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DETERMINANTS OF MANAGERIAL OWNERSHIP AND THE LINK BETWEEN OWNERSHIP AND PERFORMANCE; DEVELOPMENT OF TESTABLE HYPOTHESIS

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ABSTRACT

Managerial ownership and firm performance are endogenously determined by exogenous (and only partly observed) changes in the firm's contracting environment. To develop the testable hypothesis the extension of the cross-sectional results runed by Demesetz and Lehn (1985) (Journal of Political Economy, 93, 1155-1177) has been used and the panel data been used to show that managerial ownership is explained by key variables in the contracting environment in a way consistent with the predictions of principal-agent models. A large fraction of the cross-sectional variation in managerial ownership is explained by unobserved firm heterogeneity. Moreover, after controlling both for observed firm characteristics and firm fixed effects; it cannot be concluded (econometrically) that changes in managerial ownership agent firm performance.

Keywords: *Corporate governance, managerial ownership, endogenous, heterogeneity, panel data, cross-sectional*

Introduction

The conflict between managers and shareholders has been studied extensively by the researchers seeking to understand the nature of firms since Berle and Means (1932). When shareholders are too diffusing to monitor managers, corporate assets can be used for the benefit of managers rather than for maximizing shareholder wealth. It is well known that a solution to this problem is to give managers an equity stake in the firm. Doing so helps to resolve the moral hazard problem by aligning managerial interests with shareholders' interests. Therefore, Jensen and Meckling (1976) suggest that managers with small levels of ownership fail to maximize shareholder wealth because they have an incentive to consume perquisites.

To document the extent to which the contracting environment endogenously determines managerial ownership, one can extend the empirical specification used by Demsetz and Lehn by including a number of additional explanatory variables other than stock price variability (see also Kole, 1996). Most importantly, variables (such as firm size, capital intensity, R&D intensity, advertising intensity, cash flow, and investment rate) designed also can be included to control the scope of moral hazard. To the extent that additional explanatory variables proxy for moral hazard, and specification clarifies the role of stock price variance as an explanatory variable for managerial ownership.

One can also use the panel data that allows to estimate the importance of unobserved (time-invariant) firm effects. These results show that a large fraction of the cross-sectional variation in managerial ownership is "explained" by unobserved firm heterogeneity. In the analysis of the determinants of firm value, one can argue that this unobserved heterogeneity generates a spurious correlation between ownership and performance.

The goal of this paper is to examine theoretical explanations and development of testable hypothesis of the empirical link between managerial ownership and firm performance. Morck et al. (1988) estimate a piecewise-linear relation between board ownership and Tobin's Q and found that Tobin's Q increase and then decreases with managerial ownership. McConnell and Servaes (1990) examine a larger data set than the Fortune 500 firms examined by Morck et al. and find an inverted U-shaped relation between Tobin's Q and managerial ownership up to a stake of 1%; the relation is negative in the ownership

range of 1-5%, becomes positive again in the ownership range of 5-20%, and turns negative for ownership levels exceeding 20%.

The pattern identified by Morck et al. has been corroborated for a cross-section of U.S. firm size can account for the reported differences between those studies. These studies generally interpreted the positive relation at low levels of managerial ownership as evidence of incentive alignment, and the negative relation at high level of managerial ownership as evidence that managers become "entrenched" and can indulge in non-value-maximizing activities without being disciplined by shareholders. However, these studies do not address the endogeneity problem that confronts the use of managerial ownership as an explanatory variable, a problem noted early by Jensen and Warner (1988, p.13).

The notion of Managerial Ownership:

Referring specifically to profit-oriented, large firms in the legal form of corporations, the term "Managerial Ownership" can be used as follows: it is the totality of the institutional and organizational mechanisms, and the corresponding decision-making, intervention and control rights, which serve to resolve conflicts of interest between the various groups which have a stakes in a firm and which, either in isolation or in their interaction, determine how important decisions are taken in a firm, and ultimately also determine which decisions are taken (Schmidt & Tyrell, 1997, p. 168, based on Williamson, 1985, p. 298-325).

Conventional Views of the Managerial Ownership Problem

The narrow view

According to the narrow view, which Margaret Blair (1995, p. 12) calls "the finance model", a large public corporation is the property of its shareholders. There are many shareholders who have lack of knowledge that needed to run the firm and who could never reconcile their differing views and interests. In the ideal case, the firm is run by the managers in exactly the same way as the owners would run it if they knew how to do it. Of course, real managers have interests of their own and are also aware that it is difficult for the owners to monitor them. This gives rise to what can call the narrow view of the Managerial Ownership problem: How can managers be made to act in such a way that, to the greatest extent possible, their actions are in the interest of the current shareholders of a corporation?

There are two well-known answers to this question. One is the Anglo-Saxon answer. It amounts to saying that there is a market for corporate control, which does the trick: The permanent threat that some other management team could take over the company should motivate the incumbent managers to prevent a hostile take-over (Schmidt, 1989; von Thadden, 1990). They will best be able to defend their position if they make a take-over attempt as difficult, and notably as expensive, as possible. This can be done by raising the share price as high as possible, which is exactly what the shareholders would wanted them to do.

The other answer, which would be more in the spirit of continental European economic systems, is that mechanisms like supervisory boards, duties of care and loyalty, reputation, financial incentives, peer pressure, etc., can be put in place and made to operate in such a way that in principle managers will act in the shareholders' interests (Roe, 1994).

The broader view

It is not self evident that firms should or can always be run solely in the interest of their (present) shareholders. Instead of a one-sided shareholder orientation, one could advocate a pluralistic concept of "stakeholder orientation". Or one could argue that a large firm is more than just an association of its shareholders and that we should distinguish between the loyalty which the managers owe the corporation as a legal entity composed of all shareholders on the one side and, on the other, the loyalty which they owe the firm as an economic and social entity composed of all stakeholders including shareholders as well as important lenders, core employees, long-term clients and suppliers, the local community and even the respective nation or country. This is the common view of the advocates of a "stakeholder orientation", and it can also be found in relevant legal doctrines (Schmidt & Spindler, 1997, and Blair, 1995, p. 235). Evidently, in this context other constituencies would have a role to play at least in the sense of their interests being relevant from a nonnative point of view and also of them having at least a certain active role to play. One aspect is that the role or task of deciding "fairly" how much

weight should be assigned to the different stakeholders' interests would fall to the managers and enhance the power, which they in any case have. The second aspect is that even though managers are considered as being accountable to several groups of stakeholders, there is still a need to limit their discretionary powers, which they could use to promote their own interests.

Managerial Ownership and Performance

Policy formulation would be most readily assisted by evidence on the direct relation between governance and competitiveness. The equivalent of reduce form relation, which identifies the effect of changing governance on performance, what is generally regarded as the bottom line of the governance debate. However, such a relation is extremely difficult to uncover. The range of factors, which bear on cross-firm or cross-country variations in performance, is considerable. This does not stop many from equating differences in economic performance between, for example, Germany and the UK to their different forms of corporate governance. Indeed, the origins of the long-standing debate on governance can be attributed to associations of this sort.

A particular focus with which this analysis is concerned is the interaction among competition, governance and performance. The interaction is important for several reasons. Firstly, the effectiveness of different types of governance systems may be influenced by the degree of product market competition. Secondly, forms of corporate governance may be affected by degrees of product market competition. It has been suggested (see Mayer 1988, Petersen and Ranjan 1995) that the persistence of close relations between firms and financial institutions may rely on limitations in financial market competition.

The view that there are important interactions between governance and competition leads to the systems approach to governance as advanced most forcibly by Aoki (1994a). According to this, the governance of companies must consider in the context of the overall structure of economies. Differences across countries in the structure of capital market and product market are all closely interlinked. “The main bank system and the imperfect labor market situations do not exist independently, but together form a cluster of complementary institutions” (Aoki (1994b), p. 19). It is not therefore possible to consider significant changes in one independent of the others. In particular, policies, which promote the adoption of specific forms of governance, have to take account of the product and labor markets context within they are being contemplated.

Literature Review

The first potential effect of governance that will be considered is on incentives. Principal- agent models suggest that to align interests of shareholders and managers, there should be a close relation between executive remuneration and corporate performance measured in particular by the value of a firm. Empirical analysis of the relation between executive pay and corporate performance has a long history. Much of this work has focused on the relative importance of profits and size of company on managerial remuneration (see Murphy (1985) and the survey by Rosen (1992) in the US and by Conyon, Gregg and Machin (1995) in the UK). These analyses find a weak relation between pay and performance (a $3.25) increase in CEO wealth for every $1,000 increase in shareholder wealth according to Jensen and Murphy (1990) and a stronger relation with the size of the firm.

These results were instrumental in promoting the view that management will be more concerned with the growth than the profitability of firms. However, more recent work has suggested the observed relations between pay and performance may not be out of line with those predicted by principal-agent models. Haubrich (1994) demonstrates that a $10 increase in remuneration for every $1,000 increase in shareholder value is quite consistent with certain parameter values regarding risk aversion, effort-leisure trade-offs etc. Similarly Garen (1994) argues that the Jensen and Murphy results cannot be viewed as inconsistent with the principal-agent theory. Alternatively, weak relations between pay and performance can be interpreted in the context of tournament theories (Lazear and Rosen, 1981) where rewards come in the form of promotion to senior levels rather than a relation between remuneration and corporate performance.

Over the last few years there has been a substantial increase in the use of options as a form of executive remuneration. Options are a method of "gearing up" the relation between remuneration and

performance. Since executive remuneration only rises above the exercise price, powerful relations between pay and performance can be established for given levels of expected remuneration. However, remuneration is also then more directly related to volatility of performance than with share schemes (Main, 1995) and executives may be encouraged to pursue unduly risk strategies to activate their share options. In addition, option contracts present serious problems of self-dealing by which managers sign contracts from which they anticipate earning substantial returns. For example, Yermack (1995) reports that managers receive stock options shortly before shares appreciate in value.

There has been little analysis of the influence of governance arrangements on executive pay. Conyon (1994) finds that the incidence of remuneration committees has increased appreciably in the UK. In a longitudinal analysis of 214 large UK companies, he finds that there were remuneration committees in 94% of companies in 1993 as against 54% in 1988. He estimates that these committees have been associated with a 2% reduction in CEOs' payment. However, Main and Johnston (1993) find that remuneration committees are associated with higher levels of remuneration, of 17%, and remuneration was no more incentive oriented with than without a committee.

It has been suggested that outside of the UK and US, managers are more concerned about the growth than the profitability of firms (see for example Blinder, 1991). Milgrom and Roberts (1992) argue, "Japanese firms are not run in the interests of their shareholders" (p 443). Similar points have been made about Germany (see, for example, Schneider-Lenne (1994)). On the other hand, Grundfest (1990), Hoshi, Kashyap and Scharfstein (1990, 1991) and Prowse (1990) argue that close relationships reduce agency costs in Japan and allow investors to monitor management more effectively than in the US.

Kaplan (1994) compares the relation between executive remuneration (salary and bonus) and performance as measured by earnings levels, changes in earnings and sales growth in large Japanese and US companies in the 1980s. Kaplan concludes that Japanese "compensation respond to all four performance measures, and the responses are generally similar to those in the United States. Cash compensation is positively related to earnings, stock and sales performance. In most cases, the sensitivities in the two countries are not statistically different." (p 512)

The relation between corporate governance and executive remuneration is therefore unclear. Superficially, the stock market economies of the UK and US offer the opportunity of providing higher-powered incentives in the form of, for example, managerial stock options. Close monitoring by investors and well functioning remuneration committees should promote stronger relations between pay and performance in Germany and Japan. Thus far, the empirical evidence to support these propositions has not been forthcoming.

The review has examined the influence of corporate governance systems on managerial incentives and disciplining, the restructuring of firms, finance and investment, commitment and trust. It has noted that the relation between corporate governance systems and both incentives and disciplining is far from clear. Superficially, there would appear to be a difference between the high-powered incentive arrangements in the UK and US and those in Germany and Japan. However, the limited evidence available to date does not support that assertion. Likewise, while the disciplining system associated with a market for corporate control in the UK would appear to be quite different from supervisory boards in Germany, the mechanism by which discipline is actually imposed is quite similar in the two countries, namely concentrated shareholdings and markets in partial share stakes. Neither carrots nor sticks appear to be fundamental differences between financial systems.

Methodology

As mentioned the extension of the cross-sectional results runed by Demesetz and Lehn (1985) (Journal of Political Economy, 93, 1155-1177) has been used to develop the testable hypothesis and the panel data used to show that managerial ownership is explained by key variables in the contracting environment in ways consistent with the predictions of principal-agent models.

Determinants of Managerial Ownership and Corporate Performance

Determinants of Managerial Ownership

A common approach for estimating the impact of managerial ownership on firm value is to regress Tobin's Q on such variables as the percentage of equity held by managers. But it also could argue that this regression is potentially misspecified because of the presence of unobserved heterogeneity. Specifically, if some of the unobserved determinants of Tobin's Q are also determinants of managerial ownership, then managerial ownership might spuriously appear to be a determinant of firm performance. To motivate the focus on the endogeneity of managerial ownership, it is possible to provide three examples of likely sources of unobservable heterogeneity, and in each case; it follows their econometric consequences for cross-sectional regressions. This discussion can be followed by a more formal example where the assumption is made that the unobserved heterogeneity is a "firm fixed effect", and under this assumption panel data can be used to mitigate the endogeneity problem.

For the first example of unobserved heterogeneity, consider two firms that are identical except that the owner of one firm has access to a superior monitoring technology. Under the optimal contracting regime, the owners with access to the superior monitoring technology will chose a lower level of managerial ownership to align incentives, and this firm will have a higher valuation because fewer resources will be diverted to managerial perquisites. If measures of the quality of the monitoring technology are omitted from the specification, a regression of firm value on managerial ownership will spuriously (and falsely) indicate a negative relation, because ownership is a negative proxy for the quality of monitoring technology.

Intangible assets provide a second example of unobserved firm heterogeneity. Suppose two firms are identical except that one of the firms operates with a higher fraction of its assets in the form of intangibles. Under the optimal contracting regime, the owners of this firm will require a higher level of managerial ownership to align incentive because the intangible assets are harder to monitor and therefore subject to managerial discretion. This firm will also have a higher Q value because the market will value intangibles in the numerator (market value), but the book value of assets in the denominator will understate the value of intangibles (because Tobin's Q is measured as the ratio of the market value of the firm's outstanding debt and equity divided by the book value of assets). In this example, the unobserved level of intangible induces a positive correlation between managerial ownership and Tobin's Q, but this relation is spurious, not causal.

The third example of unobserved heterogeneity is variation in the degree of market power. Suppose there are two firms compete in a market with differentiated products and one firm enjoys a competitive advantage because (for some historical reason) it has been able to locate its products in such a way that confers more market power. If this market power insults managerial decision-making forms then the optimal contract for managers will call for higher levels of managerial ownership. Hence, unobserved heterogeneity in the form of unobserved differences in market power will (spuriously) induce a positive relation between ownership and performance. Alternatively, causation could run the other; attempting to test this proposition using regressions of Tobin's Q on managerial ownership suffers form the same econometric problems that is studied here. The ownership decision is endogenous because of unobserved firm heterogeneity.

It is possible to generalize these examples in a simple analytical framework. The assumption can be made that within the general set of contracts agreed to by the firm, the owners of the firm chose a simple management compensation contract that includes a share of the firm's equity. This equity share (or managerial stake) is chosen to maximize the owners' equity return subject to incentive compatibility and participation constraints. For this purpose, an assumption can be drawn that gains from other means for reducing agency costs have been maximized, so that we examine the residual agency cost to be addressed by managerial ownership. Let x_{it} and u_{it} respectively; denote observable and unobservable characteristics for firm i at the time t related to the firm's contracting environment (including, e.g. proxies for the potential for moral hazard). In addition to unobserved firm characteristics, we implicitly assume a profitability shock that is observable to the manager, but not to outside shareholders. This shock cannot be contracted upon and rise the moral hazard.

The firm's owners must decide how much equity to give to managers in order to align incentives for value maximization. This equity share m_{it} depends on such factors as the potential for moral hazard and managers' exposure to risk, which we assume are partly measured by x_{it} but are otherwise unobserved and included in u_{it}. If it is assumed that the function relation is liner, and that $u_{it} = u_i$ is the time-variant for the firm, so that

$$m_{it} = \beta_1 x_{it} + y_1 u_i + e_{it} \quad (1)$$

Where e_{it} represents independent measurement error.

Faced with this contract, managers choose an optimal "effort level", y_1, which could include a range of participation in non-value-maximizing activities. This effort choice depends on the managerial ownership stake, m_{it} , and, like the optimal contract itself, depends on both observed and unobserved characteristics of the firm, x_{it} and u_i. Assuming a linear functional form, we can represent the manager's effort choice by the following relation:

$$y_{it} = \theta m_{it} + \beta_2 x_{it} + y_2 u_i + v_{it} \quad (2)$$

Using the firm value as a summary measure of expected firm performance, here we assumed that firm value depends on managerial effort plus the vector of observed and unobserved firm characteristics, we can write denoting the value of firm *i* at time t by Q_{it}:

$$Q_{it} = \delta y_{it} + \beta_3 x_{it} + y_3 u_i + w_{it} \quad (3)$$

We can now combine Eqs. (2) and (3) to derive the following relation among firm managerial ownership, firm characteristics, and firm performance:

$$Q_{it} = \delta\theta m_{it} + (\delta\beta_2 + \beta_3)\, x_{it} + (\delta y_2 + y_3) u_i + \delta v_{it} + w_{it} \quad (4)$$

Simplifying the notation reveals the regression specification commonly used in the empirical literature:

$$Q_{it} = a_0 + a_1 m_{it} + a_2 x_{it} + \varepsilon_{it} \quad (5)$$

In a cross-section of firms, as long as the error term, $\varepsilon_{it} = (\delta y_2 + y_3) u_i + \delta v_{it} + w_{it}$ is uncorrelated with both m_{it} and x_{it}, one can consistently estimate the reduced-form coefficient on managerial ownership in the regression form firm value. However, because the choice of managerial ownership depends on unobserved firm characteristics, m_{it} depends on u_{it} and is therefore correlated with ε_i, specifically,

$$E(m_{it}\, \varepsilon_{it}) = E((\beta_1 x_{it} + y_1 u_i)(\delta y_2 + y_3) u_i) = y_1 (\delta y_2 + y_3) \sigma^2_v. \quad (6)$$

In general, the expectation in Eq. (6) will be zero only in the unlikely event that the optimal contract does not depend on observed firm characteristics $(y_1 = 0)$, or in the event that neither effort nor Q_{it} do $(y_2 = y_3 = 0)$. Hence one cannot estimate Eq. (5) using ordinary least squares. A natural solution to this problem would be to use instrumental variable for ownership, but this approach is difficult in practice because the natural instruments – the observed firm characteristics x_{it} are already included on the right-hand side of the equation for firm valuation in Eq. (5). Hence it is difficult to identify instrumental variables that would permit identification of a_1, with panel data, however, one can use a fixed-effects estimator, assuming that the unobserved heterogeneity is constant over time.

In contrast to the model for Tobins' Q, the model for the optimal choice of managerial ownership levels in Eq. (1) is more easily identified because it requires only the much weaker assumption that the unobserved firm characteristics are uncorrelated with observed characteristics.

The above discussion suggests us for four lines of empirical inquiry. First, one can explore whether the observed firm characteristics (proxies for the potential for moral hazard and risk) influence managerial ownership in ways that are consistent with theoretical predictions. Second, one can investigate the importance of unobserved characteristics as determinants of managerial ownership. Third, investigate the extent to which the empirical relation between managerial ownership and firm performance (measured by Tobins' Q) can be explained by the omission of observed and unobserved firm characteristics (i.e. by uncontrolled for or unobserved heterogeneity). Fourth, we explore the possibility of using instrumental variables to recover the parameter values in Eq. (5).

Determinants of Corporate performance

In the analysis it has been emphasized that managerial stakes are part of a larger set of

equilibrium contracts undertaken by the firm to align incentives for value maximization, and derived that managerial ownership can be explained by observable characteristics of the firm's contracting environment, such as stock price volatility and the composition of assets, as predicted by the contracting view. These results also show, however, that even when industry dummies are included, many important features of the firm's contracting environment remain unobserved.

This section is tried to show how panel data techniques are used to investigate more directly the question of whether managerial ownership can be treated as exogenous in the performance regressions or not. Here Tobin's Q is used as measure of firm performance. To investigate the impact of managerial ownership on Q, variants of the reduced-form model in Eq.(3) of previous section is used, in which Q depends upon managerial ownership, *m*, observable firm characteristics, *x*, and unobserved firm characteristics, u. One also can use two specifications of managerial ownership in Tobin's Q regression. The first includes *m* and m^2 (McConnell and Servase, 1990). The second includes three piecewise-linear terms in *m* (as in Morck et. al., 1998). For observable characteristics, the same vector of *x* variable is used in the model for managerial ownership.

One can formalize this evidence against the exogeneity of managerial ownership by testing for a correlation between the fixed effect and managerial ownership. In this case one could use Hausman (1978) test, but this test would tend to over-reject the null hypothesis of zero correlation because it would tend to reject if any of the explanatory variables were correlated with the fixed effect. To reduce Type I error, a more precise 'conditional moment' test can be constructed, which is in the spirit of a Hausman test, but tends to reject only if managerial ownership is the sources of the specification error (Greene, 1997, p.534; Newey 1985).

The test is constructed as follows. Let the performance model be:

$$Q_{it} = \beta_0 + \beta Z_{it} + u_i + \varepsilon_{it,}$$

Where z_{it} includes the managerial ownership variables and the *x* variables described earlier, and u_i is the firm fixed effect. The formal hypothesis that can be test is whether the unobserved fixed effect, u_i, is correlated with managerial ownership, an element of z_{it}. That is, H_0: $E(m_{it} \cdot u_i) = 0$, where m_{it} is an *r x 1* vector of variables measuring the effect of managerial ownership. The idea of the test is to construct the simple analogue to the population moment, $s = E(m_{it}, w_{it})$, and then to test whether it is statistically significantly different from zero.

Using a consistent 'within' estimator of β, we can construct consistent estimates of the residual $w_{it} = u_i + \varepsilon_{it}$. Our test statistic will be $\hat{s} = \sum_{i=1}^{N} \sum_{t=1}^{T} m_{it} \hat{w}_{it} / NT_{i,}$ where T_i is the number of observations for firm i. Under standard regularity conditions and under the null hypothesis that $E(m_{it} \cdot u_i) = 0$, $\sqrt{N}\hat{s}$ will be asymptotically distributed $N(0, \sum)$. Therefore the statistic $k = N\hat{s}\hat{\sum}^{-1}\hat{s}$ is asymptotically chi-squared with r degree of freedom, where $\hat{\sum}$ is consistent estimate of ∑ (Greene, 1997).

Development of Testable Hypothesis

Hypothesis on Managerial ownership

Regarding the determinants of managerial ownership, we can develop the following hypothesis.

Hypothesis I:
There is a higher ownership concentration in small companies than larger ones.

The introduction of the panel data approach of the problem suggest to consider some effects of the firm size variation along the time over the ownership structure, we expect to find lower level of share ownership in big companies compared to small ones; moreover this behavior would continue along the time when company's size increase. The wealth constrain that operates across firms is expected to persist along the time.

Hypothesis II:
When the size of the firm changes over time, there should be an inverse relationship with the level of ownership concentration.

The size of companies can be a restriction for some categories of shareholders, but other shareholders cannot be constrained by the size of their investment in a given company. The results of Prowse (1992) suggest this hypothesis. Likewise, Demestz and Lehn (1985) found higher negative relationship for individual shareholders than for financial ones.

Hypothesis III:
The influence of size on the ownership structure is expected to be higher for individual investors than for holding or financial companies.

All measure of environment instability used by Demsetz and Lehn (1985) was positively related to the degree of ownership concentration. Bergstrom and Rydqvist (1990) found that ownership concentration increase with firm-specific risk. In a sub-sample of Prowse (1992) research, three measure of profit instability were positively and significantly related to ownership concentration.

When the specific risk affects the firms, we can differentiate the ownership structure changes. Even when the conditions of environment stability are changing over time, there would be a response for each firm as ownership structure adapts to the new situation.

Hypothesis IV:
Ownership concentration increases along the time when more firm specific instability conditions appear.

Widespread ownership means that shareholders diversify their investments to assume lower financial risk levels. A recession may induce firms to choose a more dispersed ownership structure as a way to lower risk exposure. An increase in the economic activity, associated to less uncertainty, would imply higher ownership concentration ratios. Nevertheless, in the context of separation among owners and managers, the alternative hypothesis would be that recession induces higher ownership concentration to strengthen the internal control needed to reduce costs.

Hypothesis V:
The stage of the economic cycle over ownership concentration of firms reflects the lower risk exposure when the business cycle conditions are negative (dispersion) and higher concentration ratios when favorable opportunities arise.

Prowse (1992) identifies that financial institutions are largely responsible for the positive relationship between ownership concentration and profit instability in independent firm. We are able to determine for different type of shareholders the influence of firm specific return's instability.

The firm belonging to a regulated industry was found by Demsetz and Lehn (1985) as an explanatory variable for lower degrees of ownership concentration. Following their findings, we can expect similar results. That is, the systematic regulation of a firm by economic authorities or public agencies requires lower level of monitoring by its owners, and therefore permits higher ownership dispersion. Bergstrom and Rydqvist (1990) findings support the hypothesis that the government subsidies the monitoring of management in regulated industries, by introducing a dummy variable for financial firms.

Hypothesis VI:
The level of ownership concentration should be lower in firms of regulated sectors than non-regulated firms.

Hypothesis on Link between Ownership and performance:

Under this head, we have tried to develop the hypothesis that will help to test the link between managerial ownership and corporate performance.

Corporate performance and disciplinary corporate governance actions:

To the extent that share price and accounting returns are influenced by the quality of managerial inputs and actions, they may provide useful information on managerial performance (Joskow and Rose 1994).

Hypothesis I:
Disciplining of top management is triggered by poor company performance: directors, CEOs, top managers and executive chairman are replaced

following poor share price performance and/or low operating income and net earnings.

The impact of board composition and structure on the board's ability to monitor performance:

The existence of a balanced board including both executives and non-executive avoids the occurrence of conflicts of interest among decision makers and residual risk bearers and reduces the transaction or agency costs associated with the separation of ownership and control (Williamson 1983 and 1984).

Hypothesis II:
The composition of the board of directors determines the board's monitoring capabilities. The grater the proportion of non-executive directors, the lower potential board domination by management and the higher the monitoring ability of the non-executive directors as observed in turnover of executive directors, of the CEO and of the management committee.

Separation of the role of CEO and of non-executive chairman is supposed to strengthen the monitoring ability of the non-executive directors since a non-executive chairman could set the agenda of the board.

Hypothesis III:
The separation of the functions of CEO and of chairperson of the board facilitates disciplining of underperforming management. Therefore, with dual control, we would expect to see higher turnover.

Ownership concentration, the cost of free riding on control and superior monitoring abilities:

Monitoring shareholders pay the costs related to their corporate control efforts but they only benefit in proportion to their shareholding (Grossman and Hart 1980 and 1988, Demsetz 1983)

Hypothesis IV:
The presence of large shareholdings in the ownership structure is positively correlated with higher board turnover when performance is poor.

The incentives to monitor and correct managerial failure depend not only on the concentration of ownership, but also on the monitoring ability of different types of major shareholders. Different classes of shareholders might have different information, monitoring companies and incentives.

Hypothesis V:
Disciplining the underperformance of management is accomplished by large shareholding with superior monitoring abilities.

Ultimate ownership and dilution of control:

As ownership structures are frequently complex and pyramidal, the question arises as to whether decisions about disciplining management of the sample company are taken by direct investors (at ownership tier 1) or by 'ultimate shareholders' who control these direct shareholders directly or via intermediate companies through multiple tiers of ownership.

Hypothesis VI:
(a) Managerial disciplining decisions are taken by the ultimate shareholder. (b) However, when controlling stakes are held through multiple tiers of ownership and when intermediate shareholdings deviate from full ownership. The control exerted by the ultimate investor is diluted.

The disciplining role of the market for share stakes:

When performance is poor, a market for share stakes may result. Decisions to build up a substantial shareholding, to increase a shareholding to a critical ownership threshold (e.g. 25% or 50%) or to expand a toehold share are motivated by future performance improvements after the failing management team and/or the board is restructured.

Hypothesis VII:
In companies without sufficiently large shareholders or with shareholders who take a passive stance with regard to monitoring, poor performance gives rise to changes in the ownership pattern.

When a market of share stakes originates from poor performance and for control purpose, we might expect disciplining of management.

Hypothesis VIII:
Increases in shareholdings are associated with higher managerial and board turnover in the same year or the year following the monitors' disciplinary actions.

Post-disciplining corporate performance:

For internal and external control mechanisms to be effective, the greater incidence of replacement of top management and directors should be followed by improvement in firm performance.

Hypothesis IX:
Management and board restructuring triggered by poor performance result in improvements of company performance.

Conclusions

Firms are governed by a network of relations representing contrast for financing, capital structure, and managerial ownership and compensation, among others. For any of these contractual arrangements, it is difficult to identify the correspondence between the contractual choice and firm performance (e.t., measured by accounting rates of return or Tobin's Q) because contractual choices and performance outcomes are endogenously determined by exogenous and only partly observed features of he firm's contracting environment.

I have confronted this endogeneity problem in the context of the firm's compensation contract with managers. Because managerial equity stakes are an important and well-known mechanism used to align the incentives of managers and owners, we examine the determinants of managerial ownership as affection of the contracting environment. We extend the cross-sectional results of Demsetz and Lehn (1985) and use panel data to show that managerial ownership is explained by variables describing the contracting environment in ways consistent with the predictions of principal-agent models.

I, theoretically, find that a large fraction of the cross-sectional variation in managerial ownership is explained by unobserved firm heterogeneity. This unobserved heterogeneity in the contracting environment has important implications for econometric models designed to estimate the effect of managerial ownership on firm performance. Moreover, if one can control both for observed firm characteristics and firm fixed effects, it will become difficult to conclude that changes in firm managerial ownership affect performance. Here the instrumental-variables results, however, suggest a promising step toward the construction of more complete model of the relation between managerial ownership and firm performance.

It is expected that if I run empirical model then it will help more generally the notion that the firm chooses among alternative mechanisms for minimizing agency costs. This is, of course, the concept articulated in Alchian (1969); Fama (1980); Fama and Jensen (1993) and Demsetz and Lehn (1985); more recently Crutchley and Hansen (1989) and Agrawal and Knoeber (1996).

Suppose, for example, that Q capitalizes the market's expectation of the effect of agency costs on firm value. The loss in value reflects residual agency costs, or agency costs remaining after corporate control mechanisms are chosen. In reducing agency costs include leverage, increased reliance on outside directors, large shareholders, institutional investors, dividend policy and radical changes in corporate control.

Completing the above analysis, two other possible strategies are tasks for future research. The first involves identifying large, arguably exogenous changes in ownership levels arising form shifts in tax policy, regulation, or fixed costs in the market for corporate control, though care must be taken because even certain 'natural experiments' are endogenous in that they affect performance directly. The second involves designing a dynamic structural model of firm contracting decisions, possibly permitting identification from economically reasonable assumptions about functional form. This strategy is particularly desirable given the lack of easily identified instrumental variables.

It is also expected that if we run empirical model then our findings will be consistent with the proposition that firms chose strategies to reduce agency costs optimally over the long run, at least two issues remain. First, the simultaneous choice of individual mechanisms or some subset needs to be modeled; and second, the choice of mechanisms likely involves some fixed costs or 'costs of adjustment' so that firms are not always at their long-run contractual optimum. Exploring these costs and how they might have changed over time for different agency-cost-reducing mechanisms is a particularly interesting task for future research.

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