Is ownership structure associated with early adoption of MASB 22 (Segment Reporting) in Malaysia?

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1. Introduction

Ownership structure (i.e. the identities of a firm's equity holders and the sizes of their positions) is a potentially important element of corporate governance (Denis and McConnell, 2003). Ownership structure relates to ownership of the firm by insiders (owners-cum-managers), institutional blockholders and other external shareholders. Various studies have examined the association between ownership structure and firm performance, corporate disclosure, earnings management and executive compensation. For example, Koh (2003) and Chung et al. (2002) show that long-term oriented institutional shareholders can act as a complementary corporate governance mechanism in constraining earnings management, whilst Warfield et al. (1995) document a negative relationship between managerial ownership and earnings management. Hartzell and Starks (2003) examine the monitoring role of institutional shareholders in executive compensation and provide evidence that institutional shareholders mitigate excess executive pay. In the context of corporate disclosure, Eng and Mak (2003) show that lower managerial ownership and significant government ownership are associated with increased disclosure, whilst Chau and Gray (2002) document that outside ownership is positively associated with voluntary disclosures. Studies on ownership structure and firm value generally show a curvilinear relationship based on managerial ownership i.e. firm value rises as managerial ownership increases over a certain range, but drops at higher level of ownership (Morck et al., 1988; McConnell and Servaes, 1990; Craswell et al., 1997; Short and Keasey, 1999). This phenomenon is associated with the trade-off between the alignment and entrenchment effects.

This study extends the literature on ownership structure by examining whether it influences the early adoption of accounting standard. This is in response to recent call for researchers to

focus on how ownership structures shape accounting policies in emerging markets and transition economies (Fan and Wong, 2002, p. 404). The accounting standard chosen is Malaysian Accounting Standards Board (MASB) 22 on segment reporting which replaced the original International Accounting Standard 14. Early adoption of MASB 22 is akin to providing additional segment disclosures on a voluntary basis. Wan-Hussin et al. (2003a,b) identify more than 30 early adopters of MASB 22 and show that the proportion of affiliated outside directors (or gray directors) and firm size have moderate relationship with the decision to adopt MASB 22 prior to its effective date. This study extends Wan-Hussin et al. (2003b) by investigating whether ownership structure has incremental explanatory power on the early adoption decision. Previous study that is similar to ours is Leung and Horwitz (2004). They show that in Hong Kong (i) concentrated board ownership reduces voluntary segment disclosure and (ii) for firms with diluted board ownership, non-executive directors enhance voluntary segment disclosure.

2. Theoretical Framework and Hypotheses Development

Agency problems arise from separation of corporate ownership from corporate management whereby shareholders who invest in the business do not intend to play an active role in its management (Jensen and Meckling, 1976). They designate firm managers to run the company with the goal of maximizing shareholder wealth. This can lead to conflicts of interest situation whereby managers, as agent for owners, may take actions which are not in the interest of owners. Thus, the agency costs for firms managed by non-owners are higher than owner-managed firms. The agency costs are related to management's incentive to adopt investment and financing decisions that are disproportionately more beneficial to them, management's shirking and perquisite consumption. Ang et al. (1999) and Singh and

Davidson (2003) provide direct evidence that agency costs, measured in terms of asset utilization and operating expenses, are higher for outsider managed firms than firms that are managed by owners (insiders) themselves.

Several mechanisms are available to limit the shareholder-manager agency problems and help align the interests of the shareholders and management. These include having an effective board (such as representation from outside directors and Chairman of the board and the CEO not being the same person) to monitor and discipline management on behalf of shareholders, optimal management compensation contracts and takeover market.

Agency theory predicts that investors' information requirements increase with the agency costs of the firm. Jensen and Meckling (1976) and Chow and Wong-Boren (1987) argue that voluntary disclosure provides a mechanism to lower agency costs which arise from conflicting interests between management and owners. Studies on the relationship between ownership structure and the extent of disclosure have examined various aspects of ownership structure such as managerial ownership (Ayres, 1986; Ruland et al., 1990; Eng and Mak, 2003; Leung and Horwitz, 2004) and family-controlled firms (Ho and Wong, 2001; Chau and Gray, 2002).

The discussion that follows presents theoretical arguments on the influence of ownership structure on the extent of disclosure and empirical evidence to date. Ownership structure is categorised into managerial ownership, family ownership and institutional ownership.

2.1 Managerial Ownership

Agency theory predicts that when managerial ownership is low, there is greater agency problem because manager has incentives to consume perks and reduced incentives to maximise job performance. Jensen and Meckling (1976) argue that the role of outside shareholders is to increase monitoring of manager's behavior to reduce the agency problem. It is suggested that the monitoring by outside shareholders may be reduced if managers can provide voluntary disclosure. In other words, having greater disclosure is a substitute for outside monitoring. Hence, it is expected that the relationship between managerial ownership and early adoption of MASB 22 (which leads to greater information disclosure) is negative.

The results of empirical studies are generally supportive of a negative relationship between managerial ownership and the extent of voluntary disclosure (Ruland et al., 1990; Eng and Mak, 2003; Leung and Horwitz, 2004). Ayres (1986) provides evidence that firms that adopt SFAS 52 early have a lower percentage of stock owned by directors and officers.

H1: *Ceteris paribus*, there is a negative association between managerial ownership and early adoption of MASB 22.

2.2 Family Ownership

Gray et al. (1988) secrecy hypothesis argues that where a firm's shares are held by family-controlled firms, there is a preference for confidentiality and restriction of disclosure of information about the business only to those who are closely linked with its management and family. Chau and Gray (2002) argue that family-controlled firms have little motivation to disclose information in excess of mandatory requirements because the demand for public

disclosure is relatively weak. They find that the level of information disclosure is likely to be less in family-controlled companies, consistent with Ho and Wong (2001). Chen and Jaggi (2001) show the positive effect of independent directors on disclosure is weaker for family-controlled firms than non family-controlled firms. Thus, it is expected that the transparency and information disclosure levels would be lower for family-controlled firms.

H2: *Ceteris paribus*, there is a negative association between family ownership and early adoption of MASB 22.

2.3 Institutional Ownership

Institutional investors have the incentives to collect information and monitor management, thus they are able to demand greater corporate transparency and constrain earnings management. Using Singapore data, Yeo et al. (2002) show that external blockholders play a significant monitoring role and reduce the opportunities for earnings management. Other studied by Chung et al. (2002), Jung and Kwon (2002) and Koh (2003) also provide evidence that institutional investors monitor and constrain the self-serving behaviour of managers in the US, Korea and Australia respectively. Based on the above discussion, the relationship between institutional ownership and early adoption of MASB 22 is expected to be positive and thus we formulate the following hypothesis:

H3: *Ceteris paribus*, there is a positive association between institutional ownership and early adoption of MASB 22.

3. Research Methodology

3.1 Data Collection

This study uses the same sample as in Wan-Hussin et al. (2003b) comprising 32 early adopters of MASB 22 and 32 non-early adopters matched by board of exchange, KLSE sectoral classification, financial year end and number of business segments.

For all the sample companies, we hand collect information from the annual reports relating to board composition (size of board, number of family members on board, number of executives, number of non-executives comprising independent directors (INED) and gray directors i.e. non-independent non-executive directors (NINED)), board leadership and auditor. The number of business and geographical segments for sample companies are obtained from the segment disclosures in the notes to the financial statements. Financial data such as total assets, total liabilities, profit before tax are taken from the KLSE-RIS (http://www.klse-ris.com.my). In addition, we also gather information from the annual reports relating to ownership structure such as the number of shares (direct and indirect) held by CEO/managing director and chairman, family members and top four institutional shareholders.

3.2 Testing Early Adoption of MASB 22 and Ownership Structure

Similar to Wan-Hussin et al. (2003b), two logistic regression models (binary and multinomial) are used to test for the association between ownership structure and early adoption of MASB 22. In the binary model, the dependent variable is a dichotomous variable which take the value of either 1 (early adopter) or 0 (non-early adopter) and in the multinomial model the dependent variable is trichotomous and takes the value of 0 (full early

adopter), 1 (partial early adopter) and 2 (non-early adopter). The independent variables of interest are the various measures of ownership such as equity ownership by top management and institutional investors and proportion of family members on board. We also include control variables that have been found significant or used in previous disclosure studies such as board characteristics, firm size, leverage, return on assets and audit firm size (Chow and Wong-Boren, 1986; Ahmed and Nicholls, 1994; Ahmed and Courtis, 1999; Chen and Jaggi, 2000; Eng and Mak, 2003). Thus the association between early adoption and corporate ownership is modeled as follows:

$$EARLY = f(\text{Ownership variables, Control variables})$$

where EARLY = binary variable taking the value of either 1 (early adopter) or 0 (non-early adopter), or trichotomous variable taking the value of either 0 (full early adopter), 1 (partial early adopter) or 2 (non-early adopter). The explanatory ownership variables are CEO equity ownership (CEOOWN), top four institutional equity ownership (TOP4INST) and proportion of family members on board (FAMBOARD). The control variables are proportions of independent (INED) and gray directors (NINED), duality dummy (where DUALITY=1 if positions of chairman and CEO are vested in the same person or family members), natural log of total assets (LNASSET), firm leverage (LEVERAGE), return on assets (ROA) and audit firm size (AUDIT).

4. Results

4.1 Sample Characteristics

A summary of the characteristics of sample companies is reported in Table 1. Panel A shows the characteristic of sample by board of exchange. Twenty-two (68.75%) early adopters are from the Main Board and the other 10 (31.25%) are from the Second Board. With respect to

sector, nearly 70 percent of the sample companies come from four sectors namely construction, consumer products, industrial products and plantation. Panels C and D display information on number of business segments and geographical segments. The early adopters have, on average, four business segments and 70 percent of them have not more than two geographical segments. Panel E shows that 20 early adopters adopted MASB 22 for their financial years ended on or before 31 December 2001 while another 12 adopted for financial years ended between 31 January 2002 and before 31 December 2002.

The "Big 4" audits three quarter of early adopters. It is coincidental that the proportions of Big 4 auditor among the non-early adopters are identical to early adopters. In terms of board leadership, about 34 percent of the sample companies have duality board leadership structure where the same person holds both the CEO and chairman roles or same family members are both CEO and chairman. Forty percent of the sample companies have executive chairmen. Panel I highlights that 57 (78) percent of the sample companies have at least 30 (10) percent family ownership. Panel J indicates that almost half of the sample companies have at least 10 percent equity ownership held by the top four institutional investors.

4.2 Univariate Analysis

Table 2 gives the descriptive statistics of continuous independent variables included in the study, partitioned by full early adopters, partial early adopters and non-early adopters. The firm size for full early adopters is about five times larger than the other subgroups, where as partial early adopters have the smallest firm size. Comparatively, the board size and independent non-executive directors are almost similar among full, partial and non-early adopters. The average board size of eight and the minimum proportion of independent

directors which is less than one-third are identical to the findings from KLSE/PWC Corporate Governance Survey 2002. The average board size of eight and the minimum proportion of independent directors which is less than one-third are identical to the findings from KLSE/PWC Corporate Governance Survey 2002. The proportion of gray directors or non-independent non-executives are highest for full adopters, followed by partial and non-early adopters.

As for ownership structure, the full adopters group has the highest average equity ownership held by CEO, chairman and top four institutional investors, although there are no significant differences in the ownership structure among the three groups. As for financial indicators, the full adopters group has the highest return on assets and lowest leverage. To summarize the univariate analysis, there are significant differences between the full adopters and non-early adopters in terms of firm size, gray directors, return on assets and leverage.

4.3 Multivariate Analysis

The Pearson correlations between the continuous variables are shown in Table 3. Family controlled companies are associated with lower proportion of non executive directors, higher CEO ownership, lower institutional ownership and smaller size. Firms with higher proportion of gray directors, that separate the roles of CEO and chairman and with lower leverage have better return on assets. It is also worth notingthat firms with higher equity ownership held by CEO tend to have more debt and higher institutional investors are associated with larger firm. None of the correlation coefficients among the independent variables are highly significant at 1 percent level.

Table 4 presents parameter estimates of binomial and multinomial models with corresponding eoefficient values and standard errors. For the binomial regression (model 1), positive sign on a parameter indicates that an increase in the corresponding variable increases the likelihood of early adoption and a negative sign indicates the opposite. For the multinomial regression (model 2), the parameters are interpreted as indicating the probability of an event, either being a full adopter or partial adopter, relative to the probability of being non-early adopter.

The results show that model 1 has a likelihood ratio of 77.33 with 10 degree of freedom. The Nagelkerke R^2 of 0.217 indicates mild relationship between dependent variable and independent variables. In addition the Hosmer and Lemeshow goodness of fit gives a chi-square of 12.25 (level of significance is 0.14) which indicates a good model fit between the actual and predicted value of the dependent variable. The percentage of correct classification for model 1 is 73.4 percent. The result reveals that only non-independent non-executives (NINED) is significant at 10 percent level with positive direction. This suggests that the higher the proportion of gray directors on the board the higher the likelihood to early adopt MASB 22.

For model 2, the likelihood ratio is 97.19 with 20 degree of freedom and significant at five percent level. When early adopters are partitioned into full adopters and partial adopters, the strength of the relationship as indicated by the Nagelkerke R^2 is higher than model 1. Thus the multinomial model has a better explanatory power than the binary model that treats full and partial early adopters as homogeneous group. For full adopters, variables NINED, FAMBOARD, TOP4INST and LNASSET are found to be significant with positive direction.

This suggests that gray directors, family controlled firms, firms with large institutional investors and larger firms are more likely to early adopt MASB 22 fully prior to the mandatory date.

However, for partial adopters, only LNASSET is found to be significant at 10 percent level but having negative direction. This suggests that smaller firms tend to make partial disclosure of segment information in accordance with MASB 22 as opposed to delaying the adoption of MASB 22 until its effective date. However, in the binary model there is no evidence that firm size is an important characteristic that distinguishes between firms that elect early adoption versus defer adoption until the mandatory date. Thus, the model that pools full and partial early adopters as homogeneous is probably misspecified and yields spurious result that obscures the effect of firm size. The evidence which shows that smaller companies are more likely to adopt MASB 22 ahead of the mandated period, albeit with less than full primary segment disclosure, than delay adoption suggests there is a possibility that the decision to adopt early is a charade to create a positive impression.

Compared to a previous study by Wan-Hussin et al. (2003b), the inclusion of ownership variables improves the explanatory power of the MASB22 early adoption model. The Nagelkerke R^2 and McFadden R^2 increase from 0.33 to 0.49 and 0.17 to 0.27 respectively.

5. Conclusion

This study is motivated by the clarion call that researchers investigate whether "ownership structure shape accounting policies in emerging markets and transition economies". Whilst

previous studies on ownership structure and accounting choice examine a narrow aspect of ownership structure, this study investigates ownership structure in a broader context by incorporating managerial, institutional and family ownership (proxied by proportion of family members on board). Treating full and partial early adopters as homogeneous, our findings indicate that early adopters have significantly higher proportion of gray directors than non-early adopters. The evidence suggests that non-independent non-executive directors do play an important role in accounting disclosure. This echoes the view expressed in The Economist (March, 2004) that shareholders might feel they were being better served by the non-independent non-executives rather than independent directors. Further analysis shows that full early adopters are significantly larger (in terms of total assets) than non-early adopters. However, when comparing between partial early adopters and non-early adopters, the evidence suggests that partial early adopters are significantly smaller in size than non-early adopters.As for corporate ownership, the evidence indicates that the higher the proportion of institutional investors, the greater the likelihood that firm makes greater disclosure through early adoption of MASB 22, consistent with our hypothesis. However, the finding that family-controlled companies tend to also make greater voluntary segment disclosure is at odd with the theoretical prediction. The lack of statistically significant result for the managerial ownership variable could be due to model misspecification. Perhaps a piecewise linear specification is more appropriate for the variable managerial ownership given the trade-off between the alignment and entrenchment effects.

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Table 1: Sample Characteristics

	Early Adopter	*Non-early Adopter*	*Total*
Panel A: By Board of Exchange			
Main board	22	22	44
Second board	10	10	20
Panel B: By Sector			
Construction	6	6	12
Consumer products	7	7	14
Finance	2	2	4
Industrial products	6	6	12
Plantation	5	5	10
Properties	3	3	6
Technology	1	1	2
Trading/services	2	2	4
Panel C: By Number of Business Segments			
1	1	1	2
2	4	4	8
3	11	11	22
4	7	4	11
5	7	8	15
6	2	3	5
7	0	1	1
Panel C: By Number of Geographical Segments			
1	17	12	29
2	7	10	17
3	5	3	8
4	2	1	3
At least 5	1	6	7
Panel E: By Year			
2001	20	20	40
2002	12	12	24
Panel F: By Auditor			
Big 4	24	24	48
Non Big 4	8	8	16
Panel G: By Board Duality			
CEO = Chairman (1)	12	10	22
CEO ≠ Chairman (0)	20	22	42
Panel H: By Board Leadership			
Chairman executive	12	14	26
Chairman non-executive	20	18	38
Panel I: By Family Ownership			
Family percentage ≥ 30%	20	17	37
Family percentage < 30%	12	15	27
Family percentage ≥ 10%	26	24	50
Family percentage < 10%	6	8	14
Panel J: By Top Four Institutional Ownership			
Institutional holding ≥ 10%	15	15	30
Institutional holding < 10%	17	17	34

Table 2: Descriptive Statistics of Continuous Independent Variables

	Mean	Min.	Max.	T-statistic Full vs Non-early Full vs Partial Partial vs Non-early
Asset (RM billion):				
Full Adopter	2.49	0.06	12.47	2.098*
Partial Adopter	0.46	0.03	2.43	2.287**
Non-early Adopter	0.64	0.03	2.75	-0.889
LN(Asset) (RM million):				
Full Adopter	6.90	4.14	9.43	2.258**
Partial Adopter	5.43	3.35	7.80	2.908**
Non-early Adopter	5.86	3.47	7.92	-1.210
Board Size:				
Full Adopter	8.13	5.0	12.0	1.322
Partial Adopter	7.65	5.0	12.0	0.671
Non-early Adopter	7.25	4.0	12.0	0.740
% Independent non-executive (INED):				
Full Adopter	0.36	0.13	0.60	-0.831
Partial Adopter	0.37	0.13	0.67	-0.323
Non-early Adopter	0.39	0.20	0.67	-0.527
% Non-independent non-executive (NINED):				
Full Adopter	0.33	.00	0.67	2.751**
Partial Adopter	0.28	.00	0.63	0.959
Non-early Adopter	0.19	.00	0.50	1.410
% CEO Ownership (CEOOWN):				
Full Adopter	0.27	.00	0.58	1.489
Partial Adopter	0.22	.00	0.54	0.633
Non-early Adopter	0.17	.00	0.67	0.837
% Chairman Ownership (CHOWN):				
Full Adopter	0.21	.00	0.58	0.251
Partial Adopter	0.14	.00	0.53	0.911
Non-early Adopter	0.18	.00	0.75	-0.715
% Family on Board (FAMBOARD):				
Full Adopter	0.35	.00	1.00	0.663
Partial Adopter	0.28	.00	0.57	0.713
Non-early Adopter	0.29	.00	0.80	-0.092
% Family Ownership (FAMPCT):				
Full Adopter	0.31	.00	0.58	0.081
Partial Adopter	0.30	.00	0.57	0.058
Non-early Adopter	0.30	.00	0.77	0.021
% Top 4 Institutional Ownership (TOP4INST):				
Full Adopter	0.22	.00	0.85	1.283
Partial Adopter	0.10	.00	0.37	1.512
Non-early Adopter	0.13	.00	0.51	-0.588
Return on Assets (ROA):				
Full Adopter	0.04	-.12	0.09	2.282**
Partial Adopter	0.03	-.45	0.48	0.165
Non-early Adopter	-.03	-.66	0.14	1.234
LEVERAGE:				
Full Adopter	0.39	0.03	0.97	-2.011*
Partial Adopter	0.50	0.04	2.14	-0.832
Non-early Adopter	0.62	0.03	2.03	-0.836

Full (n=15) and partial adopters (n=17) are subset of early adopters (n=32). There are 32 non-early adopters.
**significant at 5% level or better (two-tailed and assuming unequal variances).
* significant at 10% level or better (two-tailed and assuming unequal variances).

Table 3: Pearson Correlation Matrix

	INE	DUALITY	CEOOWN	FAMBOARD	TOP4INST	ROA	LEVERAGE	AUDIT	LNASSET
NINE	-0.160	-0.038	0.006	-0.355**	0.271	0.326**	-0.251	0.241	0.313
INE		-0.129	-0.232	-0.429**	0.245	0.021	0.086	0.193	0.245
DUALITY			0.306	0.227	-0.014	-0.344**	0.023	-0.038	0.006
CEOOWN				0.542**	-0.304	0.160	0.389**	-0.092	-0.173
FAMBOARD					-0.475**	-0.096	-0.039	-0.073	-0.381**
TOP4INST						0.054	-0.050	0.200	0.401**
ROA							-0.612**	0.072	0.185
LEVERAGE								0.076	-0.121
AUDIT									0.222

** indicates significant at 5% level.

Table 4: Parameter Estimates of the Binomial and Multinomial Models

	Binomial – Model 1		*Multinomial – Model 2*			
Variables	*Coefficient*	*Standard error*	*Coefficient*	*Standard error*	*Coefficient*	*Standard error*
Constant	-2.880	5.339	-20.474	8.802	11.368	7.985
NINED	3.718*	2.001	6.062*	3.109	2.253	2.365
INED	0.795	3.179	0.714	5.288	-1.193	3.900
DUALITY	-0.386	0.687	-1.156	0.951	0.085	0.881
CEOOWN	0.828	1.814	0.100	2.745	1.424	2.263
FAMBOARD	1.836	1.814	3.356**	2.933	-1.656	2.407
TOP4INST	1.579	1.880	4.799*	2.823	-1.425	2.780
ROA	3.078	3.079	1.696	3.968	3.841	3.972
LEVERAGE	0.271	0.899	-0.197	1.630	0.182	1.015
AUDIT	0.550	0.711	1.184	1.034	-0.432	0.931
LNASSET	0.032	0.239	0.757**	0.378	-0.608*	0.360

	Model 1	Model 2
Likelihood Ratio	77.33 (df = 10)	97.19 (df = 20)**
Nagelkerke R^2	0.217	0.490
McFadden R^2	-	0.269
Hosmer and Lemeshow	12.25 (df = 8)	-
Percentage Correct	73.4%	70.3%

In model 1, the dependent variable is dichotomous and takes the value of either 1 (early adopters) or 0 (non-early adopters). In model 2, the dependent variable is trichotomous and takes the value of 0 (full early adopters), 1 (partial early adopters) and 2 (non-early adopters). ** indicates significant at 5% level or better and * indicates significant at 10% level or better.