AN ANALYSIS OF THE CORPORATE GOVERNANCE PRACTICES OF SMALLER LISTED AUSTRALIAN COMPANIES

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Abstract

We examine the corporate governance environment of smaller listed Australian firms to investigate the factors that determine how firms respond to recommendations contained in corporate governance codes. We group corporate governance recommendations into three distinct categories and argue that differences in adoption costs between categories, together with firm specific factors, determine a firm's decision to conform with the recommendation or to explain the reasons for non-conformance. Analysis of the conformance by smaller firms with governance recommendations highlights substantial differences in adoption rates between categories of recommendations. Our results also reveal that the cost of adopting specific recommendations, together with profitability, external audit quality, and ownership dispersion, jointly explain a firm's decision to 'comply or explain'. This study provides insights for policy makers and regulators regarding the appropriateness of corporate governance recommendations for smaller firms.

Keywords: Corporate Governance, Corporate Governance Codes, Corporate Governance Index, Agency Theory

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Introduction

A spate of corporate failures in 2001 prompted regulators across the globe to review and reform corporate governance requirements. In the US the Sarbanes-Oxley Act was enacted in 2002 in response to numerous corporate failures of which Enron and Worldcom are prominent examples. In response to apparent failures of corporate governance in Australian listed companies, such as HIH Insurance, OneTel, and Harris Scarfe, the Australian Stock Exchange[1] (ASX) formed the ASX Corporate Governance Council (ASXCGC) in 2002 "… to develop and deliver an industry-wide, supportable and supported framework for corporate governance…" (ASXCGC, 2003). In 2003, the Council released its 'Principles of Good Corporate Governance and Best Practice Recommendations' (the Recommendations) which became effective for listed companies with reporting dates after 1 January 2004. Concerned that smaller companies might be overwhelmed by the burden of compliance (Ramsay and Hoad, 1997), the ASX followed the UK Cadbury Report approach in opting for non-prescriptive principles and recommendations (Collett and Hrasky, 2005).

The ASX adopted the 'if not, why not' approach owing to concerns that the benefits of governance standards should not be overwhelmed by the costs of compliance and disclosure. Concerns about the cost of compliance for smaller companies have been a feature of debates in a number of jurisdictions. In the US, the Advisory Committee of Smaller Public Companies (2006) recommended a three-tier governance and regulatory system split into, larger companies, smaller caps, and microcap stocks. In the UK, the City Group for Smaller Companies (CISCO, now the Quoted Companies Alliance) argued for requirements aimed specifically for smaller companies (cited in Bosch, 1995). In the context of the UK, Peter (2005, p. 154) observes that:

While the major principles of good corporate governance are of relevance to all companies, it would be a mistake to believe that every aspect of the detail of what is promulgated for large listed

[1] Now ASX Group

companies is relevant across the spectrum. In order to achieve acceptance and eventually enthusiasm for corporate governance the principle must be relevant to the size, structure and nature of the business entity.

Peter's (2005) comments are relevant to Australia as the Australian market is characterised by a large number of smaller companies (Ramsay and Hoad, 1997), and the debate regarding how corporate governance requirements should apply to these companies has been robust. Notwithstanding that the ASXCGC specifically notes that some recommendations may not be appropriate for all listed entities, the system adopted continues to be subject to criticism. For example, Farrar (2008, p. 428) argues that there is a need to expressly cater for the needs of smaller companies. He contends that where corporate governance systems have been designed with larger companies in mind and do not meet the needs of smaller companies, the cost of compliance will far exceed the benefit. Clarke (2006) also raises concerns about the effect on smaller companies, and notes that there is a danger that governance requirements can become a box-ticking exercise rather than a mutually reinforcing practice. Both the 2008 and 2009 WHK Horwath Mid-Cap Corporate Governance Reports note that their samples of mid-cap firms (companies 251-400 by market capitalisation) recorded significantly lower governance scores than their larger counterparts, confirming the need for further research on smaller firms. An understanding of the factors that explain lower levels of conformance with corporate governance recommendations among smaller firms would be of considerable interest to regulators, investors, and other stakeholders.

Larger firms are generally much more visible than their smaller counterparts, and subject to greater scrutiny by external stakeholders. Analysts and institutional investors predominately focus their resources on larger stocks that are in major market indices. Financiers can influence the behaviour of companies and their boards through contracting arrangements, but as many small companies are unable to access debt markets they are less subject to debtholders exerting such pressures. Although the media plays an important role in disseminating information and reducing information asymmetries, smaller firms receive much less media coverage (Bushee, Core, Guay and Hamm, 2006). Smaller companies are also less likely to retain the services of a Big 4 audit firm, a common proxy for audit quality. This weaker external monitoring of smaller companies raises questions about the overall corporate governance environment of these firms, and highlights the importance of effective internal governance structures for smaller firms.

This study is motivated by a lack of research on the specific governance practices of smaller companies. As a result, comparatively little is known about their corporate governance environment, the factors that influence decisions to adopt or opt out of particular recommendations, and the efficacy of corporate governance attributes in these firms. This paper seeks to address these shortcomings by investigating the extent to which each individual ASX recommendation has been adopted by smaller firms. Using this data, we then consider if different categories of recommendations (that reflect variations in adoption costs) have different rates of adoption (RQ1) and investigate the principal factors associated with the governance choices of smaller firms (RQ2). With large, well-established capital markets and a large base of smaller companies, the Australian market is an ideal setting to study the corporate governance environment of smaller firms. In addition, the evidence from this study contributes to the literature on governance in a less regulated environment, which contrasts with the more rules-based approach of the US.

To achieve our aim of examining the corporate governance of 'smaller firms' we exclude the top 300 firms by market capitalisation from our sample as previous studies have investigated the governance of top 300 Australian companies (see, for example, Brown and Gorgens, 2009, Henry, 2008, and Beekes and Brown, 2006). In addition, as Australia has a large number of very small listed firms, we also exclude firms with a market capitalisation less than $30M to avoid the sample being dominated by 'microcaps', as these firms may have a governance environment dissimilar to our smaller or 'mid-tier' firms. Governance research has also been undertaken on this sector of the market (Christensen, Kent, Routledge and Stewart, 2010). Hence, this study is positioned in an area which has received relatively little direct research interest.

The extent to which smaller firms voluntarily adopted the ASXCGC corporate governance recommendations is examined for a sample of 298 non-Top 300 firms for the three-year period 2004 to 2006. This period is important as it coincides with the introduction of the recommendations and permits us to track changes in firm's governance environment. Given that corporate governance attributes have been described as 'sticky' (Brown and Caylor, 2004), changes in governance characteristics following the introduction of the recommendations will be of interest.

The results indicate that the overall rate of adoption of recommendations increased from 66 per cent in 2004 to 74 per cent in 2006. However, there are significant differences in adoption rates between companies and among individual recommendations. These differences indicate that there are significantly lower rates of adoption for the more costly recommendations identified as structural (for example, board structure and committee formation) compared with the less costly recommendations identified as predominately about policies and procedure, and disclosure. A governance index developed from the adoption of the recommendations

provides a composite measure of conformance with the recommendations. Regression analysis results indicate that variations in the governance index are explained by differences in key firm-specific characteristics, including firm size, profitability, board size, audit quality, and ownership dispersion. In addition, the nature of each recommendation and its costs and potential benefits is also found to be associated with the decision of whether to adopt specific recommendations.

The remainder of the paper is structured as follows. A review of the related literature, including discussion of the ASX Recommendations, and hypothesis development is provided in the next section. We then present the research data and methodology, discuss the development of the governance index, and make initial observations on the governance characteristics of the sample. Our empirical results are then discussed, and the paper concludes with the contributions of the study and suggestions for further research.

1 Literature review and hypothesis development

1.1 ASX Principles of Good Corporate Governance and Best Practice Recommendations

Although the ASX had required listed companies to report on their main corporate governance matters since 1996, the introduction of the Recommendations[2] provided a formal framework of ten governance principles, underpinned by 28 specific recommendations (see Appendix 1). The recommendations were accompanied by general commentary and guidance notes that provided explanation for the introduction of the overall system and the ten principles, and context for each recommendation. The commentary and guidance encouraged firms to consider each recommendation with reference to its own particular circumstances to determine which recommendations should be adopted, or if the firm would benefit from changes in its governance approach. The ASX acknowledged that the range in size and diversity of listed companies was significant and that smaller companies may face issues in attaining all recommendations, particularly in the short term (ASXCGC, 2003, p. 5). The ASX also suggested that if firms were considering undertaking widespread changes to their governance structure in view of the introduction of the ASX principles, then they should do so in an orderly manner by prioritising their needs. In summary, it is evident that the ASX did not seek to create an environment where wholesale adoption of the recommendations was considered necessary, but rather, encouraged each company to judiciously implement an internal governance environment appropriate to its needs.

An integral component of the corporate governance system introduced in 2004 was the disclosure requirements imposed on listed companies, establishing a formal framework and guidance for the disclosure of governance practices, including mandatory disclosure requirements. Recommendations 1.1, 3.2, 6.1, 8.1, 9.1 and 10.1 trigger specific disclosure obligations, whilst Recommendations 2.5, 3.3, 4.5, 5.2, 7.3, and 9.5 require explanations for non-conformance with any recommendation under the respective principle. Recognising that some recommendations may not be appropriate for all listed entities, the ASX adopted the non-prescriptive 'if not, why not' approach. That is, if a company does not adopt a recommendation, it must disclose an explanation of why it has not done so.

The ASX followed the UK Cadbury Report approach in opting for non-prescriptive principles and recommendations, requiring companies to state in their annual report the extent to which they have followed the best practice recommendations in the reporting period. Where they have not conformed with all recommendations, they must identify the recommendations that have not been followed and provide an explanation for not doing so. The ASX approach is similar to the approach of many regulators around the globe, with firms able to develop a governance framework suited to their own circumstances. Where the adoption of recommendations is voluntary, the codes usually requires firms to explain choices that do not match the recommended position (such as the ASX 'if not, why not?' or the UK 'comply or explain" requirements). The exception is the US, which, through the Sarbanes-Oxley Act, has enacted stringent governance and disclosure requirements that are mandatory.

The ASX indicates that not all of the recommendations will be appropriate for all companies and firms are free to adopt the governance structures that suit their individual circumstances. For example, the ASX guidance specifically notes that formation of committees may not provide efficiencies, particularly for small companies. If there are differences in the rates of adoption for individual recommendations, the ASX guidance may not be the only explanatory factor, especially for recommendations other than committee formation where the ASX guidance does not offer the efficiency reason for non-adoption.

Where adoption of corporate governance codes is voluntary, differences in rates of adoption of individual recommendations may relate to the nature of the recommendation - an issue often overlooked in prior governance research. Fleming (2003) classifies the ASX recommendations into categories of

[2] A second edition entitled 'Corporate Governance Principles and Recommendations' became effective from reporting dates after 1 January 2008, and consists of eight principles supported by 27 recommendations.

structural, behavioural and disclosure. The structural category refers to factors such as the composition of the board and its committees, the behavioural recommendations consider how directors and executives conduct their activities through adherence to policies and procedures, and finally, the disclosure principles emphasise the need for corporate transparency to ensure stakeholders have access to information. Fleming contends that adherence to structure in itself cannot be expected to lead to better outcomes; behavioural change is necessary. While Fleming considers the behavioural recommendations as potentially being the most significant, it is important to note that the recommendations are not predominately about behaviour per se, but about policies and procedures related to behaviour. Only Recommendations 4.1 and 7.2 (which require the CEO and CFO to sign off on the financial reports and internal controls respectively) require behavioural actions. The adoption of director codes of conduct and establishment of risk management policies, while demonstrating conformity with the recommendations, will not necessarily alter or influence behaviour; a concomitant commitment to implementing and actively adhering to the policies is also required.

Fleming (2003) speculates that the potential market reaction to explanation rather than compliance would deter most firms from not complying with the recommendations. However, the cost of adopting recommendations is likely to vary between recommendations, between the three categories of recommendations, and between firms. Where firms were not already in conformance with the ASX recommendations, then the structural recommendations are likely to be the most expensive to adopt. For example, companies with an independent chair or a majority independent board in 2003 would be well placed to maintain conformance with these recommendations in the following years, whereas non-conforming firms in 2003 may require time to identify and appoint an independent chair or sufficient independent directors required to achieve conformance. Alternatively, given the non-prescriptive nature of the ASX governance code, they might elect not to adopt particular recommendations for reasons of cost or efficiency. Conversely, conformance with behavioural and disclosure recommendations should be relatively easy, notwithstanding the costs incurred in the initial development and formalisation of internal policies and procedures that achieve conformance with the behavioural and disclosure categories.

To address RQ1 it is proposed that in view of the ASX guidance and the potential cost differential in operationalising the structural governance recommendations, it is predicted that:

Hypothesis 1. Smaller firms are less likely to adopt structural recommendations than behavioural and disclosure recommendations

1.2 Factors Associated with Governance Conformance

Although there is an extensive body of literature examining associations between a diverse range of governance attributes and various outcomes, such as disclosure, firm performance and value, research specifically considering corporate governance in smaller firms is sparse. Nevertheless, the results of studies in the context of smaller or younger firms identify that some governance characteristics found to be important in larger firms, such as board independence, are similarly important governance attributes in smaller or younger firms. In a study of 109 small, newly listed US firms, Berry, Fields and Wilkins (2006) find that internal governance structures such as board independence and committees evolve over time to help mitigate increases in agency costs related to reduced monitoring by insider owners. Reddy, Locke, Scrimgeour and Gunasekarage (2008) investigate the corporate governance practices of 71 small-cap New Zealand firms and find evidence that board independence and the existence of an audit committee are positively associated with their proxy for financial performance (Tobin's Q). Parsa, Chong and Isimoya (2007) investigate the factors associated with the disclosure of governance amongst 89 firms listed on the UK Alternative Investment Market (AIM). As the AIM rules do not require listed entities to make disclosures about compliance with the Combined Code, their governance disclosures are effectively voluntary. Parsa et al (2007) find that board and audit committee independence are positively associated with governance disclosures, while control variables for firm size and profitability are not associated with disclosure. Using a sample of Australian microcap firms (total assets of less than $12.5M), Christensen et al (2010) find no associations between corporate governance factors and firm performance, while their findings do suggest that ownership concentration acts as a substitute for formal governance practices.

The annual WHK Horwath Large-Cap and Mid-Cap Corporate Governance Reports provide a reference point for this study. Although the reports do not benchmark exactly to the ASX recommendations they do provide an indication of the overall governance structures in their sample firms. The findings from the 2009 Mid-Cap Report (firms 251-400 by market capitalisation) indicate that in general, mid-cap firms perform relatively poorly in comparison with Large-Cap firms, and more particularly perform poorly in key areas such as committee formation and independence, codes of conduct, and board independence, highlighting the need for further governance research on smaller firms.

While the of cost of complying with governance recommendations is a factor in explaining why companies may elect not to adopt a particular recommendation, it does not explain the complex mix

of governance attributes that are found in individual firms, and as such is not the only factor influencing the governance environment of smaller companies. Drawing on prior research findings that identify firm-specific factors associated with corporate governance practices, we expect the following factors are associated with the extent to which smaller Australian firms adopt the Recommendations: firm size, industry, leverage, auditor, growth, profitability, ownership dispersion and board size.

Firm size. The ASX notes that firm size and complexity are important factors in the governance of companies (ASXCGC, 2003). For example, audit committees are mandated for the top 500 companies but are only a recommendation for other listed companies. The ASX also notes that smaller companies may not derive the same efficiencies as larger companies from other structures such as nomination and remuneration committees. Using the top 300 Australian listed companies, Brown and Gorgens (2009) find that greater compliance with ASX recommendations is associated with better performance. Davidson, Goodwin-Stewart and Kent (2005) find firm size to be positively associated with board independence and the existence of audit committees in Australian firms. Larger firms would also have had greater access to resources such as in-house accounting and legal expertise to facilitate their readiness for the introduction of the recommendations, or, alternatively more financial resources to access external expertise. The greater diversity and complexity of these firms also suggest that larger firms may have had more extensive governance structures in place prior to 2004. While this study focuses on smaller listed firms, substantial variation in firm size remains and it is expected that the larger sample firms are more likely to conform to the ASX recommendations than the smaller sample firms.

Industry. Energy and mining firms that are not in production (explorers) do not have consistent revenue streams, have volatile stock prices, and are less likely to have diversified operations. Given the inherent uncertainty faced by these firms, the ASX requires specialised quarterly reporting to assist investors monitor cash expenditures. Given these additional reporting obligations and without access to sufficient or regular cash flows these companies may be reluctant to commit sufficient resources to the development and establishment of extensive internal governance structures. Both the 2008 and 2009 Horwath Large-Cap and Mid-Cap reports show that those two sectors have the lowest corporate governance rankings. Accordingly, it is expected that the governance structures of energy and mining firms in the sample will be different from those of their counterparts in other sectors, and that, on average, their level of conformance with the ASX recommendations will be lower.

Debt. Jensen and Meckling (1976) posit that leveraged firms will increase disclosure to reduce the agency cost of debt. Subsequent research has provided evidence of positive relationships between leverage and disclosure quality (Sengupta, 1998), and leverage and quality of governance (Schauten and Blom, 2006). It is expected that smaller firms with debt finance will have demonstrated capacity to repay through operating cash flows and profitability and that these firms will also have a more robust governance environment.

Audit firm. The choice of audit firm may also influence a firm's governance and disclosure environment as prior literature has documented a relationship between audit firm size and audit quality. De Angelo (1981) provides two arguments to support the hypothesis that brand-name audit firms provide higher-quality audits. First, brand-name audit firms can generate greater reputational capital and provide superior investment in training and technology; and second, as they are less reliant on individual corporate clients for billings they are more likely to detect and report accounting errors or breaches. Teoh and Wong (1993) find higher earnings response coefficients (ERCs) for companies audited by brand-name audit firms, thus providing evidence supporting the "audit quality" argument. Companies that use brand-name audit firms may do so for the signalling effect: Weber and Willenborg (2003) observe that the opinions of brand-name audit firms are better predictors of future performance for small Initial Public Offerings (IPOs). Recent Australian studies also note a positive association between external audit firm size and disclosure (Bassett, Koh and Tutticci, 2007; Kent and Stewart, 2008; Palmer, 2008; and Gallery, Cooper and Sweeting, 2008). Davidson et al (2005) find positive and significant correlations between brand-name audit firms and internal governance measures. Given the greater reputational capital of the brand-name audit firms and the prior findings it is expected that the selection of a brand-name auditor by smaller firms will be associated with higher levels of conformance with the ASX corporate governance recommendations.

Growth firms. High-growth firms have higher information asymmetry between managers and investors, resulting in higher agency costs (Gul and Leung, 2004; Eng and Mak, 2003; and Smith and Watts, 1992). As high-growth firms have fewer tangible assets in place and are typically younger, their governance structures are less likely to be as extensive or well developed as the systems in place in more mature firms with established operations. Further, to take advantage of opportunities, high-growth firms require a board with higher executive representation (Lehn, Patro and Zhao, 2003). It is expected that these same issues will also apply to the smaller high-growth firms. Consequently, it is expected that smaller, high-growth firms will have lower levels of conformance with the ASX corporate

governance recommendations than smaller, low-growth firms.

Profitability. Internal governance choices may be impacted by a firm's current earnings. The earnings of loss-making firms lack information content and these firms may increase disclosures (Gul and Leung, 2004). However, loss-making firms are likely to conserve resources and not invest in more costly recommendations such as an independent board chair, additional independent directors, or the development of comprehensive policies on issues such as risk management. Conversely, profit-making firms will have greater resources to invest in policies that achieve higher levels of conformance. Moreover, higher governance conformance can be used by profitable firms as a signalling device. Prior research has documented a positive relationship between performance and disclosure (Gul and Leung, 2004), while Cremers and Nair (2005) find better governance to be associated with higher accounting and market returns. Accordingly, it is expected that firms with superior accounting-based performance will have higher levels of conformance with the ASX recommendations.

Ownership dispersion. Ownership characteristics have been found to be associated with governance and disclosure choices. Firms with high insider ownership are often associated with fewer internal governance mechanisms as monitoring can be conducted by blockholders. However, insider influence is also related to the question of corporate governance because agency concerns are heightened where insiders have the capacity to extract perquisites at a cost to remaining stockholders (Setia-Atmaja, 2009), to make sub-optimal corporate investments (Fama and Jensen, 1983; Shleifer and Vishny, 1997), or to entrench themselves in management. Weinberg (2003) observes that there is a need for shareholders to be able to control the incentives of a small group of insiders. Consistent with this idea, Berry et al (2003) find that governance mechanisms evolve as insider ownership decreases. Chau and Gray (2002) find a positive association between more dispersed ownership and the extent of voluntary disclosure. It is therefore expected that a broader shareholder base will be associated with higher levels of conformance with the ASX governance recommendations.

Board size. An important determinant of the recommendations adopted will be the number of directors on the board. To form a separate audit committee that complies with Recommendation 4.3 regarding its composition would require a minimum of four directors. da Silva Rosa, Izan and Lin (2004) conclude that Australian boards would require a minimum of six members to fully abide with all recommendations. However, they find approximately 70 per cent of new Australian market listings have less than this number, with over 10 per cent having as few as three directors (the minimum requirement). While a positive correlation between firm size and board size may exist, the relationship is likely to be more complex. For example, Lehn et al (2003) find smaller board sizes in firms with growth opportunities. Smaller boards, particularly in firms without diversified operations, will be less likely to adopt recommendations for the formation of separate committees. Hence, it is predicted that smaller boards will be associated with lower levels of conformance with the ASX corporate governance recommendations. In summary, we hypothesise that:

Hypothesis 2. Conformance with the ASX Corporate Governance Recommendations will be higher for smaller listed Australian firms with the following characteristics:

- larger sample firms relative to smaller sample firms;
- firms not in the Materials and Energy sectors;
- firms with debt
- firms with brand-name (Big 4) auditors;
- low growth firms;
- more profitable firms;
- firms with more widely dispersed ownership; and,
- firms with larger boards.

It should be noted that H2 is not an aggregated or summative hypothesis, and that separate and distinct predictions are made in relation to each of the eight firm-specific characteristics.

2 Research method

2.1 Sample Selection and Data Sources

The sample is drawn from Australian companies listed on the ASX between 2004 and 2006, with 2004 being the first year that the ASX corporate governance recommendations came into effect. The three-year study period is selected to capture changes in corporate governance practices, given the ASX's acknowledgment that adoption of the recommendations may take time for smaller companies. In selecting the sample the following criteria were applied. The company was listed on the ASX for the entire study period, had no change of industry sector, was not in the Top-300 by market capitalisation at the end of 2006, and did not have a market capitalisation below $30 million at the end of 2006. These last two criteria define the company size parameters of the study to focus on smaller firms. The Advisory Committee on Smaller Public Companies in the US has recommended a three-tier governance and regulatory system split into larger companies, smaller caps, and microcap stocks. An extensive body of literature has previously examined the governance environment of the largest companies, and similarly governance codes generally aim to address governance in larger firms. The focus of this study is those middle tier smaller firms that are unlike larger firms in terms of the scale of their operations, but are still large enough to face similar governance issues as

do large companies. Very small microcap-type companies are likely to have very different governance issues from the largest companies (as found by Christensen et al, 2010), and therefore 445 companies with market capitalisation below $30 million were excluded from our sample.

The sample was selected using the Share Price and Price Relatives (SPPR) database from the Centre for Research in Finance, Australian Graduate School of Management. Initial filtering to identify companies that were listed on the ASX at both 1 January 2004 and 31 December 2006 yielded 1044 entries from the database. Further filtering removed the top 300 firms (184 entries), companies with a change or changes of industry sector during the study period (86 firms), and firms with a 2006 market capitalisation under $30M (445 entities). Of the remaining 329 firms, a further 31 were removed owing to data unavailability as a result of having been in administration during the sample period, having reported in a foreign currency in at least one year of the study period, and for balance date changes. Thus, the final sample comprises 298 firms. Table 1 summarises the sample selection process. Governance data were hand-collected from the firms' annual reports, and market and accounting-based data were collected via the Aspect FinAnalysis database.

Table 1. Summary of Sample Selection Process

Total SPPR entries selected		1044
Less: **Top 300 firms**	184	
Firms with GICS Code changes	86	
Firms with Market Capitalisation <$30M	445	715
Sample from SPPR		329
Less: **Firms with incomplete data**		31
Final sample		298

The distribution across industry sectors of both the sample firms and all ASX listed firms is presented in Panel A of Table 2. Nine of the 10 GICS sectors are represented in the sample, with only the Utilities sector not represented. A relatively large proportion of the sample is from the Materials sector (30%), with the next largest groups being Financials (15%), Industrials (14%) and Consumer Discretionary (13%). Comparison of the distribution of sample firms by industry with the distribution of all ASX-listed firms indicates that our sample provides a reasonable approximation of the overall market with each sample sector being within three per cent of its share of the total market distribution. The mean 2006 market capitalisations for each industry sector are also shown in Panel A and indicate that the mean company size ranges from $100M for the Industrials sector to $137M for the Information Technology sector.

In Panel B of Table 2 the overall market is divided into size deciles and indicates the range in company size by market capitalisation within each decile. Our sample falls predominately within the third to fifth deciles, with only 13 sample firms being in the sixth decile, while 18 firms are in the second decile. Overall, 96 per cent of the sample firms are in the top half of the market by size. The distribution of our sample indicated within this table provides further support for our decision to focus on these firms given earlier research on firms within the top two deciles (for example, Brown and Gorgens, 2009, and Henry, 2008), and firms in the lower deciles (Christensen et al 2010).

2.2 Conformance with ASX Recommendations

Data on conformance with the ASX governance recommendations are presented in Table 3, showing details of the extent of adoption of each of the ASX recommendations for each of the three years 2004, 2005 and 2006. Given our expectation that the cost of adoption is likely to vary between recommendations, each recommendation is classified in accordance with Fleming's (2003) schema of 'structural', 'behavioural' and 'disclosure'. The structural category refers to factors such as the composition of the board and its committees; the behavioural recommendations consider how directors and executives conduct their activities through adherence to policies and procedures; whilst the disclosure principles emphasise the need for corporate transparency to ensure stakeholders have access to information. Where firms were not already in conformance with the ASX recommendations, the structural recommendations are likely to be the most expensive to adopt. On the other hand, conformance with behavioural and disclosure recommendations should be relatively easy, notwithstanding costs incurred in the initial development and formalisation of internal policies and procedures that achieve conformance with the behavioural and disclosure categories.

Table 2. Panel A: Sample distribution and comparison with total ASX listings

	All ASX Listings			Sample firms		
GICS Code & Sector	No. of listings	% of Total Listings	2006 Mkt Cap (Mean $M)	No. of Companies	% of Sample	2006 Mkt Cap (Mean $M)
10 Energy	154	9	527.2	22	7	119.4
15 Materials	500	28	769.9	88	30	110
20 Industrials	197	11	422.2	43	14	99.9
25 Consumer Discretionary	183	10	553.7	38	13	122.8
30 Consumer Staples	55	3	501.6	5	2	118.6
35 Health care	158	9	382.6	29	10	120.3
40 Financials	296	17	709.5	44	15	123.2
45 Information Technology	140	8	240.8	22	7	137.5
50 Telecommunications Services	37	2	486.2	7	2	102.9
60 Utilities	24	1	340.8	0	0	-
No code	14	1				
	1758	**100**		**298**	**100**	

Table 2. Panel B: Distribution of sample companies by size

Decile	No. of ASX Listed Companies	2006 Mkt Cap Maximum ($M)	2006 Mkt Cap Minimum ($M)	No of sample companies
1	175	101376.1	1036.1	
2	176	1027.5	258.8	18
3	176	259.8	119.6	99
4	176	119.4	63.9	78
5	176	64.0	33.7	90
6	175	33.6	19.4	13
7	176	19.9	12.2	
8	176	12.2	7.1	
9	176	7.1	4.1	
10	176	4.0	0.02	

Table 3 shows substantial variation in the rates of adoption of individual recommendations, although there is an overall trend of increasing conformance with the recommendations over the three-year period. Few recommendations have been adopted by over 90 per cent of firms, with only two recommendations reaching this mark by 2006, and a further 16 recommendations achieving 75 per cent adoption by 2006. The only decreases observed were minor, and occurred in 2005 for Recommendation 9.3 regarding non-executive remuneration, and in 2006 for disclosure of management roles and functions. The variation in the rates of adoption is consistent with the non-prescriptive approach of the ASX to corporate governance. Overall, the sample companies have moved progressively to adopt the recommendations of the ASX, with the overall percentage rising from 66 per cent in 2004 to 74 per cent in 2006, though the greatest change occurred from 2004-2005 when firms were adjusting to the new code. The smaller changes from 2005 to 2006 is consistent with the notion that corporate governance attributes are 'sticky' and that change generally occurs slowly and incrementally.

The recommendations related to policy and procedure (behavioural and disclosure) are also associated with a greater rate of change from year to year. Of the seven recommendations that record changes of over 10 per cent from 2004 to 2006, four are in the behavioural category (3.1.1, 3.1.2, 5.1 and 10.1), two are structural (4.3 and 6.1) and one is in the disclosure category (8.1). With the exception of 4.3, which is concerned with the composition of the audit committee, each of these recommendations relates to policy and process, notwithstanding Fleming's classification system.

Table 3. Conformance with ASX Recommendations 2004-2006

			2004		2005		Δ2004-2005	2006		Δ2005-2006
	Recommendation (Abbreviated)[a]	**Category[c]**	**No.**	**%**	**No.**	**%**	**t**	**No.**	**%**	**t**
1.1	Board functions	B[d]	232	78	251	84	**3.26**	253	85	0.47
1.2	Management functions	B[d]	171	57	195	65	**3.46**	194	65	0.19
2.1	Majority independent board	S	96	32	103	35	1.26	117	39	**2.23**
2.2	Independent chair	S	143	48	149	50	1.50	158	53	1.57
2.3	Chair not CEO	S	236	79	239	80	0.56	246	83	1.35
2.4	Nomination Committee	S	78	26	81	27	0.63	91	31	**2.25**
2.5	Provide details required *re* Principle 2	D	266	89	265	89	0.18	271	91	1.10
3.1.1	Board Code	B	182	61	211	71	**4.17**	220	74	**2.08**
3.1.2	Unethical practices reporting	B	102	34	130	44	**4.15**	138	46	1.64
3.2	Trading policy	B[d]	231	78	254	85	**3.76**	257	86	0.77
3.3	Provide details required *re* Principle 3	D	149	50	153	51	0.54	161	54	1.34
4.1	CEO/CFO Certification	B	227	76	246	83	**3.17**	250	84	0.94
4.2	Audit Committee	S	226	76	233	78	1.81	238	80	1.29
4.3	AC Composition[b]	S	87	38	108	46	**3.32**	124	52	1.93
4.4	AC Charter[b]	B	181	80	199	85	**2.88**	204	86	1.64
4.5	Provide details required *re* Principle 4	D	216	72	229	77	**2.09**	237	80	1.64
5.1	Disclosure Policy	B	210	70	246	83	**5.71**	253	85	1.95
5.2	Provide details required *re* Principle 5	D	237	80	258	87	**3.86**	261	88	1.00
6.1	Communications strategy	S[d]	191	64	218	73	**3.87**	231	78	**2.87**
6.2	Auditor at AGM	S	218	73	236	79	**2.74**	245	82	1.89
7.1	Risk Policy	B	245	82	253	85	1.46	262	88	**2.74**
7.2	Internal compliance & control	B	194	65	216	72	**3.64**	218	73	0.47
7.3	Provide details required *re* Principle 7	D	196	66	217	73	**3.42**	218	73	0.24
8.1	Board evaluation policy	D	184	62	208	70	**3.09**	220	74	**2.47**
9.1	Remuneration policy	D	272	91	286	96	**2.89**	287	96	0.38
9.2	Remuneration Committee	S	160	54	174	58	**2.89**	177	59	0.73
9.3	Non-executive remuneration policy	B	258	87	256	86	0.38	263	88	1.30
9.4	Equity pay approval	B	232	78	252	85	**3.30**	249	84	0.63
9.5	Provide details required *re* Principle 9	D	227	76	254	85	**3.87**	254	85	0.00
10.1	Code: legal obligations	B[d]	200	67	228	77	**4.15**	233	78	1.21
(N = 298)			**195**	**66**	**212**	**72**		**218**	**74**	

Significant t-test results highlighted in bold print

a: A full description of the recommendations is provided in Appendix 1

b: Percentages relate to the number of audit committees in the respective year

c: B = Behavioural; S = Structural; D = Disclosure

d: Recommendation also has disclosure requirement

The relatively low rates of adoption for majority independent board, independent chair, and the nomination and remuneration committee recommendations (2.1, 2.2, 2.4 and 9.2) suggests that Fleming's concerns that companies would "comply" to avoid negative market reaction are to some extent unfounded. These results suggest that conformance with recommendations related to policy and procedure has been reasonably achievable for most firms. The cost of complying with structural recommendations appears to be the principal explanation for different rates of adoption, notwithstanding the high rate of conformance for the audit committee recommendation. Cost has been commonly cited in governance reports as a reason for non-adoption of recommendations, especially for independent directors and for committee formation, and this explanation is consistent with the ASX guidance. However, the prevalence of audit committees suggests that most companies view this recommendation as being a particularly important structural recommendation, if not the most important recommendation overall. The relatively high levels of conformance with the behavioural and disclosure recommendations raise concerns that some firms may be engaging in "box-ticking" or "window-dressing". The inactivity of a number of nomination and remuneration committees provides support for this theory.

To provide further insight on the adoption behaviour, *t*-tests were conducted to determine if statistically significant changes occurred in the adoption of individual recommendations over the three years. These results are also presented in Table 3. Many of the differences between 2004 and 2005 are significant, indicating that firms moved in 2005 to adopt more recommendations. Few significant changes occurred from 2005 to 2006, but do include majority independent board (2.1), one of the structural recommendations. Identifying and appointing suitable candidates for these positions may not be possible in a short period of time. Despite the increased overall conformance, the results show that many firms appear to have remained selective in their internal governance choices, particularly with regard to the structural recommendations. It also remains to be seen if the governance changes have been value-adding, or if firms have merely engaged in 'box-ticking' to provide a veneer of conformance.

2.3 Categories of Governance Recommendations

Table 4 shows the average rate and percentage of conformance by category and highlights the large differences between the structural category and the disclosure and behavioural categories. The behavioural and disclosure categories have similar, consistently higher rates of conformance than the structural category across each of the three years, commencing at approximately 70 per cent in 2004 and rising steadily to approximately 80 per cent in 2006. In sharp contrast, the structural category has a mere 54 per cent conformance rate in 2004, rising to only 62 per cent by 2006. As some recommendations have a disclosure requirement in addition to a structural and behavioural component, Table 4 reports adoption rates only for disclosure-only recommendations to avoid the issue of double-counting. Figure 1 illustrates the similarities and differences between categories while a slowing in the rate of change is also evident.

Table 4. Adoption of ASX recommendations by category

	2004	2005	2006	2004	2005	2006
Category	**No.**	**No.**	**No.**	**%**	**%**	**%**
Behavioural[a]	205	226	230	70.2	77.3	78.6
Structural[b]	160	171	181	54.4	58.4	61.9
Disclosure only[c]	218	234	239	73.3	78.5	80.1

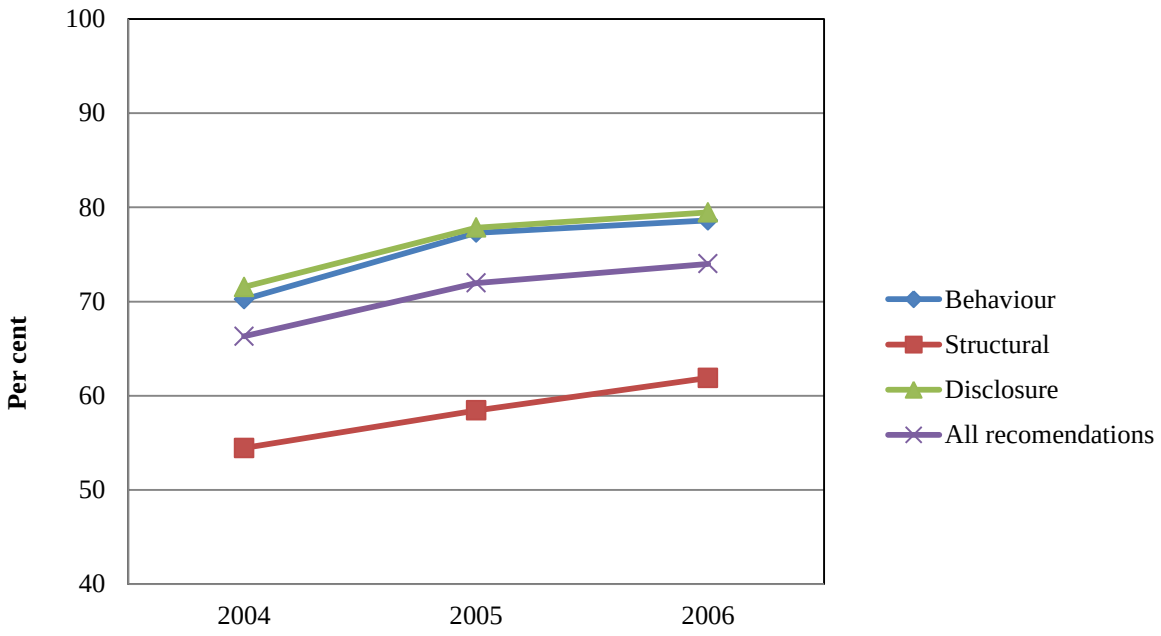
a: Items: 1.1, 1.2, 3.1.1, 3.1.2, 3.2, 4.1, 4.4, 5.1, 7.1, 7.2, 9.3, 9.4, 10.1
b: Items: 2.1, 2.1, 2.3, 2.4, 4.2, 4.3, 6.1, 6.2, 9.2
c: Items: 2.5, 3.3, 4.5, 5.2, 7.3, 8.1, 9.1, 9.5 only
A full description of the ASX Recommendations is provided in Appendix 1

2.4 Governance Index

The development of the governance index to examine factors associated with variations in the adoption practices requires consideration of several issues. The majority of studies using disclosure indices adopt an item-based approach in which an item scores one if it is disclosed and zero otherwise (Chavent, Ding, Fu, Stolowy and Wang, 2006), and where the number of items disclosed is divided by the number of items possible. This study adopts a similar approach where the index will comprise the number of corporate governance recommendations disclosed as being adopted. A second issue that arises is the relative weighting attributed to each item. Ahmed and Courtis (1999) observe that the use of unweighted dichotomous variables has become the norm in annual report studies. This study will use an unweighted

index as this averts problems that could arise from the discretionary allocation of different weights, particularly in the absence of theoretical guidance as to the relative consequence of each component to the total index, and hence the overall internal governance environment. Although it does not refer to the relative importance of individual recommendations, the ASXCGC states that the 10 principles are of equal importance (2003, p. 4), further justifying the use of an unweighted index. In addition, the index reflects the focus and emphasis of the ASX recommendations which in themselves include some attributes of weighting. For example, three recommendations (4.2, 4.3, and 4.4) refer to aspects of the audit committee, while four of the recommendations under the ninth principle (9.1, 9.2, 9.3, and 9.4) refer to features of director and executive remuneration.

Figure 1. Change in total conformance by level and by category 2004-2006



Note that for clarity of presentation the measure on the Y axis commences at 40%.

Testing of H2 requires the development of an index that measures the extent to which each firm has adopted the ASX recommendations. The index is formed by assigning a value of "1" where a recommendation has been adopted by a firm and a "0" for non-adoption. The index termed "GOVSC" is the percentage of recommendations adopted, expressed as a decimal. Where a recommendation does not apply then the percentage is calculated on the number of recommendations that do apply to each individual firm. Although the ASX released 28 recommendations, firms were assessed on 30 individual items. As Recommendation 3.1 is divided by the ASX into two sub-categories, 3.1.1 and 3.1.2, a score of "0" or "0.5" is awarded for each sub-category. This process is also applied to Recommendation 1 which refers to the respective functions of board and management – companies were assessed on their responses in regard to the functions of each with "0" or "0.5" awarded as appropriate. This adjustment ensures that all of the governance scores reflect the ASX recommendations with an even weighting. To ensure that the assessment of adoption or non-adoption was clear and unambiguous, the assessment was based only on the actual wording of recommendations, with no reference being made to the guidance notes accompanying each recommendation. This is consistent with the instructions from the ASX that states: 'The commentary and guidance that follows each recommendation does not form part of the recommendation' (ASXCGC, 2003, p. 6).

Fleming's (2003) schema is used to disaggregate the recommendations into the three categories of structural, behavioural and disclosure-related governance. To examine the relative strength of the contribution of each category to the overall governance environment, sub-indices are created for each category, and the association of each sub-index with the independent variables is also tested.

3 Research model

H2 predicts that the internal governance environment of firms will be associated with various industry and firm-specific characteristics. More specifically, higher

levels of governance as measured by the ASX recommendations are expected to be associated with larger firms, industrial (non mining and energy) firms, leverage, choice of audit firm, current accounting-based performance, and the number of directors on the board. High-growth firms are predicted to have a negative association with the governance index. The model presented below is estimated using OLS regression to test H2:

$$GOVSCORE_{it} = \beta_1 + \beta_2 SIZE_{it} + \beta_3 IND_{it} + \beta_4 AUD_{it} + \beta_5 LEV_{it} + \beta_6 GROWTH_{it} + \beta_7 PERF_{it} + \beta_8 SHLDRS_{it} + \beta_9 BRDSZE_{it} + \beta_{10} 2005_{it} + \beta_{11} 2006_{it} + \epsilon \quad (1)$$

Dependent variables:

GOVSCORE is one of the following measures:

GOVSC	=	percentage of all recommendations adopted;
GOV_B	=	percentage of behavioural recommendations adopted;
GOV_S	=	percentage of structural recommendations adopted;
GOV_D	=	percentage of disclosure recommendations adopted.

Independent variables

SIZE	= natural logarithm of total assets at financial year end
INDUSTRY	= Dummy variable coded 0 for Energy and Materials sectors; 1 otherwise
AUDIT	= Dummy variable coded 1 for brand-name (Big 4) auditor, 0 otherwise
LEVERAGE	= Dummy variable coded 1 for firms with debt, 0 otherwise
GROWTH	= Market to book ratio
PERFORMANCE	= Return on average assets for the fiscal year
SHAREHOLDERS	= Natural logarithm of the number of shareholders deflated by total assets.
BOARDSIZE	= Number of directors on the board
2005	= Dummy variable for observations in 2005
2006	= Dummy variable for observations in 2006

As the data set is panel data there are repeated observations of sample firms, and errors in the regression model will be correlated or dependent over time, usually because of unobserved characteristics that vary from one case to another (Liao, in Allison, 2009 p. ix). In such a situation, the assumption of independence of the errors for regression analysis is violated (Liao). Failure to address this dependence could lead to the standard errors and *p*-values to be underestimated (Allison, 2009, p. 73). To adjust the standard errors this study uses cluster robust standard errors. Clustered standard errors correctly account for the dependence in the data common in a panel data set and produce unbiased estimates (Peterson, 2005).

3.1 Descriptive Statistics

The descriptive statistics for the variables used in the analysis are presented in Panel A of Table 6. The lower rate of adoption of the structural recommendations (*GOV_S*) is evident in comparison to the remaining governance indices, consistent with the observations in Figure 1. The mean of total assets of sample firms was AUD104.8M, compared with a median of AUD51.7M. Although the median debt to assets (leverage) ratio is 0.279, the median ratio is only 0.07, indicating that levels of debt are generally low. The mean ROA of -0.079 indicates that on average, firms were unprofitable over the three-year period, although the positive median value of 0.03 signifies that a profit was reported in more than half of the firm-year observations. Companies had on average 2332 shareholders, and the median firm had five directors.

Owing to noticeable departures from normality, logarithmic transformations were performed for total assets (*SIZE*), market to book (*GROWTH*) and the number of shareholders (*SHAREHOLDERS*), the return on assets variable was transformed by ranking the observations (*PERFORMANCE*), and, owing to the large number of firms with little or no debt, the debt to assets ratio was transformed into a dichotomous variable (*LEVERAGE*), with a value of '1' indicating firms with short or long-term debt and '0' otherwise.

The frequencies of the dichotomous variables are shown below in Panel B of Table 6. The sampling method omitted firms that changed industry sectors over the study period and hence there is no variation. Of the 298 sample firms, 110 fall into the Energy and Materials sectors, with the remainder in seven of the eight other sectors (no sample firms are from the Utilities sector). There is little variation over time in the number of firms using brand-name audit firms or in the number of firms with debt.

Table 5. Panel A: Descriptive statistics

	Mean	Median	Minimun	Maximum	Std Dev
GOVSC (Gov. Score – All items)	.712	0.768	0.214	1	0.199
GOV_B (Gov. Score – Behavioural items)	.773	0.864	0.182	1	0.239
GOV_S (Gov. Score – Structural items)	.580	0.556	0	1	0.236
GOV_D (Gov. Score – Disclosure items)	.774	0.875	0.125	1	0.222
TOTAL ASSETS ($M)	104.823	51.745	0.21	2980.300	191.733
SIZE (Ln of Total assets)	3.896	3.950	0.580	6.790	1.252
Debt-to-Assets ratio	.279	0.073	0	35.652	1.409
Return-on-Assets ratio	-.079	0.030	-8.520	0.530	0.437
PERFORMANCE (Rank of Return-on-Assets)	447.5	447.5	1	894	258.218
Market-to-Book ratio	2.813	1.752	-8.020	112.433	6.068
GROWTH (Ln of Market-to-Book ratio)	0.551	0.561	-1.790	2.820	0.855
NUMBER OF SHAREHOLDERS	3173	2332	171	45246	3486.862
SHAREHOLDERS (Ln of number of shareholders)	3.801	3.675	0.530	7.340	1.324
BOARDSIZE (Board size)	4.92	5	3	11	1.359

Where *GOVSC* = percentage of ASX recommendations adopted, expressed as a decimal; *GOV_B* = percentage of behavioural recommendations adopted expressed as a decimal; *GOV_S* percentage of structural recommendations adopted expressed as a decimal; *GOV_D* = the percentage of disclosure recommendations adopted expressed as a decimal; Total assets = fiscal year-end total assets; *SIZE* = the natural logarithm of Total Assets; Debt to assets ratio = fiscal year-end total debt divided by fiscal year-end total assets; Return-on-Assets ratio = earnings before interest divided by average total assets; *PERFORMANCE* = the rank of return-on-assets ratios; Market-to-Book ratio = fiscal year-end market value of equity divided by fiscal year-end book value of equity; *GROWTH* = the natural logarithm of Market-to-Book ratio; Number of shareholders = number of shareholders as at fiscal year end; *SHAREHOLDERS* = Natural logarithm of the number of shareholders; and, *BOARDSIZE* is the number of directors as at fiscal year end.

Table 5. Panel B: Frequencies of dichotomous variables

	2004		2005		2006	
Variable	**1**	**0**	**1**	**0**	**1**	**0**
INDUSTRY (Material/Energy or other Industry)	188	110	188	110	188	110
AUDIT (Big4 or Non-Big4 auditor)	186	112	184	114	183	115
LEVERAGE (Debt or No Debt)	203	95	199	99	201	97

INDUSTRY is a dichotomous variable with a value of 0 if the firm is in the energy or materials sectors and a value of 1 for all other sectors; *AUDIT* is a dichotomous variable with a value of 1 if the firm is audited by a Big4 audit firm, 0 otherwise; and *LEVERAGE* is a dichotomous variable with a value of 1 is the firm has short or long-term debt, 0 otherwise.

3.2 Correlations

The Pearson and Spearman bivariate correlation matrix is shown in Table 6. Consistent with the prediction, each of the governance indices demonstrates a positive and significant association with SIZE, INDUSTRY, AUDIT, PERFORMANCE, SHAREHOLDERS and BOARDSIZE. With the exception of GOV_D, the governance indices are also significantly correlated, and with the predicted sign, with LEVERAGE and GROWTH. Overall, the correlations are in line with the predicted outcomes for all independent variables except and provide initial support for H2.

It is also informative to review the relationships among the independent variables as a method of validating the data and to check for indications of multicollinearity. The largest (Pearson) correlation coefficient is -0.498 between SIZE and GROWTH, while SIZE also has a number of other correlations in excess of 0.4. However, as none of the bivariate correlations exceed 0.7 multicollinearity is unlikely to lead to biased coefficients (Gujarati and Porter, 2009: 321). Nevertheless, as a number of high correlations are observed variation inflation factors (VIFs) will be reviewed to examine the influence of multicollinearity on regression results.

Table 6. Pearson and Spearman correlation coefficients

	GOVSC	*GOV_B*	*GOV_S*	*GOV_D*	*SIZE*	*INDUSTRY*	*AUDIT*	*LEVERAGE*	*GROWTH*	*PERFORMANCE*	*SHAREHOLDERS*	*BOARDSIZE*
GOVSC	1	.924**	.766**	.881**	.355**	.223**	.285**	.104**	-.078*	.262**	.234**	.354**
GOV_B	.894**	1	.522**	.816**	.275**	.176**	.216**	.101**	-0.065	.232**	.156**	.248**
GOV_S	.779**	.491**	1	.476**	.428**	.261**	.308**	.131**	-.114**	.255**	.322**	.478**
GOV_D	.859**	.828**	.454**	1	.219**	.141**	.223**	0.035	-0.022	.189**	.129**	.198**
SIZE	.335**	.223**	.409**	.206**	1	.360**	.113**	.406**	-.498**	.465**	.267**	.417**
INDUSTRY	.238**	.142**	.265**	.146**	.350**	1	.115**	.221**	-.202**	.385**	-.039	.346**
AUDIT	.270**	.189**	.300**	.209**	.186**	.115**	1	.084*	-.077*	0.065	.242**	.234**
LEVERAGE	.095**	.071*	.126**	0.041	.394**	.221**	.084*	1	-.254**	.232**	.028	.181**
GROWTH	-.099**	-.078*	-.111**	-0.049	-.487**	-.208**	-.078*	-.256**	1	-.191**	.064	-.097*
PERFORMANCE	.252**	.200**	.250**	.189**	.459**	.385**	0.065	.232**	-.191**	1	-.075*	.172**
SHAREHOLDERS	.228**	.125**	.315**	.117**	.282**	-.033	.252**	.033	.064	-.074*	1	.152**
BOARDSIZE	.383**	.238**	.502**	.206**	.411**	.348**	.251**	.185**	-.080*	.175**	.162**	1

**. Correlation is significant at the 0.01 level (2-tailed)

.* Correlation is significant at the 0.05 level (2 tailed)

Pearson (Spearman) correlations in top right (bottom left) diagonal

GOVSC = percentage of the 28 recommendations adopted in each year; GOV_B = percentage of behavioural recommendations adopted expressed as a decimal; GOV_S percentage of structural recommendations adopted expressed as a decimal; GOV_D = the percentage of disclosure recommendations adopted expressed as a decimal; SIZE = Natural logarithm of total assets at financial year end; IND = Dummy variable coded 0 for Energy and Materials sectors, 1 otherwise; AUDIT = Dummy variable coded 1 for brand-name (Big 4) auditor, 0 otherwise; LEV = fiscal year-end total debt divided by fiscal year-end total assets; ROA = earnings before interest divided by average total assets; Mkt to Book = fiscal year-end market value of equity divided by fiscal year-end book value of equity; Number of shareholders = number of shareholders as at fiscal year end; and, Board size is the number of directors as at fiscal year end.

4 Empirical results and analysis

On the basis that the structural recommendations would be less easily attainable and more expensive for smaller firms, Hypothesis 1 predicted that smaller listed firms would be less likely to adopt these recommendations than the behavioural and disclosure recommendations. Table 7 presents the results of t-tests of differences between the three categories of recommendations. In each of the three years, the level of adoption of the structural recommendations is significantly lower than adoption rates for the behavioural and disclosure categories, and H1 is therefore accepted. The behavioural and disclosure recommendations, which relate predominately to policy and procedure, are more commonly adopted, whereas structural recommendations, such as having an independent chair, majority independent board and board committees, have significantly lower rates of adoption. The lack of efficiency to be gained, or the appropriateness and expertise of the current board are the most commonly cited reasons for not adopting recommendations 2.1 (majority board independence) and 2.2 (independent chair). The most commonly cited reason provided for not adopting committee formation recommendations is the lack of efficiency to be provided by formation of such committees, which is consistent with the ASX guidance that notes that '... for smaller boards, the same efficiencies may not be apparent from a formal committee structure' (ASXCGC, 2003).

Table 7. Significance of differences between categories

Year	Categories	Mean Diff	*t*-stat	Sig.
2004	Behavioural - Structural	0.154	11.633	<0.001
2004	Disclosure - Structural	0.172	14.079	<0.001
2005	Behavioural - Structural	0.185	13.308	<0.001
2005	Disclosure - Structural	0.194	14.706	<0.001
2006	Behavioural - Structural	0.167	11.68	<0.001
2006	Disclosure - Structural	0.178	13.223	<0.001

Hypothesis 2 predicted that specific internal and external factors would influence a firm's corporate governance environment. Results of regression analysis on the overall governance index and the three sub-indices are presented in Table 8. Each of the four indices is associated with SIZE, AUDIT, PERFORMANCE and BOARDSIZE, and with the exception of GOV_D, also with SHAREHOLDERS. There is no evidence of an association between the extent of adoption of governance recommendations and INDUSTRY, LEVERAGE or GROWTH. Tolerance and variation inflation factors (VIF) do not indicate that multicollinearity is unduly influencing results, as the highest VIF 3.34, well below the suggested upper limit of 10 (Gujarati and Porter, 2009: 340).

Larger firms and more profitable firms with their greater access to resources and cashflows are associated with a governance structure more representative of the ASX recommendations, while firms with greater shareholder dispersion also have a stronger governance environment suggesting a substitution effect with controlling shareholders. This is consistent with Berry *et al* (2006), who find that governance structures of firms evolve over time to mitigate increases in agency costs due to a reduction in insider ownership. Clients of brand-name audit firms are also found to have stronger governance environments, while larger board size is also positively associated with governance, as this facilitates conformance with the structural recommendations in particular. A significant difference in the level of adoption of recommendations is not apparent between the two industry groups, between high- and low-growth firms, or in the presence of external borrowings.

The year dummies are both positively and significantly associated with the governance indices. However, in unreported results from testing a model with only data from 2005 and 2006, the 2006 year dummy is not significant, indicating that the most significant change in governance occurred in 2005, consistent with the observations noted in Table 4 and Figure 1.

The independent variables explain 25.0 per cent of the variance in the governance index, with the adjusted R-squared for the behavioural, structural and disclosure indices being 14.5 per cent, 36.5 per cent and 11.1 per cent respectively. Thus, the model is most successful in predicting the structural governance measures which are the potentially the most expensive for a smaller company to adopt. In contrast, the lower explanatory power of the behavioural and disclosure indices suggests that a degree of box-ticking may have taken place, indicating that as the recommendations may be relatively inexpensive to adopt, they may be adopted for the sake of appearance rather than effect.

Table 8. Results of regression analysis on governance index and sub-indices (n = 894)

		GOVSC		***GOV_B***		***GOV_S***		***GOV_D***	
	Predicted sign	Coef	t	Coef	t	Coef	t	Coef	t
SIZE	+	0.33	4.17**	0.21	2.68**	0.45	6.42**	0.19	2.18*
INDUSTRY	+	0.05	0.89	0.04	0.67	0.05	1.08	0.03	0.56
AUDIT	+	0.17	3.63**	0.14	2.74**	0.15	3.57**	0.17	3.24**
LEVERAGE	+	-0.04	-0.87	-0.01	-0.14	-0.04	-1.05	-0.06	-1.19
GROWTH	-	0.03	0.62	0.03	0.46	0.00	0.07	0.06	1.07
PERFORMANCE	+	0.16	3.25**	0.15	3.17**	0.13	2.81**	0.13	2.34*
SHAREHOLDERS	+	0.21	2.66**	0.13	1.66*	0.33	4.24**	0.09	1.07
BOARDSIZE	+	0.20	4.65**	0.13	2.82**	0.32	7.22**	0.08	1.76*
2005	+	0.10	5.12**	0.11	5.23**	0.04	2.48**	0.09	4.13**
2006	+	0.11	4.48**	0.11	4.33**	0.06	2.71**	0.10	3.58**
Constant	?	0.11	1.28	0.26	2.50	-0.36	-3.91	0.40	4.04
Adj R-square			0.25		0.14		0.37		0.11
F			23.75		12.72		36.66		9.57
Sig			0.00		0.00		0.00		0.00
Highest VIF			3.34		3.34		3.34		3.34

**, *, and † indicate that the *t-statistic* is significant at the *1%*, 5*%* and *10%* levels respectively, based on cluster robust standard errors. Statistical significance is one-tailed where signed, two-tailed otherwise

GOVSC = percentage of the ASX recommendations adopted in each year, expressed as a decimal; *GOV_B* = percentage of behavioural recommendations adopted in each year, expressed as a decimal; *GOV_S* = percentage of structural recommendations adopted in each year, expressed as a decimal; *GOV_D* = percentage of the disclosure recommendations adopted in each year, expressed as a decimal; *SIZE* = Natural logarithm of total assets at financial year end; *INDUSTRY* = Dummy variable coded 0 for Energy and Materials sectors, 1 otherwise; *AUDIT* = Dummy variable coded 1 for brand-name (Big 4) auditor, 0 otherwise; *LEVERAGE* is a dichotomous variable with a value of 1 is the firm has short or long-term debt, 0 otherwise; *GROWTH* = Natural logarithm of market to book ratios; *PERFORMANCE* = Rank of ROA ratios; *SHAREHOLDERS* = Natural logarithm of the number of shareholders; *BOARDSIZE* = Number of directors on board at financial year end.

4.1 Robustness Testing

Additional analysis was undertaken by considering additional control variables for the age of sample firms, measured by length of market listing, and for firms denoted by the ASX as commitment test entities (CTE). CTE's are required to provide additional market disclosure by way of quarterly cash flow reporting. Inclusion of these additional controls did not provide any significant explanatory power in any of the four models, and the results have not been tabulated. The percentage of shares held by substantial shareholders was tested as an alternative measure of shareholder concentration, but the coefficient on the variable was not significant at conventional levels. As the leverage variable had been transformed from a continuous variable to a dichotomous variable we also retested the model using the ratios of total debt to total assets. The coefficient on this variable was not significant at conventional levels.

4.2 Discussion of results

Based on an analysis of the recommendations and associated guidance, H1 predicted that recommendations classified as behavioural and disclosure-based would be less difficult and less costly to achieve than structural recommendations. In 2006, the adoption rate for behavioural and disclosure recommendations was approximately 80 per cent compared with a rate of only 62 per cent for the structural recommendations, providing support for H1. Among the structural recommendations low adoption rates are observed for board independence (39%), chair independence (53%), and for the nomination committee (31%), contrasting with the 80 per cent of sample firms reporting the existence of an audit committee. These results suggest that for many sample companies, the audit committee is potentially the most important governance mechanism, and that this committee may be a substitute for firms unable or unwilling to invest in potentially costly chair and board independent structures.

H2 predicted that eight firm-related factors would be associated with higher rates of adoption of the ASX recommendations among the sample of smaller firms. Firms with higher governance scores based on the ASX recommendations are found to be larger, have larger boards, are more likely to use a Big 4 audit firm, are more profitable, and have greater ownership dispersion. Contrary to expectations, industry membership, leverage, and low-growth firms are not associated with higher governance scores. The model was most powerful in predicting adoption of structural recommendations. Of particular interest are the findings regarding the size of firm's shareholder base. Governance scores increase as share ownership becomes more diffuse, consistent with prior research findings that concentrated ownership can act as a substitute governance mechanism.

5 Conclusions

This paper investigates the internal corporate governance attributes of a sample of smaller Australian listed companies and assesses the extent to which these firms have adopted the ASX corporate governance recommendations, and factors associated with the adoption of the recommendations. The results demonstrate substantial variation in rates of adoption of individual recommendations, consistent with the non-prescriptive approach of the ASX. While conformance with the ASX recommendations has increased over time, the rate of increase has slowed both within this sample and more widely (Horwath, 2009b). In addition, it is unclear whether the increased conformance has translated into improved performance or if firms are engaged in 'box-ticking' that adds little or no value. If firms have engaged in 'box-ticking' more for the sake of appearance rather than effect, then little or no performance effect could be expected. However, the lower rate of adoption of some of the structural recommendations suggests that 'box-ticking' is not the sole motivation for the changes observed and that firms are being judicious in determining their optimal governance structure.

In general, the literature regards a majority independent board, an independent board chair and an audit committee as three of the most important governance attributes. By 2006, some 80 per cent of companies had formed an audit committee, whereas majority independent board and independent chair had relatively low adoption rates of 39 per cent and 53 per cent respectively. These findings suggest that the audit committee is potentially the most important governance mechanism for smaller firms and that it may be a substitute for board and chair independence. While corporate governance plays an accountability and monitoring role, the way in which it manifests in each company will depend on firm specific factors. In firms with dispersed shareholdings governance may have an important role in restricting excessive agency costs. In contrast, in younger and more tightly held firms the stewardship of the firm may emanate from the critical knowledge and experience of key insiders. In such firms, key corporate governance attributes such as an independent board chair and a majority independent board may be of less importance than the guidance of officers with a thorough knowledge and understanding of the company's business and operations (Kiel and Nicholson, 2003).

A key contribution of the paper is the insight provided into the nature of individual recommendations. Relative to other governance studies this study provides a deeper insight into the adoption of governance recommendations by disaggregating them into categories of structure, behaviour and disclosure and by comprehensively examining and revealing differences between categories. While the behaviour and disclosure categories have similar rates of adoption, the structural recommendations have been adopted at substantially lower rates. Although this is consistent with 'if not, why not' approach and the ASX guidance accompanying the recommendations, the higher rates of adoption for the behaviour and disclosure categories may be evidence of 'box-ticking', given differences in the cost of adopting different categories of recommendations. Changes in structural recommendations such as majority independent boards and the formation of committees have not been as high as the changes in policy-based recommendations, commonly explained by the sample firms as being for reasons of cost or lack of efficiency.

Of the 28 recommendations, four structural recommendations, the independence of the chair, the independence of the board, and the formation of nomination and remuneration committees, have the lowest levels of conformance. Not only are these the recommendations potentially the most costly to implement, they are also viewed within the governance literature as some of the most important. The comparatively low levels of conformance with these specific governance attributes suggests future research consider how the adoption of alternative governance practices in smaller firms is associated with performance outcomes. Evidence of the effectiveness of these practices is likely to be of considerable interest internationally to regulators, investors and other stakeholders.

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Appendix 1

The ASX Principles of Good Corporate Governance and Best Practice Recommendations

The essential corporate governance principles

1. Lay solid foundations for management and oversight
2. Structure the board to add value
3. Promote ethical and responsible decision-making
4. Safeguard integrity in financial reporting
5. Make timely and balanced disclosure
6. Respect the rights of shareholders
7. Recognise and manage risk
8. Encourage enhanced performance
9. Remunerate fairly and responsibly
10. Recognise the legitimate interests of stakeholders

Best practice recommendations

1.1 Formalise and disclose the functions reserved to the board and those delegated to management.
2.1 A majority of the board should be independent directors.
2.2 The chairperson should be an independent director.
2.3 The roles of chairperson and chief executive officer should not be exercised by the same individual.
2.4 The board should establish a nomination committee.
2.5 Provide the information indicated in Guide to reporting on Principle 2.
3.1 Establish a code of conduct to guide the directors, the chief executive officer (or equivalent), the chief financial officer (or equivalent) and any other key executives as to:
- 3.1.1 the practices necessary to maintain confidence in the company's integrity
- 3.1.2 the responsibility and accountability of individuals for reporting and investigating reports of unethical practices.

3.2 Disclose the policy concerning trading in company securities by directors, officers and employees.
3.3 Provide the information indicated in Guide to reporting on Principle 3.
4.1 Require the chief executive officer (or equivalent) and the chief financial officer (or equivalent) to state in writing to the board that the company's financial reports present a true and fair view, in all material respects, of the company's financial condition and operational results and are in accordance with relevant accounting standards.
4.2 The board should establish an audit committee.
4.3 Structure the audit committee so that it consists of:
- only non-executive directors
- a majority of independent directors
- an independent chairperson, who is not chairperson of the board
- at least three members.

4.4 The audit committee should have a formal charter.
4.5 Provide the information indicated in Guide to reporting on Principle 4.
5.1 Establish written policies and procedures designed to ensure compliance with ASX Listing Rule disclosure requirements and to ensure accountability at a senior management level for that compliance.
5.2 Provide the information indicated in Guide to reporting on Principle 5.
6.1 Design and disclose a communications strategy to promote effective communication with shareholders and encourage effective participation at general meetings.
6.2 Request the external auditor to attend the annual general meeting and be available to answer shareholder questions about the conduct of the audit and the preparation and content of the auditor's report.
7.1 The board or appropriate board committee should establish policies on risk oversight and management.
7.2 The chief executive officer (or equivalent) and the chief financial officer (or equivalent) should state to the board in writing that:
- 7.2.1 the statement given in accordance with best practice recommendation 4.1 (the integrity of financial statements) is founded on a sound system of risk management and internal compliance and control which implements the policies adopted by the board
- 7.2.2 the company's risk management and internal compliance and control system is operating efficiently and effectively in all material respects.

7.3 Provide the information indicated in Guide to reporting on Principle 7.
8.1 Disclose the process for performance evaluation of the board, its committees and individual directors, and key executives.

9.1 Provide disclosure in relation to the company's remuneration policies to enable investors to understand (i) the costs and benefits of those policies and (ii) the link between remuneration paid to directors and key executives and corporate performance.
9.2 The board should establish a remuneration committee.
9.3 Clearly distinguish the structure of non-executive directors' remuneration from that of executives.
9.4 Ensure that payment of equity-based executive remuneration is made in accordance with thresholds set in plans approved by shareholders.
9.5 Provide the information indicated in Guide to reporting on Principle 9.
10.1 Establish and disclose a code of conduct to guide compliance with legal and other obligations to legitimate stakeholders.