

Corporate Governance and Earnings Management

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Abstract

This study investigates whether a firm's corporate governance practices have an effect on the quality of its publicly released financial information. In particular, we examine the relationship between audit committee and board of directors characteristics and the extent of corporate earnings management as measured by the level of positive and negative discretionary accruals. Using two groups of US firms, one with relatively high and one with relatively low levels of discretionary accruals in the year 1996, we find that earnings management is significantly associated with some of the governance practices by audit committees and boards of directors. For audit committees, income increasing earnings management is negatively associated with a larger proportion of outside members who are not managers in other firms, a clear mandate for overseeing both the financial statements and the external audit, and a committee composed only of independent directors that meets more than twice a year. We also find that short-term stocks options held by non-executive committee members are associated with income increasing earnings management. Income decreasing earnings management is negatively associated with the presence of at least a member with financial expertise and a clear mandate for overseeing both the financial statements and the external audit.

For the board of directors, we find less income increasing earnings management in firms whose outside board members have experience as board members with the firm and with other firms. We also find that larger board, the importance of the ownership stakes in the firm held by non-executive directors, and experience as board members seems to reduce income decreasing earnings management.

Our results provide evidence that effective boards and audit committees constrain earnings management activities. These findings have implications for regulators, such as the Securities and Exchange Commission (SEC), as they attempt to supervise firms whose financial reporting is in the gray area between legitimacy and outright fraud and where earnings statements reflect the desires of management rather than the underlying financial performance of the company, as pointed out by the Blue Ribbon Committee (1999).

Key Words: *Corporate governance, Audit committee, Earnings management, Discretionary accruals.*

Data Availability: *The data used is from public sources identified in the manuscript.*

1. Introduction

The purpose of this paper is to investigate the effect of best governance practices by boards of directors and audit committees on the practice of earnings management through discretionary accruals. The motivation for this study comes from the U.S. Securities and Exchange Commission's (SEC) concerns about earnings management (Levitts 1998) and the audit committees' incapacity to address earnings management – the practice of using accounting tricks to mask a firm's true operating performance (Warrick 1999).

In response to the SEC's concerns, the New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NASD) sponsored the Blue Ribbon Committee (BRC). Its report, issued in February 1999, contains ten recommendations to improve the functioning of corporate audit committees and to enhance the reliability and credibility of financial statements of public companies. Subsequently, the SEC, the NASD, the NYSE, and the American Stock Exchange (AMEX) increased their requirements regarding audit committee characteristics such as independence, competence, activities, and disclosure. Implicit in the new recommendations and rules is the assertion that good governance practices help to enhance the reliability of financial reports. While previous research suggests a relation between good governance practices and less fraudulent financial reporting (Beasley 1996; Abbott, Parker and Peters 2000), none have explicitly examined the less dramatic case of earnings management.

We study the relation between, on the one hand, the audit committee's and the board of directors' responsibilities, attributes and activities and, on the other, earnings management as measured by discretionary accruals. We examine a sample of 300 US firms formed of two

groups, one with relatively high and one with relatively low levels of discretionary accruals in the year 1996 and we test whether good governance practices are associated with a lower likelihood of being in the group with high discretionary accruals. Discretionary accruals are estimated using a cross-sectional version of the Jones (1991) model.

Controlling for specific motivations that firms may have to manage earnings and for alternative control mechanisms, we find that earnings management is significantly related to some of the governance practices in the audit committee and the board of directors. Audit committees with a clear mandate for the oversight and monitoring of financial reporting, with a higher proportion of outside members who are not managers in other firms, or with at least one financial expert are significantly less likely to have high levels of earnings management. While we find no direct significant support for the BRC's recommendation that audit committees be composed entirely of independent directors, our results seem to suggest that completely independent audit committees that hold more than two meetings in the year are more likely to have low levels of earnings management. Hence, it seems that the audit committee is more effective if all of its members are independent *and* it meets regularly. We also find that the proportion of short-term stock options held by non-executive committee members increases the likelihood of positive earnings management. This is consistent with other findings that stock options, while encouraging the convergence of committee members' interest towards those of the shareholders, provide an incentive to favor short term rather than long term performance.

Consistent with Beasley (1996), we find that some overall board of directors characteristics also have an important effect on the quality of financial reporting. In particular, independent

board members' experience as directors both with the firm and with other firms decreases the likelihood of high earnings management.

We conclude that our results support the assertion that good governance practices proposed by various independent bodies (Joint Committee on Corporate Governance 2001; SEC 2000; BRC 1999; Cadbury Committee 1992) do not only reduce the likelihood of fraudulent reporting activities but also reduce the likelihood of earnings management, where earnings reports may reflect the desires of management rather than the underlying financial performance of the company. These results also suggest that the proposed best practices may be improved. For example, the independence of the audit committee could be strengthened by considering non-executive directors who are managers in other firms as non independent directors and, as proposed by Cadbury (1992), by excluding non-executive directors from share options schemes.

The remainder of our paper is organized as follow. In the next two sections we provide the motivation for the predicted association of characteristics of the audit committee and board of directors with earnings management. In section four we discuss sample selection and research design. We present our results in section five and our conclusions in section six.

2. The role of the audit committee

Audit committee independence

Independence is considered an essential quality for an audit committee to fulfill its oversight role. This explains why stock exchanges have rules and regulations regarding audit committee independence. According to the Blue Ribbon Committee (1999, p. 22) “several recent studies

have produced a correlation between audit committee independence and two desirable outcomes: a higher degree of active oversight and a lower incidence of financial statement fraud.” If we accept the assertion that independence is associated with a better oversight, we expect that audit committee independence will be associated with lower levels of earnings management.

For the National Commission on Fraudulent Financial Reporting (1987) and the Public Oversight Board (1993) the audit committee must be entirely composed of non-executive members to be effective. McMullen and Raghunandan (1996) show that firms subject to SEC enforcement actions or restating their quarterly reports are less likely to have an audit committee composed entirely of non-executive directors. A major shortcoming of this criterion is that non-executives may not be effectively independent from management. The board of directors may choose non-executive audit committee members who have an affiliation or business ties with client firms and are less likely to be effective monitors. According to Vicknair, Hickman and Carnes (1993) these “gray” directors are invading the audit committees with 74% of NYSE companies studied having at least one “gray” member on their committee. The BRC (1999) recommends that the audit committee should be comprised only of directors who have no relationship to the corporation that may interfere with their independence. Several papers support the negative link between the presence of these members and the committee’s monitoring effectiveness. The proportion of independent external directors on the audit committee is positively associated with the probability of the auditor issuing a going-concern report for a firm experiencing financial distress (Carcello and Neal 2000), negatively associated with the probability of litigation against the external auditor (Park 1999), and negatively associated with the probability of SEC enforcement action (Wright 1996). Hence, we expect that audit

committees comprised only of independent directors will be negatively associated with the level of earnings management.

Independent non-executive directors may also have views that are biased toward management. Indeed, if they are managers of another company, these directors may be less inclined to criticize the firm's management (Mace 1986; Lorsch and MacIver 1989; Westphal and Zajac 1997). DeZoort and Salterio's (2001) results support this assertion for the audit committee. In an experiment they find that audit committee members who are also managers are more likely to support management in disputes opposing corporate management to the auditor. Similarly, we expect that the percentage of members who are independent non-executive directors *and* are not managers in other firms will be negatively associated with the level of earnings management.

In addition to affiliation with the company and sharing beliefs with management, stock option schemes may compromise independence. While executive stock options align manager's interest with those of the shareholders, they may also have some perverse effects. For example, Callaghan, Saly and Subramaniam (2000) show that firms that repriced executive stock options time the repricing event so that it occurs before a quarterly earnings announcement if the news is good and after the announcement if the news is bad. Even if no research has examined the effect of stock options in the specific case of non-executive directors, some independent bodies suggest that they should not be used. Indeed, the Cadbury Committee (1992, 4.13) "regards it as good practice for non-executive directors not to participate in share option schemes" in order to safeguard their independent position. The Committee on Corporate Governance (1998, 4.8) agrees with this good practice. We believe that such a practice is even more important for audit

committee members because it is their duty to monitor the quality of the financial reports. This problem is greater for options that can be exercised in the short run as earnings management may have an effect on share value at the time the options can be exercised. We then expect that the relative level of compensation based on stock options will be positively associated with the level of earnings management.

Competence of audit committee members

Because of their responsibility for overseeing internal control and financial reporting, good governance dictates that audit committee members should possess a certain level of financial competencies. Thus, the BRC (1999, p. 25) recommends that each member of the audit committee should be or become financially literate and that at least one member should have accounting or related financial management expertise, where “expertise” is defined as “past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual’s financial sophistication, including being or having been a CEO or other senior officer with financial oversight responsibilities.” This recommendation is supported by various empirical and experimental studies such as McMullen and Raghunandan (1996) who find that firms subject to SEC enforcement actions or restating their quarterly reports are less likely to have CPAs on their audit committee. Using an experimental case, DeZoort and Salterio (2001) find that the accounting experience of audit committee members as well as their knowledge of auditing are positively associated with the likelihood that they will support the auditor in an auditor-corporate management dispute. These recommended best practices and research findings suggest that the

financial competence of audit committee members decreases the likelihood of earnings management.

Audit Committee Activity

Independence and competence will not result in effectiveness unless the committee is active. Two important aspects of the committee's level of activity are the duties it has to perform and the frequency of its meetings.

Various professional publications and professional reports list the various activities that an effective committee must perform (e.g. BRC 1999; NCFRR 1987; Coopers and Lybrand 1995). These responsibilities can be classified into three categories (Verschoor 1993; Wolnizer 1995): oversight of the financial statements, oversight of the external audit, oversight of the internal control system (including internal auditing). Furthermore, the BRC (1999) recommends that the responsibilities should be memorialized in a formal charter approved by the board of directors. A formal charter not only provides guidance to members as to their duties but it is a source of power for the audit committee. In support of these recommendations, Kalbers and Fogarty (1993) find that a formal written charter plays an important role in the power of the audit committee and that its perceived effectiveness is significantly related to this concept of power.

Of the three categories of responsibilities, oversight of financial statements and oversight of external auditing are the most relevant for earnings management. The former includes the review of financial statements, accounting policies and key management estimates (Wolnizer 1995), while the latter is expected to strengthen the independence of the auditor and improve the effectiveness of the audit. Hence, we expect that the presence of a formal written charter where

these two oversight responsibilities are clearly established will be negatively associated with the level of earnings management.

Our second measure of committee activity is the number of meetings. Indeed, an audit committee eager to carry out its functions of control must maintain a constant level of activity (NCFRR 1987). Best practices suggest three or four meetings a year (Cadbury Committee 1992; Price Waterhouse 1993; KPMG 1999). McMullen and Raghunandan (1996) show that the audit committees of firms subject to SEC enforcement actions or restating their quarterly reports are less likely to have frequent meetings than those of other firms. The committees of only 23% of their problem companies met more than twice a year compared to 40% for the other firms. Abbott *et al.* (2000) found a similar result with a more recent sample. Similarly, we expect that the frequency of meetings will be negatively associated with the level of earnings management.

3. The Role of the Board of Directors

The audit committee is a committee of the board of directors. Its responsibility to oversee the financial reporting process of the firm is delegated to the committee by the board. While an effective audit committee is crucial to providing reliable financial reports, the board of directors also plays an important role. Thus, the BRC (1999, p. 6) states that the “performance of audit committees must be founded in the practices and attitudes of the entire board of directors”. The Public Oversight Board (1995, p. 3) “urges the board of directors to play an active role in the financial reporting process.” Theories regarding boards of directors, prior empirical research and various recommendations suggest that some characteristics of the board have an influence on the

quality of the financial reports as measured by the level of earnings management. Four board characteristics are examined here: size, independence, directors' motivation, and competence.

Board size

The number of directors is an important factor in the effectiveness of the board (TSE 1994). Unfortunately, the literature provides no consensus about the direction of the relationship between board size and effectiveness. On the one hand, a larger board is less likely to function effectively and is easier for the CEO to control (Jensen 1993). On the other hand, a larger board provides better environmental links and more expertise (Dalton, Daily, Johnson and Ellstrand 1999). The evidence regarding financial statement reliability is mixed. Beasley (1996) finds a positive relationship between board size and the likelihood of financial statement fraud whereas Abbott *et al.* (2000) find no relationship between the two. Because of this lack of consensus, we examine the relationship between earnings management and size of the board but we do not predict the direction of the association.

Board independence

An important aspect of effective corporate governance is “the recognition that the specific interests of the executive management and the wider interest of the company may at times diverge” (Cadbury Committee 1992, p. 21) and that an independent board plays an important role in these situations (Cadbury Committee 1992, TSE 1994). This focus on board independence is grounded in agency theory (Fama and Jensen 1983; Shleifer and Vishny 1997) that recognizes the oversight, or control, function of the board as the most critical of directors' roles. We thus expect that the effectiveness of the board in limiting earnings management is

contingent on the relative independence of its members. We consider three characteristics of board independence: the inclusion of independent directors on the board, the separation of the roles of chair and Chief Executive Officer and the presence of an independent nomination committee.

Independent directors are generally considered better monitors than other directors because they have the “ability to act with a view of the best interests of the corporation.” (TSE 1994, p. 24). Further, non-executive directors have incentives to develop a reputation as experts in decision control and monitoring (Fama and Jensen 1983). Several studies demonstrate an association between the directors’ independence from management and the board’s monitoring effectiveness. Beasley (1996) finds a negative relationship between the percentage of non-executive members on the board and the likelihood of fraud while Dechow, Sloan, and Sweeney (1996) find that firms with a large percentage of non-executive members are less likely to be subject to accounting enforcement actions by the SEC for alleged GAAP violations. We test if this result holds for earnings management and we expect a negative association between the proportion of independent directors on the board and the level of earnings management.

Both corporate governance reports (Cadbury Committee 1992; Committee on Corporate Governance 1998; TSE 1994) and researchers (Fama and Jensen 1983; Jensen 1993) recommend that the roles of chair and CEO not be assigned to the same person so as to avoid a considerable concentration of power in the hands of the CEO (Cadbury Committee 1992, p. 21). This power to control the board of directors comes from the fact that the chair is responsible for setting the agenda and running board meetings, and from the importance of the board’s role in appointing and monitoring management. Dechow *et al.* (1996) provide evidence that firms whose CEO

chairs the board of directors are more likely to be subject to accounting enforcement actions by the SEC for alleged violations of GAAP, while Park (1999) shows a positive link with the existence of litigation against the auditors. These findings suggest that earnings management is positively related to the combination of CEO and chairman role.

The presence of an independent nomination committee is important for board effectiveness and monitoring ability because it takes away the CEO's power in nominating new members to the board. In its absence managers establish their employment contracts with one hand and sign them with the other hand (Williamson 1985). Regulators recognize the significance of an independent nomination committee: the Cadbury Committee (1992, p. 27) recommends the establishment of such a committee composed in majority of non-executive directors and the Committee on Corporate Governance (1998) recommends this as best practice. Hence, we expect that the existence of an independent nomination committee will be negatively related to the level of earnings management.

Financial motivation of independent directors

It is generally believed that a director with a sizeable ownership in the firm is more likely to question and challenge management's proposals (Mace 1986; Patton and Baker 1987) because his or her decisions impact his or her own wealth (Minow and Bingham 1995). Presumably, such a director is less likely to support actions that would reduce shareholders' wealth. Several studies show a positive link between effective monitoring and stock ownership by outside directors. Gerety and Lehn (1997) report that accounting fraud is a decreasing function of the board members' stock ownership, while Beasley (1996) provides evidence that financial reporting

fraud is negatively related to non-executive directors' ownership stake in the firm. Shivdasani (1993) shows that, in hostile takeover target firms, outside directors have significantly lower ownership stakes than in other firms, which is consistent with the view that equity ownership in the firm provides outside directors with greater incentives to monitor management's decisions. These findings support Jensen's (1993) assertion that encouraging outside directors to hold a substantial ownership position in the firm provides them with better incentives to monitor management closely and suggest that earnings management are negatively related to outside directors' ownership.

Competence of board members

Cadbury (1992, p. 22) states that the competence of non-executive board members is of special importance for the effectiveness of the board and the results of many studies support this statement (87990; Beasley 1996; Gerety and Lehn 1997). We hypothesize a similar relationship between competence and the quality of financial reporting.

Among the necessary competencies, knowledge of the company affairs and knowledge of the governance process are particularly essential for the board's monitoring role. A non-executive director may acquire these competencies through internal or external training and experience. Thus, both the Cadbury Committee (1992) and the TSE (1994) reports recommend that companies provide formal orientation programs for their new directors and support the development of external courses on issues of corporate governance. While training is important, expertise research (Bédard and Chi 1993) shows that experience is essential in the development of superior competency.

Non-executive directors' experience on the company's board allows them to develop some monitoring competencies while providing them with better knowledge of the company and its executive directors. Thus, they become more capable of overseeing the firm's financial reporting process effectively. This assertion is supported by Kosnik (1987) who finds that the longer the average tenure of non-executive directors, the more likely the company is to resist hostile takeover bids and by Beasley (1996) who finds that the likelihood of financial reporting fraud is a decreasing function of the average tenure of non-executive directors. We empirically test the assertion that earnings management is negatively associated with average non-executive director's tenure.

Several authors suggest that the managerial labour market for outside directorships rewards effective outside directors with additional positions as directors, but disciplines outside directors who have a record of poor monitoring performance (Fama and Jensen 1983; Milgrom and Roberts 1992). Empirical evidence indicates that non-executive directors of financially-distressed firms lose outside directorships after leaving the board of the troubled firm (Gilson 1990) and that non-executive directors of firms charged with accounting and disclosure violations by the SEC are more likely than others to lose their other directorships (Gerety and Lehn 1997). Hence, non-executive directors have an incentive to monitor effectively because the fact that they are directors of well-run firms signals their competence to the managerial labour market. For that reason, the number of directorships a board member holds is a signal of his or her competence. Also, additional directorships allow the director to acquire governance competencies and to gain knowledge of best practices for boards of directors. These results suggest that additional directorships may be associated with monitoring effectiveness. Thus, we

expect a negative relationship between the number of outside directorships of non-executive directors and the level of earnings management.¹

4. Research design

The objective of this study is to determine whether good governance practices reduce the level of earnings management as measured by the discretionary accruals. Our sample is drawn from the population of US firms that appear on Compustat in 1996. In order to increase the power of our tests, we choose those that have the largest amount of discretionary accruals (both negative and positive) and those that have almost no discretionary accruals.

Discretionary accruals estimation

We use both income increasing and decreasing discretionary accruals because discretionary accruals can be used either to conceal poor performance or to save current earnings for possible use in the future (DeFond and Park 1997). Moreover, the reversing nature of accruals make it possible that a firm that had large income increasing accruals in 1995 has to reverse them in 1996, the year we are observing it. Our sample is based on the complete set of firms on *Compustat* with a December 31 1996 year-end and complete accruals data for 1996. We exclude firms from regulated (SIC 4000 to 4900), financial (SIC 6000 to 6900), and government (SIC 9900) sectors because their special accounting practices make the estimation of their discretionary accruals difficult. The discretionary component of the total accruals is estimated with the modified Jones (1991) cross-sectional model (Defond and Jiambalvo 1994; Francis, Maydew and Sparks 1998; and Becker, DeFond, Jiambalvo, and Subramanian1998). This

requires the estimation of a cross-sectional regression for each industry (two-digit SIC codes), so we eliminate firms from industries with less than ten firms. These requirements leave 3,947 observations for the calculation of discretionary accruals.

Discretionary accruals (DAC) for each firm i in industry j are defined as the residual from the regression of total accruals (the difference between Cash from Operations and Net Income) on two factors that explain non-discretionary accruals, the increase in revenue and the level of fixed assets subject to depreciation.

$$DAC_{ijt} = TAC_{ijt} / A_{ijt-1} - \left[\hat{\alpha}_j (I / A_{ijt-1}) + \hat{\beta}_{1j} (\Delta RE_{ijt} / A_{ijt-1}) + \hat{\beta}_{2j} (PPE_{ijt} / A_{ijt-1}) \right] \quad (1)$$

where:

DAC_{ijt} = Discretionary accruals for firm i in industry j in year t ;

TAC_{ijt} = Total accruals for firm i in industry j in year t ;

A_{ijt-1} = Total assets for firm i in industry j at the end of year $t-1$ (*Assets-Total in Compustat*);

ΔRE_{ijt} = Change in net sales for firm i in industry j between year $t-1$ and t . (*Sales (Net) in Compustat*);

PPE_{ijt} = Gross property, plant and equipment for firm i in year t (*Property, Plant and Equipment (gross-Total)*).

Where $\hat{\alpha}_j, \hat{\beta}_{1j}, \hat{\beta}_{2j}$ are the industry-specific estimated coefficients from the following cross-sectional regression.

$$TAC_{ijt} / A_{ijt-1} = \alpha_j (I / A_{ijt-1}) + \beta_{1j} (\Delta RE_{ijt} / A_{ijt-1}) + \beta_{2j} (PPE_{ijt} / A_{ijt-1}) + e_{ijt} \quad (2)$$

Consistent with DeFond and Park (1997) and Subramanian(1996) we drop 438 firms with income and cash flows from operation in excess of the top and bottom 2% of all observations and the 58 firms with a large Cook distance to eliminate the effect of outliers.² The sample used

to estimate equation (2) separately for each of the 39 industries that meet our requirements contains 3,451 firms. Discretionary accruals are then computed for each firm from equation (1).

To obtain a sample composed of firms with high levels of DAC and firms with almost no DAC, we rank the 3,451 firms by the size of their DAC. Since we want to include both positive and negative discretionary accruals, of the firms for which we have complete governance data, we select the 100 firms with the largest positive accruals to form the HIGH_POS subsample and the 100 firms with the largest negative for the HIGH_NEG subsample. For the LOW subsample, we select the 50 firms with the smallest positive and the 50 with the smallest negative DAC.

To collect 100 observations with full governance data in each category, we had to consider 203, 286 and 160 observations for the HIGH_POS, HIGH_NEG and LOW categories, respectively. Observations are excluded because of missing proxy statements (45, 113, 37), absence of an audit committee (7, 7, 1), missing information on directors' stocks options and stock holdings (4, 5, 4) and changes in the board of directors during 1996 in firms for which the 1995 proxy statement is not available (45, 59, 18).

Governance variables

All the characteristics of the audit committee and the board of directors were hand-collected from the firm's proxy statement for the year 1996. Table 1 summarizes the definitions of all governance and control variables. Consistent with prior research, we classify directors as executives, affiliated (gray), or independent non-executives. Affiliated directors are those who have business relationships with the firm or its managers, although they are not employees of the firm. Consultants, suppliers, bankers, former employees and managers' family members as well

as employees of other firms that have a business relationship with the firm are part of this group. The independent non-executive group includes all directors who seem to have no relation with the firm other than being part of its board of directors. To clarify the affiliations disclosed in the proxy statements, we obtain the list of each firm's affiliated companies in *Who Owns Whom* (1996). We use a dichotomous variable ACIND that is coded 1 if the audit committee is composed solely of independent non-executive directors and 0 otherwise. ACNMAN is the percentage of members who are independent non-executive directors *and* are not managers of other firms. The relative level of compensation based on stock options (ACOPTION) is measured as the ratio of stock options that can be exercised in the next 60 days to the total of options and stocks held by independent non-executive members of the audit committee.

For each committee member we determine whether that member holds a professional certification in accounting (CPA) or financial analysis (CFA) or has experience in finance or accounting. Our definition of financial expertise is more restrictive than that of the Blue Ribbon Commission in that it excludes prior experience as a CEO. We believe that the CEO position provides financial literacy but not expertise. Our FNEXPERT variable is coded 1 if at least one audit committee member has financial expertise and 0 otherwise.

We examine two dimensions of audit committee activity. The presence of a clear mandate defining the responsibilities of the audit committee is measured with the indicator variable MANDATE that takes the value of 1 if the proxy statement indicates that the committee is responsible for the oversight of both the financial statements and the external audit and 0 otherwise. The frequency of committee meetings is measured with a dichotomous variable

(MEETINGS) which takes value 1 if the audit committee held more than 2 meetings in 1996 and zero otherwise.³

The size of the board of directors is measured as the number of its members (BOARDSIZE). The characteristics related to the board's independence are measured with the following variables: BOARDIND is defined as the percentage of board members who are independent non-executive directors, CEOCHAIR is an indicator variable with a value of 1 if the CEO is also chairman of the board, and NOMCOM is an indicator variable with a value of 1 if the nominating committee is composed in majority of non-executive directors. The non-executive directors' incentives are measured by the cumulative percentage of the firm's stock they hold as a group (NXOWN). Finally, the board's competence is measured by NXTENURE which is the average number of years of board service for non-executive directors and NXDIRSHIP which is the average number of directorships held by non-executive directors in unaffiliated firms.

Control variables

Our sample is selected without consideration of specific incentives to manage earnings, but some of the firms may be in a situation that gives them such incentives and that have nothing to do with the quality of their corporate governance practices. We control for three of these situations: the presence of a bonus plan in management's compensation package (Gaver et al. 1995), the possibility of violation of the firm's debt covenant constraints (Dechow *et al.* 1996) and the imminence of an initial public offering (IPO) (Teoh, Welch, and Wong 1998). The bonus plan and debt covenant motivations are combined into one indicator variable (AGENCY) that takes the value of 1 if the firm has an earnings-based bonus plan and is in the highest 10% of its

industry for its leverage (total debt to total asset) and 0 otherwise. The firms that had an IPO in 1996 are identified with the indicator variable IPO.

Monitoring mechanisms other than corporate governance practices may reduce the level of earnings management. Past studies have shown that clients of Big 6 auditors report lower levels of discretionary accruals than firms employing non-Big 6 auditors (Becker *et al.* 1998; Francis *et al.* 1999). We use the indicator variable BIG6 which takes a value of 1 if the auditor is a BIG 6 firm and 0 otherwise to control for this effect. The presence of outside shareholders owning large blocks of the firm's shares provides a monitoring mechanism that may prevent earnings management. The control variable BLOCK is the cumulative percentage of outstanding common shares held by all shareholders who own at least 5% of the firm's shares and who are not affiliated with management.

Finally, firm size may affect the board and audit committee characteristics as well as the level of earnings management (Becker *et al.* 1998). We measure it as the log of the firm's total assets (LNSIZE).

Empirical model

We examine the relation between discretionary accruals and governance characteristics by estimating the coefficient in the following logistic regression model:

$$\text{EARNMAN} = \beta_0 + \beta_1 \text{ACIND} + \beta_2 \text{ACNMAN} + \beta_3 \text{ACOPTION} + \beta_4 \text{FNEXPERT} + \beta_5 \text{MANDATE} + \beta_6 \text{MEETINGS} + \beta_7 \text{ACIND} * \text{MEETINGS} + \beta_8 \text{BOARSIZE} + \beta_9 \text{BOARDIND} + \beta_{10} \text{CEOCHAIR} + \beta_{11} \text{NOMCOM} + \beta_{12} \text{NXOWN} + \beta_{13} \text{NXTENURE} + \beta_{14} \text{NXDIRSHIP} + \beta_{15} \text{AGENCY} + \beta_{16} \text{IPO} + \beta_{17} \text{BIG6} + \beta_{18} \text{BLOCK} + \beta_{19} \text{LNSIZE}$$

with three definitions of EARNMAN:

EARNMAN_P is an indicator variable with the value of 1 if the firm is in the HIGH_POS category and 0 if it is in the LOW category;

EARNMAN_N is an indicator variable with the value of 1 if the firm is in the HIGH_NEG category and 0 if it is in the LOW category;

EARNMAN_H is an indicator variable with the value of 1 if the firm is in the HIGH_POS or the HIGH_NEG categories and 0 if it is in the LOW category.

All the other variables are defined in Table 1.

These three definitions of the dependent variables allow us to examine whether income-increasing and income-decreasing discretionary accruals have the same relationship with corporate governance practices or whether they are affected differently.

5. Empirical results

Descriptive Statistics and Univariate Analysis

Table 2 provides descriptive statistics, by earnings management category, for the financial and corporate governance characteristics of our sample. The last column compares the three categories using Krustal-Wallis tests for the continuous variables and Chi-Square statistics for the dichotomous variables.

The results of these tests indicate that the financial characteristics are significantly different between the groups. Firms with the highest discretionary accruals are smaller in terms of total assets than those with the lowest accruals. Because of the size difference, all subsequent financial variables are scaled by total assets and the regression model controls for the log of size. Firms with the highest positive discretionary accruals have a positive net income and negative cash

flows from operations, while firms with the highest negative discretionary accruals have a negative net income and negative cash flows from operations, and firms with the lowest discretionary accruals have both a positive net income and positive cash flows from operations. Not surprisingly, the total and discretionary accruals are positive and negative for the highest positive and the highest negative discretionary accruals firms, respectively. By design, discretionary accruals are close to zero for the lowest discretionary accruals firms and total accruals are slightly negative.

Comparing audit committee characteristics between the three categories, we find significant differences for all of them. As expected the lowest discretionary accrual firms have better audit committee characteristics than the other firms. Their committee is more likely to be composed solely of independent non-executive directors (ACIND), they have more independent non-executive directors who are not managers in other firms (ACNMAN), they are more likely to have at least one member with financial expertise (FNEXPERT), they are more likely have a clear mandate for the oversight of both the financial statements and external auditing (MANDATE), and are more likely to meet more than twice a year (MEETINGS).

Comparing the board of director's characteristics we find significant differences for all of them except for the combination of the roles of chair and CEO (CEOCHAIR). As expected, firms with the lowest discretionary accruals have a higher percentage of board members who are independent non-executive directors (BOARDIND), are more likely to have a nominating committee composed in majority of non-executive directors (NOMCOM), and have non-executive directors with more years of board service (NXTENURE) and with a larger number of directorships in unaffiliated firms (NXDIRSHIP). Firms with the lowest discretionary accruals

have larger boards, a result that may be explained by the fact that larger firms generally have larger boards and the possibility for larger boards to have more non-executive directors. Contrary to our expectation, firms with the lowest discretionary accruals do not have non-executive directors with the highest monitoring incentive as measured by NXOWN. The highest value is for the high negative discretionary accruals firms.

Out of the motivation control variables only IPO is significantly different across the earnings management categories, the lowest discretionary accrual firms being less likely to have an IPO in 1996. The other monitoring mechanisms are all significant, the lowest discretionary accruals firms are more likely to hire Big 6 auditors (BIG6) and have a larger percentage of outstanding common stock shares held by blockholders (BLOCK).

Multivariate analysis

Table 3 presents the results of the logistic regression model used to test the relation between discretionary accruals and governance characteristics. The models are highly significant ($p = 0.0001$), and the pseudo- R^2 varies between 59 and 62 percent.

Audit committee characteristics

We test simultaneously for the effect of all the audit committee characteristics using a Wald test, and we find that it is statistically significant ($\chi^2=19.7$ $df=7$, $p=0.006$). As Table 3 shows, contrary to our expectations, the presence of earnings management is not related to whether the audit committee is composed solely of independent non-executive directors (ACIND). As alternative measures of committee independence, we use first the percentage of independent non-

executive directors on the committee and then an indicator variable with the value of 1 if the committee has a majority of independent non-executive directors and the results (not shown in a table) are similar to those in Table 3. Contrary to studies examining situations of fraud, which found a significant effect for audit committee independence (Abbott *et al.* 2000), it appears that there is no meaningful direct relation between earnings management and the proportion of independent non-executive directors or, as proposed by the BRC (1999), only independent directors on the committee. We find, however, that having more independent non-executive directors who are not managers in other firms (ACNMAN) is negatively related to both the absolute and positive levels of discretionary accruals. This result is consistent with the assertion that non-executive directors, if they are at the same time managers in another company, may be less inclined to criticize the firm's management and to exercise their monitoring role (Westphal and Zajac 1997). It also provides archival evidence supporting the experimental findings of DeZoort and Salterio (2001) that these directors are more likely to support management in disputes opposing auditors and corporate management.

As expected we find that the proportion of options that can be exercised in the short run in the independent directors' holdings (ACOPTION) is positively related to positive discretionary accruals. While not significant, the negative effect on negative earnings management also supports the assertion that these options reduce independence. These results support the Cadbury Committee's (1992, 4.13) suggested good practice that non-executive directors should not participate in share option schemes.

The presence of at least one audit committee member with financial expertise (FNEXPERT), as recommended by the BRC, is negatively related to the level of earnings

management. The effect, however, is only statistically significant for negative discretionary accruals.⁴

We find that an active committee is associated with less earnings management. Indeed, the presence of a clear mandate establishing the committee's responsibility for the oversight of both the financial statements and external auditing (MANDATE) is negatively related to the level of both positive and negative discretionary accruals. Hence, as proposed by the BRC, a formal charter does not only provide guidance to members as to their duties but is a source of power for the audit committee. This result with archival data supports the findings from a survey by Kalbers and Fogarty (1993) that a formal written charter plays an important role in audit committee power and that perceived effectiveness of the committee is significantly related to this power.

Contrary to our expectations, we find that meeting more than twice a year (MEETINGS) is positively related to positive earnings management (+1.845), but when it is put in interaction with independence (ACIND*MEETINGS) the combined effect (-2.733) is significantly negative. This suggests that an audit committee composed solely of independent non-executive directors who meet more than twice a year reduces positive earnings management, but that a non-independent committee that meets more than twice a year will not result in more effective monitoring. On the contrary, it appears to be associated with more earnings management. Hence, an independent audit committee as per the BRC recommendations does not seem to be sufficient; the committee must also be active. Unfortunately, the BRC has no recommendations as to the number of meetings. It has, however, some recommendations dealing with the duties of the audit

committee, the completion of which would probably be correlated with the frequency of the meetings.

Board of director characteristics

We test simultaneously for the effect of all the board of directors' characteristics using a Wald test, and we find that it is statistically significant ($\chi^2=13.1$ df=7, p=0.069). As indicated in Table 3, having a larger board (BOARDSIZE) is associated with less earnings management, although the association is significant only for income-decreasing discretionary accruals. Thus, contrary to the results for financial statement fraud (Beasley 1996; Abbott *et al.* 2000), large boards seem to monitor the financial statement process more effectively. The median board size (shown in Table 2) of eight members for the low earnings management firms, compared to 6 for the two high earnings management groups, suggests that the efficiency gains of small boards might be offset by the possibility that if the board is larger the proportion of non-executives may be higher.

Contrary to our expectations, a higher percentage of non-executive independent directors on the board (BOARDIND), the combination of the roles of chair and CEO (CEOCHAIR), and a majority of non-executive directors on the nominating committee (NOMCOM) seem to have no effect on the level of earnings management.

Consistent with Beasley (1996) we find that non-executive directors' ownership stake in the firm (NXOWN) seems to significantly decrease the likelihood of negative earnings management (coefficient of -3.952). On the other hand, the coefficient of NXOWN is positive, though not significant, for positive earnings management (5.020). This may indicate that board members

who own shares in the firm are not necessarily more effective at monitoring the financial statements preparation but more inclined to discourage actions that would reduce shareholder wealth.

Both board competence characteristics are significantly related to the level of earnings management. The average tenure on the company board for non-executive directors (NXTENURE) and the average number of directorships they hold in unaffiliated firms (NXDIRSHIP) are negatively associated with the level of earnings management. These results support the view that experience as board members both with the firm and with other firms allows non-executive directors to develop better governance competencies as well as providing them with a better knowledge of the firm and of its executive directors.

Of the two variables included in the models to control for specific motivations for earnings management in 1996, only the occurrence of an IPO in the year has a significant relationship with the level of discretionary accruals. Bonus plans and high debt ratios (AGENCY) don't seem to provide incentives for earnings management in our sample.

As for the variables controlling for alternative control mechanisms, the type of auditor (BIG6) does not seem to affect the relationship between corporate governance and earnings management, but the presence of large shareholders (BLOCK) seems to decrease the likelihood of high discretionary accruals, especially those that increase earnings (coefficient of -3.406 , significant at the 5% level).

Finally, as suggested by the univariate results of Table 2, large firms are less likely to have high discretionary accruals, both income increasing and income decreasing, with coefficients around -0.3 , significant at the 10% level.

Overall, the results of Table 3 seem to indicate that there is a relationship between some aspects of corporate governance and the quality of a firm's financial reporting. As one would expect, the characteristics of the audit committee are more directly associated with the level of earnings management than those of the board, whose influence on financial reporting is more diffuse.

6. Summary and conclusions

Our study examines whether best practices proposed by quasi-regulators are related to the quality of financial reporting, as measured by the level of both positive and negative discretionary accruals. Results from logistic regression models suggest that these best practices and other characteristics are associated with less earnings management and support the call by the SEC for better governance practices. Specifically, the following audit committee characteristics are negatively associated with earnings management: the percentage of independent non-executive directors who are not managers in other firms, the presence of at least one member with financial expertise, the presence of a formal mandate establishing the committee's responsibility for the oversight of both the financial statements and the external audit, and the presence on the committee of only independent directors who meet more than twice a year. For the board of directors, we find that board size and competence, as measured by the average experience as

board members for the firm and with other firms, are negatively associated with earnings management.

We also find characteristics whose effects are not the same on the likelihood of income-increasing and income-decreasing discretionary accruals. The proportion of short-term stock options held by non-executive members of the audit committee seems to increase the likelihood of positive earnings management but to decrease the likelihood of negative earnings management, although the latter result is not significant. This result indicates that this type of compensation for directors does not necessarily improve monitoring, but may create incentives that reduce the quality of their control on financial statement reliability. At the board level, we find that non-executive directors' ownership stake in the firm is negatively associated with negative earnings management whereas its association with positive earnings management, although not significant, is positive. These two results raise serious doubts about the overall effectiveness of using financial motivation to align the interests of these directors with those of the shareholders. While these measures may be appropriate for creating shareholder value, they may reduce the ability of non-executive directors to monitor the reliability of financial statements.

While the results of this study seem to support the effectiveness of the reform called for by various groups and enacted by the SEC and many Stocks Exchanges in reducing earnings management, further research is needed to examine how boards of directors and audit committees fulfill their financial reporting monitoring responsibilities. Additional research on the effect of share option schemes and stocks ownership in the firm by non-executive directors on the quality of the financial reporting monitoring is also called for.

7. References

- Abbott, L. J., S. Parker, and G. F. Peters. 2000. The Effectiveness of Blue Ribbon Committee Recommendations in Mitigating Financial Misstatements: An Empirical Study. Working Paper.
- Becker, C., M. DeFond, J. Jiambalvo, and K. R. Subramanyam. 1998. The effect of audit on the quality of earnings management. *Contemporary Accounting Research* 15 (Spring): 1-24.
- Beasley, M. S. 1996. An empirical Analysis of the Relation Between the Board of Director Composition and Financial Statement Fraud. *The Accounting Review* 71 (October): 433-465.
- Bédard, J. and M. T. H. Chi. 1993. Expertise in Auditing, *Auditing: A Journal of Practice & Theory* 12 (Supplement): 21-45.
- Blue Ribbon Committee. 1999. *Report and recommendations of the blue ribbon committee on improving the effectiveness of corporate audit committees*. New York Stock Exchange and National Association of Securities Dealers (www.nyse.com).
- Canadian Institute of Chartered Accountants. 1981. *Audit Committees: A Research Study*. Toronto: Canadian Institute of Chartered Accountants.
- Cadbury Committee. 1992. *Report of The Committee on The Financial Aspects of Corporate Governance*. London: Gee.
- Callaghan, S. R., P. J. Saly, and C. Subramanian. 2000. The Timing of Option Repricing. Working Paper
- Carcello, J. V. and T. L. Neal. 2000. Audit Committee Characteristics and Auditor Reporting. *The Accounting Review* 75 (October): 453-467.
- Committee on Corporate Governance. 1998. *Final Report*. London: Gee.
- Coopers & Lybrand. 1995. *Audit Committee Guide*. New York, NY: Coopers & Lybrand.
- Dalton, D. R., C. M. Daily, J. L. Johnson, and A. E. Ellstrand. 1999. Number of directors and financial performance: A meta-analysis. *Academy of Management Journal* 42 (December): 674-686.

- Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research* 13 (Spring): 1-36.
- Defond, M. L. and C. W. Park. 1997. Smoothing Income in Anticipation of Future Earnings. *Journal of Accounting and Economics* 23 (July): 145-176.
- Defond, M. L. and J. Jiambalvo. 1994. Debt Covenant Violation and Manipulations of Accruals. *Journal of Accounting and Economics* 17 (January), 145-176.
- DeZoort, F. T. and S. Salterio. 2001. The effects of corporate governance experience and financial reporting and audit knowledge on audit committee members' judgments. *Auditing: A Journal of Practice & Theory* 21 (Fall): Forthcoming.
- Fama, E. F. and M. C. Jensen. 1983. The Separation of Ownership and Control. *The Journal of Law and Economics* 26 (June): 301-325.
- Francis, J. R., E. L. Maydew, and H. C. Sparks. 1999. The Role of Big 6 Auditors in the Credible Reporting of Accruals. *Auditing: A Journal of Practice & Theory* 18 (Fall): 17-34.
- Gaver, J., K. Gaver and J. R. Austin. 1995. Additional Evidence on Bonus Plans and Income Management. *Journal of Accounting and Economics* 19 (February): 3-28.
- Gerety, M. and K. Lehn. 1997. The Causes and Consequences of Financial Fraud. *Managerial and Decision Economics* 18 (November/December): 587-599.
- Gilson, S. C. 1990. Bankruptcy, Boards, Banks, and Blockholders: Evidence on Changes in Corporate Ownership and Control when Firms Default. *Journal of Financial Economics* 27 (October): 355-387.
- Jensen, M. C. 1993. The Modern Industrial Revolution, Exit, and the Failure of the Internal Control Systems. *Journal of Finance* 48 (July): 831-880.
- Joint Committee on Corporate Governance. 2001. Beyond Compliance: Building a Governance Culture -- Interim Report of the Joint Committee on Corporate Governance. ([http://www.cica.ca/cica/cicawebsite.nsf/public/JCCG/\\$file/March16E_InterimReport.pdf](http://www.cica.ca/cica/cicawebsite.nsf/public/JCCG/$file/March16E_InterimReport.pdf)).

- Jones, J. 1991. Earnings Management During Import Relief Investigations. *Journal of Accounting Research* 29 (Autumn): 193-228.
- Kalbers, L. P. and T. J. Fogarty. 1993. Audit committee effectiveness: An empirical investigation of the contribution of power. *Auditing: A Journal of Practice & Theory* 12 (Spring): 24-49.
- Kosnik, R. D. 1987. Greenmail: A Study of Board Performance in Corporate Governance. *Administrative Science Quarterly*, 32 (June): 163-185.
- KPMG. 1999. Shaping the Audit Committee Agenda. KPMG LLP.
- Levitt, A. 1998. *The number game*. Address to the NYU Center for Law and Business (Sept. 28 1998).
- Lorsch, J. W. and E. MacIver. 1989. *Pawns or Potertates: The Reality of America's Corporate Boards*. Boston: Harvard Business School Press.
- Mace, M. L. 1986. *Directors: Myth and Reality*. Boston, MA: Harvard Business School Press.
- McMullen, D.A. et K. Raghunandan. 1996. Enhancing Audit Committee Effectiveness. *Journal of Accountancy* 182 (August): 79-81.
- Menon, K. et J. D. Williams 1994. The Use of Audit Committees for Monitoring. *Journal of Accounting and Public Policy* 13 (Summer): 121-139.
- Milgrom, P., and J. Roberts. 1992. *Economics, Organizations, and Management*. Prentice Hall, Englewood Cliffs, NJ.
- Minow, N. and K. Bingham. 1995. "The Ideal Board" In Monks, R., et N. Minows (eds), *Corporate Governance*, Blackwell publishers, Cambridge, Mass.
- Morck, R., A. Shleifer and R. W. Vishny. 1988. Management Ownership and Market Valuation: An Empirical Analysis. *Journal of Financial Economics* 20 (January/March): 293-315.
- National Commission on Fraudulent Financial Reporting (NCFRR). 1987. *Report of the commission on fraudulent financial reporting*.
- Park, Y. 1999. Corporate Governance, Audit Committees, and Auditor Litigation. Working paper, University of Illinois at Chicago.

- Patton, A. and J. Baker. 1987. Why Do Not Directors Rock the Boat? *Harvard Business Review* 65 (November): 10-12.
- Price Waterhouse. 1993. *Improving Audit Committee Performance: What Works Best*, Altamonte Springs, FL: Institute of Internal Auditors Research Foundation.
- Public Oversight Board (POB). 1993. *In the Public Interest: A Special Report by the Public Oversight Board of the SEC Practice Section, AICPA*. Stamford, CT: POB.
- Public Oversight Board (POB). 1995. *Directors, Management, and Auditors: Allies in Protecting Shareholder Interests*. Stamford, CT: POB.
- Securities and Exchange Commission. 2000. *Proposed Rule 34-41987*. Washington: U.S. Securities and Exchange Commission.
- Shivdasani, A. 1993. Board Composition, Ownership Structure, and Hostile Takeovers. *Journal of Accounting and Economics* 16 (January/March): 167-198.
- Shleifer, A. and R. W. Vishny. 1997. A Survey of Corporate Governance. *Journal of Finance* 52 (June): 737-783.
- Subramanyam, K. R. 1996. The Pricing of Discretionary Accruals. *Journal of Accounting and Economics* 22(August/December): 249-281.
- Teoh, S. H., L. Welch, and T.J. Wong. 1998. Earnings management and the underperformance of initial public offerings. *Journal of Finance* 53 (December): 1935-1974.
- TSE Committee on Corporate Governance in Canada (TSE). 1994. *Where Were the Directors?* Toronto.
- Verschoor, C. C. 1993. Benchmarking the audit committee. *Journal of Accountancy* 176 (September): 59-64.
- Vicknair, D., K. Hickman, and K. C. Carnes. 1993. A Note on Audit Committee Independence: Evidence from the NYSE on «GREY» Area Directors. *Accounting Horizons* 7 (March): 53-57.

Warrick, W. W. 1999. Post-blue ribbon committee thoughts on developing the audit committee's charter and annual report. *Directorship* 25 (September): 6-9.

Westphal, J. D. and Zajac, E. J. 1997. Defections from the inner circle: Social exchange, reciprocity and the diffusion of board independence in US corporations. *Administrative Science Quarterly* 42 (March): 161-183.

Who owns whom 1996. London: O. W. Roskill.

Williamson, O. E. 1985. *The Economic Institutions of Capitalism*. New York: Free Press.

Wolnizer, P. W. 1995. Are Audit Committees Red Herrings? *Abacus* 31 (March): 45-66.

Wright, D. W. 1996. Evidence on the Relation Between Corporate Governance Characteristics and the Quality of Financial Reporting. Working Paper, University of Michigan.

TABLE 1
Descriptive Corporate Governance Data

Variable Name	Description
AUDIT COMMITTEE	
<i>Independence</i>	
ACIND	Indicator variable with the value of 1 if the committee is composed solely of independent non-executive directors.
ACNMAN	Percentage of independent non-executive directors who are not managers in other firms.
ACOPTION	Ratio of stock options that can be exercised in the next 60 days to the sum of options and stocks held by independent non-executive members.
<i>Competence</i>	
FNEXPERT	Indicator variable with the value of 1 if at least one member has financial expertise.
<i>Activity</i>	
MANDATE	Indicator variable with the value of 1 if the committee is responsible for the oversight of both the financial statements and the external audit.
MEETINGS	Indicator variable with the value of 1 if the number of committee meetings in 1996 is larger than 2.
BOARD OF DIRECTORS	
BOARDSIZE	Number of directors on the board.
<i>Independence</i>	
BOARDIND	Percentage of board members who are independent non-executive directors.
CEOCHAIR	Indicator variable with a value of 1 if the roles of chair and CEO are held by one person.
NOMCOM	Indicator variable with a value of 1 if the nominating committee is composed in majority of non-executive directors.
<i>Directors' incentives</i>	
NXOWN	The cumulative percentage of shares held by non-executive directors.
<i>Competence</i>	
NXTENURE	Average years of board service of independent non-executive directors.
NXDIRSHIP	Average number of directorships held by independent non-executive directors in unaffiliated firms.
CONTROL VARIABLES	
<i>Incentives</i>	
AGENCY	Indicator variable with a value of 1 if the firm both has a bonus plan based on income and is in the highest decile of its industry for its debt ratio.
IPO	Indicator variable with a value of 1 if the firm had an IPO in 1996.
<i>Other Monitoring Mechanisms</i>	
BIG6	Indicator variable with a value of 1 if the auditor is a BIG 6 auditor.
BLOCK	Cumulative percentage of outstanding common shares held by blockholders holding at least 5% of the firm's shares and who are not affiliated with management.
<i>Other control variable</i>	
LNSIZE	Natural log of total assets

TABLE 2
Descriptive Statistics

Variable Name ^a	HIGH_POS ^b		HIGH_NEG ^b		LOW ^b		Test ^c
	Mean	Median	Mean	Median	Mean	Median	
FINANCIAL CHARACTERISTICS^a							
SIZE	94.30	42.84	216.81	33.28	1583.8	230.58	
Net Income	0.03	0.11	-0.55	-0.37	0.00	0.05	49.21***
Op. Cash Flows	-0.24	-0.13	-0.12	0.06	0.07	0.12	14.20***
TAC	0.27	0.23	-0.43	-0.35	-0.07	-0.07	278.6***
DAC	0.32	0.29	-0.38	-0.29	0.00	0.00	395.2***
AUDIT COMMITTEE							
ACIND	0.67	0.67	0.69	0.67	0.85	1	23.83***
ACNMAN	0.33	0.33	0.28	0.33	0.51	0.50	30.31***
ACOPTION	0.31	0.13	0.40	0.26	0.28	0.17	6.97**
FNEXPERT	0.10	-	0.18	-	0.26	-	8.67***
MANDATE	0.57	-	0.82	-	0.93	-	38.83***
MEETINGS	1.47	1	1.58	1	2.30	2	24.73***
BOARD OF DIRECTORS							
BOARDSIZE	6.06	6	6.54	6	8.16	8	40.55***
BOARDIND	0.43	0.50	0.48	0.50	0.60	0.60	31.07***
CEOCHAIR	0.76	-	0.69	-	0.66	-	2.52
NOMCOM	0.05	-	0.09	-	0.24	-	18.14***
NXOWN	0.02	0.00	0.04	0.00	0.03	0.00	6.22**
NXTENURE	4.34	3.07	3.97	3.00	7.50	6.73	51.46***
NXDIRSHIP	0.79	0.53	0.93	0.71	1.57	1.38	27.40***
CONTROL VARIABLES							
AGENCY	0.05	-	0.11	-	0.04	-	4.61
IPO	0.29	-	0.27	-	0.02	-	29.02***
BIG6	0.82	-	0.87	-	0.94	-	6.72***
BLOCK	0.12	0.07	0.14	0.16	0.19	0.19	17.46***
LNSIZE	3.83	3.76	3.68	3.50	5.55	5.44	51.25***
N	100		100		100		

^a Net Income is net income before extraordinary items. Op. Cash Flows is operating cash flows from the cash flows statement. TAC is the total accruals and DAC is the discretionary accruals calculated using the Jones cross-sectional model. All financial variables are scaled by total assets. The other variables are described in Table 1.

^b The sample consist of three categories of firms based on their level of discretionary accruals for the year 1996. HIGH_POS is the group of 100 firms with the highest positive accruals, HIGH_NEG is the group of 100 firms with the highest negative accruals, and LOW is the group of 100 firms with the accruals closest to 0.

^c Test statistic comparing the three groups: Kruskal-Wallis for the continuous variables and Chi Square for the dichotomous variables.

** significant at the 5% level

*** significant at the 1% level

TABLE 3

Logistic Regression of Earnings management level on Governance Characteristics and Control Variables

$$\text{EARNMAN} = \beta_0 + \beta_1 \text{ACIND} + \beta_2 \text{ACNMAN} + \beta_3 \text{ACOPTION} + \beta_4 \text{FNEXPERT} + \beta_5 \text{MANDATE} + \beta_6 \text{MEETINGS} + \beta_7 \text{ACIND} * \text{MEETINGS} + \beta_8 \text{BOARDSIZE} + \beta_9 \text{BOARDIND} + \beta_{10} \text{CEOCHAIR} + \beta_{11} \text{NOMCOM} + \beta_{12} \text{NXOWN} + \beta_{13} \text{NXTENURE} + \beta_{14} \text{NXDIRSHIP} + \beta_{15} \text{AGENCY} + \beta_{16} \text{IPO} + \beta_{17} \text{BIG6} + \beta_{18} \text{BLOCK} + \beta_{19} \text{LNSIZE}$$

Variable Name ^{a,b}	Exp. Sign	EARNMAN _P (POS_HIGH vs LOW)		EARNMAN _N (NEG_HIGH vs LOW)		EARNMAN _H (HIGH vs LOW)	
		Parameter	χ^2	Parameter	χ^2	Parameter	χ^2
INTERCEPT	None	3.996	8.96 ^{***}	6.646	21.28 ^{***}	6.325	30.31 ^{***}
ACIND	-	-0.094	0.03	-0.129	0.05	0.068	0.02
ACNMAN	-	-1.662	5.34 ^{***}	-0.586	0.70	-1.248	4.65 ^{**}
ACOPTION	+	1.706	5.48 ^{***}	-0.617	0.36	0.361	0.41
FNEXPERT	-	-1.288	0.06	-1.099	3.33 ^{**}	-0.677	2.26
MANDATE	-	-0.900	1.62 [*]	-1.840	11.62 ^{***}	-1.454	8.04 ^{***}
MEETINGS	-	1.845	5.82 ^{**}	0.492	0.35	1.266	3.56 ^{**}
ACIND*MEETINGS	-	-2.733	6.84 ^{***}	-0.396	0.15	-1.562	3.57 ^{**}
BOARDSIZE	?	-0.051	0.16	-0.267	3.29 ^{**}	-0.142	1.80
BOARDIND	-	-0.792	0.38	-1.372	0.99	-1.071	1.04
CEOCHAIR	+	0.133	0.09	0.084	0.03	0.045	0.02
NOMCOM	-	0.713	1.07	0.736	0.95	0.784	0.17
NXOWN	-	5.020	2.03	-3.952	1.07 [*]	-0.212	0.01
NXTENURE	-	-0.132	4.04 ^{**}	-0.118	4.49 ^{**}	-0.132	7.67 ^{***}
NXDIRSHIP	-	-0.428	3.64 ^{**}	-0.240	1.63	-0.310	3.57 [*]
AGENCY		0.379	0.17	0.884	0.70	0.853	1.14
IPO		2.406	7.46 ^{***}	2.200	6.56 ^{***}	2.240	8.87 ^{***}
BIG6		0.186	0.06	0.277	0.14	0.126	0.04
BLOCK		-3.406	4.34 ^{**}	-1.228	0.72	-2.078	2.97 [*]
LNSIZE		-0.302	3.38 [*]	-0.315	3.33 [*]	-0.335	6.21 ^{***}
Pseudo R ²			61.1		62.4		58.9
Model χ^2			115.4 ^{***}		119.5 ^{***}		150.9 ^{***}

^a EARNMAN_P is an indicator variable with the value of one if the firm is in the HIGH_POS category and zero if it is in the LOW category; EARNMAN_N is an indicator variable with the value of one if the firm is in the HIGH_NEG category and zero if it is in the LOW category; EARNMAN_H is an indicator variable with the value of one if the firm is in the HIGH_POS or HIGH_NEG categories and zero otherwise. The other variables are described in Table 1.

^b Test statistics are one-tailed when the expected sign is positive or negative, and two-tailed otherwise.

* significant at the 10% level.

** significant at the 5% level

*** significant at the 1% level.

End notes

- 1 On the other hand, outside directorships held by a non-executive director reduce the time he or she can devote to the firm and reduce the board's governing effectiveness (Morck et al. 1988; Beasley 1996). Additional directorships may improve effectiveness up to a point but beyond that point, the board is penalized because of the time and effort absorbed by other directorships.
- 2 Firms with very large income or cash flows from operations have been shown to bias the estimation of discretionary accruals. For detecting outliers, we use three criteria: Cook's distance, Studentized residuals and hat matrix. An observation is excluded from the sample as an outlier if it fails two out of these three tests.
- 3 The BRC does not suggest a minimum number of meetings. Menon and Williams (1994) suggest that an audit committee needs to hold a minimum of two meetings per year, while the Canadian Institute Chartered Accountants (1981) suggests that at least three meetings are required for the committee to perform its duties effectively.
- 4 We also test the effect of financial expertise with a less restrictive definition of expertise where, as recommended by the BRC, a chief executive officer or a former CEO also qualifies as a financial expert. The parameter (not reported in a table) is still not significant.