DETERMINANTS OF VOLUNTARY COMMUNICATION PATTERN: A LONGITUDINAL OBSERVATION

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ABSTRACT

The study examines determinants of voluntary disclosure of categories of information in the annual reports of 100 Malaysian listed firms over three very different time periods (1996, 2001 and 2006). These periods represent the earlier *laissez-faire* period, the middle period adjustments to the 1997 Asian financial crisis, and the latter post-Enron driven changes. Major reviews of financial reporting and corporate governance standards since the 1997 crisis provided the stimulus for extensive regulatory change. Although the extent of voluntary disclosure is low throughout the 11-year period, the results reveal that firms with enhanced corporate governance structure make more extensive disclosure in all categories of information in 2001 and, in particular, 2006. The results provide evidence that corporate governance structure should be considered in Malaysian regulatory process that seeks to improve corporate disclosure and transparency.

Keywords: voluntary disclosure, corporate governance, Malaysia

JEL Classification: M41

1.0 Introduction

Over the past decade, there has been a heightened interest in corporate governance, transparency, accountability and the need for more effective disclosure patterns to stakeholders. Rebuilding investor confidence in corporate disclosure is of paramount importance in today's competitive environment. Corporate voluntary disclosure refers to the release of information in excess of mandatory requirement and represents the free choice of the management to release this information (Meek, Roberts, and Gray 1995). Management decides which information needs to be disclosed and also determines on how relevant the information is to users who use it to make informed decisions. Rigorous disclosure systems enable management to allocate resources rationally and to operate the firm in accordance with strategic plans and business objectives.

Disclosure is a very important aspect of corporate governance in the sense that meaningful and adequate disclosure enhances good corporate governance (Mitton 2002). This study attempts to investigate the relation between corporate governance framework and the extent of voluntarily disclosed information in the annual reports of Malaysian companies. The OECD (2003, 37) recognises that "within the corporate sector, developing a more extensive disclosure is both necessary and desirable". Further, the OECD (2003) recommends disclosure of financial information, non-financial information, information relating to directors and key executives, management discussion and analysis and forward-looking information. The separation of voluntary disclosure into categories is desirable as it reflects variations in decision relevance for users (Meek, Roberts, and Gray 1995). This approach was adopted by Ferguson, Lam, and Lee (2002) and Leventis and Weetman (2004). Hence, the purposes of this study are: (i) to determine the extent of different categories of voluntary disclosure; and (ii) to determine the factors that are associated with different categories of voluntary disclosure by Malaysian listed firms over the period 1996 to 2006. A special focus is on the role of corporate governance in potentially influencing disclosure levels.

Before 1997, Malaysia was largely a laissez-faire system with accounting standards tempered by a largely self-regulation model with traditionally lower levels of government

involvement. The year 1997 then witnessed the worst financial crisis hitting the East Asian countries. The Asian financial crisis revealed a number of weaknesses related to questionable corporate governance practices. Malaysia was not spared from the crisis. Among the factors[1] contributed to the crisis in Malaysia included lack of corporate transparency, disclosure and accountability (Anwar and Tang 2003).

Responding to the 1997 financial crisis, the Malaysian regulatory bodies[2] were prompted to implement various reforms in this emerging economy characterised by weak market for corporate control in order to promote good disclosure and governance practices. The nature of these regulatory reforms was designed to enhance corporate transparency. This was expected to have an impact on firm management's incentives to disclose information voluntarily.

Global accounting scandals emanating from high profile corporate collapses in 2001 and 2002 generated further review over corporate accounting practices and the quality of financial information disclosed to investors. The Enron-Anderson debacle led to the enactment of the USA Sarbanes-Oxley Act 2001 (SOX) which was designed to reform not only corporate accounting but also corporate governance more broadly (Benston et al. 2003). The implementation of the SOX has fundamentally changed the corporate governance landscape by ensuring greater transparency, disclosure and accountability. Similarly, SOX had significant implications for Malaysia as more initiatives were undertaken to improve governance and disclosure.

Healy and Palepu (2001) suggested that a company's decision to engage in voluntary disclosure might be a response to innovation, globalisation or changes in business and capital market environment. The 1997 Asian economic crisis and the Enron-Andersen collapses initiated significant accounting and accountability reforms which were likely to influence the extent of information communicated to company stakeholders. This study is

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[1] The other major contributory factors include the political nepotism, cronyism and corruption; weak legal framework for protection of shareholders and creditors; and weak oversight by boards, high degree of ownership concentration; and a weak enforcement system (Liew 2006; Boo 2003).

[2] These regulatory bodies include the Securities Commission, Bursa Malaysia (previously known as Kuala Lumpur Stock Exchange), Ministry of Finance and Companies Commission of Malaysia.

motivated with the aim of providing a more detailed examination of the voluntary disclosure practices of Malaysian companies. It is expected that new determinants of voluntary disclosure may emerge following these reforms.

The sample consists of 100 firms listed on the Bursa Malaysia stock exchange in 1996, 2001 and 2006, representing a total of 300 firm-years. The study analyses these three key years because significant disclosure change occurred in the intervening period. Malaysia is a developing country with emerging markets with recent corporate reform demanding a richer disclosure environment and stronger corporate governance practices. According to the World Bank (2005), the Malaysian capital market has increased in economic importance in the South East Asian region. Malaysian firms are now challenged to provide credible disclosures and quality in financial reporting to ensure more informed economic decision making by stakeholders.

The results suggest that the strength of a firm's corporate governance structure is a significant predictor of the overall voluntary disclosure in years 2001 and 2006 following the economic reforms globally and within Malaysia. Specifically, the results show that corporate governance structure is positively associated with the decision to disclose corporate and strategic information and directors and senior management information regardless of the regulatory regime change. Firms with better governed structure are better at communicating voluntarily disclosed financial and capital market data information, forward-looking information, and social reporting information post the financial crisis.

This paper makes several contributions. First, the paper assigns an overall corporate governance score to each firm. Second, this study provides an in-depth investigation of the various categories of voluntary information disclosure within the period 1996 till 2006. Hence, this longitudinal study contributes to the small but growing body of literature that examines the firms' disclosure practices over time in Malaysia. This study will be of interest to regulators, policy makers, corporate and investors who expect a link between stronger governance and greater corporate transparency, particularly of interest to

regulators and investors who advocate the provision of various types of corporate information.

The paper is structured in the following way. The next section provides a brief account of the development of Malaysian accounting and regulatory environment. The third section discusses prior research and develops the hypotheses. Data and research method are described in the fourth section while the results are presented in fifth section. The final section provides the concluding comments.

2.0 Malaysian Accounting and Regulatory Environment

Prior to the 1997 financial crisis, the accounting practice in Malaysia was overseen by the professional accounting bodies, namely the Malaysian Institute of Accountants and Malaysian Institute of Certified Public Accountants. There was no concerted effort then to improve the governance practices (Abdul Rahman 2006). The regulatory regime governing the financial reporting practices was merit-based, under which regulators decided on the propriety of firm transactions. This regime effectively lowered market incentives for corporate voluntary disclosure.

In responding to the 1997 financial crisis, the Malaysian Ministry of Finance stated the need for a high level of finance expertise on corporate governance committee in March 1998 to deal with the weaknesses in the existing corporate governance framework in Malaysia. The rigorous consultation process resulted in the development of the Malaysian Code of Corporate Governance (MCCG) implemented by listed firms in 2001. During this period, the new financial reporting framework was developed wherein Financial Reporting Foundation and Malaysian Accounting Standard Board were set up under the Financial Reporting Act 1997. Further, the Securities Commission initiated the shift from a merit-based to disclosure-based regulatory framework in which market participants evaluate firm reporting practices. The shift to full disclosure-based regime embedded with high standards of disclosure, due diligence and corporate governance took place in 2001. At the same time, the revamped KLSE Listing Requirement released in 2001 was also widely recognised as a major milestone in Malaysian corporate governance reform through its

hope for impact on enhanced corporate disclosure. In addition, there were other regulatory reforms initiated in the wake of the crisis and corporate scandals. The Malaysian accounting and regulatory environment has undergone significant change to strengthen the capital markets. According to Millar et al. (2005), Malaysia appears to maintain similar corporate governance standards consistent with international best practice. The stated goal is that the development of this changed regulatory framework is likely to have had a significant impact on the disclosure of information voluntarily in the annual reports. This study examines this premise.

The Malaysian accounting landscape is further transformed when it adopted IFRS platform in 2006. However, the Malaysian corporate scene was shaken with a spate of financial reporting irregularities in 2007. In the wake of these Malaysian corporate collapses, further initiatives were introduced to restore confidence in the Malaysian capital market. These are: (i) the Capital Markets and Services Act 2007 (CMSA); and (ii) the revision of the MCCG to further strengthen corporate governance practices in 2008. Specifically, the revision entails the enactment of new rules to ensure the effectiveness of Board committees, particularly the audit and nomination committees. Both committees are tasked with the primary responsibility to select members who are expected to be more diligent in their oversight role for financial reporting process. Thus, the overall effect of the revised MCCG is to focus on the quality of disclosures in the corporate governance statement rather than the quantity (Sidek 2007).

3.0 Literature Review and Hypotheses Development

Using agency theoretical framework, Jensen and Meckling (1976) postulated that separation of ownership and control of a firm provides agent (manager) with the incentive to serve their personal interests at the expense of principal (shareholder) interests. In the context of the firm, a major issue is the information asymmetry between managers and shareholders. Managers possess information about the present and likely future performance of the firm that is superior to that acquired by shareholders. Managers can use their discretion to disclose or not disclose information depending on how this impacts on the wealth of not only themselves, but also all contracting parties to the firm (Watts and

Zimmerman 1990). Formal contracts are thus negotiated and written as a way of resolving agency conflicts. It may be possible that managers may voluntarily provide information in order to reduce bonding costs and encourage investors to invest in the company.

In this research, voluntary disclosure presents an excellent opportunity to apply agency theory. Managers who have better access to information can make credible and reliable communication to the market to enhance the value of the firm by reducing the costs of the agency relationship.

A number of prior studies have investigated various determinants of firms' voluntary disclosure practices. Most of these studies focus on the conventional firm-specific determinants such as size, leverage, industry and profitability (Chow and Wong-Boren 1987; Owusu-Ansah 1998; Leventis and Weetman 2004). There are a growing number of studies that focus on particular corporate governance attributes as drivers of voluntary disclosure (Haniffa and Cooke 2002; Eng and Mak 2003; Barako, Hancock, and Izan 2006; Ho and Wong 2001). These studies suggest that firms with effective processes, policies and systems in place in relation to corporate governance are expected to disclose more information of a discretionary nature. Indeed, Mitton (2002) states that disclosure is typically considered as an integral part of corporate governance. Very few studies focus on the strength of corporate governance structure and its effect on the firms' voluntary disclosure practices though Shleifer and Vishny (1997) maintain that a well-designed governance structure can help ensure the firm's disclosure policy is 'optimal'.

Empirical evidence on the link between disclosure and corporate governance structure is mixed. Byard, Li & Weintrop (2006) examines the association between corporate governance and the quality of information using a sample of analysts' forecasts for 2887 firm-years, representing 1279 U.S. firms, between 1999 and 2002. They found that better-governed firms have better quality information environment. Similarly, Beekes and Brown (2006) study the link between a firm's corporate governance 'quality' rating and the informativeness of its disclosures. Using a sample of 250 Australian firms, they document that better-governed firms do make more informative disclosure. On the other hand,

Coulton, James and Taylor (2001) find no evidence that corporate governance mechanism of the firm influences the level of CEO compensation disclosure following the change in reporting provisions in Australia. They conclude that corporate governance is either ineffective, or does not influence compensation disclosure.

Focusing on a specific type of information disclosure, prior studies have found a relation between forward-looking information and various corporate governance factors. Karamanou and Vafeas (2005) report that firms with more outside directors on the board, a lower level of managerial ownership, a higher level of institutional share ownership and a smaller audit committee tend to make management earnings forecasts. Similarly, Ajinkya, Bhojraj and Sengupta (2005) find the likelihood of making management earnings forecast is positively associated with more independent boards and greater institutional ownership. However, O'Sullivan, Percy and Stewart (2008) do not reach the similar conclusion over the two-year periods. They report a consistent finding that the overall efficacy of the corporate governance system leads to disclosure of forward-looking information in years 2000 only. No similar finding is reached for year 2002. They conclude that an increased application of corporate governance mechanism does not necessarily lead to a higher incidence of disclosure and question the effectiveness of such mechanisms in promoting greater transparency.

Given that stronger corporate governance mechanisms should lead to improved transparency, it is reasonable to expect that a stronger governance structure will be associated with greater voluntary disclosure. Drawing on the principles of the MCCG, overall corporate governance structure is based on board autonomy, board oversights and strong internal checks and balances. Consequently, a firm's overall governance score provides the basis of hypothesis H1:

H1: There is a positive association between the corporate governance structure and the extent of voluntary disclosure by Malaysian firms.

4.0 Research Methodology

4.1 Data Collection

Data are collected from the 1996 (representing earlier *laissez-faire* period), 2001 (post 1997 Asian financial crisis), and 2006 (post Enron and IFRS adoption period) annual reports of 100 Malaysian listed firms, representing a total of 300 firm-years. These sample firms are randomly selected from a population of 621 firms listed on the Bursa Malaysia Stock Exchange (formerly known as Kuala Lumpur Stock Exchange). The criteria of sample firms' selected are: (i) availability of annual reports of companies for all the three periods, (ii) companies selected in 1996 must remain listed on the stock exchange in the other periods; and (iii) all banks, unit trust, insurance and finance companies are excluded from the study due to different regulatory requirements.

The sample firms are equally represented in each sector classified according to Bursa Malaysia and Haniffa and Cooke (2002), which include: (i) trading/services sector; (ii) consumer products sector; (iii) industrial products sector; (iv) construction and property sector; and (v) plantation and mining sector.

4.2 Disclosure Index

The dependent variable is measured by a voluntary disclosure index (VDI) which comprises a comprehensive list of 84 voluntary disclosure items, shown in Appendix A. The selection of these items are based on the past literature such as Meek, Roberts, and Gray (1995); Barako, Hancock & Izan (2006); and Ghazali & Weetman (2006). All items are checked against accounting regulations to eliminate mandatory items. An independent external auditor confirmed that all the items in the final checklist are valid voluntary items. The complete contents of annual reports are scrutinized against the disclosure checklist which is classified into five categories as follows:

(1) The *corporate and strategy information* relates to firm background, market and competition, industry competitiveness and prevailing economic and political situations that can affect a firm's operational performance. Strategy impacts many aspects of a firm, and ultimately impacts on a firm's performance. Thus, strategy information becomes the fabric of a firm's disclosure in the annual reports. The survey carried out

by Ho & Wong (2004) indicates that strategy information disclosure is important to firms' stakeholders. Such non-financial information often proves fundamental to understanding the opportunities and risks of investing in a company.

(2) *Financial and capital market data information* concerns the historical information presented in the accounts, including the key financial ratios, the review of the firm's performance, wealth creation; as well as the trend of volume of shares traded, market capitalization and share prices. This quantitative information improves the overall understanding of the factors that play a role in the performance and future growth of a company and may be of particular relevance for decision-making. This information constitutes the bedrock of disclosure especially to investors.

(3) *Directors and senior management* concerns information about their qualification, experience and positions held in the firm. It is reported in OECD (2003) that companies in Asia (including Malaysia) generally provide scant information on the backgrounds and remuneration of directors and key executives.

(4) *Forward-looking disclosure*s refer to the information that relates to future prospects, forecasts, and potential of a firm. This information provide insights into material issues facing a company but OECD (2003) reports that Asian companies often provide little guidance on this.

(5) *Corporate social reporting* (CSR) covers information about corporate philanthropy, environment, employees, and other information pertinent to society. CSR, by itself, has been the subject of substantial academic research. Voluntary disclosure of this information may be used to reinforce the community's perception of management's responsiveness to specific social responsibility issues and to legitimize corporate actions (Wilmshurst and Frost 2000; Gray, Kouhy, and Lavers 1995).

A VDI score was calculated for each firm for each period. An item scores 1 if disclosed and 0 if it is not, subject to the applicability of the item concerned. The VDI score for each

company is additive and unweighted (Cooke 1989a). A firm's voluntary disclosure index (VDI) is defined as the ratio of actual disclosures to the maximum possible score. The VDI, calculated for each firm in each period, is as follows:

$$VDI_{jt} = \frac{\text{actual disclosures for each firm}}{\text{Maximum possible disclosure score}}$$

Where,

VDI_{jt} = Voluntary Disclosure Index for firm j year t. This index will be calculated separately for each company in each of the three key years.

4.3 Independent Variable

Gompers, Ishii & Metrick (2003) argue that a direct measure of the governance is not only necessary but also more effective. They established a measure of the corporate governance structure of a firm through merger and acquisition criteria. Following Taylor et al. (2006) and Chen et al. (2007), this study combines corporate governance characteristics into one composite index to proxy for the measure of a firm's corporate governance structure. Based on the Malaysian Code on Corporate Governance, thirteen corporate governance attributes are derived to construct a proxy composite measure of the corporate governance structure of a firm. These thirteen attributes are composed of board autonomy, board committees, and internal control system items. The composite measure, corporate governance scores (CGS) is created to capture the strength of a firm's corporate governance structure, where a value of one or zero is assigned to each of the corporate governance attributes as outlined in Table 1. All of these thirteen attributes are treated equally. The CGS, measured as a percentage, was treated as a continuous variable in the statistical analysis.

[Insert TABLE 1 here]

The disclosure decision is a complex and multi-faceted one and it is appropriate to consider the simultaneous effects of the independent and control variables on the disclosure outcome (Labelle 2002). This study also includes the standard control variables of firm size, leverage and industry in the statistical analysis.

4.4 Regression Model

Multivariate analysis using ordinary least square regressions (OLS) is performed to examine if there are differences in factors that influence a firm's disclosure of the five categories of information. To investigate the explanatory power of the corporate governance structure, for each year, a separate regression model is tested for each category of disclosure.

5.0 Results and Analysis

5.1 Descriptive Results

Table 2 reports the univariate statistics comprising descriptive results and paired t-test for the dependent variable over the observation period. The table indicates that the extent of overall voluntary disclosure in the sample companies is relatively low though there is an improvement in the extent of firm's voluntary disclosure in firms' annual reports over the eleven-year study period. Voluntary disclosure increased from a mean of 22.9% in 1996 to 30.4% by 2001 and then again rising to 34.12% in 2006.

Paired t-tests (Table 3, Panel B) are performed to examine differences between the means of the VDIS over the study period. VDIS between two periods is statistically significant at the 1% level. The largest change in mean VDIS occurs between 1996 and 2001 (32.2%) but a moderate change of 12.3% between 2001 and 2006. Over the eleven-year study period, the change in mean VDIS between 1996 and 2006 is 48.5%. The result suggests that firms are disclosing greater information of discretionary nature in the post financial crisis period compared to pre-financial crisis period. The greater increase in voluntary information disclosure between 1996 and 2001 suggests firms' effort in enhancing transparency and accountability through the release of information on voluntary basis in annual reports as a vehicle to communicate to its stakeholders during this volatile time period. The global corporate scandals and the external regulatory pressures provided some stimulus to engaging in greater voluntary disclosure amongst the sample firms albeit the moderate increase between 2001 and 2006.

[Insert TABLE 2 here]

Table 3 reports the descriptive statistics of each categories of information over the observation period. The extent of disclosure for each category of information increases from 1996 to 2006. There is a marked increase in disclosure of directors and senior management information from 1996 (pre-financial crisis) to 2001 (post crisis). In addition, social reporting information shows a greater percentage increase from 1996 to 2006. All the other categories namely, corporate and strategy information, financial and capital market data information, and forward-looking information demonstrate a moderate increase over the observation period.

[Insert TABLE 3 here]

In Table 4, paired t-tests are performed and reported that the mean of the distribution of differences in the values of disclosure index of each category of information is not zero. The increase in mean disclosure index between two periods is statistically significant at the 1% level. The percentage increase in mean VDIS from 1996 to 2001 is greater than the percentage increase from 2001 to 2006 across all categories of information. Firms are disclosing far more information of a discretionary nature in the post financial crisis period compared to the pre-crisis and post Enron and IFRS.

[Insert TABLE 4 here]

5.2 Regression Results

Table 5 presents the regression results of the overall VDIS and each of the disclosure index categories. In relation to the overall VDIA, the explanatory power of the model as indicated by the values of adjusted R-squared are 41.6 per cent in 1996, 48.1 per cent in 2001 and 51.7 per cent in 2006. The model is highly significant ($p < .001$) in all three periods. More importantly, a positive and statistically highly significant association between sample firms' overall VDIS and corporate governance score (CGS) exists in 2001 ($p < 0.01$) and 2006 ($p < 0.01$). These results support predictions of a positive association between overall voluntary disclosure and the strength of corporate governance structure of all sample firms.

[Insert TABLE 5 here]

The categorisation of disclosure into five categories yields further insights into the overall voluntary disclosure. Table 5 shows that the amount of explained variation in information categories increases over the years. It is found that independent and control variables have different levels of association with the five separate categories of voluntary information.

Table 5 indicates that corporate and strategy information (CSI) is influenced by the strength of a firm's CGS in all observation periods (1996: $p < 0.01$; 2001: $p < 0.05$; $p < 0.001$). The results suggest that the strength of a firm's corporate governance structure is a potentially important determinant of a firm's corporate and strategy disclosure policy. Firm size (FSIZE), the control variable, is a consistently significant predictor in explaining the variability of firms' disclosure of CSI. The association between CSI and leverage (LEV) is not statistically significant in all years. The type of industry in which a firm operates shows a sporadic association with CSI. Firms in industrial product sector are more likely to disclose this type of information in all years.

Table 5 shows that the strength of a firm's CGS is significantly and positively associated ($p < 0.05$ and $p < 0.01$ respectively) with financial and capital market information FCMI in 2001 and 2006. This may possibly be due to the fact that the enhanced governance strategies adopted in the wake of the financial crisis and rampant corporate scandals have made firms more accountable with the financial information. Financial information may be more directly associated with proprietary cost as, through disclosing information that could be helpful to competitors, firms with better governance structure may fear this cost less and may be inclined to disclose relevant information. Firms with better governance structure disclose more information of such nature because they are more likely to be oriented towards the capital market and may fare better by the investment community. Again, FSIZE is a consistently significant predictor in explaining the variability of firms' disclosure of FCMI. The association between FCMI and LEV is not statistically significant in all years except in 1996. The type of industry in which a firm operates shows a sporadic association with the release of financial and capital market data information.

CGS is positive and significant (1996: $p < 0.001$; 2001: $p < 0.05$; $p < 0.01$) predictor of the extent of voluntary disclosure of directors and senior management information (DSMI) in all years. The results suggest that firms with enhanced corporate governance structure are associated with higher levels of voluntary disclosure of this type. FSIZE is consistently a significant predictor in explaining the variability of firms' disclosure of DSMI. LEV and the type of industry in which a firm operates show no significant association with the disclosure of directors and senior management information.

A firm's governance structure also has an effect on the decision to voluntarily disclose forward-looking information (FLI). Table 5 (Panels B and C) shows that CGS is statistically significant at the 10% and 5% levels in 2001 and 2006 respectively. This indicates that the strength of the firm's corporate governance framework is positively associated with the disclosure of forward-looking information in annual reports. It appears that the uncertainty environment following the financial crisis and corporate scandals could have impacted on the willingness of Malaysian firms to disclose information about the future. FSIZE is a consistently significant predictor in explaining the variability of firms' disclosure of FLI. The association between FLI and LEV is not statistically significant in all years. The type of industry in which a firm operates shows sporadic association with the disclosure of forward-looking information but firms in construction and property sector and plantation sectors tend to voluntarily disclose this type of information.

CGS becomes the significant predictor of the extent of voluntary disclosure of social reporting (SRI) in 2001 and 2006. It is positively and statistically significant at the 1% level in both years, suggesting that the strength of the firm's corporate governance framework is positively associated with the disclosure of social information in annual reports. This may be because these companies have a major impact on society and may wish to discharge their social responsibility especially after the forceful external pressures such as the financial crisis and corporate collapses. FSIZE is a consistently significant predictor in explaining the variability of firms' disclosure of SRI. The association between SRI and LEV is not statistically significant in all years. The type of industry in which a

firm operates shows sporadic association with the disclosure of social information but firms in consumer product sector tend to voluntarily disclose this type of information.

The above results are consistent with the hypothesized relationship that the strength of a firm's corporate governance structure is a potentially important determinant of a firm's disclosure policy with regard to the categories of voluntary information particularly, after the introduction of the Malaysian Code of Corporate Governance in the wake of the 1997 Asian financial crisis.

6.0 Conclusion

The study examines the effect of the strength of corporate governance structure in influencing the extent of voluntary disclosure made by management in the period 1996 to 2006. A noteworthy contribution of this study to the current body of governance and disclosure research is that it provides empirical evidence of a positive association between the firm's overall governance structure and the extent of voluntary disclosure after the regulatory regime change.

Most importantly, the results show that the strength of corporate governance structure has explanatory power in each of the five separate categories of information. There is a significant and positive association between corporate governance structure and firms' corporate and strategy disclosure, and directors and senior management disclosure. However, the statistical association effect of these two categories of information works differently. The weakening of statistical association between a firm's corporate governance structure and corporate and strategic information over time suggests that the enhancement of corporate governance structure does not appear to lead to higher level of voluntary disclosure, and vice versa for the director and senior management disclosure category. The results also reveals that firms with enhanced corporate governance structure have significantly and positively associated with forward-looking disclosure, financial and capital market data disclosure, and social reporting disclosure in years 2001 and 2006. This suggests that corporate governance structure only becomes the potentially important determinant post financial crisis when regulatory features are enhanced and put in place.

The results also highlight an important finding in relation to the effect of the enhanced regulatory framework on firm's voluntary disclosure practice. It shows that the strength of the association between the strength of corporate governance structure and voluntary disclosure under the enhanced regulatory regime is stronger than under the merit-based regime. Thus, the results suggest that firms may voluntarily disclose more information in reaction to the enhanced regulatory regime following the environmental change.

The analysis shows that the enhanced corporate governance structure as a result of the changed regulatory framework has had the impact on corporate communication patterns. The results are of interest to Malaysian regulators and investors, both local and foreign, as they demonstrate that the attributes that made up the corporate governance 'package' appears to be necessary to provide greater corporate disclosure and transparency.

The study has a number of limitations. The use of index of governance mechanisms to arrive at an overall corporate governance score involves attaching an equal weighting to the various governance attributes. This assumes that every attribute is equally important to all firms. Further, as highlighted by Larcker, Richardson and Tuna (2005), using summary measure of corporate governance characteristics has the potential to mask major underlying relationships. Another concern from the study arising from the use of the self-constructed disclosure indices is that only the existence of certain disclosures are measured and not the informativeness of the disclosed items. Relative informativeness across different disclosure items is likely to vary according to who the users of the financial information are. Thus, it becomes impossible to obtain a universally acceptable weighting scheme. Further, voluntary disclosure is solely constructed on the information disclosed in the annual reports. Although press release and conference calls are uncommon for Malaysian companies, the possibilities of these forms of alternative disclosures are not analysed in this study.

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TABLE 1: Corporate governance characteristics comprising the index

	Characteristics	Scoring
1	Are the roles of the chairman Chief Executive Officer performed by different persons?	Yes = 1 No = 0
2	Do independent non-executive directors comprise at least one-third of the board membership?	Yes = 1 No = 0
3	Does the board have defined policy of management responsibilities of the board and CEO?	Yes = 1 No = 0
4	Is audit committee chaired by independent non-executive directors?	Yes = 1 No = 0
5	Does audit committee comprise at least three directors, majority of whom are independent?	Yes = 1 No = 0
6	At least two members of audit committee have accounting or related financial management expertise	Yes = 1 No = 0
7	Is remuneration committee chaired by independent non-executive director?	Yes = 1 No = 0
8	Does remuneration committee consist wholly of non-executive directors?	Yes = 1 No = 0
9	Is structured remuneration policy in place, where remuneration to directors is contingent of performance?	Yes = 1 No = 0
10	Is there any disclosure of the details of remuneration to each director in the annual report?	Yes = 1 No = 0
11	Does nomination committee consist exclusively of non-executive directors, majority of whom are independent?	Yes = 1 No = 0
12	Does nomination committee adopt a formal procedure for appointments to the board?	Yes = 1 No = 0
13	Does the company maintain sound system of internal control - financial, operational, compliance and risk management - to safeguard shareholders' investment and companies' assets?	Yes = 1 No = 0

TABLE 2: Univariate Statistics of firms' VDIS

Panel A: Descriptive Statistics	1996	2001	2006
Mean	22.972	30.375	34.116
Median	22.564	29.638	33.542
Standard Deviation	11.309	13.594	17.114
Sample variance	127.891	184.808	292.912
Minimum	1.170	5.880	6.490
Maximum	54.880	71.950	80.490
Kurtosis	-0.014	0.108	-0.38
Skewness	0.484	0.591	0.522

Panel B: Paired t-test	1996-2001	2001-2006	1996-2006
Mean of paired differences	7.403	3.741	11.144
% change VDIS ($VDIS_t$ -$VDIS_{t-1}$)	32.226	12.316	48.511
Correlation	0.814*	0.819*	0.748*
Hypothesized Mean Difference	0	0	0
df	99	99	99
t-Stat	-9.371	-4.393	-10.049
P(T<=t) one-tail	0.000	0.000	0.000
t Critical one-tail	1.660	1.660	1.660

Legend: VDIS=voluntary disclosure index score. Paired sample t-test results for mean VDIS for sample firms performed by comparing 1996 with 2001, 2001 and 2006, and 1996 and 2006. The percentage change in mean VDIS ($VDIS_t$ -$VDIS_{t-1}$) between two years is shown. The correlation between paired samples is significant at the 1% level. The one-tailed significance is reported because of the directional nature of the proposition that there is an increase in the extent of voluntary disclosure over the eleven-year study period.

TABLE 3: Descriptive statistics of categories of information

	Mean	Std. Dev.	Minimum	Maximum
Dependent variables				
1996				
CSI	0.3480	0.1500	0.0000	0.7308
FCMI	0.2500	0.1883	0.0000	0.7778
DSMI	0.1508	0.2517	0.0000	1.0000
FLI	0.2306	0.1374	0.0000	0.7000
SRI	0.1004	0.1296	0.0000	0.5652
2001				
CSI	0.4109	0.1843	0.0000	0.8077
FCMI	0.3056	0.1940	0.0000	0.8333
DSMI	0.4467	0.2114	0.0000	1.0000
FLI	0.2702	0.1358	0.0000	0.6000
SRI	0.1757	0.189	0.0000	0.6957
2006				
CSI	0.4430	0.2075	0.0000	0.8462
FCMI	0.3389	0.2006	0.0000	0.8889
DSMI	0.5075	0.2327	0.2500	1.0000
FLI	0.3119	0.1469	0.0000	0.7273
SRI	0.2383	0.244	0.0000	0.8261

Legend: CSI = corporate and strategic disclosure index; FCMI = financial and capital market data disclosure index; DSMI = directors and senior management disclosure index; FLI = forward-looking disclosure index; and SRI = social reporting disclosure index.

TABLE 4: Paired t Tests for Mean VDIS by Categories of Information

CSI	1996	2001	2006	% change 2006-1996
Mean	34.802	41.091	44.304	
% change CSI (CSI_t -CSI_{t-1})		18.071	7.819	27.303
Correlation		0.646	0.703	0.598
t-Stat		-4.367	-2.108	-5.644
P(T<=t) one-tail		0.000	0.018	0.000
FCMI	1996	2001	2006	% change 2006-1996
Mean	25.007	30.568	33.898	
% change *FCMI* ($FCMI_t$ - $FCMI_{t-1}$)		22.238	10.894	35.592
Correlation		0.778	0.718	0.642
t-Stat		-4.369	-2.243	-5.398
P(T<=t) one-tail		0.000	0.013	0.000
DSMI	1996	2001	2006	% change 2006-1996
Mean	15.083	44.667	50.750	
% change *DSMI* ($DSMI_t$ - $DSMI_{t-1}$)		196.141	13.618	236.471
Correlation		0.589	0.627	0.431
t-Stat		-13.889	-3.156	-13.772
P(T<=t) one-tail		0.000	0.001	0.000
FLI	1996	2001	2006	% change 2006-1996
Mean	23.059	27.025	31.189	
% change *FLI* (FLI_t - FLI_{t-1})		17.199	15.408	35.257
Correlation		0.422	0.371	0.553
t-Stat		-2.701	-2.621	-6.037
P(T<=t) one-tail		0.004	0.005	0.000
SRI	1996	2001	2006	% change 2006-1996
Mean	10.043	17.565	23.827	
% change *SRDI* (SRI_t - SRI_{t-1})		74.898	35.650	137.25
Correlation		0.687	0.757	0.664
t-Stat		-5.477	-3.928	-7.439
P(T<=t) one-tail		0.000	0.000	0.000

Legend: CSI = corporate and strategic disclosure index; FCMI = financial and capital market data disclosure index; DSMI = directors and senior management disclosure index; FLI = forward-looking disclosure index; and SRI = social reporting disclosure index. For each category of information, the hypothesized mean difference = 0; df = 99; and t critical one-tailed = 1.660.

TABLE 5: Multiple Regression: Categories of Information

Panel A: 1996	Overall VDIS		CSI		FCMI		DSMI		FLI		SRI	
	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value
Intercept	-58.018 (-5.249)	0.000*	-69.336 (-4.419)	0.000*	-37.695 (-1.780)	0.078***	-103.939 (-3.554)	0.001*	-51.445 (-3.139)	0.002*	-61.400 (-4.062)	0.000*
CGS	0.072 (0.799)	0.213	0.111 (1.329)	0.093***	-0.007 (-0.078)	0.531	0.152 (1.640)	0.052***	-0.068 (-0.714)	0.239	0.059 (0.632)	0.264
FSIZE	11.228 (6.935)	0.000*	0.654 (7.075)	0.000*	0.312 (3.135)	0.001*	0.347 (3.378)	0.000*	0.483 (4.578)	0.000*	0.420 (4.075)	0.000*
LEV	-5.223 (-1.091)	0.139	-0.085 (-0.910)	0.1825	-0.150 (-1.497)	0.069***	0.051 (0.489)	0.687	0.007 (0.062)	0.524	0.024 (0.231)	0.591
Industry												
CP	2.336 (0.773)	0.425	0.280 (2.500)	0.007*	-0.259 (-2.151)	0.017**	-0.156 (-1.254)	0.106	0.181 (1.417)	0.080***	0.121 (0.967)	0.168
IP	2.683 (0.898)	0.399	0.288 (2.634)	0.005*	-0.142 (-1.204)	0.116	-0.131 (-1.073)	0.143	0.106 (0.848)	0.199	0.028 (0.233)	0.408
Constn	1.282 (0.437)	0.646	0.160 (1.470)	0.072**	-0.156 (-1.332)	0.093***	-0.071 (-0.592)	0.278	0.281 (2.269)	0.013**	0.036 (0.300)	0.382
TradServ	-	-	-	-	-	-	-	-	-	-	-	-
Plantn	4.844 (1.494)	0.141	0.163 (1.348)	0.090***	0.065 (0.501)	0.309	0.092 (0.687)	0.247	0.267 (1.939)	0.028**	0.091 (0.675)	0.250
Adjusted R^2		0.416		0.358		0.258		0.208		0.165		0.202
F-value		9.806		7.914		5.308		4.258		3.451		4.134
Significance		0.000*		0.000*		0.000*		0.000*		0.002*		0.000*

Legend: Table 6.2 provides the results of multiple regression. Dependent variables: CSI = corporate and strategy disclosure index; FCMI = financial and capital market data disclosure index; DSMI = directors and senior management disclosure index; FLI = forward-looking disclosure index; and SRI = social reporting disclosure index. Independent variables: CGS = corporate governance score and OCON = ownership concentration. Control variables: FSIZE = firm size; LEV = leverage; CP= consumer product sector; IP = industrial product sector; Constn = construction and property sector; TradServ = trading and service sector; and Plantn = plantation sector. Associations *, ** and *** are statistically significant at the 1%, 5% and 10% levels respectively (1-tailed). The coefficients of the excluded industry dummy variables are all 1.000 since they act as benchmarks for the included industry dummies. The Variance Inflation Factor (VIF) indicates

a problem if the factor exceeds 10 (Neter et al. 1983). Since the VIF in this study, not reported, did not exceed 2.500 for any variable in any of the models, it is concluded that multicollinearity is not a serious problem.

TABLE 5: Multiple Regression: Categories of Information continued

Panel B: 2001	Overall VDIS		CSDI		FCMDI		DSMDI		FLDI		SRDI	
	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value
Intercept	-58.243 (-5.425)	0.000*	-82.678 (-4.812)	0.000*	-47.668 (-2.507)	0.007*	-83.939 (-3.554)	0.001*	-17.509 (-1.124)	0.132	-75.339 (-3.804)	0.000*
CGS	0.209 (3.719)	0.000*	0.187 (2.206)	0.015**	0.205 (2.295)	0.012**	0.152 (1.640)	0.052**	0.166 (1.583)	0.058***	0.288 (3.013)	0.001*
FSize	12.408 (6.346)	0.000*	0.580 (6.083)	0.000*	0.358 (3.575)	0.000*	0.347 (3.378)	0.000*	0.348 (2.962)	0.002*	0.369 (3.441)	0.000*
Lev	-1.601 (-0.281)	0.389	-0.044 (-0.436)	0.332	0.015 (0.140)	0.555	0.051 (0.489)	0.313	-0.126 (-1.019)	0.155	0.008 (0.075)	0.529
Industry												
CP	0.604 (0.183)	0.855	0.130 (1.161)	0.124	-0.293 (-2.495)	0.007*	-0.156 (-1.254)	0.106	0.086 (0.626)	0.267	0.212 (1.689)	0.047**
IP	-0.355 (-0.103)	0.918	0.166 (1.524)	0.065***	-0.254 (-2.221)	0.014**	-0.131 (-1.073)	0.143	0.045 (0.338)	0.368	0.079 (0.644)	0.260
Constn	-0.164 (-0.049)	0.961	0.168 (1.620)	0.054***	-0.185 (-1.699)	0.046**	-0.071 (-0.592)	0.278	0.059 (0.461)	0.323	0.072 (0.620)	0.269
TradServ	-1.753 (-0.489)	0.626	-	-	-	-	-	-	-	-	-	-
Plantn	-	-	-0.006 (-0.055)	0.478	0.073 (0.608)	0.272	0.092 (0.687)	0.247	-0.129 (-0.921)	0.180	0.139 (1.082)	0.141
Adjusted R^2		0.481		0.406		0.344		0.208		0.101		0.250
F-value		12.563		9.474		7.503		4.258		2.385		5.131
Significance		0.000*		0.000*		0.000*		0.000*		0.011**		0.000*

Legend: Table 6 provides the results of multiple regression. Dependent variables: CSI = corporate and strategy disclosure index; FCMI = financial and capital market data disclosure index; DSMI = directors and senior management disclosure index; FLI = forward-looking disclosure index; and SRI = social reporting disclosure index. Independent variables: CGS = corporate governance score and OCON = ownership concentration. Control variables: FSIZE = firm size; LEV = leverage; CP= consumer product sector; IP = industrial product sector; Constn = construction and property sector; TradServ = trading and service sector; and Plantn = plantation sector. Associations *, ** and *** are statistically significant at the 1%, 5% and 10% levels respectively (1-tailed). The coefficients of the excluded industry dummy variables are all 1.000 since they act as benchmarks for the included industry dummies. The Variance Inflation Factor (VIF) indicates a problem if the factor exceeds 10 (Neter et al. 1983). Since the VIF in this study, not reported, did not exceed 2.500 for any variable in any of the models, it is concluded that multicollinearity is not a serious problem.

TABLE 5: Multiple Regression: Categories of Information continued

Panel C: 2006	Overall VDIS		CSDI		FCMDI		DSMDI		FLDI		SRDI	
	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value	Coeff. (t Stat)	P-Value
Intercept	-59.361 (-7.476)	0.000*	-61.973 (-8.710)	0.000*	-105.128 (-5.103)	0.000*	-96.795 (-3.571)	0.000*	-59.907 (-3.264)	0.001*	-77.972 (-6.912)	0.000*
CGS	0.270 (2.877)	0.002*	0.230 (3.422)	0.000*	0.109 (1.416)	0.080***	0.338 (3.855)	0.000*	0.200 (2.126)	0.018**	0.206 (2.591)	0.005*
FSIZE	18.860 (8.743)	0.000*	0.732 (9.616)	0.000*	0.551 (6.314)	0.000*	0.364 (3.678)	0.000*	0.389 (3.669)	0.000*	0.611 (6.819)	0.000*
LEV	1.690 (0.314)	0.377	0.095 (1.120)	0.133	0.004 (0.044)	0.517	0.123 (1.109)	0.135	0.112 (0.948)	0.173	0.067 (0.674)	0.251
Industry												
CP	-	-	0.316 (3.338)	0.000*	0.036 (0.330)	0.371	0.117 (0.949)	0.172	0.163 (1.235)	0.110	0.332 (2.973)	0.002*
IP	-4.580 (-1.207)	0.230	0.303 (3.316)	0.000*	-0.071 (-0.677)	0.250	-0.082 (-0.692)	0.245	0.266 (2.089)	0.020**	0.121 (1.127)	0.131
Constn	-3.067 (-0.772)	0.442	0.319 (3.625)	0.000	0.032 (0.320)	0.375	0.056 (0.492)	0.312	0.262 (2.136)	0.018**	0.144 (1.385)	0.084***
TradServ	-11.468 (-2.687)	0.004*	-	-	-	-	-	-	-	-	-	-
Plantn	-4.992 (1.214)	0.228	0.184 (1.848)	0.034**	0.309 (2.701)	0.004*	-0.013 (-0.098)	0.461	0.218 (1.569)	0.060***	0.303 (2.576)	0.006*
Adjusted R^2		0.517		0.567		0.431		0.267		0.158		0.398
F-value		14.073		17.194		10.355		5.509		3.317		9.196
Significance		0.000*		0.000*		0.000*		0.000*		0.001*		0.000*

Legend: Table 6.2 provides the results of multiple regression. Dependent variables: CSI = corporate and strategy disclosure index; FCMI = financial and capital market data disclosure index; DSMI = directors and senior management disclosure index; FLI = forward-looking disclosure index; and SRI = social reporting disclosure index. Independent variables: CGS = corporate governance score and OCON = ownership concentration. Control variables: FSIZE = firm size; LEV = leverage; CP= consumer product sector; IP = industrial product sector; Constn = construction and property sector; TradServ = trading and service sector; and Plantn = plantation sector. Associations *, ** and *** are statistically significant at the 1%, 5% and 10% levels respectively (1-tailed). The coefficients of the excluded industry dummy variables are all 1.000 since they act as benchmarks for the included industry dummies. The Variance Inflation Factor (VIF) indicates a problem if the factor exceeds 10 (Neter et al. 1983). Since the VIF in this study, not reported, did not exceed 2.500 for any variable in any of the models, it is concluded that multicollinearity is not a serious problem.

APPENDIX A: VOLUNTARY DISCLOSURE CHECKLIST

	General and strategic information
1.	Financial highlights – 5 years and more
2.	Pictures of major types of product
3.	Discussion of company's major products / services / projects
4.	Information on new product development
5.	Discussion of industry trends (past)
6.	Information on acquisitions and expansion
7.	Statement of ways of improvement in product quality
8.	General statement of corporate strategy
9.	Organization structure / group chart
10.	Information relating to the general outlook of the economy
11.	Discussion of competitive environment
12.	Information on disposal and cessation
13.	A statement of corporate goals
14.	Vision and mission statement
15.	Description of marketing and distribution network for products/services
16.	Statement of ways of improvement in customer service
17.	Discussion of principal markets
18.	Actions taken during the year to achieve the corporate goal
19.	Brief history of the company
20.	Significant events calendar
21.	Reasons for the acquisitions & expansion
22.	Impact of strategy on current results
23.	Discussion about major regional economic development
24.	Reasons for the disposal and cessation
25.	Description of R&D projects
26.	Impact of competition on current profit
27.	Company's contribution to the national economy
28.	Information about regional political stability
	Financial and capital market data information
29.	Review of current financial results and discussion of major factors underlying performance
30.	Review of operations by divisions - operating profit
31.	Segmental reporting on size, growth rate on product market
32.	Segment reporting on all lines of business production data
33.	Segmental reporting on geographical capital expenditure
34.	Review of operations - productivity
35.	Share price information (trend)

36.	Share price information (year end)
37.	Effect of disposal & cessation on results
38.	Key financial ratios eg. return on assets, return on shareholders' funds, leverage, liquidity
39.	Effect of acquisitions & expansion on results
40.	Volume of shares traded (trend)
41.	Volume of shares traded (year end)
42.	Analysis of distribution of shareholdings by type of shareholders
43.	Domestic and foreign shareholdings breakdown
44.	Segmental reporting on geographical production
45.	Statement concerning wealth created eg. Value Added Statement
46.	Market capitalization (year end)
47.	Segmental reporting on size, growth rate on product market
	Directors and senior management information
48.	Academic and professional qualifications of directors
49.	Position or office held by executive directors
50.	Picture of senior management team
51.	Senior management responsibilities, experience and background
	Forward-looking information
52.	Discussion of specific external factors affecting company's prospects (economy, politics, technology)
53.	Discussion of company's prospects (general)
54.	Discussion of likely effect of business strategy on future performance
55.	Discussion of future industry trend
56.	Discussion of future products/services research and development activities
57.	Planned research and development expenditure
58.	Planned capital expenditure
59.	Planned advertising and publicity expenditure
60.	Key financial data (quantitative) forecasts eg. sales revenues, profit, earnings per share
61.	Qualitative forecasts of sales, revenues, profits, EPS
62.	Forecast assumptions provided
	Social reporting information
63.	General philanthropy
64.	Participation in government social campaigns
65.	Community programs (health and education) implemented
66.	Statement of company environmental policies
67.	Environmental protection program implemented
68.	Awards for environmental protection
69.	Support rendered for public/private action designed to protect environment

70.	Employee's appreciation
71.	Picture of employees' welfare
72.	Discussion of employees' welfare
73.	Number of employees for the last two or more years
74.	Breakdown of workforce by line of business distribution
75.	Categories of employees by level of qualifications
76.	Corporate policy on employee training
77.	Amount spent on training
78.	Nature of training provided
79.	General redundancy / retrenchment information
80.	Indication of employee morale e.g. turnover, strikes and absenteeism
81.	Information about employee workplace safety
82.	Standard injury, lost day, and absentee rates and number of fatalities
83.	Health and safety standards
84.	Discussion of product safety
85.	Statement of corporate social responsibility