ADDITIONAL EVIDENCE ON BOARD OWNERSHIP, FIRM PERFORMANCE AND LEVEL OF DIVERSIFICATION: THE CASE OF MALAYSIAN FIRMS

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ABSTRACT

This study attempts to examine the relationship between level of diversification and board ownership using bivariate correlation analysis. It further analyses using partial correlation analysis if any of the selected variables act as a common cause variable that correlates level of diversification and firm performance and develop a final estimated regression model using the selected variables extracted from 121 listed companies on the Kuala Lumpur Stock Exchanges (KLSE). Only concentration of ownership and degree of shareholders' control shows significant positive correlation. In the multiple regression analysis, dividend policy remains to be the predictor variable for Tobins' Q as a measure of firm performance but with a small R square.

INTRODUCTION

Morck, Shleifer, and Vishny (1988) state that managers respond to two opposing forces and that the relationship between ownership and value depends on which force dominates over any particular range of managerial equity ownership. The opposing forces work in the following way. Manager's natural tendency is to allocate the firm's resources in their own best interest, which may conflict with the interests of outside shareholders. As management's equity ownership increases, however, their interests are likely to coincide more closely with those of outside shareholders. The first of these forces has a positive effect on the value of the firm, which reflects the convergence of interest effect. The second has a negative effect, which reflects the entrenchment effect. The convergence effect suggests that the relationship from the managerial stake and market value of the firm is positive as management and shareholder interests converge. The entrenchment effect, however, suggests that the relationship from the managerial stake and market value is negative, as a larger managerial stake entrenches and insulates management for corporate control. Morck et al. (1988), point out that it is not possible to predict which force will dominate at any level of managerial equity ownership. Thus, the relation between corporate value and ownership structure is an empirical issue. Underlying any study of managerial incentives and firm performance is the theory of agency from Jensen and Meckling (1976).

This theory suggests that managers acting as agents for owners have a tendency to pursue their own goals, which may not always be in agreement with those of owners. The potential conflicts of interest from managers (who run corporations) and shareholders (who own them) remain to be the main concern in their studies. However, this potential conflict can be reduced by two methods; increasing the identity from the two groups, typically through inducing managers to own shares in the company and board of directors' monitor. Kesner (1987) argued that the greater the directors' share ownership in a company, the better that company's performance will be. Berle and Means (1932) point out the potential conflict of interest of corporate managers and dispersed shareholders when managers do not have an ownership interest in the firm. Jensen and Meckling (1976) formalize the relation between corporate value and managerial equity ownership. They divide stockholders into two groups – an inside shareholder who manages the firm and has exclusive voting rights and outside shareholders who have no voting rights. Both classes of shareholders are entitled to the same dividends per share of stock held. However, the inside shareholder is able to augment this stream of cash flow by consuming additional non-marketable perquisites. In this framework, there is an incentive for the manager to adopt investment and financing policies that benefit him, but reduce the payoff to outside stockholders. Thus, the value of the firm depends on the fraction of shares owned by the insiders. The greater the proportion of the shares owned by insiders, the greater the value of the firm.

Demsetz (1983), however, argues against this method by raising many offsetting corporate events that show insider ownership might hinder the operation of the firm, leading to the counter-argument that increased levels of insider ownership can result in reduced firm performance. DeAngelo and DeAngelo (1985) suggest that managers are motivated to hold common stock for the rights it gives them to receive cash benefits from the residual of the firm and voting rights. Cash benefits will in turn increase managers' financial incentives while voting rights will increase managers' influence on the board of the directors and the firm's general policies.

McConnell and Servaes (1990) have reexamined the relationship between the firm's value and equity ownership by corporate insiders by using above 1,000 companies from Value Line Investment Survey and all firms are listed on either the NYSE or AMEX for 1976 and 1986. For both 1976 and 1986, they find a curvilinear relation from the fraction of the shares owned by corporate insiders and the Tobin's Q ratio of these companies. The firm's value first increases, then decreases as ownership becomes more concentrated in the hand of insiders. In other words, they find that the firm's performance as measured by Tobin's Q, rises with ownership at low levels and then declines with ownership at high

levels. Morck et al. (1988) use a sample of 371 Fortune 500 companies for 1980 to estimate a piecewise linear regression model with Tobin's Q as the independent variable and the shareholdings by members of the board of directors as the major explanatory variable. They find that Tobin's Q increases with board ownership between 0%–5% and Q then decreases when ownership is more than 5% but up to 25%. For board ownership levels above 25%, Q increases again. Hermalin and Weisbach (1991) estimate piecewise linear regressions on Tobin's Q as the dependent variable and the proportion of the equity owned by insiders as the independent variable for a sample of 142 NYSE firms for 1971, 1974, 1977, 1980 and 1983. They find that the relation between Q and ownership is positive for ownership from 0% and 1%, negative for ownership from 1% and 5%, positive from 5% and 20% and negative for ownership levels above 20%. In Malaysia, studies on the relationship between board ownership and firm performance have been documented by Yeboah-Duah (1993), Mat Nor et al. (1999), and Sanda and Ali (2001) with mixed evidences but less attention to study on the relationship between firm's level of diversification and performance and board ownership and level of diversification. Managers may derive private benefit from diversification, among others through: reduction in risk of managers' non-diversified personal portfolios as described by Amihud and Lev (1981), power and prestige associated with managing a larger firm as described by Jensen (1986) and Stultz (1990), indispensability of manager to the firm as described by Shleifer and Vishny (1989) and managerial compensation which is related to firm size as described by Jensen and Murphy (1990). As managers' ownership stakes increases, they bear a greater fraction of the cost associated with value-reducing actions and therefore less likely to adopt policies that reduce shareholder wealth. Thus, if diversification reduces the shareholder wealth, the agency cost hypothesis predicts that there will be a negative relationship between the level of diversification and managerial equity ownership. On the relationship between board equity ownership and level of diversification, J. Denis, K. Denis and Sarin (1997) find that the level of diversification is negatively related to managerial equity ownership and to the equity ownership of outside block holders. Theoretical arguments suggest that corporate diversification has both benefits and costs for shareholders as described by Chandler (1977) and Jensen (1986). Berger and Ofek (1995a) describe among others, the potential benefits of operating different lines of business within one firm include greater operating efficiency, less incentive to forego positive net present value projects, greater debt capacity, and lower taxes. The potential costs of diversification include the use of increased discretionary resources to undertake value-decreasing investments, cross subsidiaries that allow poor segments to drain resources from better performing segments, and misalignment of incentives range of central and divisional managers.

On the relationship between level of diversification and firm performance, empirical studies have generally produced mixed results on diversification's overall value effect. Recent evidence documents that, on average, the cost of diversification outweigh the benefits. Berger and Ofek (1995a), Lang and Stulz (1994), and Servaes (1995) show that diversified firms fail to take advantage of the purported benefits of diversification. In addition, Berger and Ofek (1995b), Comment and Jarrell (1995) and John and Ofek (1995) document a trend toward increased corporate focus in the 1980s and report that this increase in focus is associated with significant increases in shareholder value.   In addition, the decrease in diversification is associated with external corporate control threats, financial distress, and management turnover.

RESEARCH METHOD

The data were extracted from 121 selected companies in the *KLSE Annual Companies Handbook,* Volume 22, Book 2 (1997). These firms were selected as they provide complete data as required in this study. We use the percentage of director's equity ownership as our proxy for managerial share ownership. The selected variables to examine the linear relationship between each two variables using bivariate correlation analysis are as follows:

Y (Tobins' Q)	=	ratio of market value of the firm with the replacement cost of the firm's asset.[1]
X_1 (equity)	=	board of directors' ownership.
X_2 (conc)	=	is the ownership concentration measures by the Herfindahl Index (H) and defined as $H = å_j (m_j)^2$; where m_j is the percentage holding of the jth largest share holding group.
X_3 (ctrl)	=	is the degree of shareholder control with dispersed shareholdings measures by the Cubbin-Leech Index (a).[2]
X_4 (div.p)	=	reserve/total assets, that controls the effect of the firm's dividend policy.
X_5 (cap.p)	=	long term liability/total assets, that controls the effect of the firm's capital structure.
X_6 (HI)	=	a revenue-based Herfindahl Index.[3]
X_7 (f'ond)	=	is a dummy variable, equivalent to 1 if the founder of the company is one of the board members. This variable is identical, if more than one member of a family is the member of the board of directors.

We use similar selected variables to test the common cause hypothesis on the relationship between level of diversification and firm performance using partial correlation analysis. In other words, whether level of diversification and firm performance are correlated because they shared the same causal variable, in this case, board of directors ownership or concentration or controlling share or dividend policy or capital structure policy or founder.

We use the stepwise selection method to develop the best linear regression model from the above listed variables to predict the dependent or outcome variable (Tobin's Q). The full estimated model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon$$

where,

β_0 = constant
β_1 = $\beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7$ = coefficients
ε = error term

Based on the documented evidence, this paper attempts to test five null hypotheses using Malaysian data as follows:

i. There is no relationship between level of diversification and firm performance.

ii. There is no relationship between board of director's ownership and level of diversification.

iii. Level of diversification and firm performance are not related with the presence of board of directors ownership or concentration or control or dividend policy or capital structure policy or founder or each of them is not a common cause variable.

iv. Level of diversification and firm performance are not related without the presence of board of directors ownership or concentration or control or dividend policy or capital structure policy or founder or each of them is a strong common cause variable.

v. The data do not fit the final mode or the beta (β) coefficient is equal to zero.

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FINDINGS

Table 1 reports the descriptive statistics of the 121 selected KLSE companies. The means board of directors' ownership is almost 22% with the maximum at almost 84% and mean revenue-based Herfindahl Index with the maximum at almost 0.72. Mean's Tobin's Q is almost 3.4 with maximum almost 33. Using the Bonfferoni method to adjust the stated significant level (0.05) by the number of correlation (m = 28), the adjusted significant value is given by (0.05/28 ≈ 0.002), the statistical results in Table 2 failed to reject the first and second null hypotheses since the p-values are greater than 0.002. Only concentration and degree of shareholders control reported positive low correlation (Pearson correlation coefficient, r = + 0.489) based on Guilford's Rule of Thumb since the p-value (0.0001) is smaller than 0.002. In other words, we find no relationship between level of diversification and firm performance and between board of directors' ownership and level of diversification. We failed to reject the third common cause null hypothesis based on Table 3 results since all the p-values are larger than significant level 0.05 which conclude that board of directors ownership or concentration or control or dividend policy or capital structure policy or founder is not a common cause variable that correlate level of diversification and firm performance in the case of Malaysia. The results in Table 4 also failed to reject the fourth null hypothesis which conclude that board of directors ownership or concentration or control or dividend policy or capital structure policy or founder is not a strong common cause variable in the case of Malaysia. To examine whether the data fit the model or beta coefficient is not equal to zero, Table 6 shows that the null hypothesis is rejected and the final estimated model is as follows:

$$Y = 4.909 - 5.685 \, X_4 + \varepsilon$$

where,

β_0 = constant
ε = error term

However, only 3.3% (R^2 = 0.033 in Table 5) of the variance of the dependent variable (Tobins' Q) is explained by the independent variable (dividend policy) which suggest that this model is not really a good descriptor of the relation between Tobins' Q and dividend policy.

TABLE 1
DESCRIPTIVE STATISTICS OF 121 SELECTED KLSE COMPANIES

	N	Minimum	Maximum	Mean	Std. Deviation
EQUITY	143	0.00	83.46	21.1806	25.42156
NO. SEG	121	1.00	7.00	2.8264	1.67171
TOBINQ	121	0.02	32.83	3.3894	5.56757
INDEXH	121	0.21	1.00	0.7171	0.26924
DIV.P	121	−0.30	0.79	0.2673	0.17739
CAP.P	121	0.00	2.11	0.1422	0.21761
CONC	121	0.00	1.00	0.4447	0.21558
CTRL	121	0.52	1.00	0.6923	0.11163
FOUNDER	121	0.00	1.00	0.3802	0.48745
Valid n (listwise)	121				

TABLE 2
CORRELATION

		EQUITY	TOBINQ	INDEXH	CONC	CTRL	DIV.P	CAP.P	FOUNDER
EQUITY	Pearson Correlation	1	−0.019	0.054	−0.101	0.013	0.095	0.70	0.159
	Sig. (2-tailed)	–	0.837	0.558	0.271	0.885	0.302	0.445	0.081
	N	143	121	121	121	121	121	121	121
TOBINQ	Pearson Correlation	−0.019	1	0.006	−0.012	−0.068	−0.181*	−0.036	−0.082
	Sig. (2-tailed)	0.837	–	0.951	0.897	0.459	0.047	0.696	0.369
	N	121	121	121	121	121	121	121	121
INDEXH	Pearson Correlation	0.054	0.006	1	0.116	0.098	0.147	−0.103	0.122
	Sig. (2-tailed)	0.558	0.951	–	0.206	0.287	0.108	0.261	0.182
	N	121	121	121	121	121	121	121	121
CONC	Pearson Correlation	−0.101	−0.012	0.116	1	0.489**	−0.008	−0.055	−0.009
	Sig. (2-tailed)	0.271	0.897	0.206	–	0.000	0.926	0.546	0.924
	N	121	121	121	121	121	121	121	121
CTRL	Pearson Correlation	0.013	−0.068	0.098	0.489**	1	0.199*	−0.022	0.102
	Sig. (2-tailed)	0.885	0.459	0.287	0.000	–	0.029	0.815	0.267
	N	121	121	121	121	121	121	121	121
DIV.P	Pearson Correlation	0.095	−0.181*	0.147	−0.008	0.199*	1	−0.163	0.122
	Sig. (2-tailed)	0.302	0.047	0.108	0.926	0.029	–	0.075	0.184
	N	121	121	121	121	121	121	121	121
CAP.P	Pearson Correlation	0.070	−0.036	−0.103	−0.055	−0.022	−0.163	1	0.188*
	Sig. (2-tailed)	0.445	0.696	0.261	0.546	0.815	0.075	–	0.039
	N	121	121	121	121	121	121	121	121
FOUNDER	Pearson Correlation	0.159	−0.082	0.122	−0.009	0.102	0.122	0.188*	1
	Sig. (2-tailed)	0.081	0.369	0.182	0.924	0.267	0.184	0.039	–
	N	121	121	121	121	121	121	121	121

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

TABLE 3
ZERO ORDER PARTIALS: TOBIN'S Q AND HERFINDAHL INDEX

Variable	EQUITY	CONC.	CTRL	CAP.P	DIV.P	FOND
p-value	0.951	0.951	0.951	0.951	0.951	0.951

TABLE 4
CONTROLLING FOR PARTIAL CORRELATION

Variable	EQUITY	CONC.	CTRL	CAP.P	DIV.P	FOND
p-value	0.951	0.939	0.893	0.983	0.719	0.863

TABLE 5
MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.181[a]	0.033	0.025	5.49842

[a]Predictors: (Constant), DIV.P

TABLE 6
ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.062	1	122.062	4.037	0.047[a]
	Residual	3597.680	119	30.233		
	Total	3719.742	120			

[a]Predictors: (Constant), DIV.P
[b]Dependent variable: TOBINQ

TABLE 7
COEFFICIENTS[a]

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistic	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.909	0.906	−0.181	5.415	0.000	1.000	1.000
	DIV.P	−5.685	2.830		−2.009	0.047		

[a]Dependent variable: TOBINQ

DISCUSSION AND CONCLUSIONS

The analysis of the previous sections disclose some interesting results. The most striking is that there appears to be no relation between level of diversification and firm performance and board of directors ownership and level of diversification which is less consistent with the literature. The low positive correlation between ownership concentration measured in and degree of shareholder means that as ownership concentration increases, degree of control increases. This is not consistent with Cubbin and Leech (1983) which argued that as proportion of leading or largest shareholding increases, the proportion of shares needed for control decreases. On the common cause hypothesis, should the board of directors ownership or concentration or control or dividend policy or capital structure policy or founder is a common cause variable, the level of diversification and firm performance is expected to be related. Furthermore, should the board of directors ownership or concentration or control or dividend policy or capital structure policy or founder is a strong common cause variable (after removing/controlling it), level of diversification and firm performance is expected not to be related.

Other factors except dividend policy is the only predictor variable to explain the Tobins' Q in the regression model. Admittedly, these results could be due to inadequately powerful tests and one-time period data used in this study. Hence, more research is needed to further investigate such results in the Malaysian context.

ENDNOTES

1. However, replacement cost information is not readily accessible. In this study we use equity market to book value of net assets ratio to measure the Tobin's Q.

2. See Cubbin and Leech (June 1983).

3. Reflects the degree to which revenue are concentrated in just a few of a company's business segments. It is calculated across n business segments as the sum of the squares of each segments i's sales, S_i as a proportion of total sales. See Comment and Jarrell (1995).

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