Corporate governance, ownership structure and voluntary disclosure: Evidence from listed firms in Malaysia

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Abstract

This paper examines the impact of corporate governance and ownership structure on voluntary disclosure practices of Malaysian listed firms. The extent of voluntary disclosure is determined for a matched-sample of 100 listed firms in three different disclosure regimes during 1996, 2001 and 2006. The findings suggest that regulatory reforms over the 1996-2006 period resulted in enhanced corporate transparency and accountability as reflected in more extensive voluntary disclosures. We provide empirical evidence that the extent of voluntary disclosures is significantly associated with the strength of corporate governance structure in 2001 and 2006 and with ownership structure in 1996, 2001 and 1996. . The findings of this study are of use to regulators in terms of guiding policy development regarding corporate transparency of publicly listed firms.

Key words: Voluntary disclosure; corporate governance, ownership structure, disclosure-based regime, ownership concentration, agency theory, Malaysian Code of Corporate Governance, corporate transparency and accountability, corporate communication, Malaysia

1.0 Introduction

The regulatory constraints of stock exchanges play an important role in the economic development of emerging or developing economies. Over the past decade, the Bursa Malaysia Stock Exchange (BMSE) has become an increasingly important avenue for listed firms to access capital. Disclosure of corporate information to stakeholders is essential in order for listed firms to raise capital. Hutton (2004) attests that corporate voluntary disclosure continues to be important because information is vital for the efficient functioning of capital markets and in building investor confidence.

The extent of voluntary disclosure has been an area of interest to accounting researchers over the two past decades. Healy & Palepu (2001, p.407) believe that "financial accounting and disclosure will continue to be a rich field of empirical inquiry". Beattie (2005) attributes changes in the business environment to the burgeoning research into voluntary disclosure. The 1997 crisis and the rampant corporate collapses provide examples of significant environmental change that have shaped corporate reporting and the governance landscape towards one characterized by greater transparency and accountability.

This study investigates the determinants of voluntary disclosure practices of listed firms in Malaysia. The research questions are: (i) what is the extent of voluntary disclosures in the annual reports of Malaysian listed firms in the 1996, 2001 and 2006 financial years?; and (ii) are there statistically significant associations between the strength of corporate governance and ownership structure and the extent of voluntary disclosure of these firms? As Barako (2004) finds no great variation in the pattern of disclosure practices between consecutive years, this study evaluates the trend in disclosure practices at three key points in time: 1996, 2001 and 2006. The period 1996-2006 encompasses the Asian financial crisis (1996), governance reforms subsequent to the Asian financial crisis (2001) and regulatory and governance changes following the corporate collapses in Malaysia and globally (2006). Changes in the economic, financial and regulatory environment in each of the 1996, 2001 and 2006 years are expected to result in more extensive changes in disclosure practices. Further, it is not unreasonable to expect that changes in the disclosure incentives and practices will come about as a consequence of these environmental changes.

The study is motivated by transformation of the Malaysian corporate reporting and governance environment over the 1996-2006 period. These environmental changes provide a unique institutional setting for this research. Over the past decade, numerous initiatives have been implemented by Malaysian regulatory authorities to enhance corporate transparency and accountability. It is an open question as to what extent the subsequent action of reforms influence the variation in the level of information voluntarily disclosed by Malaysian listed firms. Another feature that motivates this study is the concentrated ownership structures of Malaysian corporations. The World Bank (1999) reports that, on average, 60% of the total equity in Malaysian listed firms is held by the top five shareholders. The impact of ownership structure is of particular significance as Malaysia endeavours to become a major international capital market (Shimomoto, 1999). In a capital market setting, the ability of firms to raise capital for investment and growth at competitive rates depends on firm's communication strategies with investors. Disclosure serves as a strategic communication tool for firms to convey essential information to investors in emerging markets such as Malaysia. The higher transparency expectations pose an important challenge to Malaysian listed firms in providing credible disclosure. Accordingly, the study of information disclosure of a voluntary nature within the Malaysian context is essential and timely.

Based on a matched-sample of 100 Malaysian listed firms in each of the 1996, 2001 and 2006 years, we find that there is an increase in the extent of Malaysian listed firm's voluntary disclosures in annual reports from 1996 to 2006. Overall, the result shows that firms with enhanced corporate governance structure and concentrated ownership structure are more likely to voluntarily disclose information. The findings provide evidence that regulatory changes in the Malaysian context served to increase the extent of voluntary disclosures of listed firms possibly owing to increased strength in governance reforms.

This study provides a segmented longitudinal examination of voluntary disclosure patterns and its association with corporate governance structure and ownership structure subsequent to the implementation of regulatory initiatives in Malaysia. A unique corporate governance score comprising thirteen governance attributes is used to assess the strength of the corporate governance structure. The findings of this study are particularly relevant to regulators and policy-makers given the important roles that corporate governance structure and ownership structure play in mitigating agency problems.

The remainder of the study is structured as follows: Section 2 illustrates the Malaysian corporate reporting and governance environment; Section 3 discusses relevant prior literature and the hypotheses; Section 4 describes the data and methodology; Section 5 presents the study findings and robustness testing; and Section 6 concludes the study with final comments, limitations and suggestions for future research.

2.0 Corporate reporting and governance in Malaysia

Prior to 1996, the Malaysian corporate reporting was self-regulated and intermittently overseen by accounting professional bodies, such as the Malaysian Institute of Accountants and Malaysian Association of Certified Public Accountants. The regulatory regime that governed the financial reporting was merit-based where the firms disclosed the information as required and were accountable to regulators (Securities Commission, 1999). Since the disclosure was arguably not user-oriented, the limited information flow under this regime effectively lowered market incentives for greater disclosure (Cheng and Courtenay, 2006).

The Malaysian accounting landscape radically changed with the establishment of an independent, statutorily incorporated, accounting standard-setting body in 1997. This occurred at a time when Malaysian listed firms were subject to financial distress during the 1997 East Asian financial crisis. Under the new financial reporting regime, the Malaysian Accounting Standards Board (MASB) and the Financial Reporting Foundation (FRF) were established under the Financial Reporting Act 1997 (FRA). Concomitantly, the Malaysian Securities Commission (MSC) shifted the regulatory regime to a disclosure-based regime (DBR) with greater expectations of firms to disclose information and to demonstrate greater accountability. The DBR entails the making of investment decisions by each prospective investor based upon the provision of sufficient and accurate information in publicly available documents. There is a greater market incentive for enhanced disclosure under the DBR (Cheng and Courtenay, 2006).

Subsequent to the 1997 Asian currency crisis, there was a concerted effort to raise the standard of corporate governance practices in Malaysia. In 1998, a High Level Finance Committee on Corporate Governance (HLCG) was commissioned by the MSC to deal with the weakness in the corporate governance framework in Malaysia. This led to the issuance of the Malaysian Code of Corporate Governance (MCCG) which was eventually introduced to the Malaysian corporate sectors in 2001. The MCCG aims to encourage disclosure by providing investors with timely and relevant information to facilitate investment decision making (Abdul Rahman, 2006).

A taskforce on Corporate Disclosure Best Practice was formed in October 2002 as part of BMLR to provide guidance on governance practices. They issued guidelines entitled *Best Practices in Corporate Disclosure* in August 2004. The guidance identifies practices to guide companies in complying with their disclosure obligations under the BMLR. Although these best practices are voluntary, listed firms are encouraged to incorporate these guidelines into their own disclosure practices with the purpose of assisting companies to move beyond minimum disclosure practices (Bursa Malaysia, 2004).

From this overview of the regulation of corporate reporting and governance in Malaysia, it is apparent that these developments have had a substantial impact on a firm's disclosure policy. The challenges for corporations and regulators are to continue to enhance the levels of transparency, governance and accountability in the Malaysian capital market.

3.0 Literature review and hypotheses development

Agency theory is most commonly used framework in the accounting literature to analyse voluntary disclosure choice. The theory models the relationship between the principal and the agent as identified by Jensen and Meckling (1976). The separation of the ownership and control gives rise to agency problems because of goals conflict between shareholders and managers (Eisenhardt, 1989). In the context of the firm, a major issue arising from such separation is the extent of information asymmetry between managers and shareholders. The agency theory approach argues that a firm's choice to disclose information is a function of managerial discretion to better solve the problem of information asymmetry. Voluntary corporate disclosure is mainly driven by rational managers' self-interest and their attempts to protect and enhance their reputation and remuneration. To the extent that voluntary disclosure is beneficial, managers need to apply their discretion in disclosing information to stakeholders, thereby reducing the costs of the agency relationship (Healy and Palepu, 2001).

Effective corporate governance offers crucial monitoring mechanisms to co-align managerial behaviour with owner preferences or to monitor the actions of the managers (Eisenhardt, 1989). Shleifer and Vishny (1997) and Core (2001) highlight that a firm's governance structure can influence the nature of its disclosure policy in the sense that a well-designed governance structure can help ensure an optimal firm's disclosure policy. Prior empirical studies have examined the association between corporate disclosure and specific governance attributes such as board independence, role duality, audit committee; but these studies produce inconclusive evidence. Recently, the use of an index-based corporate governance measure and its relation to corporate disclosure has started to gain researchers' attention in recent years (Beekes and Brown, 2006; O'Sullivan, Percy, and Stewart, 2008; Taylor, Tower, and Neilson, 2010). According to Gompers, Ishii, and Metrick (2003), such a direct proxy measure of corporate governance is more effective in capturing the strength of a firm's governance structure. Byard, Li, and Weintrop (2006) and Beekes and Brown (2006) document better-governed firms make more informative disclosure in U.S. and Australian firms respectively. Similarly, Taylor, Tower, and Neilson (2010) document that the financial risk management disclosure patterns are significantly and positively associated with the strength of corporate governance structure. However, the primacy of corporate governance structure as an important determinant of a firm's transparent policy is queried in O'Sullivan, Percy, and Stewart (2008). They document that Australian firms disclosing forward-looking information typically experience a higher standard of corporate governance than nondisclosing firms in year 2000, but not in the 2002 year. In spite of the enhanced corporate governance structure in 2002, it does not lead to more extensive disclosures of forward-looking information.

Essentially, the adoption of the principles of corporate governance ensures management will act in the best interest of shareholders and investors and contribute to a reduction in information asymmetry (Eisenhardt, 1989). Agency theory predicts that effective corporate governance can strengthen the monitoring and control of management, thereby reducing opportunistic behaviour and information asymmetry (Fama and Jensen, 1983). Thus, it is reasonable to assume that effective corporate governance will have a positive impact on the extent of voluntary disclosures. Consistent with agency theory, this study hypothesizes:

H1: The strength of a firm's corporate governance structure is positively associated with the extent of voluntary disclosure.

Ownership structure is an important aspect of corporate governance particularly in determining the nature of the agency problem. Due to the separation of ownership and control, agency theory suggests that there is a high likelihood of agency conflict (Jensen and Meckling, 1976) with the potential for conflict to be greater when shares are widely held than when shares are tightly controlled (Fama and Jensen, 1983). The degree of separation between ownership and management determines the level of monitoring (Thomsen and Pedersen, 2000) and thereby, the extent of voluntary disclosure. Shleifer and Vishny (1997) argue that large (outside) ownership can help reduce agency conflicts due to their dominant power and incentive to prevent expropriation by insiders. In this regard, the dominant shareholders play a monitoring role and can be expected to put more pressure on management to disclose additional information.

Empirically, Birt *et al.* (2006) find a positive association between ownership concentration and voluntary segment disclosure of Australian listed firms. They argue that when ownership is concentrated in the hands of large shareholders, they have the ability to mitigate agency problems by influencing information disclosure. Consistent with this view, Ho and Tower (2010) report that firm's with concentrated ownership structure have greater incentives to provide more information. They contend that large (outside) shareholders act as guardian to minority shareholders in influencing firm's disclosure choice. As such, greater information is disclosed in annual reports on a voluntary basis. Similarly, Jiang, Habib, and Hu (2011) acknowledge the importance of corporate disclosures under concentrated ownership structures in reducing information asymmetry in New Zealand. Consequently, the hypothesis to be tested is:

H2: The higher the proportion of shares held by the top 5 shareholders, the greater will be the extent of voluntary disclosure.

To test H1 and H2, this study includes firm-specific non-governance characteristics as control variables (firm size, leverage and industry types) in order to minimise cross-sectional variation. These control variables are reported in extant literature as being associated with the extent of voluntary disclosure. Firm size has been identified as an important predictor of corporate reporting behaviour. Due to high agency costs, large firms have the incentive to disclose more information in their annual reports to enhance reputation, reduce public scrutiny and to deter government intervention. A large volume of empirical research documents a positive association between firm size and the extent of disclosure (Akhtaruddin and Haron, 2010; Al-Shammari and Al-Sultan, 2010; Arcay and Vázquez, 2005; Botosan, 1997; Naser, Al-Khatib, and Karbhari, 2002). From the perspective of agency theory, Jensen and Meckling (1979) argue that high monitoring costs would be incurred by firms that are highly leveraged because there is more wealth to transfer from bondholders to shareholders. Management may voluntarily disclose more information in annual reports for monitoring purposes. Wallace, Naser, and Mora (1994) suggest that disclosure level is likely to vary based on industry, reflecting unique characteristics. Cooke (1989) draws attention to the likelihood that leading firms operating in a particular industry could have a bandwagon effect on the level of disclosure adopted by other firms within the same industry.

3.0 Research Design

3.1 Sample selection

The sample is drawn from firms listed on the BMSE in 1996, 2001 and 2006. The following criteria is used in selecting sample firms: (i) the availability of annual reports of firms for all the three years; (ii) firms selected in 1996 must remain listed on the stock exchange in the other two years; and (iii) all banks, unit trust, insurance and finance companies are excluded from the study due to different regulatory and reporting requirements. The remaining firms are then subject to stratified random selection from five industry groups namely trading and services; construction; industrial products; plantation; and consumer products. A total of 100 sample firms are randomly selected in 1996, which represents 31.8% of the population. These firms selected are chosen as the sample firms for the other two periods. The matched sample research approach, as recommended by Ghazali and Weetman (2006), is then used to capture the effect of changes in corporate governance regulations on the extent of voluntary disclosure. The annual reports of sample firms are retrieved from the BMSE.

3.2 Dependent variable –voluntary disclosure index

This study uses a self-constructed disclosure index to gauge the extent of voluntary disclosure. An extensive review of prior studies is undertaken to check for common determinants of voluntary disclosure especially those attributes applicable to developing countries. Drawing on prior disclosure studies in developing countries (eg. Ghazali and Weetman, 2006; Barako, Hancock, and Izan, 2006; Alsaeed, 2005; Gul and Leung, 2004), a preliminary disclosure checklist consisting of 151 voluntary disclosure items is derived. This preliminary checklist is then thoroughly screened by two Malaysian Chartered Accountants to verify the relevance of each item to Malaysian reporting environment and to eliminate any reporting items that are mandatory in nature. The process results in the final list of 85 items to capture Malaysian corporate voluntary disclosure practices. These 85 items are categorised into: (i) corporate and strategic information; (ii) financial and capital market data; (iii) directors and senior management information; (iv) forward-looking information; and (v) corporate social responsibility. The checklist, as shown in Appendix 1, forms the basis of measuring the extent of voluntary disclosure.

Adopting Meek, Roberts, and Gray (1995) approach, this study does not weight any of the items comprising the voluntary disclosure index. Each item is scored as 1 if disclosed and 0 if it is not, subject to the applicability of the item concerned. Weighting of items is not used because the focus of this study is not directed at a particular user group. Moreover, prior research has shown that unweighted and weighted approaches produce very similar results when there are a large number of items included (Beattie, McInnes, and Fearnley, 2004; Barako, Hancock, and Izan, 2006). Voluntary disclosure index score (VDIS) is calculated for each firm in each period, expressed as follows:

$$\mathrm{VDIS}_{jt} = \frac{\sum_{t=1}^{n_j} X_{jt}}{n_{jt}}$$

where $VDIS_{jt}$ is the voluntary disclosure index score for firm j year t; n_j is the number of items applicable to j^{th} firm; n_{jt} is the total possible maximum number of items (85); X_{jt} is voluntary disclosure item where a value of 1 is assigned if the firm discloses information about this item; and 0 if otherwise.

3.3 Explanatory variables

This study captures the strength of corporate governance by developing a score comprising thirteen governance items. The MCCG and Chapter 15 of the BMLR on corporate governance constitute authoritative and objective sources used for selection of corporate governance attributes. Past governance literature was used as a basis for selection of individual governance items. The thirteen governance attributes selected can be broadly classified into role duality, board composition, board sub-committees (audit, remuneration, nomination) structures, board policy and internal control systems. These attributes are used to create a composite proxy measure to capture the strength of a firm's corporate governance structure (see Appendix 2). Each of the corporate governance attributes is measured as a dichotomous variable. A value of 1 is assigned for each attribute that is presumed to reinforce the voluntary disclosure practice of a firm, and 0 otherwise. A firm receives a score ranging from 0 to 13 depending on the number of attributes satisfied. Each firm in each period has the 'opportunity' to incorporate any or all these attributes. Given this premise, the corporate governance score (CGS) are not adjusted as 'not-applicable' items. This approach is consistent with Taylor, Tower, and Neilson (2010). Firms with a low CGS are presumed to have weaker governance structure, leading to a reduced extent of voluntary disclosure. A higher score is believed to signal a stronger governance structure, leading to a greater extent of voluntary disclosure. The CGS, measured as a percentage, is treated as a continuous variable in the statistical analysis.

BMLR requires Malaysian listed companies to provide information on the proportion of shares owned by dominant shareholders in annual reports. Corporate ownership in Malaysia is characterized by a high level of concentration of equity shareholdings. Consistent with the World Bank (2005), this study measures ownership concentration, a proxy measure of ownership structure, as the ratio of total shares owned by top five shareholders to total number of outstanding shares. Appendix D summarises the operationalisation and measurement of the independent and control variables.

3.4 Model development

A linear multiple regression model is constructed and performed to investigate the explanatory power of the predictor variables. The model is used to test the cross-sectional (within each period) associations between the dependent variable of voluntary disclosure, the independent variables of corporate governance and ownership concentration, and the control variables. The following model is estimated:

$$VDIS_{jt} = \beta_0 + \beta_1 CGS_{jt} + \beta_2 OCON_{jt} + \beta_3 FSIZE_{jt} + \beta_4 LEV_{jt} + \beta_5 IND1_{jt} + \beta_6 IND2_{jt} + \beta_7 IND3_{jt} + \beta_8 IND4_{jt} + \beta_9 IND5_{jt} + \varepsilon_{jt}$$

where subscript $_{jt}$ refers as firm *j* in year *t*; $VDIS_{jt}$ = voluntary disclosure index; CGS_{jt} = corporate governance score being the composite measurement of thirteen corporate governance attributes; $OCON_{jt}$ = ownership concentration measured as the ratio of total shares held by top five shareholders to total number of shares issued; $FSIZE_{jt}$ = firm size measured as natural log of total assets; LEV_{jt} = leverage as ratio of debt to equity; $IND1_{jt}$ - $IND5_{jt}$ = 1 if the company is in the consumer product sector, industrial product sector, construction and property sector, trading and services sector and plantation sector respectively; 0 if otherwise; β_0 = intercept; β_1 - β_9 = estimated coefficient for each item; ε_{jt} = error term.

4.0 Empirical results

4.1 Descriptive statistics

The descriptive results of VDIS and five sub-categories information are provided as Table 1. There is a wide range in VDIS throughout the study period. In 1996, the lowest VDIS is 1.2% and the highest VDIS is 54.9% with a mean of 22.9%. In 2001, the VDIS ranges from 5.9% to 71.9% with a mean of 30.4%. The VDIS ranges from 6.5% to 80.5% with a mean of 34.1% in 2006. There is an increase in the extent of voluntary disclosure in Malaysian listed firms from 1996 to 2006. The extent of voluntary disclosure is relatively high as compared to that in other developing countries. For instance, typical disclosures exhibited in other developing countries are: 28.9% in Singapore (Cheng and Courtenay, 2006); 24.2% in Vietnam (Tower, Anh-Vu, and Scully, 2011); 19.0% in Kuwait (Al-Shammari and Al-Sultan, 2010). The extent of disclosures for each sub-category of information increases from 1996 to 2006. There is a marked increase in the disclosure of information relating to directors and senior management from 15.1% in 1996 to 50.8% in 2006. All the other categories of information demonstrate a moderate increase over the entire observation period viz. corporate and strategy information (34.8% in 1996 to 44.3% in 2006); financial and capital market data information (25.0% to 33.9%); forward-looking information (23.0% to 31.2%); and corporate social responsibility information (10.0% to 23.8%). The non-parametric Kolmogorov-Smirnow normality test (K-S Lilliefors) reported in Table 1 indicates that VDIS is approximately normally distributed.

Table 2 reports the paired t-test for mean VDIS over the observation periods. The analysis shows that the increase in mean VDIS for sample firms between 1996-2001, 2001-2006 and 1996-2006 is statistically significant at the 1% level. The largest increase occurs between 1996 and 2001 (32.2%) while the increase is moderate between 2001 and 2006 (12.3%). Over the eleven-year study period, the increase in average voluntary disclosure between 1996 and

2006 is 48.5%. The results show that there is a significant increase in the extent of voluntary disclosure of Malaysian listed firms from 1996 to 2006.

Table 3 provides descriptive statistics for corporate governance and ownership concentration predictor variables in each year. Sample firms exhibit a weak corporate governance structure in 1996 (pre-financial crisis) with a mean CGS of 23.4%. Governance structure is enhanced over time with an increase in mean CGS of 48.7% in 2001 and a further increase to 67.8% in 2006. Sample firms have a persistently high ownership concentration in the hands of top five shareholders over the observation periods. The mean OCON in 1996 is 61.9% although it declines slightly to 58.5% in 2006.

The Pearson correlation coefficients for the continuous explanatory variables as well as the dependent variable in each period are reported as Table 4. The firms' strength of corporate governance structure is not correlated with the extent of voluntary disclosure in 1996. There is a significant correlation between VDIS and CGS in 2001 and 2006, while similar correlation findings are found between VDIS and OCON in all years under study. The directionality of these correlations is consistent with that hypothesised. The correlation coefficients between the continuous explanatory variables are all below 0.4. Thus, the multicollinearity in this study is considered non-problematic.

5.2 Multivariate results

The results of the multivariate test of the hypotheses developed are presented in Table 5. The explanatory power of the cross-sectional regression model; as indicated by the values of adjusted R-squared of 41.6% in 1996, 48.1% in 2001 and 51.7% in 2006; compares favourably with prior disclosure studies in other developing countries such as Barako, Hancock, and Izan (2006) [53.0%]; Eng and Mak (2003) [20.6%]; Ghazali and Weetman (2006) [36.1%]; Haniffa and Cooke (2002) [47.9%]; Ho and Wong (2001) [31.4%]; and Owusu-Ansah (1998) [52.0%]. The model in this study is highly significant ($p < 0.01$), indicating that the model explains a substantial percentage of the variations in the level of corporate voluntary disclosure.

There is a positive and statistically highly significant association between voluntary disclosures and corporate governance structure in 2001 ($p < 0.01$) and 2006 ($p < 0.01$). The results support the positive association as hypothesized. Our results could potentially relate to the implementation of the MCCG in 2001 where one of its tenets is to enhance corporate transparency and accountability. The enhanced corporate governance structure and disclosure-based regime implemented post currency-crisis may have had an influence in managerial disclosure choice. The results suggest that better governed firms make greater voluntary disclosure.

Table 5 reveals that ownership concentration is positively and statistically significantly associated with voluntary disclosure in all the three years under study, supporting *H2*. This finding is consistent with the findings of Birt *et al.* (2006) and Jiang, Habib, and Hu (2011) who report that a concentrated ownership structure can have a positive influence on managements' disclosure decisions. The positive association between ownership concentration and voluntary disclosure supports the notion that concentrated ownership structure implies stronger monitoring capacity by dominant shareholders thereby influencing management to disclose voluntary information more extensively. The positive relationship concurs with the findings of Shleifer and Vishny (1997) although it is inconsistent with the agency theoretical stance. A possible explanation for this is that dominant shareholders' control is stronger in providing effective monitoring in Malaysia. The substantial shareholders comprising blockholders, government agencies, banks, insurance companies, pension funds etc. help to create strong incentives to monitor corporate disclosure practices to reduce information asymmetry.

With regard to the control variables, firm size is consistently positively and statistically significantly (at the 1% levels) associated with the extent of voluntary disclosure in all years. These results confirm that the firm size is a very important attribute associated with the extent of voluntary disclosures in annual reports. Reasons for this association may relate to public scrutiny, expanded resources and the need to suppress high agency cost typical of large firms. Leverage lacks statistical significance in all years, suggesting that a company's gearing status has no bearing on the extent of information voluntarily disclosed. There appears to be no evidence that the extent of voluntary disclosure is industry-related. The coefficients for the rest of the industry-type dummies are not significant except in 2006 where trading and service sector tends to disclose less voluntary information disclosure. Relative secrecy on the part of companies in this sector may reflect a fear incurring proprietary costs through disclosure to competitors.

6.0 Robustness tests

Additional tests are conducted to check the robustness of the findings. To supplement the earlier findings, data is transformed and run using rank regression and normal scores approaches (Camfferman and Cooke, 2002; Cooke, 1998). The results of the additional rank regression and normal scores analysis (not shown for brevity) highlight that corporate governance structure is positively and significantly associated with voluntary disclosure in 2001 and 2006; and ownership structure is a significant positive predictor of the extent of voluntary disclosure in all three observation periods across the two approaches. Importantly, the additional tests highlight that the variables identified as significant predictors of the extent of voluntary disclosure are the same as the main statistical test on untransformed data. Overall, the results are robust across different approaches. This multiple-tiered analysis provides comfort to the validity of the main statistical findings.

The multiple regression model used in the study implicitly assumes the exogenous determination of both corporate governance and ownership structure variables. However, a concern arises from the possibility of the endogenous determination of corporate governance and ownership structure. The model may suffer from causality as well as unobserved heterogeneity (Larcker and Rusticus, 2010) where the explanatory corporate governance and ownership structure variables may be endogenous and correlated with the residuals in the regression model. Should endogeneity adversely bias the OLS models used in this study, it would be difficult to interpret the association between corporate governance and ownership structure and voluntary disclosure. The study takes advantage of the longitudinal design of this study and employs panel data OLS regression with firm fixed-effects to eliminate endogeneity, as suggested by Himmelberg, Hubbard, and Palia (1999). The observation from the pooled results (not shown for brevit) shows that the model is significant with an F-value of 33.15 and an adjusted R^2 of 53.4%. The result indicates that voluntary disclosure by Malaysian companies has increased over the eleven-year period and is statistically significant. Corporate governance structure, ownership structure and firms size are positively and significantly associated with voluntary disclosure practices.

Another method to address potential endogeneity is to examine the association between changes in the levels of governance (Karamanou and Vafeas, 2005). This approach is appropriate since there is less likely to be a corresponding change in any potential omitted variable that is correlated with both the dependent and independent variables. The setback of this approach is that the change in independent variables may be relatively minor between periods compared to the change in dependent variable. Nonetheless, the *change* multiple regression is conducted and the results (not shown for brevity) indicate that there is no significant association between the change in voluntary disclosure and the change in corporate governance and ownership structure. This further analysis lessens any possible concern of the endogeneity in the determination of corporate governance and ownership structure.

7.0 Implications and conclusions

The purpose of this study is to investigate the extent of voluntarily disclosed information within the annual reports of Malaysian listed firms from 1996 to 2006. The extent of Malaysian listed firm's voluntary disclosures in annual reports increases from 1996 to 2006. The result suggests that firms are disclosing greater information of a discretionary nature in the post currency crisis period compared to pre-crisis period. There is a greater increase in voluntary disclosures between 1996 and 2001 although moderate increase between 2001 and 2006. The results suggest the regulatory efforts have influenced corporate communication of information on a voluntary basis in annual reports.

The regression results show that corporate governance structure is a significant predictor in 2001 and 2006. The implementation of MCCG provides the catalyst for a concerted effort to enhance corporate transparency and accountability. Our results also lend support to prior studies of the use of a corporate governance index as a measure of the effectiveness of corporate governance structure.

The positive association between ownership concentration and voluntary disclosure in all years highlight that Malaysian firms with large shareholder concentration promote more extensive disclosures. Specifically, the Malaysian regulators may encourage equity participation by varying investors groups who have the potential to strengthen corporate transparency. This would ensure firms dominated by large shareholders have better incentives and resources to monitor management decisions and reduce agency costs, as posited by Shleifer and Vishny (1997). This is of particularly importance if Malaysian firms are to penetrate international capital markets as a source to raise funds to finance economic activities.

Overall, the empirical results of this study contribute to the extant literature by providing valuable insights regarding the extent of voluntary information disclosure among listed firms of an emerging economy – Malaysia. Although the extent of voluntary disclosure has increased over the 11-year period, the Malaysian regulators should continue to strengthen the regulatory framework regarding the level of listed firms' disclosure practices. These results may assist other East Asian countries which largely have the same governance architecture as Malaysia to improve market transparency through greater disclosures.

This study is not without limitations. Although the study documents the expected association between the explanatory variables and dependent variable, it does not consider the causal relationship. Using the multiple regression model, this study is not possible, nor is it intended, to ascertain whether independent variables directly influenced the dependent variable. This study may suffer from survivorship biasness as it includes same firms in the sample over the three periods. It is suggested that in the future, research should explore the use of other statistical analysis e.g. Structural Equation Modelling to examine the causal relationship. Future research could extend the study by undertaking a comparative study with companies listed on other stock exchanges within the East Asian countries.

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TABLE 1: Descriptive statistics for voluntary disclosure index score

	Overall VDIS	CSI	FCMI	DSMI	FLI	CSRI
1996						
Mean	22.97	34.802	25.00	15.08	23.0	10.04
Standard Deviation	11.31	0.150	0.19	0.25	0.00	1.00
Minimum	1.17	0.000	0.00	0.14	0.00	0.70
Maximum	54.88	0.731	0.78	0.13	0.00	0.56
Skewness	0.48	0.005	0.00	0.00	0.01	0.01
K-S Significance	0.39	0.842	0.05	0.74	0.09	0.11
2001						
Mean	30.38	41.09	30.57	44.67	27.02	17.57
Standard Deviation	13.59	0.18	0.19	0.21	0.14	0.18
Minimum	5.88	0.00	0.00	0.00	0.00	0.00
Maximum	71.95	0.81	0.83	1.00	0.60	0.69
Skewness	0.59	0.00	0.00	0.00	0.00	0.01
K-S Significance	0.67	0.97	0.20	0.46	0.09	0.18
2006						
Mean	34.84	44.30	33.90	50.75	31.18	23.83
Standard Deviation	17.11	0.21	0.20	0.23	0.15	0.24
Minimum	6.49	0.000	0.00	0.25	0.000	0.00
Maximum	80.49	0.85	0.890	1.00	0.73	0.83
Skewness	0.52	0.00	0.01	0.00	0.02	0.04
K-S significance	0.21	0.51	0.12	0.39	0.05	0.20

Legend: The table provides the descriptive statistics of the overall extent of voluntary disclosure and the five major sub-categories of voluntary disclosure. These sub-categories included 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 CSRI = corporate social responsibility disclosure index.

TABLE 2: Paired t-test of firms' overall VDIS

	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*
t-Stat	-9.371	-4.393	-10.049
P(T<=t) one-tail	0.000	0.000	0.000

Legend: The table shows the paired sample t-test results for mean VDIS 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.

TABLE 3: Descriptive statistics of independent variables

	CGS			OCON		
	1996	2001	2006	1996	2001	2006
Mean	23.390	48.692	67.769	61.866	57.538	58.477
Median	23.080	48.150	68.230	62.100	59.515	59.715
Standard Deviation	10.192	19.158	13.015	14.915	18.708	15.140
Minimum	0.000	7.690	38.460	24.400	17.890	22.100
Maximum	46.150	92.310	92.310	88.150	90.700	90.420

Legend: The table reports the descriptive statistics of CGS and OCON for each period.

TABLE 4: Pearson Correlation Matrix

1996	VDIS	CGS	OCON	FSIZE	LEV
VDIS	1				
CGS	0.152	1			
OCON	0.327*	-0.004	1		
FSIZE	0.364*	0.254**	0.035	1	
LEV	-0.119	-0.125	-0.171	0.108	1
2001					
VDIS	1				
CGS	0.463*	1			
OCON	0.295*	0.276*	1		
FSIZE	0.403*	0.267*	0.129	1	
LEV	-0.016	-0.123	-0.376*	0.149	1
2006					
VDIS	1				
CGS	0.214**	1			
OCON	0.307*	0.061	1		
FSIZE	0.479*	0.025	0.031	1	
LEV	-0.012	-0.099	-0.359*	0.189	1

Legend: Pearson Product-Moment Correlation Matrix

TABLE 5: Cross- Sectional multivariate analysis of determinant of voluntary disclosure

		1996			2001			2006		
Adjusted R2		0.416			0.481			0.517		
Durbin Watson		2.218			2.109			2.128		
F Statistics		9.806			12.563			14.073		
Significance		0.000*			0.000*			0.000*		
	Predicted Sign	Coefficients	t Stat	P-value	Coefficients	t Stat	P-value	Coefficients	t Stat	P- Value
Intercept		-58.018	-5.249	0.000*	-58.243	-5.425	0.000*	-59.361	-7.476	0.000*
CGS	+	0.072	0.799	0.213	0.209	3.719	0.000*	2.270	2.877	0.002*
OCON	-	0.213	3.485	0.000*	0.094	1.532	0.048**	0.261	2.705	0.003*
FSIZE	+	11.228	6.935	0.000*	122.408	6.346	0.000*	18.860	8.743	0.000*
LEV	-	-5.223	-1.091	0.139	-1.601	-0.281	0.389	1.690	0.314	0.377
IND1	+/-	2.336	0.773	0.425	0.604	0.183	0.855	-	-	-
IND2	+/-	2.683	0.898	0.399	-0.355	-0.103	0.918	-4.580	-1.207	0.230
IND3	+/-	1.282	0.437	0.646	-0.164	-0.049	0.961	-3.067	-0.772	0.442
IND4	+/-	-	-	-	-1.753	-0.489	0.626	-11.468	-2.687	0.004*
IND5	+/-	4.844	1.494	0.141	-	-	-	-4.992	-1.214	0.228

The table shows the results of the regression model which tests the association between voluntary disclosure for all sample firms over each of the three years (1996, 2001 & 2006) against the independent and control variables. The coefficients of the excluded dummy variables are 1.000 since they act as benchmarks for the included dummies. Associations *, ** and *** are statistically significant at the 1%, 5% and 10% levels respectively. One-tailed probabilities are used for the tests of the CGS, OCON, FSIZE and LEV variables since the associated hypotheses are directional while the two-tailed probabilities are used for the tests of the industry membership variables.

APPENDIX 1 Voluntary Disclosure Instrument

Corporate and strategic disclosure index (CSD)	
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 and/or future 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 disclosure index (FCMD)	
29	Key financial ratios eg. return on assets, return on shareholders' funds, leverage, liquidity
30	Review of operations by divisions - operating profit
31	Review of operations - productivity
32	Review of current financial results, discussion of major factors underlying performance
33	Effect of acquisitions & expansion on results
34	Effect of disposal & cessation on results
35	Statement concerning wealth created eg. value added statement

36	Volume of shares traded (trend)
37	Volume of shares traded (year-end)
38	Share price information (trend)
39	Share price information (year-end)
40	Market capitalization (trend)
41	Market capitalization (year-end)
42	Analysis of distribution of shareholdings by type of shareholders
43	Domestic and foreign shareholdings breakdown
44	Segmental reporting on size, growth rate on product market
45	Segment reporting on all lines of business production data
46	Segment reporting on geographical capital expenditure
47	Segment reporting on geographical production
Directors and senior management disclosure index (DSMD)	
48	Academic & 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 disclosure index (FLD)	
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, EPS
61	Qualitative forecasts of sales, revenues, profits, EPS
62	Forecast assumptions provided
Corporate social responsibility disclosure index (CSRD)	
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

APPENDIX 2: Corporate Governance Attributes

	Attributes	Scoring
CG1	Chairman who is independent of Chief Executive Officer	Yes = 1 No = 0
CG2	Independent non-executive directors comprise at least one-third of the board membership	Yes = 1 No = 0
CG3	Board has defined policy of management responsibilities of the board and CEO	Yes = 1 No = 0
CG4	Audit committee chaired by independent non-executive directors	Yes = 1 No = 0
CG5	Audit committee comprises at least three directors, majority of whom are independent	Yes = 1 No = 0
CG6	At least two members of audit committee have accounting or related financial management expertise	Yes = 1 No = 0
CG7	Remuneration committee chaired by independent non-executive director	Yes = 1 No = 0
CG8	Remuneration committee consists wholly of non-executive directors	Yes = 1 No = 0
CG9	Structured remuneration policy in place, where remuneration to directors is contingent of performance	Yes = 1 No = 0
CG10	Disclosure requirement in the annual report of the details of remuneration to each director	Yes = 1 No = 0
CG11	Nomination committee consists exclusively of non-executive directors, a majority of whom are independent	Yes = 1 No = 0
CG12	Does nomination committee adopt a formal procedure for appointments to the board?	Yes = 1 No = 0
CG13	Maintain sound system of internal control - financial, operational, compliance and risk management - to safeguard shareholders' investment and company assets	Yes = 1 No = 0

Source: High Level Finance Committee on Corporate Governance (2000) and Bursa Malaysia (n.d.)
Legend: Thirteen corporate governance (CG) attributes derived from the principles and best practices of the Malaysian Code of Corporate Governance. To create a composite proxy measure (denoted CGS) to capture the strength of a firm's corporate governance structure, a value of one is assigned to the corporate governance conditions outlined. A firm receives a CGS score ranging from 0 to 13 depending on the number of conditions satisfied. A CGS score is calculated for each firm and financial year of the study period. The CGS, measured as a percentage, is treated as a continuous variable.