter sense of “unrelated” as defined by the Dey Committee.

Table 1 examines the proportion of sample firms that maintain an independent chair, the majority of independent directors or both, and the extent to which adoption of these features has altered from 1999 to 2003. Perhaps the most striking observation from this table is that board independence remains relatively constant over time. Even in 1999, in the first year with standardized disclosure, over 80% of firms in the sample have had boards with a majority of independent directors. Panel A of Table 1 shows that across all years, 85% of firms have had boards with more than 50% of independent members and that such proportion fluctuated within a narrow range from a low of 82.8% to a high of 87.4%. A t-test of the difference in the level of majority independence between 1999 and 2003 fails to find significant difference between the first and last years of the sample.

Table 1 also reveals that it is far less common to maintain board independence through the presence of an independent chair. Only 36% of observations across all years have had independent chairs, however this proportion has slowly but monotonically increased from a low of 32.7% in 1999 to high of 41.9% in 2003. Unlike the difference in the proportion of firms with

⁶ “Where were the Directors?” *Guidelines for Improved Governance in Canada*, Report of the Toronto Stock Exchange Committee on Corporate Governance in Canada, December 1994.

a majority of independent directors, the two proportions stated above are statistically different from one another indicating a significant change in the number of independent chairs over the five-year period.

Moving from firms that maintain independent chairs to those that ensure independence through the combination of the majority of independent directors and the independent chair, we can see a little difference in the sample proportions. This evidence indicates that almost all firms that maintain an independent chair also choose to appoint a majority of independent directors. Panel B of Table 1 confirms this finding and shows that presence of an independent chair without an independent board occurs in only 1.5% of the sample. Furthermore, correlation between the presence of an independent chair and the presence of a combination of independent chair and majority of independent directors is in excess of 96%. It appears that having a majority of independent directors is almost a necessary condition to appointment of an independent chair. As a result, a board is defined to be independent if it includes either a majority of independent directors or an independent chair. However this essentially equates to maintaining a majority of independent directors since there are only 16 of 1078 observations where an independent chair exists without a majority of independent directors.

Shareholder Characteristics of Canadian Firms

The ownership structure of Canadian firms varies significantly. In some cases, the Berle and Means (1932) view of widely-held firms is an accurate description of Canadian corporations but there is a large number of family firms and firms with significant block holdings. Since the underlying shareholding characteristics of the firm is likely to influence its propensity to maintain board independence and to adopt voluntarily additional monitoring mechanisms, the presence of block holdings is carefully controlled by collecting shareholder information from the

information circulars of the firms studied. In Canada, securities regulations require disclosure of any individual or group with 10% or more of the outstanding shareholder votes in information circulars.

Block holdings by firm executives, founding families, or other investors (generally institutions) are distinguished from one another since their roles in monitoring firm management or enabling the board to undertake this task may differ. For instance Anderson and Reeb (2004) suggest that family block holders may have incentives to expropriate from smaller shareholders, implying a negative relation between family block holdings and the adoption of monitoring mechanisms, but that representation on the board by independent directors can mitigate this effect. In contrast, block holdings composed of institutional investors have been suggested to actively participate in monitoring firm management (Black, 1990) thereby suggesting a positive relation between voluntary adoption of these mechanisms and the presence of these block holdings. The prediction for executive block holdings is less clear since Morck, Shleifer and Vishny (1988) propose a non-linear relation between managerial ownership and firm value where value increases when management maintains a relatively small proportion of shares but declines as managerial shareholdings become large and management becomes entrenched.

Data is collected for all block holdings within a firm to incorporate cases where large shareholdings are held by multiple groups such as both a founding family and institutional investor. No limit is placed on the number of different kinds of block holdings that may be present. In cases where a family member is also a member of management, the block holding is classified to be an executive block.

The likelihood of multiple blocks and the relation between block types can be seen in Table 2. Panel B of the table provides a correlation matrix of five shareholding characteristics

that may influence both the propensity of a firm's board to be independent and its likelihood to voluntarily adopt the recommended corporate governance mechanisms. In addition to the three distinct types of block holdings data on the presence of a majority voter and whether the firm's shares are cross-listed on a US exchange is collected. A majority voter is defined as an individual or group who has control of over 50% of the firm's votes. We speculate that the incentives for these owners to voluntarily adopt additional corporate governance mechanisms will be low since the owners effectively have the control of the company and therefore have little need to please minority investors. In contrast, cross-listing in the US may force firms to enhance their governance practices (Charitou, Louca, and Panayides, 2007) and to improve the quality of their financial disclosures (Lang, Lins and Miller, 2003; Lang, Raedy and Yetman, 2003). Firms that are willing to subject themselves to the increased scrutiny through cross-listing may thereby also be willing to voluntarily adopt additional monitoring mechanisms.

Table 2 shows that 46.85% of sample observations are cross-listed and that cross-listed firms are less likely to have block holdings of any type. It is also noteworthy that block holdings of one type are not associated with the presence of block holdings of a different type. Correlations between three types of block holdings are all negative implying that firms maintaining insider block holdings by families or executives are less likely to have significant holdings by institutional investors. This is despite the fact that the most common type of block holding within the sample is the "other" category, representing 44.84% of observations followed by the executive block at 18.69% and finally the family block at 14.85%.

In stark contrast to the widely-held view of the firm, 28.17% of the observations have a majority voter and the presence of these controlling shareholders is most strongly associated with

the presence of family block holdings. Firms with majority voters are less likely to maintain independent boards as indicated by the correlation of -0.19 between these two characteristics.

The wide-spread presence of significant block holdings, majority voters, and cross-listed firms emphasizes the importance of controlling for their influence when establishing whether independent boards are more likely to adopt certain governance mechanisms. Such evidence also points to the potential for shareholding characteristics to influence determination of the independence of the firm's board. Overall, 85% of the observations represent independent boards and T-tests from Table 2 show that two of the shareholding characteristics, cross-listings and other block holdings, are associated with significantly higher levels of independence than the full sample. In contrast, the presence of a majority voter or block holdings by families and executives are associated with significantly lower rates of board independence. These univariate tests point to importance of controlling for shareholding characteristics in our analysis and make us aware of potential issues of multicollinearity and endogeneity in empirical studies.

Voluntary Monitoring Mechanisms

The Dey Report provided 14 recommendations with respect to composition and function of the Board of Directors. The first recommendation charges the board of directors with the ultimate responsibility for the firm's corporate governance. Guideline 10 specifically recommends the formation of a governance committee. Three other guidelines recommend practices to ensure that the board operates independently (including appointing of the independent chair and a majority of independent directors) and suggest disclosure related to each director's affiliation with the company. Data relating to five of the remaining nine guidelines are collected for this study. These include three guidelines calling for board committees to be composed of fully independent members, one allowing directors to hire advisors, and one

providing for the training of new board members. The guidelines can be translated into four observable monitoring mechanisms that can be coded by variables equal to 1 if the company adopts the recommended practice and 0 otherwise. The precise mechanisms examined are:

1. The audit committee is composed entirely of independent directors
2. The compensation committee is composed entirely of independent directors
3. Directors are permitted to independently hire advisors
4. Formal training is provided for new board members

The four guidelines for which data has not been collected could not be easily coded to reflect a voluntary willingness to enhance the board's monitoring capabilities. For instance, Guideline 7 recommends that the board reviews its size to ensure that the board can operate effectively.

While it can potentially be deciphered whether or not this review has taken place, a subjective judgment would have to be made as to whether the outcome of the review enhanced, deteriorated, or left unchanged the board's ability to reduce agency costs.⁷ As a result, the analysis does not include this recommendation.

In addition to these four mechanisms, data is collected for an additional three variables that emerged in SOX. These are:

1. Adopting a code of ethics
2. Certification of financial statements

⁷ The remaining guidelines for which data was not collected include a recommendation that the board develop position descriptions for directors and the CEO, that there should be a process put in place for evaluating directors, and that the board should review its compensation of directors.

3. The presence of a financial expert on the audit committee⁸

While none of the sample firms has been required to implement these practices during the time period studied, Table 2 shows that a number of those firms chose both to adopt and disclose the adoption of these mechanisms voluntarily. While Canadian disclosure requirements have been standardized for the Dey recommendations they do not encompass the practices mandated by SOX. This may cause a downward bias in the number of firms reporting adoption of the mandated practices. Presumably however if a firm believes that there are benefits to implementing the practice voluntarily, it is likely to reveal this to potential investors.⁹

These seven mechanisms are examined both individually and in aggregate and form an index that allocates one point for each mechanism adopted up to a maximum of seven points. Creation of such indices in corporate governance research is common (Gompers, Ishii and Metrick, 2003; Durnev and Kim, 2005) and no judgment is made on the value of each recommended guideline, weighting each one equally. In addition to the full aggregate index, a second index is defined reflecting only the last five recommended guidelines. It is plausible that the ability to staff committees exclusively with independent directors is mechanically related to the number and proportion of independent directors available on the board. As a result, the first two mechanisms

⁸ The Sarbanes-Oxley Act indicates that the Securities and Exchange Commission should define financial expert and provides guidelines in developing that definition. See section 407(b) “In defining the term “financial expert” for purposes of subsection (a), the Commission shall consider whether a person has, through education and experience as a public accountant or auditor or a principal financial officer, comptroller, or principal accounting officer of an issuer, or from a position involving the performance of similar functions— (1) an understanding of generally accepted accounting principles and financial statements; (2) experience in— (A) the preparation or auditing of financial statements of generally comparable issuers; and (B) the application of such principles in connection with the accounting for estimates, accruals, and reserves; (3) experience with internal accounting controls; and (4) an understanding of audit committee functions.

⁹ Robustness tests ensure that the primary results are not sensitive to this assumption by including only those mechanisms covered by disclosure guidelines.

related to audit and compensation committee composition are excluded from the index to form a reduced index of voluntary adoption.

Table 3 provides a preliminary examination of adoption of these seven mechanisms both across the entire sample and firms with independent versus non-independent boards. As a first observation it is clear that in the Canadian context, recommendations rather can be an effective means of encouraging firms to adopt better governance practices. Overall, the average level of adoption is 3.91 mechanisms with independent boards adopting slightly more at 4.02 and non-independent boards adopting fewer on average at 3.20.

Figure 1 illustrates the distribution of index values across the sample for both the full index and the reduced index excluding committee membership. The figure shows that only a very few firm-year observations have chosen not to implement any of the seven recommended practices. Although adopting all seven practices is also rare during the sample period, the most common adoption level has been 5. For the reduced index the number of mechanisms adopted most frequently is 3 however in comparison to the full index, a larger proportion of firms chose not to adopt any of the mechanisms, indicating perhaps a particular importance placed on committee membership. This observation is confirmed by Table 3 which finds that maintaining an independent audit committee is the most commonly adopted practice across the sample.

While recommendations related to corporate governance have been in place in Canada since 1995, increased focus on corporate governance in recent years may have influenced firms to change their practices over time. This possibility is examined in Figure 2 which plots the mean values for the full and reduced indices for both independent and non-independent boards in each year of the sample. Three important observations can be made from this figure. First, even in

1999, the voluntary adoption of governance mechanisms has been occurring regardless of whether firms maintained independent boards or not. The average level of adopted mechanisms has been over 3 for independent boards and over 2 for non-independent boards. Second, adoption rates have been increasing steadily across the entire sample period. This is true for both the full and reduced index as well as independent versus non-independent boards. Third, independent boards maintain a higher level of voluntary adoption across all years of the sample for the full index however in recent years, adoption rates for the reduced index have converged such that there appears to be little difference between the behavior of independent and non-independent boards.

Univariate tests of differences in adoption rates for independent and non-independent firms across each of the seven mechanisms are provided in Table 3. In all cases, a significantly higher proportion of firms with independent boards adopt specific recommendation. This analysis, however does not account for differences in adoption rates over time which Figure 2 points to as being potentially very important. A more detailed multivariate analysis of adoption rates is required and is described in the section below.

4. EMPIRICAL METHODOLOGY

In order to provide evidence on whether independent and non-independent boards differ in their propensity to voluntarily adopt additional monitoring mechanisms a multivariate analysis is conducted in which the dependent variable is either the full or reduced index described above. The independent variables include the primary measure of board independence reflecting the presence of a majority of independent directors or an independent chair. An alternative specification is also examined, which includes a variable reflecting presence of a majority of independent directors and an interaction term identifying cases in which both a majority of

independent directors and an independent chair exist.¹⁰ The purpose of this term is to establish whether an independent chair further enhances a board's propensity to adopt recommended governance practices when a majority of independent directors is already present.

Additional Control Variables

As we have seen, the shareholder characteristics of a firm have the potential to be related to both the adoption of additional governance mechanisms and the presence of an independent board. As a result, the presence of family, executive, "other" block holdings, a majority voter and cross-listed shares are all controlled for in the multivariate analysis. The expectation is that governance adoption will be positively related to cross-listings and other blocks, negatively related to family blocks and majority voters, and either positively or negatively related to executive holdings.

Six additional characteristics argued to influence firms' governance decisions are also included as independent variables. As evident from Figure 2, governance patterns have changed dramatically over time and therefore a "Year Count" variable is defined and set equal to 0 in 1999, 1 in 2000 and so on until reaching a maximum value of 4 in 2003. In addition, the size of the firm is measured by the lagged value of the natural logarithm of total assets since it is often argued that there are fixed costs associated with implementing certain governance practices and that these costs are therefore more onerous for small firms to bear.

The remaining four control variables fall into two categories. The first category aims to capture a firm's need to appeal to either existing or potential investors. The intuition is that the more a firm is potentially dependent on investors for funds, the more it will aim to demonstrate that it values the interests of these investors and puts mechanisms in place to ensure that their

¹⁰Recall that there are extremely few cases in which an independent chair exists without a majority of independent directors.

funds are not expropriated by management or large shareholders. In order to measure the firm's funding needs, two variables are adapted from Durnev and Kim (2005). The first variable, investment opportunity, is measured by the annual percentage growth in sales in the year prior to the measurement of the governance indices. The second variable measures the need for external finance given a certain level of investment opportunities and is defined as the difference between the firm's sustainable growth rate and its actual growth rate.¹¹ Any amount of growth that the firm cannot support on its own must be funded by external sources. Both investment opportunities and the need for external funds are expected to be positively related to a firm's voluntary adoption of governance mechanisms.

The final category of variables that are controlled for relate to the potential size of the agency costs experienced by the firm. Recall that these costs incorporate uses of cash that are inconsistent with the best interests of shareholders and expenses incurred to prevent these uses. Gompers and Lerner (2004) argue that agency problems will be greater when assets are intangible since tangible assets can be more easily sold upon liquidation of the firm and therefore require less monitoring. In a similar vein, Khanna (2005) argues that high levels of spending on R&D and intangible assets may be consistent with over-spending due to managerial empire building while Durnev and Kim (2005) argue that these expenses proxy for the intangibility of corporate resources and therefore proxy the cost of diversion.

In line with this literature, two measures of asset tangibility are included as control variables. The first is the value of property plant and equipment scaled by total assets which is expected to be negatively related to the level of voluntary adoption. Firms with tangible assets

¹¹ Following Demirgüç-Kunt and Maksimovic (1998) sustainable growth is measured as return on equity/(1-return on equity) and actual growth is measured as the annual growth rate in total assets. These values are taken from the year prior to the measurement of the governance variables.

need not expend significant resources to monitor these assets. The second is research and development expenses also scaled by total assets which is expected to be positively related to the number of additional monitoring mechanisms adopted.¹²

Summary statistics for these control variables and their expected relation to the voluntary adoption of monitoring mechanisms are presented in Table 4. Because of potential endogeneity issues between financial characteristics and governance practices, all variables are measured in the year prior to measuring the indices of voluntary adoption. Panel A of the table provides the mean value for each variable for the full sample, its 1st and 99th percentiles and average values across both independent and non-independent boards. T-statistics for differences in the values of these variables across board type are also presented but reveal very little.

There are no systematic differences in the need for funds, asset tangibility or size across the two sub-samples of firms. Although the average value of market to book for firms with both board types does not enter into the analysis as control variable, the table also reports it. Market to book value has commonly been used as the measure of overall firm performance (Gompers, Ishii, and Metrick, 2003; Klein, Shapiro, and Young, 2005) and within this sample there is no systematic difference in its value across boards with independent versus non-independent firms providing further evidence on the difficulty of establishing a consistent link between governance and performance.

¹² Research and development expenses are frequently missing for observations in Compustat. Rather than eliminate observations with missing data, we follow Durnev and Kim's (2005) practice of replacing missing R&D observations with a value of 0. The intuition is that firms that fail to report R&D may do so because they do not have R&D expenditures. Eliminating these firms would then bias the sample towards industries where R&D spending is significant.

Panel B of Table 4 provides pair-wise correlations among the control variables related to size, year, need for funds and asset tangibility. The strongest relation is the negative correlation between R&D expenses and firm size. This indicates that R&D variable may be capturing relatively young, start-up firms that are still small in size. Significantly positive association between investment opportunity and R&D is also consistent with the rapid growth experienced by junior firms. In contrast, size is negatively related to investment opportunities but positively related to the need for external finance indicating that larger firms have slowed in their year-to-year sales growth but remain heavily dependent on external capital markets for finance.

Data for the control variables is collected from the Canadian version of the Compustat database. Despite the fact that the sample only includes firms contained in S&P/TSX index, the primary market index for Canada, not all firms have been found in databases and for some firms the data is incomplete. Moving to the multivariate analysis therefore results in a loss of observations however approximately 700 observations remain.

Model Specification

The empirical specification linking the index reflecting monitoring mechanisms to the dependent variables can take several forms. While the data contains elements of a panel in that it represents a cross-section of firms over five years, it is a highly unbalanced panel. Not all firms are included in the index (or have available data) for each year and the average number of times a firm appears in the sample is only 2.6. While not all firms appear multiple times in the sample, for those that do it is clear that the level of governance adoption in one year is likely to be correlated with the level in other years. This correlation can be modeled by using either a random

effects model¹³ or robust standard errors clustered at the firm level. A significant number of assumptions underlie the random effects model and the Hausman test rejects its use, therefore clustered standard errors which are robust to the presence of any correlation among observations from the same firm are used.

The use of clustered standard errors permits a more accurate representation of the dependent variable by an ordered probit model. Ordered probit models are appropriate for models with discrete dependent variables when these variables are inherently ranked (Greene, 1997) which is consistent with the constructed governance indices. The results are presented in the section below.

5. MULTIVARIATE RESULTS

Primary Results

Table 5 provides the first multivariate results relating monitoring mechanisms to board independence, shareholding characteristics and the additional control variables. The columns of the table are divided into three sections with the first section providing the expected relation between each independent variable and the index reflecting voluntary adoption of monitoring mechanisms. The second section measures board independence by our primary composite measure including either firms with a majority of independent directors or an independent chair. Finally the third section replaces this independence definition with a distinct measure of majority independence and the interaction term identifying firms with both majority independence and an independent chair.

¹³ A random effects model (versus a fixed effects model) is appropriate when we believe the sampled cross-sectional units were drawn from a large population (Greene, 1997). Since the sample includes only 268 individual companies we believe this is a consistent representation of the data.

Since Table 2 identified shareholding characteristics to be correlated with the adoption of an independent board. These characteristics are initially excluded to avoid potential issues of multicollinearity. Under the first specification of the model presented in Table 5 the full index of potential monitoring mechanisms ranging from 0 to 7 is the dependent variable within the ordered probit model while the second specification uses the reduced index. The number of observations increases slightly when moving to the reduced index since for some observations it is impossible to establish if the audit and compensation committees were fully independent and thus the full index could not be created. Under both specifications, all included control variables with the exception of property, plant and equipment (PP&E), are estimated with the correct sign. Surprisingly PP&E shows a significant positive relation with the adoption of additional monitoring mechanisms implying that firms with more tangible assets are more likely to adopt these mechanisms. In contrast, R&D shows the expected sign, and is significant for the full index, implying that firms with high levels of R&D and more intangible resources are more likely to protect these resources with additional monitoring.

One possible explanation for counter results for PP&E is the hypothesis that the variable is proxying for an omitted variable, such as industry effects. We confirm this hypothesis by constructing 13 dummy variables corresponding to the 13 industry classifications established by Campbell (1996) from 2-digit sic codes. When these variables are included, the PP&E variable becomes insignificant while all other variables remain qualitatively similar. The R&D variable maintains its significance even with the industry dummies at slightly reduced 6% significance level rather than original 3%.¹⁴

¹⁴ We also verify that the inclusion of industry dummies does not substantially alter the results from the full regression including both financial and ownership characteristics. While the results in these instances are essentially the same we choose not to incorporate industry dummies in the reported tables since subsequent tests work with

The control variables most significantly related to the adoption of monitoring mechanisms are the size of the firm, the year of observation and the need for finance. As expected, larger firms and firms in greater need for external funds adopt more governance mechanisms. Although the relation between need for finance and monitoring mechanisms retains its statistical significance, it is stronger when the full index is examined versus the reduced index excluding committee composition.

Having established that the control variables largely behave as expected we turn to the key variable under consideration, namely board independence. The first observation is that the role of board independence is highly sensitive to monitoring mechanisms. When the index representing 7 potential mechanisms forms the dependent variable, board independence is positively related to adoption of these mechanisms at 1% level. In contrast, when two variables related to independent committees are dropped from the analysis, independent boards are seen to be no more likely to voluntarily adopt the remaining five monitoring mechanisms.

The remaining columns in Table 5 confirm this pattern and the special role that board independence plays in ensuring independent board committees. The third and fourth sets of coefficient estimates add the shareholder characteristics to the control variables and repeat the estimation of the ordered probit model. Before doing so, however, an ordinary least squares (OLS) regression is estimated including all 11 controls (2 related to tangibility, 2 related to need for funds, year, size and 5 shareholding characteristics). Strictly speaking, OLS is not appropriate for discrete ordered dependent variables however its estimation allows for the calculation of variance inflation factors to establish the extent to which multicollinearity impacts the model's

significantly smaller subsamples of the data and the inclusion of these dummies would have the potential to over-identify the model.

estimation. Chatterjee, Hadi, and Price (2000) suggest that multicollinearity is a problem whenever the largest variance inflation factor exceeds 10 or the average of all factors is significantly greater than 1. For the variables used here, the average value is 1.17 while the largest factor is only 1.38 providing little indication of multicollinearity. As a result, all control variables are incorporated in the analysis simultaneously.¹⁵

Including all variables confirms many of our previous findings. Size, year and PP&E are all significantly positively related to monitoring mechanisms, regardless of whether the full or reduced index is used. However inclusion of industry dummies eliminates the significance of PP&E. More importantly, however, is the confirmation that board independence is again positive and significant only when the full index of monitoring mechanisms is examined and plays no role in establishing the propensity to adopt the reduced index excluding committees.

Additional insights gained from including the shareholding characteristics include the importance of cross-listing shares in the US and the presence of a majority voter. As expected, these variables have opposite effects with cross-listings being positively and significantly related to the adoption of additional monitoring mechanisms and the presence of a majority voter negatively influencing this adoption. Interestingly, the majority voter shares a similar pattern to board independence in that it is only a significant influence on governance for the full index when committee membership is included and fails to be important as a determinant of the reduced index.

¹⁵ In addition to testing for multicollinearity the possibility of a two-stage instrumental variable regression was considered. Under this specification, board independence would be predicted by instruments correlated with independence but unrelated to corporate governance mechanisms. Board size was considered as a potential instrument based on the findings of Vassallo and Wells (2006) that larger boards are more likely to be independent however in the current sample, size was found to be unreliably related to independence.

The final two model specifications in Table 5 confirm the role of control variables in that size, year, cross-listings, majority voter and need for finance. They all retain their significance and demonstrate similar patterns with regards to the previous specifications when there are discrepancies between the full and reduced index. All other control variables remain insignificant. What is different in these final specifications however is that the incremental value of an independent chair when a majority of independent directors is already in place is established by including both a variable identifying a majority of independent directors and an interaction term for cases in which an independent chair also exists. These specifications make it apparent that the role of independence is highly sensitive to the precise governance mechanisms reviewed. Both measures are positively and significantly related to the full index with the presence of an independent chair providing significant incremental benefit over and above the importance of majority independence. In contrast, neither is important when the reduced index is examined.

Examining Committee Membership

It is clear from the analysis in Table 5 that board independence does not play a consistent role in influencing the adoption of various monitoring mechanisms. For this reason, the 7 mechanisms are considered individually in Table 6 using a probit model where the dependent variable is equal to 1 if a particular mechanism is adopted and 0 otherwise. The same set of control variables are used as in Table 5.

In general moving from an aggregate index to its individual elements reduces the significance of many of the control variables however year of observation remains a powerful predictor of adoption across all mechanisms. This is noteworthy since it implies that increases in

the aggregate index level over time are not merely a function of the adoption of more recently introduced mechanisms suggested by SOX but rather an overall increase in the level of adoption across all governance practices. Size retains its significance across approximately half of the mechanisms with a code of ethics, financial certification, and a financial expert on the audit committee being more common for larger firms.

In examining the committee variables individually two unique findings become apparent. First, the presence of an independent board is only significantly related to committee independence. While positively related to both audit and compensation committee independence at the one percent level, board independence is an insignificant determinant of all other monitoring mechanisms. Second, the presence of a majority voter plays a distinct role in whether committees are staffed with independent directors. For both audit and compensation committees the presence of a controlling shareholder makes it less likely that committees are independent. For all other monitoring mechanisms, the majority voter variable is insignificant.

The unique relationship between board independence and committee memberships warrants deeper analysis and in particular, an investigation of the extent to which such relationship is only mechanical that firms with more independent directors have more individuals available to choose from staffing committees with independent members. Table 7 addresses this issue and provides additional information on the dynamics of committee memberships over time by detailing the proportion of firms that had fully independent audit and compensation committees in each year of the sample for both firms with independent boards and those without.

The first observation from Table 7 is the dramatic historical difference in committee composition between independent and non-independent boards. In 1999, 72.68% of firms with

independent boards maintained fully independent audit committees while this proportion was only 17.65% for non-independent boards. A dramatic difference was also apparent for the compensation committee with 62.64% of independent boards maintaining independent committees compared to 23.53% of non-independent boards.

Examining the dynamics of how these committee compositions have changed over time sheds some light on whether firms with non-independent boards are unable to fully staff committees with independent members because of a shortage of these members or have the capability to form independent committees but simply choose not to. Investigation of audit committee composition shows that fully independent committees have become far more common for both types of boards. The difference in the proportion of firms with independent audit committees in 1999 versus 2003 is statistically significant for both groups. For firms with independent boards, this proportion has increased from 72.68% to 93.05%. While this still exceeds the proportion of non-independent boards in a significant way, the gap is much smaller in 2003 than in 1999 when the proportion of independent boards adopting this mechanism was greater by over 55%. In just five years, the proportion of non-independent boards choosing to staff the audit committee solely with independent members has increased from 17.65% to 69.57%. Clearly non-independent boards have the capacity to staff this committee with independent members if they so choose with close to 70% making this decision in 2003.

The data regarding compensation committees has not evidenced as dramatic a change. While the proportion of non-independent boards with independent compensation committees has increased from 1999 to 2003, this increase is not statistically significant nor has it been monotonic across all years. The proportion of non-independent boards adopting this mechanism had a low of 23.53% in 1999, peaked in 2001 at 40% and then declined to 30.43% in 2003. In all

years, independent boards are significantly more likely to maintain independent compensation committees with the proportion of adopters ranging from 62.64% to 81.38%. It is apparent that non-independent boards place a much lower priority on maintaining an independent compensation committee than an independent audit committee. Independent boards have historically viewed both to be important and are continuing to increase their adoption rate of both mechanisms.

Robustness Tests

The sensitivity of the results to sample selection is explored in this section. The roles of two key characteristics that have been seen to influence a firm's propensity to voluntarily adopt additional monitoring mechanisms are examined: whether the firm has shares cross-listed on an American exchange and the presence of a majority voter. Cross-listing may unduly influence voluntary adoption of governance mechanisms related to the Sarbanes-Oxley Act. While none of the mechanisms examined here were mandatory for firms within the sample period, firms may have begun adopting them in preparation for the time when they became compulsory. Support for this suggestion can be seen in Table 6 in which cross-listing is seen to be positively and significantly associated with the individual adoption of independent audit and compensation committees and financial certification. All three of these mechanisms have been endorsed by SOX. A more stringent test of hypothesis 1 on the influence of independent boards on monitoring mechanism would therefore exclude cross-listed firms from the analysis, focusing only on those firms influenced solely by Canadian standards and regulations.¹⁶

¹⁶ The Sarbanes-Oxley Act adds an additional potential complication to the analysis in that no standardized format for disclosure exists for firms to reveal whether they have voluntarily undertaken to adopt the measures implied by the Act. As a result, it is possible that some firms have chosen to adopt these measures but not disclose that they have done so. To the extent that this occurs our analysis is based on disclosed governance adoption rather than the

Table 8 provides the results of this more stringent test again examining both the full and reduced indices. Findings are very similar to Table 5. The year of observation is again seen to be an important determinant of monitoring mechanisms and for the full index, investment opportunity and the need for external finance retain their significantly positive relation to monitoring. Interestingly, firm size is no longer an important influence on monitoring although this result may not be surprising after noting that only the largest Canadian firms choose to cross-list in the US and that the median size of cross-listed firms in the sample is over 1.5 times that of the median size of non-cross-listed firms.

Turning to the role of independent boards for non-cross-listed firms, we document similar findings as for the sample as a whole. Again independent boards positively influence the value of the full index including committee memberships. This is an impressive finding since firms listed solely in Canada have not faced the same impending requirement to alter composition of these committees. In a purely voluntary environment, it appears that independent boards are exerting significant influence on the composition of committee memberships. The findings here also confirm that board independence has no influence on the reduced index when committees are excluded from the analysis.

The second subsample analyzed in Table 8 includes only firms without a majority voter. The motivation behind this subsample comes from the observation that majority voters occur in a non-trivial portion of the sample (28.17%) and Table 5 documents that the presence of a majority

true, potentially unobservable adoption rates. This is not an issue for the mechanisms recommended by the Dey Report for which consistent disclosure standards existed throughout the sample period. The main findings are supported by the individual analysis of these mechanisms in Table 6 where it can be seen that independent boards primarily exert influence on the adoption of monitoring mechanisms through committee memberships and have limited impact on other mechanisms. This conclusion holds even when confining the analysis to include only mechanisms with standardized disclosure.

voter is negatively associated with the level of the full index but not the reduced index. Further support for the influence of a controlling shareholder is seen in Table 6 in which the majority voter variable is significantly and negatively associated with the formation of independent committees. While independent boards advocate independent audit and compensation committees, controlling shareholders appear opposed to their formation.

Within this subsample the findings change, implying an interesting dynamic between the board of directors and controlling shareholders. While the control variables behave similarly as in previous results, the role of an independent board strengthens when a majority voter is not present. In this subsample, independent boards are again associated with higher adoption rates for the full index but they are also able to exert a positive influence on the reduced index including only those mechanisms not pertaining to committee membership. The results are therefore sensitive to the presence of a majority voter. When a majority voter is not present, independent boards are more likely to adopt voluntarily a wide range of monitoring mechanisms. When a controlling shareholder is present however, the board has a reduced ability to adopt these mechanisms and appears to focus its efforts on ensuring that committee membership includes only independent directors – a mechanism to which controlling shareholders are particularly opposed.

6. DISCUSSION AND CONCLUSION

Using hand-collected data from over 1200 proxy circulars for Canadian firms, this study has examined the hypothesis that independent boards are more inclined to voluntarily adopt mechanisms designed to enhance their ability to monitor firm management (or large shareholders) than firms without independent boards. Independent boards have been defined as

those with either a majority of independent directors, where the term independent is taken to mean both independent and unrelated, or an independent chair. The observations suggest that in almost all cases the presence of an independent chair coincides with a majority of independent directors.

Relying on the ordered probit methodology, the primary results suggest that independent boards place special importance on maintaining board committees staffed exclusively with independent directors and that their ability to voluntarily adopt other monitoring mechanisms is sensitive to the presence of a controlling shareholder. When a controlling shareholder is not present, independent boards are able to adopt additional monitoring mechanisms of all types.

These conclusions are robust to controlling for the shareholding characteristics of the firm, its need for funds, and the tangibility of its assets. In general, the year of the observation, firm size, and whether the company has shares listed on a US stock exchange play a large role in establishing the propensity of a firm to adopt monitoring mechanisms with more recent observations, large firms, and those with cross-listings scoring higher on both indices of adoption. Formal tests of multicollinearity, alternative model specifications and a more stringent test of the hypothesis in the context of only non-cross-listed firms do not change the results.

The theoretical motivation underlying the study is agency theory and the traditional view of the role of the board of directors as being active monitors of decision makers who have the tendency to divert firm resources to their own best interests rather than those of all shareholders. The results support this view and provide evidence that a non-trivial number of recommended monitoring mechanisms have been adopted by firms and that the adoption rate is increasing for firms with both independent and non-independent boards. Nevertheless, a potential limitation of

the study is that it does not incorporate alternative views for the board of directors such as influencing managerial decisions through an advisory role. In addition, it ignores processes other than board monitoring that may serve to reduce agency costs (Rediker and Seth, 1995). Finally, it confines its consideration of monitoring mechanisms to those formally suggested either by Canadian guidelines or the Sarbanes-Oxley Act, placing equal weight on each of the chosen mechanisms despite the fact that some may be more effective than others.

Despite these limitations, the study makes several valuable contributions. First it provides evidence on the effectiveness of non-mandatory governance guidelines. Despite there being no requirement for firms to adopt the recommended guidelines, the evidence shows that a number of them do.¹⁷ Second, the study provides insights into the behavior of boards and the processes they follow rather than focusing on the inconclusive role of the board in influencing firm performance. While the literature on boards and performance has been extensive, it has provided few concrete insights. This study takes an alternative approach by shedding light on board dynamics and the influence that boards have on governance mechanisms which may in turn influence performance. In doing so it provides several possible explanations for the inconclusive findings relating performance to board independence and therefore points to future avenues for academic research. For instance, there appears to be little difference in the adoption rate across boards of either type for several monitoring mechanisms suggesting that a possible explanation for a lack of difference in performance is that both kinds of boards are behaving similarly with respect to their actions. No difference is found because behavior is the same.

¹⁷ While this result is clear in the Canadian context, caution should be exercised in extending these findings to developing economies as the work of Krambia-Kapardis and Psaros (2006) has shown.

Alternatively, in cases where there is evidence that independent boards do behave differently, such as the adoption of an independent audit committee, finding no difference in performance may suggest that this particular monitoring mechanism contributes little to the firm's ultimate performance. This could be the case if the mechanism is excessively costly to implement such that any gain from enhanced monitoring is eliminated by this expense. This expense may be monetary in nature or a reduction in the board's effectiveness as advisors if management is unwilling to provide sensitive information to a board tending towards overzealous monitoring (Adams and Ferreira, 2007).

In addition to these academic contributions and suggestions for future research, the study has significant implications for policy makers advocating independent boards. Perhaps most important is that the presence of an independent board does not guarantee enhanced compliance with all recommended practices. Board independence appears to have a very specific influence on the types of practices adopted, primarily those related to committee membership, and its influence may be dampened by the presence of a controlling shareholder. These results help to address our gap in understanding "the conditions under which regulation of boards will lead to improvements" identified by Hermalin and Weisbach (2003) and forces regulators to make explicit what they hope to achieve by recommending or mandating independent boards.

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Table 1: Characteristics of Independent Boards

Panel A: Proportion of Independent Boards Over Time				
Year	Majority Indep. Directors	Independent Chair	Both	Observations with Data for Both Characteristics
1999	84.86%	32.73%	33.82%	207
2000	82.83%	33.92%	33.49%	215
2001	85.06%	35.52%	34.52%	252
2002	87.44%	38.00%	37.95%	195
2003	87.14%	41.90%	39.71%	209
All Years	85.37%	36.29%	35.81%	1078
T-Stat for Difference Between 1999 and 2003	-0.678 (0.498)	-1.972* (0.049)	-1.246 (0.213)	

Panel B: Use of Multiple Independence Mechanisms

Majority Indep. Directors	Independent Chair	
	No	Yes
No	13.07%	1.48%
Yes	49.62%	35.80%

* Indicates significance at the five percent level

** Indicates significance at the one percent level

Table 1 illustrates the proportion of the sample observations that maintained either a majority of independent directors, an independent chair, or both majority independence and an independent chair. Panel A outlines these proportions by year of observation with the last line in the panel providing the T-Stats and corresponding p-values (in parenthesis) for testing the statistical difference between the proportion of independent boards in 1999 and the proportion in 2003. Only the presence of an independent chair has become more likely during the five year period.

Panel B of the table indicates the propensity of firms to adopt the two independent characteristics of the board in combination with one another. The panel demonstrates that firms are highly unlikely to adopt an independent chair if they do not also maintain a majority of independent directors.

Table 2: Sample Shareholding Characteristics

Panel A: Shareholding Characteristics and Board Independence						
	Proportion with Characteristic	Proportion with Indep. Board if Maintain Characteristic (1)	Proportion with Indep. Board if Do NOT Maintain Characteristic (0)	T-Test for Difference in Board Independence Across Shareholding Characteristic (0 – 1= 0)		
Cross-Listed	46.85%	87.95%	82.50%	-2.430*	(0.015)	
Family Block	14.85%	71.95%	86.51%	4.797**	(0.000)	
Exec.Block	18.69%	75.23%	86.54%	4.171**	(0.000)	
Other Block	44.84%	87.26%	81.92%	-2.477*	(0.013)	
Majority Voter	28.17%	73.50%	88.94%	6.566**	(0.000)	

Panel B: Pair-Wise Correlation Among Independence and Shareholding Characteristics						
	Indep. Board	Cross-Listed	Family Blk	Executive Blk	Other Blk	Majority Voter
Indep. Board	1.00					
Cross-Listed	0.08*	1.00				
Family Block	-0.14**	-0.09**	1.00			
Exec. Block	-0.12**	-0.13**	-0.18**	1.00		
Other Block	0.07*	-0.08*	-0.15**	-0.01**	1.00	
Majority Voter	-0.19**	-0.11**	0.38**	0.17**	0.06**	1.00

* Indicates significance at the five percent level

** Indicates significance at the one percent level

Panel A documents the proportion of the sample with five different shareholding characteristics. Note that the characteristics are not mutually exclusive and a firm may exhibit more than one of them. Columns two and three of Panel A provide the proportion of firms with each characteristic that maintain an independent board either through an independent chair or a majority of independent directors. In the fourth column T-Stats and p-values (in parenthesis) provide statistical tests of whether the proportion of firms with independent boards differs across these characteristics.

Panel B of the table shows the pair-wise correlation between the various shareholding characteristics and board independence. A board is defined to be independent if either a majority of independent directors or an independent chair is present.

Table 3: Voluntary Adoption of Individual Governance Mechanisms

Governance Mechanism	Full Sample Adoption	Independent Board (1)	Non-Independent Board (0)	T-Stat For Difference (0 - 1 < 0)	Observations for Test
Indep. Audit Committee	76.08%	81.15%	45.39%	-10.04 (0.00 ^{**})	1112
Indep. Compensation Committee	61.49%	66.53%	29.80%	-8.92 (0.00 ^{**})	1107
Code of Ethics	18.43%	20.21%	12.15%	-2.54 (0.01 [*])	1156
Board Training	75.38%	79.59%	62.43%	-5.08 (0.00 ^{**})	1151
Financial Expert on Audit Committee	61.12%	63.63%	55.74%	-2.02 (0.04 [*])	1159
Financial Certification	11.57%	12.37%	8.09%	-1.61 (0.05)	1127
Ability to Hire Advisors	71.76%	74.49%	65.38%	-2.55 (0.01 ^{**})	1158
Mean Value of Index (Median)	3.91 (4)	4.02 (4)	3.20 (3)	-6.32 (0.00 ^{**})	1060
Mean Value of Reduced Index (Median)	2.42 (3)	2.53 (3)	2.12 (2)	-4.16 (0.00 ^{**})	1118
Observations for Full/Reduced Index	1063/1148	922/947	138/171		

*Indicates significance at the five percent level

** Indicates significance at the one percent level

Table 3 provides the adoption rates for each of the seven monitoring mechanisms considered. Rates are provided for the full sample and firms with both independent and non-independent boards. T-stats for testing whether independent boards have higher adoption rates are provided in column four with p-values in parenthesis. Overall mean and median values for the full and reduced indices are also provided.

Table 4: Financial Control Variables

Panel A: Summary Statistics for Control Variables								
	Expected Relation To Adoption	Full Sample Mean	Full Sample 1 st pctile	Full Sample 99 th pctile	Independent Board Mean (1)	Non- Indep. Board Mean (0)	T-Stat For Difference (0 - 1= 0)	Obs. for Test
Invest. Opportunity	+	0.36	-0.75	3.64	0.37	0.28	-0.40 (0.69)	981
Need for Finance	+	0.29	-1.07	5.63	0.27	0.42	0.88 (0.38)	888
R&D	+	0.02	0.00	0.36	0.02	0.01	-1.74 (0.08)	1157
PP&E	-	0.75	0.01	2.13	0.79	0.53	-1.58 (0.12)	1022
Ln(Assets)	+	7.17	2.76	12.52	7.18	7.13	-0.34 (0.73)	1045
Market to Book		2.71	0.22	19.40	2.68	2.78	0.28 (0.78)	932

Panel B: Pair-Wise Correlation Matrix

	Indep. Board	Invest. Opportunity	Need for Finance	R&D	PP&E	Ln (Assets)	Year Count
Indep. Board	1.0						
Invest Opp.	0.01	1.0					
Need for Finance	-0.03	0.08*	1.0				
R&D	0.05	0.10**	0.05	1.0			
PP&E	0.05	-0.01	-0.06	-0.08*	1.0		
Ln(Assets)	0.01	-0.09**	0.17**	-0.38**	-0.07*	1.0	
Year Count	0.08**	0.00	-0.08*	-0.01	0.02	0.09**	1.0

* Indicates significance at the five percent level

** Indicates significance at the one percent level

Panel A of the table provides the expected relation between the index of monitoring mechanisms and the control variables measuring the firm's need for funds, its asset tangibility and size. Need for funds is measured by variables proxying for a firm's investment opportunities and the need for external finance given these opportunities. Investment opportunities is defined as the annual percentage change of sales growth. The need for external finance is defined as the difference between a firm's actual growth rate and its sustainable growth rate where actual growth is measured as the annual growth rate in total assets and sustainable growth is measured as return on equity/(1-return on equity). Tangibility is measured by R&D expenses and property plant and

equipment (PPE) where both values are scaled by total assets. Missing R&D values are coded as zero. Characteristics of the distribution of each of these variables are provided in the table for the full sample. Mean values for firms with and without independent boards are also provided as are T-tests for differences in these values with p-values in parenthesis.

Panel B of the table provides pairwise correlations among the control variables and board independence. A board is defined to be independent if either a majority of independent directors or an independent chair is present.

Table 5: Factors Influencing Voluntary Adoption

	Expected Sign	Composite Measure of Independence				Majority Independence and Independent Chairs	
		Full Index (0 - 7)	Reduced Index (0 - 5)	Full Index (0 - 7)	Reduced Index (0 - 5)	Full Index (0 - 7)	Reduced Index (0 - 5)
Independent Board	+	0.59** (0.00)	0.22 (0.14)	0.47** (0.00)	0.10 (0.55)		
Majority Indep.	+					0.40* (0.02)	-0.00 (0.98)
Indep. Chair xMajority Indep.	+					0.24* (0.03)	0.01 (0.90)
Cross Listed	+			0.41** (0.00)	0.29** (0.01)	0.45** (0.00)	0.32** (0.00)
Family Block	-			-0.12 (0.44)	-0.07 (0.64)	-0.10 (0.51)	-0.08 (0.61)
Executive Block	-/+			0.12 (0.37)	0.05 (0.67)	0.20 (0.11)	0.04 (0.75)
Other Block	+			-0.08 (0.46)	0.01 (0.89)	-0.09 (0.41)	-0.01 (0.91)
Majority Voter	-			-0.40** (0.01)	-0.02 (0.90)	-0.37** (0.01)	-0.02 (0.84)
Invest. Opportunity	+	0.01 (0.06)	0.01 (0.15)	0.01* (0.03)	0.01 (0.12)	0.01 (0.06)	0.01 (0.12)
Need for Finance	+	0.04** (0.00)	0.03* (0.03)	0.03* (0.03)	0.01 (0.36)	0.03* (0.01)	0.02 (0.30)
R&D	+	1.28* (0.03)	0.54 (0.45)	0.77 (0.19)	0.32 (0.64)	0.57 (0.32)	0.26 (0.71)
PP&E	-	0.03** (0.00)	0.03** (0.00)	0.03** (0.00)	0.02** (0.01)	0.03** (0.00)	0.02** (0.00)
Size	+	0.13** (0.00)	0.14** (0.00)	0.13** (0.00)	0.12** (0.01)	0.11** (0.00)	0.12** (0.00)
Year	+	0.47** (0.00)	0.48** (0.00)	0.48** (0.00)	0.47** (0.00)	0.48** (0.00)	0.47** (0.00)

Cut-off Points						
μ_0	-0.18	0.40	-0.78	0.07	-0.85	-0.06
μ_1	0.67	1.31	0.50	1.11	0.41	1.02
μ_2	1.38	2.07	1.17	1.80	1.08	1.75
μ_3	2.16	3.36	2.01	3.15	1.94	3.12
μ_4	2.89	4.43	2.73	4.23	2.67	4.20
μ_5	3.93		3.84		3.80	
μ_6	4.82		4.78		4.73	
Observations	789	821	687	706	680	690
Pseudo R ²	0.10	0.11	0.12	0.11	0.13	0.11

* Indicates significance at the five percent level

**Indicates significance at the one percent level.

Table 5 provides coefficient estimates with p-values in parenthesis for several specifications of the ordered probit model relating board independence, shareholding characteristics, and control variables to an index measuring the voluntary adoption of monitoring mechanisms. Variables are as defined in previous tables. The first two model specifications exclude the shareholding characteristics due to possible multicollinearity between these variables and board independence. In both instances, a board is categorized to be independent if it maintains either a majority of independent directors or an independent chair. The dependent variable in the first specification is the full index of monitoring mechanisms which can take on a maximum value of 7. The second specification excludes mechanisms related to committee memberships and forms a reduced index with a maximum value of 5. The next two model specifications include the shareholding characteristics and repeat the model estimation for both the full and reduced index. Finally, the last two specifications alter the measure of board independence to include as separate variables the presence of a majority of independent directors and an interaction term identifying cases in which both an independent chair and independent majority exist.

Table 6: Factors Influencing the Adoption of Individual Governance Characteristics

	Indep. Audit	Indep. Compensate	Code of Ethics	Hire Advisors	Financial Certification	Financial Expert	Train Board
Independent Board	0.84** (0.00)	0.79** (0.00)	0.05 (0.83)	0.00 (0.99)	-0.08 (0.78)	0.04 (0.81)	0.30 (0.13)
Cross listed	0.42** (0.01)	0.32* (0.04)	0.20 (0.17)	0.35* (0.03)	0.41* (0.01)	0.15 (0.31)	0.01 (0.94)
Family Block	-0.17 (0.44)	-0.16 (0.51)	-0.16 (0.54)	0.45 (0.08)	-0.29 (0.32)	-0.29 (0.20)	0.34 (0.15)
Executive Block	0.27 (0.16)	0.02 (0.91)	-0.18 (0.35)	0.23 (0.24)	0.19 (0.47)	-0.19 (0.27)	0.44* (0.02)
Other Block	-0.30* (0.04)	-0.01 (0.92)	0.13 (0.36)	-0.12 (0.44)	0.21 (0.22)	-0.17 (0.22)	0.09 (0.57)
Majority Voter	-0.39* (0.02)	-0.81** (0.00)	-0.08 (0.70)	0.05 (0.80)	0.19 (0.34)	0.08 (0.63)	-0.13 (0.48)
Invest. Opportunity	0.01 (0.63)	0.01 (0.62)	-0.00 (0.73)	0.19* (0.02)	-0.11 (0.35)	0.02 (0.35)	0.08 (0.23)
Need for Finance	0.04 (0.21)	0.01 (0.89)	0.03 (0.33)	-0.01 (0.81)	0.02 (0.56)	0.01 (0.64)	-0.01 (0.86)
R&D	0.61 (0.64)	2.80 (0.07)	0.24 (0.81)	-0.04 (0.97)	0.74 (0.52)	0.19 (0.85)	1.57 (0.21)
PP&E	0.04 (0.46)	0.08 (0.77)	-0.01 (0.75)	0.29 (0.07)	0.01 (0.53)	0.07 (0.28)	0.13 (0.41)
Size	0.06 (0.20)	0.04 (0.88)	0.16** (0.00)	0.05 (0.25)	0.19** (0.00)	0.10* (0.05)	-0.01 (0.84)
Year	0.30** (0.00)	0.17** (0.00)	0.67** (0.00)	0.31** (0.00)	0.38** (0.00)	0.19** (0.00)	0.30** (0.00)
Constant	-0.91* (0.03)	-1.03* (0.01)	-3.87** (0.00)	-0.72 (0.12)	0.38** (0.00)	-0.56 (0.15)	-0.23 (0.62)
Observations	712	712	728	728	713	729	722
Pseudo R ²	0.15	0.16	0.26	0.11	0.18	0.06	0.08

* Indicates significance at the five percent level

** Indicates significance at the one percent level

Table 6 estimates a series of probit models in which the dependent variable is one of the monitoring mechanisms that a company could choose to adopt. Coefficient estimates and p-values (in parenthesis) are provided. The table examines whether the adoption of each particular mechanism is a function of board independence, shareholding characteristics or a series of control variables where variables are as defined in Table 4. A board is defined to be independent if either a majority of independent directors or an independent chair is present.

Table 7: Proportion of Firms with Independent Committees for Independent and Non-Independent Boards

	Independent Audit Committee				Independent Compensation Committee			
	Indep. (1)	Non- Indep. (0)	T-Stat for Difference (0-1 < 0)	Obs.	Indep. (1)	Non- Indep. (0)	T-Stat for Difference (0-1 < 0)	Obs.
1999	72.68%	17.65%	-6.72** (0.00)	217	62.64%	23.53%	-4.39** (0.00)	216
2000	75.77%	37.84%	-4.81** (0.00)	231	61.54%	27.03%	-3.99** (0.00)	230
2001	77.83%	61.76%	-2.04* (0.02)	255	60.73%	40.00%	-2.32* (0.01)	252
2002	87.43%	50.00%	-4.80** (0.00)	199	67.44%	27.27%	-3.79** (0.00)	194
2003	93.05%	69.57%	-3.72** (0.00)	210	81.38%	30.43%	-5.77** (0.00)	211
T-Stat for Diff. From 1999 - 2003	-5.40** (0.00)	-4.55** (0.00)			-4.10** (0.00)	-0.57 (0.28)		
Observations	370	57			370	57		

*Indicates significance at the five percent level

** Indicates significance at the one percent level

Table 7 provides the proportion of firms with and without independent boards that chose to staff the audit and compensation committees solely with independent directors in each year of the sample period. T-Stats and p-values (in parenthesis) are provided for the difference in this proportion when comparing the two types of boards and for differences between the first and last year of the sample period. A board is defined to be independent if either a majority of independent directors or an independent chair is present.

Table 8: Factors Influencing Voluntary Governance Adoption : Non-Cross-Listed Firms and Firms Without Majority Voters

	Expected Sign	Non-Cross-Listed Firms		Firms Without Majority Voters	
		Full Index (0 – 7)	Reduced Index (0 – 5)	Full Index (0 – 7)	Reduced Index (0 – 5)
Independent Board	+	0.66** (0.00)	0.06 (0.75)	1.03** (0.00)	0.62** (0.00)
Cross-Listed	+			0.37** (0.01)	0.36** (0.01)
Family Block	-	-0.33 (0.07)	-0.14 (0.51)	-0.23 (0.18)	-0.10 (0.57)
Executive Block	-/+	-0.09 (0.59)	-0.17 (0.28)	0.26 (0.08)	0.39** (0.01)
Other Block	+	-0.18 (0.18)	-0.14 (0.36)	-0.11 (0.31)	-0.06 (0.55)
Majority Voter	-	-0.32 (0.09)	0.12 (0.48)	--	--
Invest. Opportunity	+	0.01** (0.00)	0.01* (0.02)	0.01* (0.04)	0.01 (0.09)
Need for Finance	+	0.04* (0.05)	0.01 (0.58)	0.04* (0.01)	0.01 (0.43)
R&D	+	-1.23 (0.31)	-2.33 (0.12)	0.78 (0.21)	0.14 (0.85)
PP&E	-	0.03** (0.01)	0.02 (0.05)	0.03** (0.00)	0.02 (0.06)
Size	+	0.07 (0.23)	0.06 (0.33)	0.13** (0.00)	0.11* (0.01)
Year	+	0.41** (0.00)	0.41** (0.00)	0.47** (0.00)	0.45** (0.00)
Cut-off Points					
μ_0		-1.30	-0.65	-0.18	0.53
μ_1		-0.04	0.37	0.91	1.51
μ_2		0.59	1.07	1.64	2.20
μ_3		1.43	2.48	2.51	3.62
μ_4		2.18	3.60	3.23	4.63
μ_5		3.39		4.37	
μ_6		4.17		5.35	
Observations		379	390	482	492
Pseudo R ²		0.09	0.09	0.13	0.12

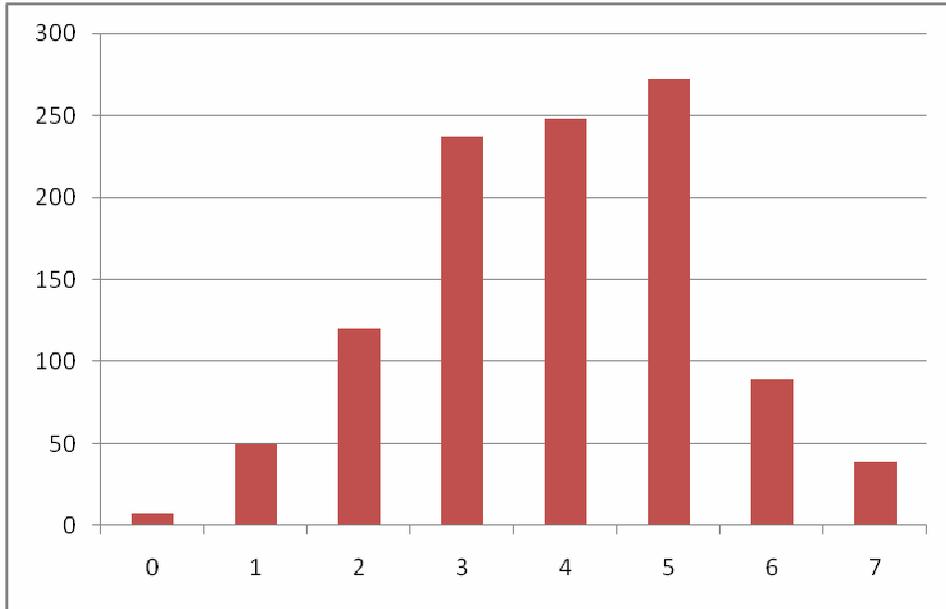
* Indicates significance at the five percent level

** Indicates significance at the one percent level

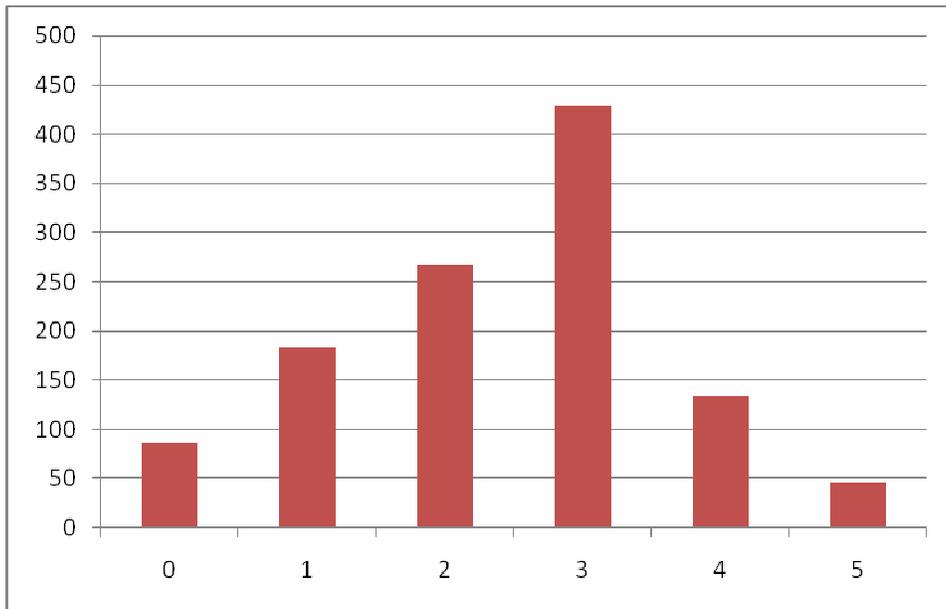
Table 8 estimates ordered probit models where the dependent variable is either the full index of possible monitoring mechanisms (ranging from 0-7) or the reduced index excluding committee membership (ranging from 0-5). Coefficient estimates and p-values (in parenthesis) are provided. Variables are defined as in Table 4. The models are estimated over two distinct sub-samples. The first includes only firms that do not list shares on American exchanges. The second excludes firms with a shareholder that maintains voting power of over 50%.

Figure 1: Histogram of Governance Index Values

Panel A: Full Index (0-7)



Panel B: Reduced Index (0-5)



Panel A of the figure provides a histogram of sample values for the full index of monitoring mechanisms ranging from 0-7. Panel B provides a similar histogram for the reduced index excluding mechanisms related to the composition of the audit and compensation committees.

Figure 2: Average Index Values Over Time for Independent and Non-Independent Boards

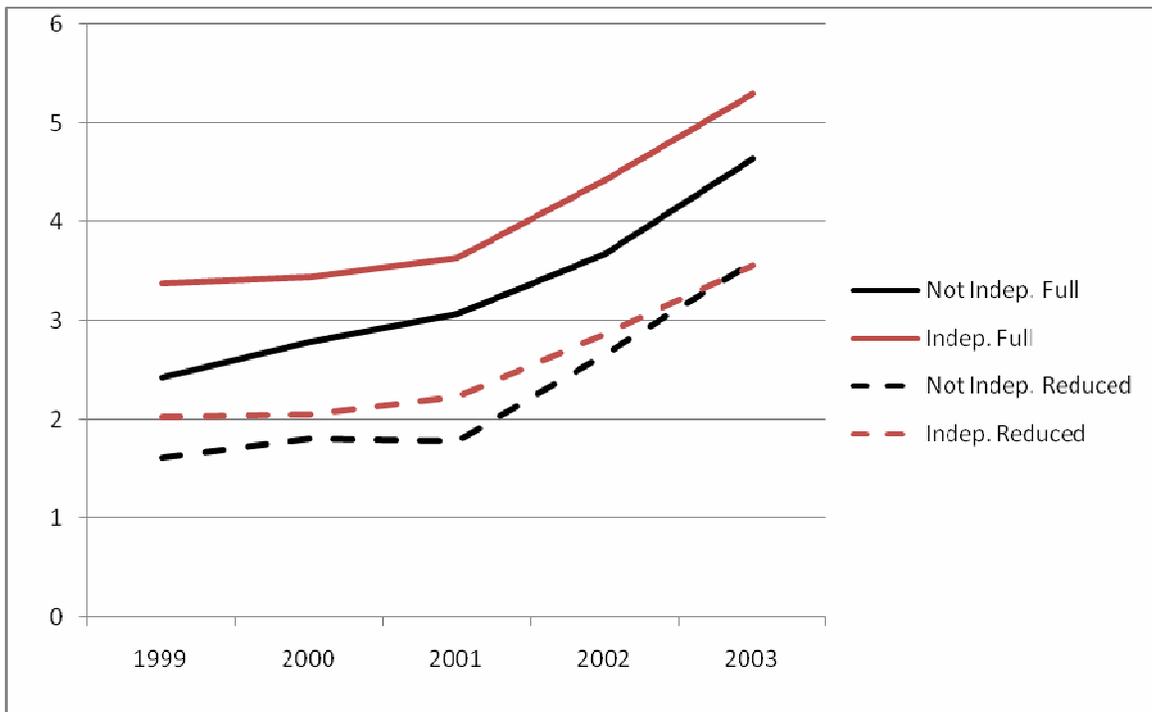


Figure 2 provides average values for indices related to the voluntary adoption of monitoring mechanisms where separate averages are provided for firms with and without independent boards. A board is defined to be independent if either a majority of independent directors or an independent chair is present. Values are provided for both the full index of monitoring mechanisms ranging from 0-7 and the reduced index (ranging from 0-5) excluding mechanisms related to the composition of the audit and compensation committees.