FURTHER EVIDENCE ON THE RELATIONSHIP BETWEEN BOARD OWNERSHIP AND FIRM PERFORMANCE IN MALAYSIA

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ABSTRACT

This study, based upon a sample of 112 Malaysian firms listed on the Kuala Lumpur Stock Exchange (KLSE) from period 1992-1997, attempts to examine the relationship between board shareholding and firm performance, as measured by Tobin's q. The results suggest that until a certain point of board ownership, there is the tendency for firm performance to rise with board ownership. Beyond that point a negative relation is observed. The findings are consistent with the works of Mat-Nor et al (1999), Wong and Yek (1991), Denis and Sarin (1999) and McConnell and Servaes (1990) but run counter to those of Yeboah-Duah (1993), and Himmelberg et al (1999). The results imply that firm owners should be wary of inordinate use of board shareholdings as a mechanism for controlling agency problem in firms.

INTRODUCTION

There has recently been a dramatic surge in the amount of theoretical and empirical literature concerned with how to align the interests of managers and directors with those of shareholders [Agrawal and Knoeber (1996), Brickley and James (1987), Crystal (1991), Demsetz and Lehn (1985), Denis and Sarin (1999), Dunn (1987), Fama (1980), Hermalin and Weisbach (1991), Himmelberg et al (1999), Hudson et al (1992), Jensen and Murphy (1990a, 1990b), Jensen and Ruback (1983), Jensen and Meckling (1976), Loderer and Martin (1997), McConnell and Servaes (1990), Mørck et al (1988), Renneboog (2000), Wiwattanakantang, (2000), Wong and Yek (1991)]. This growing body of literature attests to the importance of the need to resolve the problem of agency. Agency problem is said to exist within a firm if managers pursue interests that are not congruent with those of the stakeholders.

A number of ways have been noted to help reduce the agency problem. First, board ownership is often suggested as a veritable tool of aligning the divergent interest of owners and managers (Hudson et al, 1992; Denis and Sarin, 1999). Second, the managerial labour markets are believed to help stimulate managers to protect their reputation in the eyes of potential employers (Fama and Jensen, 1983). Third, the market for corporate control (through takeovers and other forms of acquisition) helps discipline the managers because of fear of managerial job losses that a takeover often implies (Agrawal and Knoeber,

1996). Fourth, debt could be used as a powerful tool to prevent managers from the pursuit of objectives other than those of the owners (Li and Simerly, 1995). Finally, concentrated shareholding by block holders or by holding companies has the potential to reduce agency problem as it promotes the monitoring of managers by such block holders or holding companies (Agrawal and Knoeber, 1996).

There may appear to be no dispute on the ability of these mechanisms to help resolve the agency problem. Empirical evidence, though, reveals disparate findings. In very broad terms, the evidence seems to produce two opposing conclusions. For one, there is evidence suggesting that these mechanisms help in significant ways to improve firm performance [Denis and Sarin, 1999; Agrawal and Knoeber, 1996; McConnell and Servaes, 1990; Hudson et al, 1992; Mørck et al, 1988; Mat-Nor, 1999; Himmelberg et al, 1999]; for another, there is evidence suggesting no such relationship [Himmelberg et al, 1999; Demsetz and Lehn, 1985; Yeboah-Duah, 1993 and Renneboog, 2000].

The differences in reported evidence can be explained partly by differences in methodology. Some researchers have used reduced form equations while others have undertaken a simultaneous equation approach. There is even disagreement related to the direction of causality, with some researchers using performance as the dependent variable and others considering it as a causal factor explaining ownership concentration. This paper does not attempt to resolve this controversy; it only aims to produce fresh evidence on the relation between firm performance and board ownership of Malaysian firms.

Given that corporate governance mechanisms may serve to lighten the conflict of interest between managers and shareholders, the results of this study using a particular internal governance mechanism of board ownership, would be useful for it would indicate if there is an association to firm value or to actions that benefit shareholders. The results thus also would assist in providing insights for prescription of sound measures of corporate governance in Malaysia.

To achieve this aim, the paper is thus structured as follows: Section one provides the introduction, Section two reviews the literature, the third detailing the methodology, the fourth presenting the results and the fifth providing a concluding remark.

LITERATURE REVIEW

Financial economists have long realized the tendency for top executive officers of firms to act in ways that are not congruent with the interests of shareholders. Attempts to resolve what came to be regarded

as the "agency problem" included a number of mechanisms: increasing director shareholding (Denis and Sarin, 1999); increasing debt to limit the amount of "discretionary funds available to managers" (Li and Simerly, 1995); use of outside directors, managerial labour market, and market for corporate control (Agrawal and Knoeber, 1996).

The literature suggests an explanation for the persistence of this problem. Most shareholders own very small proportion of shares of the firm and none of them may be willing to bear the private cost of monitoring the managers as doing so would create benefits that would spill over to other shareholders (Demsetz and Lehn, 1985). In other words, the costs of monitoring are internal, borne completely by the monitor, but the benefits are not fully internalized, tending to spill over to other shareholders. This results in a free-rider problem that prevents any shareholder from taking a unilateral action to monitor managers, and that creates the tendency for managers to pursue interests that may be incongruent with those of the shareholders.

Hermalin and Weisbach (1991) note that it is unclear whether the use of directors to monitor the management does help to address the agency problem. The authors cite the earlier works of Dunn (1987) who reported evidence of boards' failure in their responsibility to monitor management; and of Fama and Jensen (1983), who pointed out that market pressures and concern for reputation encourage managers to play the role of adding value to shareholder's wealth. Hermalin and Weisbach (1991) add a new dimension to the debate. They note that boards must be examined from a broader perspective; in other words, the composition of the board does matter. The results obtained by Hermalin and Weisbach are in line with those of Mørck et al (1988) and McConnell and Servaes (1990), who find that corporate performance, measured by Tobin's q, rises with ownership at low levels of ownership and then falls at high levels of ownership.

Agrawal and Knoeber (1996) extend the work of Hermalin and Weisbach (1991) by expanding the frontier of research on this terrain of corporate governance. Unlike previous research, the work of Agrawal and Knoeber (1996) considers a wider range of mechanisms available for dealing with the agency problem. They consider seven such mechanisms: shareholdings of insiders, institutions, and large block holders; use of outside directors; debt policy; the managerial labour market; and the market for corporate control. Institutional or block holder ownership can increase monitoring of managers and so enhance performance. Debt financing increases the monitoring of managers by the creditors. The labour market tends to create bright employment prospects for well-performing managers and gloomy

employment outlook for poor performing ones. Thus, the market tends to encourage managers to "attend to their reputation" [Agrawal and Knoeber (1996)]. Corporate takeover is another factor that tends to deal with the agency problem because such corporate control activities lead to the displacement of managers.

Agrawal and Knoeber's findings suggest a significant relationship between firm performance and each of insider shareholdings, outside directors, debt, and corporate control activity. Their results also show that the effect of insider shareholdings disappears when all of the mechanisms are included in a single OLS regression, and that the effect of debt and corporate control activity also disappears when estimations are made in a simultaneous systems framework. Recently, Renneboog (2000) has undertaken a study of firms listed on the Brussels Stock Exchange to examine the mechanisms suggested by Agrawal and Knoeber as helping to reduce the agency problem. Renneboog's findings suggest a partial market for control, and point to a little relation between ownership concentration by institutions and holding companies, and disciplining. His work, however, shows that performance is significantly related to leverage and director shareholding.

From the preceding review, it is evident that despite the volume of theoretical and empirical work, available evidence suggests that research on the developed stock markets has so far produced no consensus on the effect of executive stock ownership on firm performance. By the same token, mixed evidence has been reported for the emerging stock markets such as the Kuala Lumpur Stock Exchange (KLSE). Yeboah-Duah (1993) studied a sample of 210 Malaysian firms for the period 1984 to 1991 to investigate the relationship between executive stock ownership and firm performance. His results showed no significant differences in performance between firms with high and those with low, executive stock ownership.

Yeboah-Duah's study contrasts with that of Mat-Nor et al (1999). In a study of 79 Malaysian firms, Mat-Nor et. al. (1999) categorized firms into three levels of executive ownership: 0-5%; 5-25% and >25%. They reported a non linear relation between ownership and performance. For ownership levels within the 5%-25% range, a negative relationship was found. This contrasts with the positive relationship reported for the other two ownership categories. The authors attributed the positive relationship to discipline of managerial labour market, market for corporate control, and convergence of interest effect.

There is scant evidence from other South-East Asian countries so no generalization can be made concerning the relationship between ownership and performance in this part of Asia. The evidence from Thailand is decisive in rejecting the hypothesis of a significant relation. Wiwattanakantang (2000) reports no significant relationship between ownership and performance of firms listed on the Stock Exchange of Thailand. This contrasts with the evidence from Singapore which reports mixed conclusions. Wong and Yek (1991) studying firms listed on the Stock Exchange of Singapore report that different ownership ranges result in different effects on the value of the firm. Thus, Wong and Yek's study seems to echo the earlier work of McConnell and Servaes (1990) which reached a similar conclusion, although based on a different measure of performance.

DATA AND METHODOLOGY

The data set used for this study covers a sample of 112 Malaysian firms listed on the Kuala Lumpur Stock Exchange (KLSE). The appendix shows the list of companies used in the sample. Two data sets were used. They are the monthly stock return data that had been adjusted for capital changes, dividends and rights issues, and the financial report data that was obtained from the KLSE CD-ROM covering the period of 1992 through 1997. The only sampling selection criterion used is that a firm must have complete data. Thus, the ability to generalize the findings may be affected by this criterion.

Two closely related issues are examined in this paper. The methodology is accordingly divided into two. The first aspect of the methodology outlines the procedure adopted to examine whether or not some of the variables suggested by Demsetz and Lehn (1985) are significantly related to ownership. The second aspect explains the procedure for testing the relationship between board ownership and corporate performance, as measured by the Tobin's q. Thus, while the first aspect has ownership as the dependent variable, the second has it as an independent variable. It would seem as if, then, that the focus of the paper was on ascertaining the direction of causality. Although it would be useful to identify the direction of causality, this paper is unable to do that due to data limitations. The Granger-causality procedure has been the standard technique for testing for causality but this requires the use of several lagged variables in the set of regressors. Since the data set is cross sectional, the Granger-causality test is not applicable. It is reiterated here that while ownership is treated as a dependent variable in one part of this study, it serves as an independent variable in another part. The problem of identification may prevent the application of the simultaneous equation approach, hence the treatment of each of the two equations separately. These limitations should be borne in mind in interpreting the results of this study.

As mentioned earlier, the first aspect of the methodology is concerned with examining the relationship between ownership on the one hand, and size of the firm and instability in its environment on the other. To test the relationship, the following equation is estimated:

$$LOWNER_t = \beta_0 + \beta_1 LTOVER_t + \beta_2 LPROFIT_t + \beta_3 LTASSET_t + \beta_4 LSDTOVER_t + \beta_5 LSDPROFIT_t + \beta_6 LSDTASSET_t + \beta\text{-}SEE_t + \varepsilon_t \quad (1)$$

Where:

$LOWNER_t$ = LN(OWNER/(100-OWNER) Where owner is percentage of shares held by directors of firm t in 1997

$LTOVER_t$ = Natural log of average turnover of firm t over the six-year period (1992-97)

$LPROFIT_t$ = Natural log of average net profit of firm t over the six-year period (1992-97)

$LTASSET_t$ = Natural log of average total assets of firm t over the six-year period (1992-97)

$LSDTOVER_t$ = Natural log of standard deviation of turnover of firm t over the sample period. 1992-97.

$LSDPROFIT_t$ = Natural log of standard deviation of net profit of firm t over the sample period. 1992-97.

$LSDTASSET_t$ = Natural log of standard deviation of total asset of firm t over the sample period. 1992-97.

β_i Parameters to be estimated

ε_t Random error, assumed to be white noise

SEE_t Standard Error of the Estimate for firm t obtained by fitting the market model (explained below) using monthly return data for the six-year sample period.

The market model is given by:

$$R_{jt} = \alpha_t + \beta_j R_{mt} + e_{jt}$$

Where:

R_{jt} = return on security j in time t, measured as $Ln(P_t/P_{t-1})$, where P_t is the stock price on the last trading day of month t.

R_{mt} = return on the KLSE composite index in time t, measured as $Ln(CI/CI_{t-1})$, where CI_t is value of the KLSE composite index on the last trading day of month t.

α, β Parameters to be estimated

e_{jt} The "error" term assumed to have zero mean and to be independent of R_{mt}.

The first three independent variables in Equation 1 above are measures of firm size while the last four are of instability in the firm's environment. Finance literature suggests a negative relation between ownership and each of the three measures of firm size. Demsetz and Lehn reason that ceteris paribus the larger the firm, the higher the cost of a given proportion of equity. This serves to limit the proportion of shares that may be owned by any group such as insiders. Thus, the larger the firm, the smaller the extent of board ownership. As for each of the four measures of instability in the firm's environment, Demsetz and Lehn predict a positive relation with ownership. The authors argue that in a noisy environment, many changes take place almost simultaneously. This makes it difficult to isolate the contribution of management to firm performance from that of other factors such as changes in technology or market share. Thus, the noisier the environment the more difficult it is to monitor managers and hence the greater the need for the use of insider ownership.

The second aspect of the methodology of this paper is concerned with the relationship between ownership and firm performance, as measured by Tobin's q, a market based measure of performance. Due to data limitations, this paper uses a modified version of Tobin's q used by Agrawal and Knoeber (1996), namely:

$Q = V/ASSET$

Where :

V	=	EQUITY + LTD + STD + CV
EQUITY	=	Market value of equity
LTD	=	Book value of long-term debt
STD	=	Book value of short-term debt
CV	=	Book value of convertible debt and convertible preferred stock

The following equation is used to test the relationship between ownership and performance.

$$Q_t = \beta_0 + \beta_1 OWNER_t + \beta_2 OWNERSQ_t + \mu_t \qquad (2)$$

Where:

Q	=	Tobin's Q for firm t as defined earlier on,
OWNER	=	as defined earlier on
OWNERSQ	=	a quadratic term, obtained by taking the squared values of OWNER
μ	=	error term

RESULTS

The results are presented under two headings: basic results concerning some size and ownership characteristics of sample firms; and inferential results concerned with hypothesis testing.

Basic Results

A total of 29 or 25.9% of the 112 firms in the sample are from the industrial sector, 25 or 22.3% from trading, 22 or 19.6% from property, 13 or 11.6% from the consumer sector, 9 or 8% from construction, 10 or 8.9% from the plantation sector, and 2 or 1.8% each from mining and hotel sectors. An examination of the size profile of the sample firms reveals that a quarter of them recorded an average of less than RM152 million in turnover, with the second and third quartiles falling below RM298.5 million, and RM702.3 million respectively. The corresponding figures for the profit measure of size are: RM14.5 million, RM44.1 million and RM107.6 million. Over the six-year period (1992-97) 25 per cent of the firms had total assets averaging below RM371.7 million. The figures for the second and third quartiles are RM807.3 million and RM1.47 billion respectively.

The firms in the sample also exhibited wide variations in board ownership. Board ownership of the sample firms averaged 28.7 per cent. A quarter of the firms had board ownership below 5% and a quarter had more than 46.9 per cent.

Inferential Results

The inferential results cover two aspects. First, we examine whether or not ownership is significantly related with some of the variables suggested by Demsetz and Lehn (1985). Second, we provide evidence on the extent to which board ownership is related to performance, as measured by the Tobin's q.

Ownership, firm size and instability in the firm's environment

Some univariate tests were performed to prepare the stage for the estimation of Equation 1. Correlation coefficients are reported in Table 1.

Table 1: Correlation Results

Variable	Correlation with Ownership	P-value
LTURNOVER	-0.309	0.002
LPROFIT	-0.232	0.023
LTOTAL ASSETS	-0.211	0.039
LSDTOVER	-0.163	0.113
LSDPROFIT	-0.042	0.681
LSDTASSETS	-0.091	0.376
SEE	0.119	0.248

Two clear features mark the results presented in Table 1. First, all the measures of size (turnover, profit, total assets) are significantly negatively correlated with ownership. The first aspect appears to be in line with the theoretical expectation of a negative association between ownership and size. The second aspect of the results is that none of the four measures of instability in the firm's environment shows any significant correlation with ownership.

The above procedure is a univariate analysis but in reality many factors may operate together to determine the level of ownership. Further, correlation as a statistical tool is fraught with a major problem – it is only a measure of association, not of causality. Thus, caution should be exercised in the interpretation of these results. The analysis therefore proceeds with the multivariate procedure.

Equation (1) was estimated using the ordinary least squares technique. The results are given in Table 2.

Table 2: Parameter Estimates of Equation 1

Independent Variable	Coefficient Estimates	T-ratio
LTURNOVER	-1.39	-2.86**
LPROFIT	-1.12	-2.62*
LTOTAL ASSETS	0.26	0.34
LSDTOVER	0.96	2.33*
LSDPROFIT	0.52	1.35
LSDTASSETS	0.25	0.55
SEE	0.42	0.54
CONSTANT	6.05	1.90

*Significant at 5 per cent level ** Significant at 1 per cent

F=6.06 Sig. F =0.0000 Adjusted R^2 =0.252 Condition Index=132

The estimated value of the adjusted R^2 is 0.252, which implies that 25.2 per cent of the variations in ownership can be explained jointly by the seven independent variables in the equation. Secondly, the F-statistic is found to be 6.06, which is significant at the 1 per cent level. Thus, the model is adequate. Three of the seven independent variables are significant and with the right signs. Two measures of size (turnover and profit) are significantly negatively related with ownership; and one measure of instability in the firm's environment is significantly positively related with ownership. The results are consistent with those of Demsetz and Lehn (1985) who suggest a negative relation between size and ownership but report a positive relation between ownership and instability in the firm's environment. The results in Table 2 also indicate that despite the rather low level of R^2, the problem of multicollinearity is severe, given that the condition index is well beyond the threshold of 30. Researchers confronted with the multicollinearity problem have normally resorted to one of two options: increasing the sample size, or dropping some of the independent variables. The first option was not adopted here due to data constraints; the second option was therefore adopted. In order to drop some of the independent variables we adopted the stepwise regression technique. The results obtained from the stepwise regression are presented in Table 3.

Table 3: Parameter Estimates of Equation 1 (Stepwise approach)

Independent Variable	Coefficient Estimates	T-ratio
LTURNOVER	-1.73	-4.69**
LPROFIT	-0.54	-2.12*
LSDTOVER	1.46	4.49**

*Significant at 5 per cent level ** Significant at 1 per cent

F=12.6 Sig. F =0.000 Adjusted R^2 =0.249

The results reported in Table 3 bear some similarities with those of Table 2. In both tables, the same variables turn out to be significant and with the right signs. However, due to the removal of the multicollinearity problem, Table 2 reports a higher level of coefficient of determination than does Table 3. Thus, at least for the sample Malaysian firms, it can be concluded that the larger the size of the firm (as measured by turnover and profit) the smaller the proportion of shares owned by board of directors; also the greater the level of instability in the firm's environment, the greater the amount of board ownership. These findings are in tandem with those of Demsetz and Lehn (1985).

Ownership and Firm Performance

Equation 2 was estimated and the results summarized in Table 4.

Table 4: The effect of ownership on performance

Independent Variable	Coefficient Estimates	T-ratio
OWNER	0.006	3.07**
OWNERSQ	-0.000085	-3.15**
CONSTANT	0.406	13.18**

** Significant at 1 per cent

F=5.0 Sig. F =0.008 Adjusted R^2 =0.067

It can be seen from Table 4 that although ownership accounts for only 6.7 per cent of the variations in firm performance, the model represented by Equation 2 is adequate as the F-statistic is significant at the 1 per cent level. Each of the slope coefficients (including the one for the quadratic term) is significant at the 1 per cent level. Further, the first slope coefficient is positive while the second is negative, implying an inverted U pattern for the curve depicting the relation between ownership and performance. By differentiating the resulting quadratic equation and solving for its optimum point, it is realised that performance tends to rise with ownership up to but not exceeding board ownership level of 36.71 per cent.

These results are in agreement with those of Mat-Nor et al on Malaysian firms, Wong and Yek on Singaporean firms and McConnell and Servaes on American firms. In other words, the results do not support the findings reported by Loderer and Martin (1997), Wiwattanakantang (2000) and Yeboah-Duah (1993) to name but a few.

CONCLUDING REMARK

Using a sample of 112 firms listed on the KLSE, this paper attempts to produce fresh evidence on the relation between board shareholding and firm performance in Malaysia. It also attempts to examine whether some of the variables suggested by Demsetz and Lehn are significantly related to ownership. Some interesting results emerge. First, in tune with the suggestion by Demsetz and Lehn, both turnover and profit measures of firm size are significantly negatively related to ownership. Second, also in support of Demsetz and Lehn, the results reveal a positive relationship between board ownership and instability in the firm's environment. Finally, ownership is found to be significantly related with

performance, tending to rise at early levels of board ownership and to fall at levels of ownership beyond 36.7% of firm's equity.

The evidence thus provide support with the vast literature that as percentage of board ownership increases (up to a certain level), the interest of the board are more consistent with that of the shareholders, that is to maximize shareholders wealth. However, after a certain level, there are offsetting cost of significant board ownership. When a substantial fraction of the firm's equity is held by the board, entrenchment of job position may then exist such that it may have contributed towards non-value maximizing behavior.

The implication arising from the finding is that firm owners attempting to ensure that managers and directors behave in ways that are performance-improving may consider some dose of board ownership but this strategy may well backfire if pursued beyond a reasonable limit. Despite the findings, it is difficult to determine what the "reasonable" level is because some finance scholars such as Hermalin and Weisbach (1991) have suggested that different industries may exhibit different patterns of relationship between insider ownership and firm performance.

A number of limitations have been noted to serve as a caution against excessive reliance on the results of this study. First, the direction of causality is unclear. Second, it is equally uncertain whether some gains could be derived from the application of a simultaneous equation approach as opposed to the reduce-form equation approach of this study. Finally, the results provide no clue as to the validity of the claim made by Hermalin and Weisbach (1991) that different firms have different optimal levels of board ownership. Further research is therefore required to help resolve the growing levels of controversies in this vital aspect of corporate finance.

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Appendix 1: Companies used in the sample

COMPANY	LABEL
ABRAR CORPORATION BERHAD	ABRCORP
ADVANCE SYNERGY BERHAD	ASB
AJINOMOTO (MALAYSIA) BERHAD	AJI
AMALGAMATED INDUSTRIAL STEEL BERHAD	AISB
ANCOM BERHAD	ANCOM
ARAB-MALAYSIAN DEVELOPMENT BERHAD	AMDB
ASIA PACIFIC LAND BERHAD AP	LAND
ASIATIC DEVELOPMENT BERHAD	ASIATIC
AUSTRAL ENTERPRISES BERHAD	AUSENT
AYER HITAM PLANTING SYNDICATE BERHAD,THE	AHPLN
AYER HITAM TIN DREDGING MALAYSIA BERHAD	AHTIN
BANDAR RAYA DEVELOPMENTS BERHAD	BRAYA
BATU KAWAN BERHAD	BKAWAN
BERJAYA GROUP BERHAD	BGROUP
BOLTAN PROPERTIES BERHAD	BOLTON
CAMERLIN GROUP BERHAD	CAMERLN
CHEMICAL COMPANY OF MALAYSIA BERHAD	CCM
DMIB BERHAD	DMIB
DNP HOLDINGS BERHAD	DNP
EASTERN & ORIENTAL BERHAD	E&O
FACB BERHAD	FACB
GADEK (MALAYSIA) BERHAD	GADEK
GENTING BERHAD	GENTING
GEORGE KENT (MALAYSIA) BERHAD	GKENT
GLENEALY PLANTATIONS (MALAYA) BERHAD	GNEALY
GOH BAN HUAT BERHAD	GBH
GRAND UNITED HOLDINGS BERHAD	GUH
GRANITE INDUSTRIES BERHAD	GRANITE
GULA PERAK BERHAD	G-PERAK