

# Corporate Governance as a Facilitator of Continuous Market Disclosure.

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## Abstract

*This paper investigates the role of corporate governance in ensuring exchange listed companies meet their continuous disclosure (CD) obligations. In doing so it attempts to address a deficiency in the generic corporate disclosure literature by investigating the ability of corporate governance to ensure quality corporate disclosure. Despite acknowledging that disclosure is adversely affected by agency conflict and that corporate governance is an effective control of that conflict, few studies have attempted to provide empirical evidence of a link between corporate governance and corporate disclosure quality. The results of this study show that a company's corporate governance does impact on its CD performance. In particular, it provides evidence that the likelihood of a company failing its CD obligations decreases as the proportion of independent directors on the board increases. This likelihood also decreases for firms that segregate the roles of CEO and board chair. In addition, the study also found that declining company profitability increases the risk of CD failure. These results provide an important link between the corporate governance literature and the disclosure literature. The results of this study should provide regulators and company stakeholders with evidence to continue to demand corporate governance improvements as an important tool in improving market efficiencies.*

## 1. Introduction

Introduced in 1994 the Australian continuous disclosure (CD) regime requires all listed companies to disclose material information to the market on a continuous basis.<sup>2</sup> It operates as a contractual relationship between the Australian Stock Exchange (ASX) and Australian listed companies with legislative support provided by the Corporations Act (2001) enforced by the Australian Securities and Investments Commission (ASIC).

In its 2002 review, "Continuous Disclosure – The Australian Experience", ASX highlighted the importance of CD to the Australian equity market:

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<sup>2</sup> The CD obligations of listed entities are contained in Chapter Three of ASX Listing Rules. *Guidance Note 8: Continuous Disclosure* contains additional information to assist companies in the implementation of Listing Rule 3.1. ASX Listing Rule 3.1 requires that once an entity becomes aware of any information concerning it that a reasonable person would expect to have a material effect on the price or value of the entity's securities, the entity must immediately tell ASX that information. Listing rule 3.1A exempts the application of listing rule 3.1 to information that is confidential and relates to either incomplete proposals or trade secrets.

“Australia’s continuous disclosure regime makes an essential contribution to ensuring the growth, efficiency and integrity of our capital markets. In particular it is a core contributor to the maintenance of fair, orderly and transparent markets.” (p.2)

Despite its importance, little research exists into continuous disclosure behaviour. This is not surprising given that continuous disclosure regulation is a relatively recent international development.<sup>3</sup> Despite an established literature on generic corporate disclosure (see Verrecchia, 2001 for a concise literature survey) few empirical studies have investigated whether factors known to affect generic corporate disclosure are relevant to continuous disclosure. This study not only addresses this paucity of evidence but also attempts an important contribution to the generic disclosure literature by investigating the role corporate governance factors play in determining corporate disclosure. Despite the literature recognising a potential for agency conflict to contribute to sub-optimal disclosure, researchers including Bens, 2002; Healy and Palepu, 2001 and Core, 2001 acknowledge a lack of empirical evidence regarding a role for corporate governance in limiting agency affects on corporate disclosure. Core (2001) argues:

“While the optimal disclosure policy allows some managerial manipulation of disclosure, it is the governance structure that constrains the manager to follow the optimal policy. Accordingly, cross-sectional differences in companies’ disclosure policy result from cross-sectional differences in: (1) the optimal disclosure policy; and (2) the ability of the companies’ governance to enforce the optimal policy. In summary, theory predicts an endogenous relation between information asymmetry, disclosure quality, managerial incentives and corporate governance”. (p. 4)

Core’s critique of the disclosure literature concludes with the following suggestions for future research:

“Potentially the most interesting question for future research is to examine the firm’s simultaneous choice of disclosure quality, management incentives and corporate governance structure.” (p. 18)

A third contribution offered by this study is the clarity of the timing of the inadequate disclosure by the sample firms. A common criticism of many disclosure studies is the inability to precisely identify the time disclosure changes. For example, Healy and Palepu (2001) state:

“A related problem with self-constructed measures of voluntary disclosure is that it is difficult to precisely define the timing of any change in disclosure. Typically disclosure is measured for a given year, making it difficult to infer whether disclosure changes followed or preceded changes in variables of interest.

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<sup>3</sup> Australia was among the first countries to introduce formalised CD regulation in September 1994. Regulation was not introduced in the US until 1996.

Consequently, it is difficult to draw strong conclusions about the direction of causality underlying the documented associations.” (p. 37)

One strength of this study is that the data provided by ASIC gives a precise date of the disclosure failure. This should overcome the timing problem identified by Healy and Palepu.

The remainder of the paper proceeds as follows. Section 2 reviews the relevant disclosure literature and draws on the corporate governance literature to develop hypotheses. Section 3 outlines the development of the research design and introduces the multivariable logit regression model central to the research methodology. The study’s results are presented in Section 4 with Section 5 concluding with a discussion of the implication of the study results.

## **2. Literature Review**

The disclosure literature recognises that enhanced corporate disclosure results in lower costs of capital to firms (Verrecchia, 2001; Lang and Lundholm, 2000; Botosan and Plumee, 2000; Frankel, McNichols and Wilson, 1995; Jensen and Meckling, 1976 and Singhvi and Desai, 1971). As firms disclose more to outside investors, information asymmetry in the market is reduced (Krinsky and Lee, 1996; Sunder, 2002). Withheld information is interpreted as unfavourable and results in investors charging a premium to compensate for potential losses of trading with those better informed (Verrecchia, 1983). Several empirical studies have confirmed quality disclosure results in lower costs of capital. For example, studies have shown a correlation between higher disclosure levels and reduced costs of equity capital (Schrand and Verrecchia, 2004 and Botosan and Plumee, 2000); lower costs of debt (Sengupta, 1998) and reduced bid-ask equity spreads (Leuz and Verrecchia, 2000 and Healy, Hutton and Palepu, 1999). Lundholm and Myers (2002) and Gelb and Zarowin (2002) also find that the information benefits of enhanced disclosure result in stock prices that are more informative about future earnings.

Despite these acknowledged benefits, empirical studies have consistently observed that some firms fail to provide full disclosure of relevant information to the market. Despite the realisation that outsiders will interpret withheld information negatively, some managers consciously withhold information about firm value (Verrecchia, 2001). Managers have also been shown to be selective regarding disclosure, being more likely to disclose positive news rather than negative news (Jovanovic, 1982 and Lanen and Verrecchia, 1987). Healy and Palepu (2001) argue this is because managers use their discretion to choose a disclosure policy that maximizes current firm value at the expense of future wealth. Litigation risk and the risk of disclosing proprietary information may also provide disincentives to managers to adequately disclose (Bens, 2002; Clarkson, Kao and Richardson, 1994; Dye, 1985; Verrecchia, 1983; Wagenhofer, 1990 and Baginski, Hassell and Kimbrough, 2002).

Agency theory proposes a theoretical justification why managers' personal incentives may motivate them to under-disclose information. Geiger (1998) argues that disclosure controls agency conflict in two ways. Firstly, it limits opportunities for managers to redistribute value through such actions as insider trading and self-dealing. Secondly, it prevents managers engaging in opportunistic earnings management. Geiger (1996) also argues that managers have incentives to "smooth" reported income and avoid reporting negative changes. To do so they need to maintain an information advantage over the market (Lobo and Zhou, 2001 and Trueman and Titman, 1988). The empirical results support a link between inadequate disclosure and agency conflict. For example, Noe (1999) provides evidence that the incidence of management forecasts is positively associated with the level of management's trading in the firm's shares. Similarly, Aboody and Kasnik (2000) report that managers manipulate disclosure prior to stock option award periods in order to increase their stock-based compensation. Miller and Piotroski (2000) also find that managers in recovering firms are more likely to release earnings forecasts if they have higher stock option compensation at risk. Management dominated boards have also been shown to be more likely to manipulate financial reporting disclosures. Examples include fraudulent financial reporting (Farber, 2005 and Beasley, 1996) and reporting abnormal accruals (Peasnell, Pope and Young, 2005; Davidson, Goodwin-Stewart and Kent, 2005; Klein, 2002 and Peasnell, Pope and Young, 2000).

Despite the suggested link between agency conflict and inadequate disclosure, few studies have investigated for a correlation between corporate governance quality and disclosure quality. Bens (2002) acknowledges that agency costs may be an omitted variable in most previous voluntary disclosure analyses. Notable recent exceptions are Beekes, Brown and Germaine (2007) and Beekes and Brown (2006) who investigate the effect corporate governance quality has on corporate information flows and stock market reaction. They provide evidence that better-governed firms do make more informative disclosures.<sup>4</sup> Another recent study by Carcello and Neale (2003) showed that independent audit committees reduced disclosure optimism in respect of going concern disclosure by firms.

### *Research Hypotheses*

This study investigates whether a company with strong corporate governance is more likely to meet its continuous disclosure obligations than a company with weak corporate governance. It focuses on three key corporate governance mechanisms as proxies for strong corporate governance - the independence of a company's board of directors, the existence and independence of its audit committee and the segregation of the roles of board chair and Chief Executive Officer (CEO).

A considerable body of literature asserts that independent boards are effective in controlling agency conflict.<sup>5</sup> Bens (2002) also argues that information disclosure

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<sup>4</sup> Both studies however do not investigate the role of specific corporate governance mechanisms on disclosure quality.

<sup>5</sup> Carcello and Neale (2003) provide a concise summary of the literature.

increases when stockholder-manager agency conflicts are reduced. Given that agency conflict has been shown to cause sub-optimal disclosure it is reasonable to assume board composition will affect disclosure. Empirical studies have generally supported the contention that independent boards have a positive effect on the quality of financial reporting disclosure. For example, more independent boards have been shown to be less likely to experience financial reporting fraud (Farber, 2005; Dunn, 2004; Sharma, 2004; Beasley, Carcello and Hermanson, 1999, Beasley, Carcello, Hermanson and Lapidés 2000; Beasley, 1996), be subject to SEC accounting enforcement action (Farber, 2005 and Dechow, Sloan and Sweeney, 1996), delay recognising bad news in earnings (Beekes, Pope and Young, 2004) and report abnormal accruals (Peasnell, Pope and Young, 2005; Davidson, Goodwin-Stewart and Kent, 2005; Klein, 2002; Peasnell, Pope and Young, 2000).

Few studies have attempted to investigate directly the relationship between board independence and broader disclosure quality. Recent exceptions are Carcello and Neale (2003) who find more independent boards are less likely to make over-optimistic going-concern disclosures and Beekes and Brown (2006) who also report a relationship between disclosure quality and generic corporate governance “quality” but fail to investigate the role of specific corporate governance mechanisms.<sup>6</sup> Clarkson, Ferguson and Hall (2003) also included corporate governance as a control variable in their investigation of the relationship between auditor type and Year 2000 voluntary disclosure quality. Although no link was found Carcello and Neale (2003) criticise their model for focusing on non-executive rather than independent directors. They posit this overlooks the potential lack of independence of “affiliate” directors.

Given that management is responsible for both financial reporting disclosure and CD compliance it is expected that independent boards will have the same positive effect on CD compliance as they have on financial reporting quality. Therefore this study will test the following hypothesis:

***H1: Companies with a higher proportion of independent directors on the board are more likely to meet their continuous disclosure obligations than companies with a lower proportion of independent directors on the board.***

Wild (1996) argues that firms with audit committees have higher quality financial reporting disclosures. The empirical evidence also supports this assertion. For example, firms with audit committees are less likely to issue quarterly restatements (McMullin, 1996) or manipulate earnings (Dechow, Sloan and Sweeney, 1996 and Defond and Jambalvo, 1991). Empirical studies have also consistently shown that independent audit committees are more effective than non-independent audit committees. For example, firms with independent audit committees are less likely to experience fraud (Beasley,

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<sup>6</sup> Beekes and Brown (2005) use the Horwath Report Rankings as a proxy for quality corporate governance. While the weightings allocated to differing corporate governance structures are kept confidential in the report, the author of this study is a co-author of the Horwath Report. Board independence accounts for approximately 20% of the weighting applied in the ranking.

Carcello, Hermanson and Lapides, 2000 and Cobb, 1993) or report abnormal accruals (Davidson, Goodwin-Stewart and Kent, 2005 and Klein, 2002). Carcello and Neale's 2003 study is one of the first to extend the research specifically from financial reporting to broader corporate disclosure issues. Their study of going-concern disclosures and management discussion and analysis (MD & A) in annual reports found that, for firms facing financial distress, the less independent the audit committee the more over-optimistic the going-concern disclosure.<sup>7</sup>

In addition to financial reporting oversight, audit committees are also responsible for ensuring continuous disclosure obligations are met.<sup>8</sup> Therefore given that companies with independent audit committees have enhanced financial reporting disclosures, and that audit committees regulate continuous disclosure compliance, this study tests the following related hypotheses:

***H2a: Companies with an audit committee are more likely to meet their continuous disclosure obligations than companies without an audit committee;***  
and

***H2b: Companies with more independent audit committees are more likely to meet their continuous disclosure obligations than companies with less independent audit committees.***

The corporate governance literature also asserts that a board is less independent when the chair is held by the company's CEO (Fama and Jensen, 1983; Whittington, 1993 and Lipton and Lorsch, 1992). Yermack (1996) argues this is because the board chair position is the most influential in setting board agendas and directing information flow. Jensen (1993) also points to the CEO's influence over board appointments and processes and their ability to override internal controls. Finkelstein and D'Aveni (1994) also argue CEO/chair duality adversely affects a board's ability to monitor management by promoting entrenchment. Empirical support is provided by Dechow, Sloan and Sweeney (1995) who find that companies manipulating earnings are more likely to have CEO/chair duality. Nowak and McCabe (2003) also argue a dominant CEO causes information asymmetry. Their survey of Australian public company directors reported a strong perception that the CEO has controlling power over information. Bens (2002) also reports a negative association between the amount of information disclosed and the replacement of the CEO prior to a restructure. Haniffa and Cooke's 2002 study of voluntary disclosure in Malaysia is one of the few studies to investigate the influence of non-independent board chairs on voluntary disclosure. They found that better quality voluntary disclosure results when the board chair is a non-executive director.

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<sup>7</sup> Management Discussion and Analysis (MD&A) refers to management's discussion of the entity's financial position in the annual report. In the US discussion of liquidity is the only SEC mandated disclosure within MD&A otherwise management have substantial discretion (Carcello and Neale, 2003). Auditors are required to review MD&A disclosures for consistency with financial data.

<sup>8</sup> "Audit Committees: Best Practice Guide" (1997) issued as a joint publication by the Australian Accounting Research Foundation (AARF), Institute of Company Directors (AICD) and the Institute of Internal Auditors – Australia (IIA).

Therefore this study investigates the following hypothesis:

***H3: Companies that segregate the roles of CEO and board chair are more likely to meet their continuous disclosure obligations than companies that do not segregate the roles of CEO and board chair.***

### **3. Methodology and Research Design**

The focus of the research is a sample of 60 Australian listed companies subject to ASIC intervention for failure to meet their continuous disclosure responsibilities (CDO companies) during the period July 2000 to June 2003. During this period ASIC was involved in 101 cases of continuous disclosure intervention. ASIC applied its discretion to publicise 64 of those cases. As three of the publicised cases related to companies subject to ASIC action twice in the same year the 64 reported cases related to a group of 61 companies.<sup>9</sup> A final sample of 60 companies resulted when one company was excluded as it was delisted prior to lodging an annual report, preventing evaluation of its corporate governance.

To test the hypotheses previously outlined the corporate governance characteristics of the sample were compared to a control sample of companies not subject to a CDO (Non CDO companies). To control for variables shown in the literature to influence both a company's disclosure quality and its corporate governance each company in the sample was matched with a control company based on size, industry and financial reporting period.<sup>10</sup>

The relative size of an organisation has been shown to influence both an entity's corporate governance environment and its disclosure strategies. Menon and Williams (1994) assert that larger firms have incentives to monitor the greater complexities associated with size and can better carry the significant costs of establishing and operating corporate governance mechanisms. Disclosure theory states that larger firms tend to disclose more information to their stakeholders (Atiase, 1980). This is because of a greater demand for information that can be provided at a lower average cost (Lang and Lundholm, 1993), greater exposure to litigation risk (Kasznik and Lev, 1995) and higher levels of political visibility (Craswell and Taylor, 1992). Empirical studies have also shown larger firms disclose more information leading up to initial public offerings of shares (Schrand and Verrecchia, 2004), provide higher quality information in MD & A disclosures (Clarkson, Kao and Richardson, 1999) and in relation to their corporate governance practices (Labelle, 2002) and audit committee function (Arkley-Smith, (1999). Recent Australian studies have also shown a relationship between size and

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<sup>9</sup> For these companies no change in director independence or corporate governance mechanisms occurred between the two CDO incidences.

<sup>10</sup> This methodology is common to many studies in the disclosure literature. For example, Lang and Lundholm (2000) compared the disclosure strategies of companies offering seasoned equities by comparing a matched sample of non-issuers. Francis, Philbrick and Schipper (1994) tested the litigation cost hypothesis by comparing bad news pre-announcements of companies facing litigation to a non-litigant control group.

disclosure. For example, Fleming (2001) reports firms disclosing via ASX “Open Briefing Forums”<sup>11</sup> tend to be larger while Neagle and Tsykin (2001) find over 80 per cent of companies that received ASX price queries had a market capitalization of less than \$100 million. Similar to Leuz and Verrecchia (2000) and Clarkson, Ferguson and Hall (2003) this study uses the company’s market capitalisation at the end of the CDO year as a measure of size. Market capitalisation data was collected from the annual market capitalisation rankings of all Australian listed companies as published by ASX.

The industry in which a company operates has also been identified as a factor that affects both corporate governance and disclosure.<sup>12</sup> Brown, Taylor and Walter (1999) and Frankel, Johnson and Skinner (1999) all find industry differences affect the probability of voluntary disclosure. Industry specific disclosure may also be mandated or customary. For example, ASX requires Australian mining companies to disclose more frequently than industrial companies (Brown, Taylor and Walter, 1999) while Botosan and Stanford-Harris (2000) report firms increasing segment disclosure were more likely to operate in industries in which other firms provide quarterly segment disclosure. White, Sondhi and Fried (1998) also report firms in the same industry tend to disclose information using similar accounting methods. Bamber and Cheon (1998) also argue that firms with greater industry concentration have greater proprietary costs and are therefore less likely to disclose. Their study found that industry concentration determined not only disclosure venue but disclosure specificity. Many of the studies previously referred to grouped companies according to regulatory authority or consulting agency industry codes. For example Fleming’s 2001 study matched companies utilising ASX open-briefings with non users sharing the same two-digit ASX industry code. Control companies for this study were selected on the basis of the four-digit S & P Global Industry codes as adopted by ASX.

In addition to matching the control group on the basis of industry and size it is imperative that further comparison is performed with respect to the same time period.<sup>13</sup>

Healy and Palepu (2001) acknowledge that a limitation of much of the empirical disclosure research is the precise identification of the time of disclosure changes:

“A related problem with self-constructed measures of voluntary disclosure is that it is difficult to precisely define the timing of any change in disclosure. Typically

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<sup>11</sup> ASX “Open Briefing Forums” are an electronic service offered by the ASX that allows listed companies to brief the market. It involves a record of an interview of subscribing company executives and can be used to explain company announcements, results or other corporate issues of interest to the market. Proceedings of “Open Briefing Forums” are released by the ASX to the market and are available to the public on the ASX website.

<sup>12</sup> Kaplan and Reishus (1990) recognise that the average proportion of outside directors on a board tends to vary across industry groupings. They argue this is often because directors are chosen for their industry expertise.

<sup>13</sup> Variables of interest for this study are determined from the annual report for the financial year that included the CDO event. Any changes in variables from the CDO date to the date of the director’s report are adjusted to reconstruct company conditions on the CDO date.<sup>13</sup> Of the 60 CDOs 21 (35%) occurred in the year ended 30 June 2001, 9 (15%) in the year ended 30 June 2002 with the remaining 30 (50%) occurring in the year ended 30 June 2003.

disclosure is measured for a given year, making it difficult to infer whether disclosure changes followed or preceded changes in variables of interest. Consequently, it is difficult to draw strong conclusions about the direction of causality underlying the documented associations.” (p. 37)

One strength of the data provided by ASIC is that it gives a precise date of the disclosure failure. This should overcome the precision problems of many disclosure studies referred to by Healy and Palepu (2001).

### *Control Variables*

The literature also suggests several other variables may influence company disclosure. These are listed below and are utilised as control variables in the research model:

1. Company performance;
2. Financial leverage;
3. Block-holder equity ownership;
4. Executive director equity ownership; and
5. Auditor quality.

Management signalling theory asserts that company performance impacts on disclosure quality as managers are quick to disclose good news as a signal to the market of their success (Dye, 1988 and McNichols, 1984). Many empirical studies have found a positive relationship between company performance and greater disclosure.<sup>14</sup> For example Miller (2002) and Lang and Lundholm (1993) all find that disclosure levels are higher for companies experiencing increasing earnings while Singhvi and Desai (1971) find poor disclosure companies tend to have a lower rates of return and a lower earnings margin. In Australia, Neagle and Tsykin (2001) find firms with positive earnings are less likely to receive ASX price queries while Fleming (2001) finds Australian firms that utilized ASX “Open Briefing Forums” to enhance disclosure are more profitable than their industry peers. Therefore the research model will control for differences in financial performance of CDO and Non-CDO companies. It is expected that companies with higher financial performance are more likely to meet their continuous disclosure obligations than companies with lower financial performance.

The financial leverage of a firm has also been shown to affect its disclosure. Jensen and Meckling (1976) argue this is because with increasing leverage debt holders have incentives to protect themselves by raising interest rates. As information asymmetry also increases the cost of capital (Verrecchia, 2001) firms will increase disclosure to counter rising interest rates (Sengupta, 1998). Empirical support is provided by Helbok and Wagner (2003) who find banks with lower equity to assets ratios provide enhanced

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<sup>14</sup> However other research has shown that to avoid litigation and to minimise reputation losses, managers with bad news also have strong incentives to disclose. For example Kasznik and Lev (1995) and Skinner (1994) both found that firms with negative earnings surprises were more likely to pre-empt the surprise with a forecast disclosure. Holder-Webb (2003) also reports firms increase disclosure quality substantially in the year of initial distress.

disclosure of operational risks and Gelb (2000) who reports firms with higher equity levels signalled good news by dividends or stock repurchases not via more extensive voluntary disclosures. Botosan and Stanford-Harris (2000) also find firms that increase segment reporting were experiencing a decline in liquidity and an increase in information asymmetry (measured by analyst forecast consensus). In Australia, Fleming (2001) found companies that utilized ASX “Open Briefing Forums” to disclose material change market announcements had higher debt-equity ratios. Therefore the research model will control for differences in financial leverage of CDO and Non-CDO companies. It is expected that firms with higher debt to equity ratios are more likely meet their continuous disclosure obligations than firms with lower debt to equity ratios.

Jensen (1993) argues that as large block-holding shareholders have more at stake they have greater incentives to monitor management than small investors.<sup>15</sup> Empirical support is provided by Klein (2002) who reports that earnings management is less frequent when a substantial shareholder sits on the audit committee. A considerable body of research also suggests institutional shareholders are effective in preventing sub-optimal disclosure. Kim and Verrecchia (1994) argue that as institutional investors are more accountable for their investment decisions than private investors they demand higher levels of disclosure. Many empirical studies have connected expanded disclosure with greater institutional ownership (see Healy, Hutton and Palepu, 1999; Bushee and Noe, 2000 and Kim and Verrecchia, 1994). Therefore, the research model will control for differences in the proportion of shares held by block-holders in CDO and Non-CDO companies. It is expected that companies with higher levels of shares held by block-holders are more likely to meet their continuous disclosure obligations than companies with lower levels of shares held by block-holders.

Schrand and Verrecchia (2004) argue management share ownership has a positive effect on disclosure quality as managers with greater ownership have incentives to reduce capital costs and therefore will disclose more frequently. However, a large body of empirical research supports the counter argument that management may under-disclose to protect or improve their management incentives (Core, 2001). For example, Aboody and Kaznik (2000) find firms defer good news and accelerate bad news disclosures around management stock option award periods. Miller and Piotroski (2000) also find managers of poor performing firms are more likely to provide earning forecasts if they have higher stock compensation at risk while Nagar, Nanda and Wysocki (2003) find both disclosure frequency and quality are positively related to the proportion of CEO compensation based on stock price. Klein (2002) also finds earnings management is positively related to whether the CEO sits on the board’s compensation committee. Therefore, the research model will control for differences in the proportion of shares held by executives in CDO and Non-CDO companies. It is expected that companies with lower levels of shares held by executives are more likely to meet their continuous disclosure obligations than companies with higher levels of shares held by executives.

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<sup>15</sup> For the purposes of this study a “block-holder” shareholder is defined as a substantial shareholder that holds at least 5% of the issued capital of a firm. Similar benchmarks are adopted by studies such as Healy, Hutton and Palepu, 1999; Bushlee and Noe, 2000 and Kim and Verrecchia, 1994.

Craswell and Taylor (1992) suggest the adoption of a more reputable auditor is a reflection of the agency costs associated with the disclosure decision. They argue choice of a top-tier auditor is a signal to the market that the quality of the company's information disclosures is high.<sup>16</sup> Empirical studies have established a significant relationship between auditor quality and disclosure quality. For example, Ahmed (2002), using the data from 22 previous disclosure studies, reports a highly significant positive relationship between auditor size and disclosure quality in annual returns. Singhvi and Desai (1971) also find inadequate disclosure is often provided by companies audited by small CPA firms. Francis and Krishnan (1999) argue this is because top-tier auditors have greater reputation capital at risk and, therefore, greater incentives for acting conservatively. They provide evidence that top-tier auditors are more conservative when companies have high levels of accruals. Similar results are reported by Becker, Defond, Jiambalvo and Subramanyam (1998) and Defond and Subramanyam (1998). Top-tier audit firms also tend to be more industry specialised (Berton, 1995), and are more likely to advise their clients on disclosure "best practice" in their specialized industry (Dunn, Mayhew and Morsfield, 2004). Companies audited by the top-tier have also been found to be less likely to engage in earnings management and to report more accurate accounting data than those audited by non top-tier auditors (Chung, Firth and Kim, 2003; Defond and Subramanyam, 1998). Clarkson, Ferguson and Hall (2003) also report clients of top-tier auditors disclosed more Year 2000 remediation information than non- top tier auditor clients. Therefore, the research model will control for differences in the quality of auditors of CDO and Non-CDO companies. It is expected that companies audited by top-tier audit firms are more likely to meet their continuous disclosure obligations than companies not audited by top-tier audit firms.

### Research Methodology

Logistic regression analysis is used to compare the characteristics of CDO companies with the Non-CDO control group. Greene (1997) argues logistic regression modelling is appropriate where the dependent variable is discrete, that is, the probability that an event will occur is constrained between 0 and 1.<sup>17</sup> In this study the dependent variable (CDO) will be set at 1 where a company failed to meet its continuous disclosure obligations and 0 otherwise. Logistic regression offers two specific advantages relevant to this study. Firstly, unlike traditional cross-tab or discriminate analysis, it allows independent variables to take any form (Tabachnick and Fidell, 1996). The predictors of interest in this study are a mixture of binary, categorical and continuous variables. Secondly, logistic regression is appropriate where disproportionate sampling from two populations occurs (Maddala, 1991). In this study individuals in the two groups (CDO companies and Non-CDO companies) are matched on the basis of size, industry and time rather than

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<sup>16</sup> Five top-tier audit firms operated during the period of review: KPMG, PriceWaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst and Young and Arthur Anderson.

<sup>17</sup> Greene argues that with a discrete dependent variable ordinary least squares regression can be used to fit a linear probability model. However it assumes a constant variance whereas binary data is likely to be non constant. Also given such a model is heteroskedastic it is likely to predict invalid probability values beyond the (0,1) range.

selected independently. Lachin (2000) also argues where data consists of pairs of responses from disproportionate populations, the use of chi-square techniques are invalid.

The hypotheses previously outlined will be tested using the following model:

$$CDO_i = \alpha + \beta_1 INDDIR_i + \beta_2 AUDCOM_i + \beta_3 CEODOM_i + \beta_4 ROA_i + \beta_5 LEV_i + \beta_6 BLOCK_i + \beta_7 EXECSHARE_i + \beta_8 AUDIT_i + \varepsilon_i$$

Where:

- $t$  = company 1 through 120
- CDO = dependent dichotomous variable with the value of one when a company failed to meet its continuous disclosure obligations and a value of zero otherwise;
- INDDIR = the percentage of board members who are independent;
- AUDCOM = a value of zero when a company has no audit committee;  
 A value of one when it discloses the existence of an audit committee with no independent members;  
 A value of two when it discloses the existence of an audit committee with more than zero independent members but not more than 25% independent members;  
 A value of three when it discloses the existence of an audit committee with more than 25% independent members but not more than 50% independent members;  
 A value of four when it discloses the existence of an audit committee with more than 50% independent members but not more than 75% independent members;  
 A value of five when it discloses the existence of an audit committee with more than 75% independent members;
- CEODOM = indicator variable with a value of one if the chairperson of the board holds the chief executive officers position and a value of zero otherwise;
- ROA = percentage return on assets;
- LEV = proportion of total liabilities to total assets;
- BLOCK = cumulative percentage of shares owned in the company by unrelated block-holders holding at least 5% of the companies voting shares;<sup>18</sup>
- EXECSHARE = cumulative percentage of shares owned in the company by non-independent directors;
- AUDIT = indicator variable with a value of one when a company is audited by a top tier auditing firm and a value of zero otherwise.

### *Measurement of Model Variables*

<sup>18</sup> A 5% benchmark was also used by Beasley (1996), Agrawal and Chada (2003), Klein (1998), Klein (2000), Abbott, Parker and Peters (2002).

The variable INDDIR represents the proportion of the board of directors that are independent from management. This study adopts Carcello and Neale's 2003 definition of director independence:

“Members can be either affiliated directors or independent directors. We define affiliate directors as current or former officers or employees of the company or of an affiliated entity, relatives of management, professional advisers to the firm (e.g. consultants, bank officers, and legal counsel), officers of significant suppliers or customers of the firm and interlocking directors.” (p. 291)

Director independence was evaluated from disclosures in the company's annual report. Details of director relationships with the company are required in the Director's Report, Corporate Governance Statement and Related Party note to the financial statements. It is considered that a close analysis of these provides an objective basis for determining director independence. The variable AUDCOM represents the proportion of independent members on the audit committee. Where the firm had no audit committee the variable was set at 0 with an increment of one assigned for every 25% of members deemed independent from management. Details of the existence of an audit committee and evaluation of independence of its members are obtained from the company annual report. Since 1996, ASX listing rule 4.10.2 requires all listed companies to disclose in their annual return whether they have an audit committee. Appendix 4A (7) requires disclosure of the audit committee's members. Member independence was evaluated in the same manner as director independence, explained above. The variable CEODOM represents duality of the CEO and board chair roles. Details of directors occupying the roles of CEO and board chair were obtained from the Directors' Report disclosures in the company annual report.

To control for factors that may effect disclosure activity of the sample and control groups five independent variables are included in the regression model. ROA represents the company's percentage return on assets for the relevant financial year. Percentage return on assets for each company in the sample was obtained from the Aspect Financial Database. DeChow (1994) argues ROA is superior to cash flow as a performance metric while Bens (2002) also views accounting returns as superior to abnormal stock returns as a measure of performance. He argues this is due to the endogenetic relationship between

disclosure and stock returns, that is, disclosure levels affect market expectations, which in turn affect returns. The variable LEV represents firms' financial leverage and is calculated by dividing the company's total liabilities at the end of the relevant year by the company's total size. The company's total size is calculated as the sum of the company's market capitalisation, total liabilities and preference shares in respect of the year. Financial data for each company in the sample was sourced from the Aspect Financial database. Similar calculations of financial leverage were adopted in studies by Bradbury (1980), Menon and Williams (1994) and Baxter and Pragasam (1999). The variable BLOCK represents the cumulative percentage of the company's issued equity held by shareholders that each held 5% or more of the total equity. Details of shareholdings were obtained from the substantial shareholder section of the annual report.<sup>19</sup> This methodology is consistent with that employed in studies by Beasley (1996), Agrawal and Chadha (2005), Klein (1998), Klein (2002) and Abbott, Parker and Peters (2002). The variable EXECSHARE represents the percentage of the company's shares held by non-independent directors as shown in the relevant annual report. The Corporations Act (2001) requires each director's shareholdings to be disclosed in the Directors Report section of the annual return. Finally the variable AUDIT is included in the regression model to control for differences between quality of auditors engaged by the sample and control group. Audit firm was identified from the audit report contained in the relevant annual report. Top-tier audit firms included KPMG, PriceWaterhouseCoopers, Deloitte Touche Tohmatsu, Ernst and Young and Arthur Anderson. All other audit firms were classified as non top-tier.

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<sup>19</sup> ASX listing rule 4.10.9 requires each company to include in its annual report the names of its 20 largest shareholders and the percentage of issued capital each hold.

## 4. Discussion of Findings

### *Sample Characteristics*

Table 1 provides a categorisation of the issues that prompted ASIC intervention in relation to the 60 CDOs that are the focus of this study:

**Table 1 Continuous Disclosure Issue**

<b>Issue</b>	<b>No. of CDOs</b>	<b>%</b>
Adequacy of liquidity, cash flow or trading position.	21	35.0
Revision of profit, revenue or prospectus forecasts.	12	20.0
Asset revaluations, write-downs and other financial reporting adjustments.	12	20.0
Proposed investments, ventures or significant transactions.	6	10.0
Financing arrangements and liabilities	4	6.7
Company and managerial procedural matters.	3	5.0
Takeover activity and intention	2	3.3
<b>Total</b>	<b>60</b>	<b>100</b>

Of the 60 public CDOs outlined in table 1, 21 (35.0%) related to disclosures of the adequacy of the company's liquidity, cash flow or trading position. 12 (20.0%) related to revisions of previous profit, revenue or prospectus forecasts with a similar number relating to asset revaluations, write-downs or other financial reporting adjustments. Six CDOs (10.0%) concerned disclosures of proposed investments, ventures or significant transactions; four (6.7%) to financing arrangements and liabilities; three (5.0%) to company and management procedural matters such as executive resignations while two (3.3%) related to disclosure of takeover activity or intentions.

Table 2 summarizes the relative market capitalisation of the CDO companies included in the sample:

**Table 2 Sample Market Capitalisation**

<b>Market Capitalisation</b>	<b>Number of CDO companies</b>	<b>%</b>
Less than \$1 million	10	16.7
\$1 million to less than \$5 million	14	23.3
\$5 million to less than \$10 million	8	13.3
\$10 million to less than \$20 million	9	15.0
\$20 million to less than \$100 million	8	13.3
\$100 million to less than \$500 million	6	10.0
More than \$500 million	5	8.4
<b>Total</b>	<b>60</b>	<b>100</b>

Table 2 shows that, as suggested by the literature, the CDO sample is dominated by smaller companies. 16.7% of companies had a market capitalisation of less than \$1 million with 23.3% having a market capitalisation of between \$1 million and \$5 million. Therefore 40% of the sample companies had a market capitalisation of less than \$5 million. This compares with 13.3% with a market capitalisation of between \$5 million and \$10 million, 15% between \$10 million and \$20 million, 13.3% between \$20 million and \$100 million, 10% between \$100 million and \$500 million with 8.4% having a market capitalisation in excess of \$100 million.

Table 3 categorises the sample of CDO companies grouped according to industry:

**Table 3 Sample Industry Classification**

<b>Industry Classification</b>	<b>Number of CDO companies per industry classification</b>	<b>%</b>
Metals, Mining and Exploration.	10	16.7
Computer and Office, Insurance, Real Estate.	15	25.0
Equipment, Food Beer and Tobacco, Forest Products, Automotive.	9	15.0
Diversified Merchandiser, Retail, Hotel Restaurants and Leisure.	8	13.3
Telecommunications, Other Telecommunications, High Technology.	10	16.7
Diversified Financial Services Diversified Investments, Publishing, Media, Miscellaneous Industries, Health and Medical.	8	13.3
<b>Total</b>	<b>60</b>	<b>100</b>

Table 3 shows 16.7% of CDO companies operated in the Metals, Mining and Exploration industry; 25% in Computer and Office, Insurance and Real Estate; 15% in Equipment, Food Beer and Tobacco, Forest Products and Automotive; 13.3% in Diversified Merchandising, Retail, Hotel, Restaurants and Leisure; 16.7% in Telecommunications, Other Telecommunications and High Technology and 13.3% in the Diversified Financial Services, Diversified Investments, Publishing, Media, Miscellaneous, Health and Medical industries.

### *Descriptive Statistics*

Table 4 presents the descriptive statistics in respect of the categorical variables of interest to this study:

**Table 4 Descriptive Statistics Categorical Variables**

<b>Variable</b>		<b>n=</b>	<b>Number</b>	<b>Proportion</b>
<b>Audit Committee Exists</b>	<b><i>CDO</i></b>	<b>60</b>	<b>34</b>	<b>56.7%</b>
	<b>Non-CDO</b>	<b>60</b>	<b>44</b>	<b>73.3%</b>
<b>CEO/Board Chair role is segregated</b>	<b><i>CDO</i></b>	<b>60</b>	<b>34</b>	<b>56.7%</b>
	<b>Non-CDO</b>	<b>60</b>	<b>54</b>	<b>90.0%</b>
<b>Top Tier Auditor</b>	<b><i>CDO</i></b>	<b>60</b>	<b>28</b>	<b>46.7%</b>
	<b>Non-CDO</b>	<b>60</b>	<b>32</b>	<b>53.3%</b>

Table 4 shows that fewer CDO companies (34, 56.7%) had a constituted audit committee compared to Non-CDO companies (44, 73.3%). During the period under review the adoption of audit committees was voluntary for all Australian companies. Recent surveys of audit committee adoption by Australian listed companies also suggest the CDO companies' adoption rate is below the Australian average. For example, Moroney and Simmett (1996) found that 88.6 percent of all Australian listed companies had an audit committee in 1994. Carson (1996) reported 84 percent of all listed companies had an audit committee in 1997.

CDO companies (34, 56.7%) were also considerably less likely to segregate the role of CEO and board chair than Non-CDO companies (54, 90.0%). The rate of segregation by CDO companies also appears significantly lower than the average segregation rate of Australian listed companies. For example, the recent ASX report "Analysis of Corporate Practices reported in 2004 Annual Reports" (ASX, 2005) found only 16% of companies disclosed that the chair of their board also held the CEO role. The report also notes the majority of these companies were outside the top 500; however the trend did apply to companies ranked between 300 and 500.<sup>20</sup>

A less significant difference existed across the two groups in relation to the proportion that engaged a top-tier auditor. While 46.7 percent (28) of CDO companies were audited by top-tier audit firms while 53.3 percent (32) of Non-CDO companies had a top-tier auditor. In their review of listed company audits for the 2003 year Hamilton, Li and Stokes (2005) report approximately 60% of listed Australian companies were audited by

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<sup>20</sup> The analysis was based on 1222 annual reports released to the ASX between 1 August and 31 December 2004.

“Big 4” auditors.<sup>21</sup> They also report the “Big 4” audit 77% of all “large” listed companies and 43% of all “small” listed companies in that year.<sup>22</sup>

Table 5 presents the descriptive statistics in respect of the continuous variables of interest to this study:

**Table 5 Descriptive Statistics – Continuous Variables**

<b>Variable</b>		<b>n=</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>% Independent Board Directors</b>	<b>CDO</b>	<i>60</i>	<b>24.82</b>	<b>23.60</b>
	<b>Non-CDO</b>	<i>60</i>	<b>42.78</b>	<b>25.85</b>
<b>% Independent Audit Committee</b>	<b>CDO</b>	<i>34</i>	<b>28.92</b>	<b>32.12</b>
	<b>Non-CDO</b>	<i>44</i>	<b>57.77</b>	<b>33.45</b>
<b>% Block-holders</b>	<b>CDO</b>	<i>60</i>	<b>37.97</b>	<b>24.05</b>
	<b>Non-CDO</b>	<i>60</i>	<b>41.95</b>	<b>22.15</b>
<b>% Insider Shares</b>	<b>CDO</b>	<i>60</i>	<b>21.95</b>	<b>21.71</b>
	<b>Non-CDO</b>	<i>60</i>	<b>18.72</b>	<b>19.21</b>
<b>ROA%</b>	<b>CDO</b>	<i>60</i>	<b>-8.96</b>	<b>15.43</b>
	<b>Non-CDO</b>	<i>60</i>	<b>-2.43</b>	<b>4.46</b>
<b>Leverage%</b>	<b>CDO</b>	<i>60</i>	<b>39.47</b>	<b>26.11</b>
	<b>Non-CDO</b>	<i>60</i>	<b>36.93</b>	<b>29.56</b>

Table 5 shows that boards of CDO companies were less independent than boards of Non-CDO companies. On average CDO boards contained 24.82% independent directors compared to Non-CDO boards averaging 42.78% independents. Few surveys exist in relation to the independence of Australian listed company boards. Exceptions are the Horwath Corporate Governance Reports. They represent a survey of the corporate governance practices of Australia’s top 250 companies for the reporting years, June 2001 to June 2005.<sup>23</sup> The Horwath Corporate Governance Reports, which use the same definition of independence as this study, show that 46.8% of boards had a majority of independent directors in 2001, 40.2% in 2002 and 37.6% in 2003. The recent ASX report “Analysis of Corporate Practices Reported in 2004 Annual Reports” (ASX, 2005) reports 38% of the 1222 annual reports reviewed, disclosed they had adopted the ASX recommendation for a majority of independent directors on the board. The report also found that 71% of the top 500 companies disclosed they had adopted the ASX

<sup>21</sup> In 2003 the term “Big Four” relates to the following four audit firms that constitute the top-tier: Ernst & Young, Deloitte, KPMG and PricewaterhouseCoopers.

<sup>22</sup> Hamilton, Li and Stokes (2005) define “large” companies as those with total assets greater than their sample median of \$19.6 million.

<sup>23</sup> An annual survey conducted by Psaros and Seamer (2002 to 2006).

recommendation, compared to 30% of companies outside the top 500. Some caution needs to be applied to these findings given that companies self-assessed their directors' independence and their own standards of materiality in relation to directors' related party transactions.<sup>24</sup>

Table 5 also shows that when CDO companies constituted an audit committee they tended to be less independent than those constituted by Non-CDO companies. The 34 audit committees established by CDO companies contained, on average, 28.92% independent members. The 44 audit committees reported by Non-CDO companies contained an average of 57.77% independent members. The 2004 Horwath Report found 34.6% of all audit committees established by Australia's top 250 companies had a majority of independent directors. The ASX report "Analysis of Corporate Practices reported in 2004 Annual Reports" (ASX, 2005) found that 66% of companies with audit committees reported they had adopted the ASX recommendations. These include structuring the audit committee to consist only of non-executive directors, contain a majority of independent directors and appoint an independent non-CEO chair. As previously mentioned, caution needs to be shown in regard to company self-assessment of member independence.

Of the four control variables shown in table 5, only company performance (ROA) appears to be substantially different across the two groups. On average CDO companies showed a negative 8.96% annual return on assets compared to a negative 2.43% for Non-CDO companies.<sup>25</sup> CDO-companies had on average 37.97% of their shares held by block holders and 21.95% held by executive directors. This compares with 41.95% of shares of Non-CDO companies held by block holders and 18.72% held by executives. On average 39.47% of the total value of CDO companies were represented by liabilities compared to 36.93% of the value of Non-CDO companies.

### *Statistical Analysis - Univariable*

As recommended by Hosmer and Lemeshow (2000), model development for this study commences with the univariate analysis of the variables previously outlined. Those variables shown to be statistically significant at the univariate level are then further examined using a multivariable logistic model. Hosmer and Lemeshow (2000) explain the rationale:

"Case controlled pairs with the same value for any covariate are uninformative for estimation of that covariate's coefficient. This tends to occur most frequently

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<sup>24</sup> In the 2004 Horwath Corporate Governance Report, Psaros and Seamer (p. 44 – 45) emphasise this problem by detailing six examples of companies classifying directors as independent despite receiving consulting fees from their company ranging from \$136,675 to over \$1,000,000.

<sup>25</sup> Overall ROAs of companies in both samples were considered low. ROA data was collected from Finanalysis and was independently checked by a colleague of the author. One possible explanation is that non-disclosure of poor financial performance was a common event that the sample firms failed to disclose. Given that each CDO firm is closely matched with a Non-CDO firm on the basis of firm size, industry and reporting period it could be expected that the control company had also experienced poor financial performance in identical conditions (although made adequate disclosure of the fact).

with dichotomous covariates where common values, often called concordant pairs, are most likely to occur. We feel it is good practice to form 2x2 table cross-classifying case versus control for all dichotomous covariates in order to determine the number of discordant pairs. This is essentially a univariable logistic regression and univariable analyses of all covariates should be among the first steps in any model building process.” (p. 228)

Table 6 presents the results of fitting the univariable model:

**Table 6 Univariable Logistic Regression Models Outcomes**

<b>Variable</b>	<b>Coeff.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P</b>	<b>Discordant pairs</b>
<b>ROA</b>	<b>-1.29</b>	<b>0.485</b>	<b>-2.66</b>	<b>&lt;0.001</b>	<b>n/a</b>
<b>Lev</b>	<b>0.533</b>	<b>0.842</b>	<b>0.633</b>	<b>0.525</b>	<b>n/a</b>
<b>Inddir</b>	<b>-2.51</b>	<b>0.8</b>	<b>-3.14</b>	<b>&lt;0.001</b>	<b>n/a</b>
<b>Audcom</b>	<b>-0.438</b>	<b>0.133</b>	<b>-3.3</b>	<b>&lt;0.001</b>	<b>n/a</b>
<b>Ceodom</b>	<b>-1.79</b>	<b>0.54</b>	<b>-3.32</b>	<b>&lt;0.001</b>	<b>(4,24)</b>
<b>Block</b>	<b>-0.81</b>	<b>0.834</b>	<b>-0.97</b>	<b>0.327</b>	<b>n/a</b>
<b>Execshare</b>	<b>0.728</b>	<b>0.929</b>	<b>0.784</b>	<b>0.43</b>	<b>n/a</b>
<b>Audit</b>	<b>-0.31</b>	<b>0.397</b>	<b>-0.781</b>	<b>0.432</b>	<b>(11,15)</b>

As shown in Table 6 univariate analysis indicates a significant statistical difference (at the 5% significance level) between CDO companies and Non-CDO companies with respect to three continuous variables: return on assets (ROA,  $p < 0.001$ ), the proportion of independent directors on the board (INDDIR,  $p < 0.001$ ) and audit committee composition (AUDCOM,  $p < 0.001$ ). The categorical variable, duality of the CEO/Chair role (CEODOM,  $p < 0.001$ ), was also found to be statistically significant at the 5% significance level. The analysis showed no significant statistical difference between the two groups with respect to leverage, the existence of block holding shareholders, auditor quality or the proportion of shares held by executives.

Further statistical analysis was performed to gain insight into the characteristics of the four variables shown to be statistically significant at the univariate level. Analysis of the discordant pairs for the categorical variable CEODOM showed “thin data” is not a significant problem.<sup>26</sup> As shown in table 6, 28 of the total 60 pairs were discordant in respect to CEO/chair segregation. In 24 of those 28 pairs the company not segregating the role of CEO and chair was a CDO company. Assessment of the scale of the three continuous variables showed both the variables INDDIR and AUDCOM to be linear. The variable ROA did not display typical linear characteristics. However, when the 5 pairs displaying skewed values outside the main cluster were removed no effect on the model output was evident. Therefore, as a result of following the fractional polynomial

<sup>26</sup> For a discussion of the problems caused by “thin data” refer Hosmer and Lemeshow (2000) p. 231.

analysis as recommended by Hosmer and Lemeshow (2000), all variables were treated as linear in the logit.

### *Fitting the Multivariable Main Effects Model*

Prior to inclusion in the final model, the four variables shown to be individually significant at the univariate level were investigated for potential correlation. Hosmer and Lemeshow (2000) argue that a critical stage in model development is the assessment of the possibility of interactions among the variables. Of the four variables a strong correlation was found between the two variables INDDIR and AUDCOM. When each variable was included in the model at the exclusion of the other, both were found to be highly significant (AUDCOM  $p= 0.0032$ , INDDIR  $p= 0.0072$ ). However when both variables were included in the model simultaneously statistical significance was not evident. Hosmer and Lemeshow (2000) state this is indicative of a strong correlation effect between two variables. Such a correlation is not unexpected given the relationship between the independence of the overall board and its audit committee. Carcello and Neale (2003) also found a similar relationship in their study of audit committee independence and disclosure choice by financially distressed firms. When they replaced audit committee independence with board independence it was also found to be significantly related to reporting quality.

In determining the final model it was decided to adopt the variable INDDIR (at the exclusion of AUDCOM) as representative of the overall effect of independent directors on continuous disclosure. This was to ensure the strong correlation between these two variables did not bias the model results. INDDIR was preferred as the empirical evidence shows that board of director composition is not only a significant determinant of disclosure quality but also influences audit committee composition. For example, Beasley (1996) suggests it is board composition rather than audit committee presence that is more important in reducing the likelihood of fraudulent financial reporting.<sup>27</sup> Pincus, Rusbarsky and Wong (1989) also find voluntary audit committee formation is more likely in firms with higher proportions of non-executive directors on the board. Collier (1993) also finds UK firms with audit committees tend to have more non-executive directors on their boards. He argues non-executive directors demand audit committees to reduce information asymmetries. Menon and Williams (1994) also find that as the proportion of outside directors on the board increases, firms are more likely to have an audit committee that is more active and excludes executives. Klein (2002) also finds that audit committee independence increases with board independence.

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<sup>27</sup> However, Carcello and Neale (2003) argue that audit committee composition is more influential than board composition in influencing financial reporting quality by financially distressed firms.

Table 7 shows the results of applying the final logit regression model containing the three independent variables ROA, CEODOM and INDDIR:

**Table 7 Analysis of Maximum Likelihood Estimates and Odds Ratio Estimates**

	<b>ROA</b>	<b>CEODOM</b>	<b>INDDIR</b>
<b>Co-efficient Estimate</b>	-1.2559	-1.5810	-2.1623
<b>Standard Error</b>	0.5775	0.6430	0.9140
<b>Wald Chi-square</b>	4.7301	6.0458	5.5970
<b>Pr &gt; ChiSq (p value)</b>	0.0296	0.0139	0.0180
<b>Odds Ratio Point Estimate</b>	0.285	0.206	0.115
<b>95% Wald Confidence Limits</b>	0.092 0.881	0.058 0.725	0.019 0.690

Table 7 shows the results of the logit regression analysis of the final model. These suggest that company profitability, independence of the board and segregation of the roles of CEO and board chair are all statistically significant determinants (at the 5% significance level) of a company's CD performance (ROA,  $p = 0.0296$ ; CEODOM,  $p = 0.0139$  and INDDIR,  $p = 0.0180$ ). The negative co-efficient estimate of all three variables is in line with their expected effect. The co-efficient estimate for ROA (-1.2559) suggests that as ROA increases a company is less likely to fail its CD obligations. Similarly, the negative co-efficient estimates for INDDIR (-2.1623) indicates that as the percentage of independent directors on the board increases the likelihood of a company failing its CD responsibilities decreases. The negative co-efficient estimate for CEODOM (-1.510) also suggests companies are less likely to fail their CD obligations when the role of CEO and board chair are segregated. Accordingly hypotheses H1 and H3 are accepted.

#### *Quantifying the Effect*

As shown in Table 7 the odds ratio for INDDIR (0.115) shows that the odds of a board comprised of all independent directors failing its continuous disclosure obligations is 88.5% less than that of a board with no independent directors. The confidence interval suggests the odds of such a company may be as much as 98.1% or at least 31.0% less than the odds of board with no independent directors failing its CD obligations. The odds ratio for CEODOM (0.206) suggests that a company that segregates the role of CEO and board chair has odds of failing its CD obligations that are 79.4% less than the odds of a company not segregating these roles failing its CD obligations. Segregating companies may have odds that are as much as 94.2% or at least, 27.5% less than the odds of non-segregating companies failing their continuous disclosure outcomes. The odds ratio for ROA (0.285) suggests that a company with a one percent increase in ROA has odds of failing its disclosure obligations that are 71.5% less than the odds relevant to a company with no increase in that same ROA. The confidence interval suggests that the odds of

such a company failing their CD obligations may be as much as 90.8% or at least 11.9% of those odds relevant to a company experiencing a 1% decrease in profitability.

Table 8 shows the odds ratios that result from comparing varying proportions of independent directors on the board to a reference group of a board with no independent directors:

**Table 8 Calculation of odds ratio and confidence intervals for proportions of independent boards compared to a non-independent board reference group**

<b>% Independent Directors</b>	<b>Odds Ratio relevant to reference group</b>	<b>Odds Ratio 95% Confidence Interval</b>	
0	1.00	1.00	1.00
25	0.58	0.91	0.37
33	0.49	0.88	0.27
50	0.34	0.83	0.14
66	0.24	0.78	0.07
75	0.20	0.76	0.05
100	0.12	0.69	0.02

Table 8 shows that as the independence of the board increases the likelihood of a company failing its CD obligations decreases. For example, compared to a board with no independent directors, the odds of a board with 25% independent directors failing their CD obligations are 42% less. The odds of a company with one-third of its board independent failing its CD obligations are 51% less while the odds of a company with one-half independent board members failing its CD obligations are 66% less than the odds of a company with a no independent directors on the board. Companies with boards comprising two-thirds independents have odds of failing their CD obligations that are 76% less than the comparable odds of companies with no independent board members failing their CD obligations.

## 5. CONCLUSION

This study reports the results of research into the role corporate governance plays in ensuring companies meet their continuous disclosure obligations. The study centred on investigating three hypotheses regarding the relationship between corporate governance and continuous disclosure. These hypotheses proposed that companies were less likely to fail their CDO obligations when they had:

1. Higher proportions of independent directors on their board;
2. Established an independent audit committee; and
3. Segregated the roles of CEO and board chair.

The focus of the study was a sample of 60 Australian companies listed on ASX that had been subject to ASIC intervention as a result of failing to meet their CD obligations. To

test the above hypotheses these companies were each matched with a company that was not subject ASIC investigation. Each match was performed on the basis of industry, size and time.

Differences in the corporate governance of the two groups were analysed using a multivariable logit regression model. The model also included the following control variables shown to impact on both company disclosure and corporate governance:

1. Company performance;
2. Financial leverage;
3. Block-holder ownership;
4. Executive director share ownership; and
5. Auditor quality.

The results of the research model showed that a company's corporate governance does impact on its continuous disclosure performance. In particular, the model provided evidence that as the proportion of independent directors on the board increased the likelihood of a company failing its CD obligations decreased. It was also shown that companies that segregated the roles of CEO and board chair were also less likely to fail their CD responsibilities. In addition, the study confirmed the literature that suggests a company's profitability impacts on its disclosure performance. The evidence showed that as a company's profitability increases the likelihood of it failing its continuous disclosure responsibilities decreases.

### *Study Limitations*

A number of potential limitations need to be considered when evaluating the conclusions of this study. Firstly, as previously outlined the study only focused on 64 of the total 101 CDO events involving ASIC during the sample period. The sample size was restricted due to the fact ASIC exercised its discretion not to publicize details of the remaining 37 CDO events. It is possible that these CDO events related to companies with different characteristics than the sample reviewed. ASIC retained a strong confidentiality stance and would not disclose the rationale for publishing only particular companies subject to CDO intervention. A second possible limitation relates to the use of company annual reports to evaluate company corporate governance. This poses two potential problems. Firstly, companies may not accurately report on their corporate governance mechanisms. The likelihood may be higher with this study given half the companies studied are already identified as substandard disclosers. Secondly, annual report disclosures are only useful in evaluating the physical characteristics of a company's corporate governance mechanisms. Other non quantifiable factors, such as directors' personal relationships, may override the physical controls established. Psaros and Seamer in their Horwath Corporate Governance Report (2004) comment on what they term as these "soft" governance measures:

"Of course corporate governance is more than independence levels, committee structures, and other disclosures. In addition to the above factors there are other issues

that impact on corporate governance, including the ethical and corporate culture and the skills and characteristics of the senior management and directors (i.e. soft measures)”.

A final potential limitation relates to the matching design. Its basic assumption is that as Non-CDO companies have not been subject to ASIC intervention they can be regarded as effective disclosers. It is possible that Non-CDO companies have failed their CD responsibilities but avoided detection by ASIC.

#### *Implications of the Study*

These results provide an important link between the corporate governance literature and the disclosure literature. As previously discussed few studies to date have provided empirical evidence that shows corporate governance is an important influence on a company’s disclosure performance. The results of this study should provide regulators and company stakeholders with evidence to continue to demand corporate governance improvements as an important tool in improving market efficiencies.

#### BIBLIOGRAPHY

- Abbott, L., Parker, S. and G. Peters, 2002, “Audit Committee Characteristics and Financial Misstatement: A Study of the Efficacy of Certain Blue Ribbon Committee Recommendations.” Working Paper, University of Memphis/ Santa Clara University/ University of Georgia.
- Aboody, D. and R. Kasznik, 2000, “CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures.” *Journal of Accounting and Economics*, 29, 73-100.
- Agrawal, A. and S. Chadha, 2005, “Corporate Governance and Accounting Scandals.” *Journal of Law and Economics*, 48, 371-406.
- Ahmed, K., 2002, “The Effect of Corporate Characteristics on Disclosure Quality in Corporate Annual Reports: A Meta-Analysis.” Working Paper, La Trobe University.
- Arkley-Smith, T., 1999, “Audit Committee Disclosures: Time to Regulate?” *Australian CPA*, August, 36-39.
- Atiase, R., 1980, “Predisclosure Informational Asymmetries, Firm Capitalisation, Financial Reports and Security Price Behaviour.” Ph.D. Dissertation, University of California.
- Australian Stock Exchange (ASX), 2005, *Analysis of Corporate Governance Practices Reported in 2004 Annual Reports*, Sydney: ASX.
- Australian Stock Exchange (ASX), 2002, *Continuous Disclosure: The Australian Experience*, Sydney: ASX.

- Australian Stock Exchange (ASX), 1998, *Guidance Note: Disclosure of Corporate Governance Practices: Listing Rule 4.10*, Sydney: ASX.
- Baginski, S., Hassell, J. and M. Kimbrough, 2002, "The Effect of Legal Environment on Voluntary Disclosure: Evidence from Management Earnings Forecasts in US and Canadian Markets." *Accounting Review*, 77, 25-50.
- Bamber, L. and Y. Cheon, 1998, "Discretionary Management Earnings Forecast Disclosures: Antecedents and Outcomes Associated with Forecast Venue and Forecast Specificity Choices." *Journal of Accounting Research*, 36, 167-190.
- Baxter, P. and J. Pragasam, 1999, "Audit Committees: One Size Fits All?" *Australian CPA*, April, pp. 43-44.
- Beasley, M., 1996, "An Empirical Analysis of the Relation Between the Board of Director Composition and Financial Statement Fraud." *The Accounting Review*, 71(4), 443-465.
- Beasley, M., Carcello, J. and D. Hermanson, 1999, "Fraudulent Financial Reporting: An Analysis of US Public Companies." Committee of Sponsoring Organizations of the Treadway Commission, New York: COSO.
- Beasley, M., Carcello, J., Hermanson, D. and P. Lapedes, 2000, "Fraudulent Financial Reporting: Consideration of Industry Traits and Corporate Governance Mechanisms." *Accounting Horizons*, December, 441-454.
- Becker, C., DeFond, M., Jiambalvo, J. and K. Subramanyam, 1998, "The Effect of Audit Quality on Earnings Management." *Contemporary Accounting Research*, 15, 1-24.
- Beekes, W. and P. Brown, 2006, "Do Better Governed Australian Firms Make More Informative Disclosures?" *Journal of Business Finance and Accounting*, 33(3), 422-450.
- Beekes, W., Brown, P. and C. Germaine, 2007, "Do Better Governed Firms Make More Informative Disclosures?: Canadian Evidence." Available at SSRN: <http://ssrn.com/abstract=881062>.
- Beekes, W., Pope, P. and S. Young, 2004, "The Link Between Earnings Timeliness, Earnings Conservatism and Board Composition: Evidence from The UK." *Corporate Governance: An International Review*, 12(1), 47-59.
- Bens, D., 2002, "The Determinants of the Amount of Information Disclosed about Corporate Restructuring." *Journal of Accounting Research*, 40(1), 1-20.

- Berton, L., 1995, "Corporate Woes Put Board Audit Panels in Spotlight." *Wall Street Journal*, April 7, B4.
- Botosan, C. and M. Plumlee, 2002, "A Re-Examination of Disclosure Level and the Expected Cost of Equity Capital." *Journal of Accounting Research*, 40(1), 21-40.
- Botosan, C. and M. Stanford-Harris, 2000, "Motivations for Changes in Disclosure Frequency and its Consequences: An Examination of Voluntary Quarterly Segment Disclosures." *Journal of Accounting Research*, 38, 329-354.
- Bradbury, M., 1980, "The Incentives for Voluntary Audit Committee Formation." *Journal of Accounting and Public Policy*, 9(1), 19-36.
- Brown, P., Taylor, S. and T. Walter, 1999, "The Impact of Statutory Sanctions on the Level and Information Content of Voluntary Corporate Disclosures." *Abacus*, 35, 138-162.
- Bushee, B. and C. Noe, 2000, "Corporate Disclosure Practices, Institutional Investors and Stock Return Volatility." *Journal of Accounting Research*, 38, 171-202.
- Carcello, J. and T. Neal, 2003, "Audit Committee Independence and Disclosure: Choice for Financially Distressed Firms." *Corporate Governance: An International Review*, 11(4), 289-299.
- Carson, E., 1996, "Corporate Governance Disclosure in Australia: The State of Play." *Australian Accounting Review*, 6(2), 3-10.
- Chung, R., Firth, M. and J. Kim, 2003, "Auditor Conservatism, Asymmetric Monitoring and Earnings Management." *Contemporary Accounting Research*, 20(2), 323-359.
- Clarkson, P., Ferguson, C. and J. Hall, 2003, "Auditor Conservatism and Voluntary Disclosure: Evidence from the Year 2000 Systems Issue." *Accounting and Finance*, 43, 21-40.
- Clarkson, P., Kao, J. and G. Richardson, 1999, "Evidence that Management Discussion and Analysis (MD&A) is a Part of a Firm's Overall Disclosure Package." *Contemporary Accounting Research*, Spring, 111-134.
- Clarkson, P., Kao, J. and G. Richardson, 1994, "The Voluntary Inclusion of Forecasts in the MD&A Section of Annual Reports." *Contemporary Accounting Research*, 11(1), 423-450.
- Cobb, L., 1993, "An Investigation into the Effect of Selected Audit Committee Characteristics on Fraudulent Financial Reporting." Doctoral Dissertation, University of South Florida.

- Collier, P., 1993, "Factors Affecting the Formation of Audit Committees in Major U.K. Companies." *Accounting and Business Research*, 23(91A), 421-430.
- Core, J., 2001, "A Review of the Empirical Disclosure Literature." *Journal of Accounting and Economics*, 31, 441-456.
- Corporations Law, 2001, *Companies and Securities Legislation*, Sydney: CCH.
- Craswell, A. and S. Taylor, 1992, "Discretionary Disclosure of Reserves by Oil and Gas Companies: An Economic Analysis." *Journal of Business Finance and Accounting*, 19(2), 295-308.
- Davidson, R., Goodwin-Stewart, J. and P. Kent, 2005, "Internal Governance Structures and Earnings Management." *Accounting and Finance*, 45, 241-267.
- Dechow, P., 1994, "Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals." *Journal of Accounting and Economics*, 18, 3-42.
- Dechow, P., Sloan, R. and A. Sweeney, 1996, "Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC." *Contemporary Accounting Research*, 13, 1-36.
- Dechow, P., Sloan, R. and A. Sweeney, 1995, "Detecting Earnings Management." *The Accounting Review*, 70(2), 193-225.
- DeFond, M. and J. Jiambalvo, 1991, "Incidence and Circumstances of Accounting Errors." *The Accounting Review*, July, 643-655.
- DeFond, M and K. Subramanyam, 1998, "Auditor Changes and Discretionary Accruals." *Journal of Accounting and Economics*, 25, 35-67.
- Dunn, P., 2004, "The Impact of Insider Power on Fraudulent Financial Reporting." *Journal of Management*, 30(3), 397-412.
- Dunn, K., Mayhew, B. and S. Morsfield, 2004, "Auditor Industry Specialisation and Client Disclosure Quality." *Review of Accounting Studies*, 9, 35-58.
- Dye, R., 1988, "Earnings Management in an Overlapping Generations Model." *Journal of Accounting Research*, 26, 195-235.
- Dye, R., 1985, "Disclosure of Non-Proprietary Information." *Journal of Accounting Research*, 23(1), 123-145.

- Fama, E. and M. Jensen, 1983, "Agency Problems and Residual Claims." *Journal of Law and Economics*, 26, 327-349.
- Farber, D., 2005, "Restoring Trust after Fraud: Does Corporate Governance Matter?" *The Accounting Review*, 80, 539-561.
- Fleming, G., 2001, "Fair Disclosure and Open Market Briefings: Evidence from the Australian Stock Exchange." Working Paper, Australian National University.
- Finkelstein, S. and R. D'Aveni, 1994, "CEO Duality as a Double-Edged Sword: How Boards of Directors Balance Entrenchment Avoidance and Unit of Command." *Academy of Management Journal*, 37, 1079-1108.
- Francis, J. and J. Krishnan, 1999, "Accounting Accruals and Auditor Reporting Conservatism." *Contemporary Accounting Research*, 16, 135-165.
- Frankel, R., Johnson, M. and D. Skinner, 1999, "An Empirical Examination of Conference Calls as a Voluntary Disclosure Medium." *Journal of Accounting Research*, 37, 133-150.
- Frankel, R., McNichols, M. and G. Wilson, 1995, "Discretionary Disclosure and External Financing." *Accounting Review*, 70(1), 135-150.
- Geiger, U., 1998, "Harmonization of Securities Disclosure Rules in the Global Market: A Proposal." *Fordham Legal Review*, 66, 1779-1795.
- Gelb, D., 2000, "Corporate Signaling with Dividends, Stock Repurchases and Accounting Disclosures: An Empirical Study." *Journal of Accounting, Auditing and Finance*, 15, 99-120.
- Gelb, D. and P. Zarowin, 2002, "Corporate Disclosure Policy and the Informativeness of Stock Prices." *Review of Accounting Studies*, 7, 33-52.
- Greene, W., 1997, *Econometric Analysis*, 3<sup>rd</sup> Edition, New Jersey: Prentice Hall.
- Hamilton, J., Li, Y. and D. Stokes, 2005, "Listed Company Auditor Self-Selection Bias and Audit Fee Premiums: Is the Audit Services Market Competitive following Arthur Andersen's Collapse." Working Paper, University of Technology Sydney.
- Haniffa, R. and T. Cooke, 2002, "Culture, Corporate Governance and Disclosure in Malaysian Corporations." *Abacus*, 38(3), 317-349.
- Healy, P., Hutton A. and K. Palepu, 1999, "Stock Performance and Intermediation Changes Surrounding Sustained Increases in Disclosure." *Contemporary Accounting Research*, 16, 485-520.

- Healy, P. and K. Palepu, 2001, "Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature." *Journal of Accounting and Economics*, 31(1), 405-440.
- Helbok, G. and C. Wagner, 2003, "Corporate Financial Disclosure on Operational Risk in the Banking Industry." Working Paper, Vienna University of Economics.
- Horwath Corporate Governance Reports, 2002-2006, Available at <http://www.newcastle.edu.au/school/sbm/horwath.html>
- Hosmer, D. and S. Lemeshow, 2000, *Applied Logistic Regression*, 2<sup>nd</sup> Edition, New York: John Wiley and Sons.
- Jensen, M., 1993, "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems." *Journal of Finance*, 48(3), 831-880.
- Jensen, M. and W. Meckling, 1976, "Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure." *Journal of Financial Economics*, 3, 305-360.
- Jovanovic, B., 1982, "Truthful Disclosure of Information." *Bell Journal of Economics*, 13, 863-894.
- Kasznik, R. and B. Lev, 1995, "To Warn or not to Warn: Management Disclosures in the Face of an Earnings Surprise." *The Accounting Review*, 70, 113-153.
- Kim, O. and R. Verrecchia, 1994, "Market Liquidity and Volume around Earnings Management." *Journal of Accounting Research*, 17, 41-68.
- Klein, A., 2002, "Audit Committee, Board of Director Characteristics, and Earnings Management." *Journal of Accounting and Economics*, 33, 375-400.
- Klein, A., 1998, "Firm performance and Board Committee Structure." *Journal of Law and Economics*, 41, 275-303.
- Krinsky, I and J. Lee, 1996, "Earnings Announcements and the Components of the Bid-Ask Spread." *Journal of Finance*, 51, 1523-1535.
- Lanen, W. and R. Verrecchia, 1987, "Operating Decisions and the Disclosure of Management Accounting Information." *Journal of Accounting Research*, 25, 165-189.
- Lang, M. and R. Lundholm, 2000, "Voluntary Disclosure and Equity Offerings: Reducing Information Asymmetry or Hying the Stock?" *Contemporary Accounting Research*, Winter, 623-662.

- Lang, M. and R. Lundholm, 1993, "Cross-sectional Determinants of Analyst Ratings of Corporate Disclosures." *Journal of Accounting Research*, 31, 246-271.
- Leuz, C. and R. Verrecchia, 2000, "The Economic Consequences of Increased Disclosure." *Journal of Accounting Research*, 38, 91-124.
- Lipton, M. and J. Lorsch, 1992, "A Modest Proposal for Improved Corporate Governance." *The Business Lawyer*, 48(1), 59-77.
- Lobo, G. and J. Zhou, 2001, "Disclosure Quality and Earnings Management." *Asia-Pacific Journal of Accounting and Economics*, 8(1), 1-20.
- Lundholm, R. and L. Myers, 2002, "Bringing Forward the Future: The Effect of Disclosure on the Returns-Earnings Relationship." *Journal of Accounting Research*, 40, 657-676.
- Maddala, G., 1991, "A Perspective on the Use of Limited-Dependent and Qualitative Variables Models in Accounting Research." *The Accounting Review*, 66, 788-807.
- McMullen, D.A., 1996, "Audit Committee Performance: An Investigation of the Consequences Associated with Audit Committees." *Auditing: A Journal of Practice and Theory*, 15, 87-103.
- McNichols, M., 1984, *The Anticipation of Earnings in Securities Markets.* Ph.D. Dissertation, University of California.
- Menon, K. and D. Williams, 1994, "The Use of Audit Committees for Monitoring." *Journal of Accounting Public Policy*, 13, 121-139.
- Miller, G., 2002, "Earnings Performance and Discretionary Disclosure." *Journal of Accounting Research*, 40(1), 173-204.
- Miller, G. and J. Piotroski, 2000, "The Role of Disclosure for High Book-to-Market Firms." Working Paper, Harvard University, Available at SSRN: <http://ssrn.com/abstract=238593>.
- Moroney, R., and R. Simnet, 1996, "Audit Committee Disclosure by Listed Companies." *Charter*, October, 59-61.
- Nagar, V., Nanda, D. and P. Wysocki, 2003, "Discretionary Disclosure and Stock-Based Incentives." *Journal of Accounting and Economics*, 34(1), 283-309.
- Neagle, A-M. and N. Tsykin, 2001, "Please Explain: ASX Share Price Queries and the Australian Continuous Disclosure Regime." Research Report, Centre for Corporate Law and Securities Legislation, University of Melbourne.

- Noe, C., 1999, "Voluntary Disclosures and Insider Transactions." *Journal of Accounting and Economics*, 27, 350-327.
- Nowak, M. and M. McCabe, 2003, "Information Costs and the Role of the Independent Director." *Corporate Governance*, 11(4), 300-307.
- Peasnell, K., Pope, P. and S. Young, 2005, "Board Monitoring and Earnings Management: Do Outside Directors Influence Abnormal Accruals?" *Journal of Business Finance and Accounting*, 32(7-8), 1311-1346.
- Peasnell, K., Pope, P. and S. Young, 2000, "Accrual Management to Meet Earnings Targets: UK Evidence Pre- and Post-Cadbury." *British Accounting Review*, 32, 415-445.
- Pincus, K., M. Rusbarsky and J. Wong, 1989, "Voluntary Formation of Corporate Audit Committees Among NASDAQ Firms." *Journal of Accounting and Public Policy*, 8, 239-265.
- Schrand, C. and R. Verrecchia, 2004, "Disclosure Choice and Cost of Capital: Evidence from Underpricing in Initial Public Offerings." Working Paper, University of Pennsylvania.
- Sengupta, P., 1998, "Corporate Disclosure Quality and the Cost of Debt." *The Accounting Review*, 73, 459-474.
- Sharma, V., 2004, "Board of Director Characteristics, Institutional Ownership and Fraud: Evidence from Australia." *Auditing: A Journal of Practice and Theory*, 23(2), 105-117.
- Singhvi, S. and H. Desai, 1971, "An Empirical Analysis of the Quality of Corporate Financial Disclosure." *The Accounting Review*, 46(1), 129-138.
- Sunder, S., 2002, "Management Control, Expectations, Common Knowledge and Culture." *Journal of Management Accounting Research*, 14, 173-187.
- Tabachnick, B. and L. Fidell, 1996, *Using Multivariate Statistics*, New York: Harper Collins.
- Trueman, B. and S. Titman, 1988, "An Explanation of Accounting Income Smoothing." *Journal of Accounting Research*, Supplement, 127-139.
- Verrecchia, R., 2001, "Essays in Disclosure." *Journal of Accounting and Economics*, 32, 97-180.

- Verrecchia, R., 1983, "Discretionary Disclosures." *Journal of Accounting and Economics*, 5(3), 179-194.
- Wagenhofer, A., 1990, "Voluntary Disclosure with a Strategic Opponent." *Journal of Accounting and Economics*, 12(2), 341-362.
- White, G., Sondhi, A. and D. Fried, 1998, *The Analysis and Use of Financial Statements*, 2<sup>nd</sup> Edition, New York: John Wiley and Sons.
- Whittington, G., 1993, "Corporate Governance and the Regulation of Financial Reporting." *Accounting and Business Research*, 23(91), 311-319.
- Wild, J., 1996, "The Audit Committee and Earnings Quality." *Journal of Accounting, Auditing, and Finance*, Spring, 247-276.
- Yermack, D., 1996, "Higher Market Valuation of Companies with a Small Board of Directors." *Journal of Financial Economics*, 40(2), 185-211.