Share holding Pattern and Firm Performance

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Abstract

Corporate Governance deals with the issue of how suppliers of finance to corporations assure themselves of getting a return on their investment. Several Studies have examined the relationship between ownership structure and firm performance. Using different data samples most of the studies provide general support for the argument that increase in managerial ownership increases firm performance. However, these results have been questioned recently.

This study examines empirically the effects of ownership structure on the firm performance for a large sample of Indian Corporate Firms, from an 'agency perspective'. We examine the effect of interactions between corporate, foreign, financial institutions, and managerial ownership on firm performance. We provide empirical evidence, which suggests that firm size and age in positively related to the firm performance. Using panel data framework, we show that a large fraction of cross-sectional variation, in firm performance, found in several studies, is explained by unobserved firm heterogeneity, rather than the ownership structure. We do not find any evidence that the differences in ownership structure, affect firm performance; after controlling for observed firm characteristics and firm fixed effects.

Keywords: corporate governance, share holding pattern and firm performance.

1 Introduction

Corporate Governance is the system of control mechanisms, through which *"the supplier of finance to corporations assure themselves of getting a return on their investment,"* (Shleifer and Vishny 1997). The classical problem lies within the separation of ownership and control, i.e. the agency cost resulting from a divergence of interest between the owners and the managers of the firm (Jensen and Meckling 1976).

Researchers have extensively studied the conflict between managers and owners regarding the nature of the firm. In Berle and Means (1932), authors claim that with an increase in professionalization of management, firms might be operating for the managers' benefit rather than that of the owners.

The principal-agent framework is used by Jensen and Meckling (1976), to explain the conflict of interests between managers and shareholders. The agency problem, developed by (Fama and Jensen 1983, Jensen and Meckling 1976) is an essential part of the contractual view of the firm. A rich empirical literature has investigated the efficacy of alternative mechanisms in terms of the relationship between takeovers, performance, managerial pay structure and performance of the firm. A rather small literature has attempted to test directly Berle and Means hypothesis. The empirical evidence on this point is mixed. Using US data from early 1930s, Stigler and Fridland (1983) found no evidence in favor of Berle and Means hypothesis. Similarly, using recent data, Demsetz and Lenn (1985), found no relation between firm performance, and ownership concentration. While Ahuja and Majumdar (1998), Chibber and Majumdar (1998: 1999), Khanna and Palepu (2000), Majumdar (1998a: b), McConnell and Servaes (1990), Mork et al. (1988), Patibandla (2002) and Sarkar and Sarkar (2000) found a significant relation between firm value and ownership concentration.

These findings have recently been questioned by Agrawal and Knober (1996), Himmelberg et al. (1999) and Habib and Ljungquist (2000). They did not find any evidence for the relationship between firm value and managerial stock-holdings, and conclude that managerial stock-holding are optimally chosen over the long run.

Some of the issues addressed in this study have also been analyzed with Indian data in some recent studies by Ahuja and Majumdar (1998), Chibber and Majumdar (1998: 1999), Khanna and Palepu (2000), Majumdar (1998a: b), Patibandla (2002), Sarkar and Sarkar (2000), **?** and Douma et al. (2002).

Chibber and Majumdar, analyze the relation between foreign ownership and company performance, using the accounting measures (ROA and ROS). Khanna and Palepu (2000) examine the firm performance of group vs. stand-alone firms. Sarkar and Sarkar (2000) examine the firm performance with relation to effective monitoring by owners of companies using a spline specification. However, all the above-mentioned studies have tried to look into the question using a cross-section data where the unobserved firm heterogeneity can not be controlled and their results may be time specific.

Our work continues along these lines of enquiry: it explores the link between firm performance and share-holding pattern in a panel of 530 publicly traded Indian Corporate

Firms over the years from 1990 to 1999. Its contribution is two-fold. First, we employ an econometric framework (Panel Data) that specifically controls for firm specific unobserved heterogeneity and aggregate macro-economic shocks. Second, it uses exact share-holdings by different groups of owners, controlling for change in firm value due to small change in share-holding pattern (not exactly changing the dominance of a group), as in most of the cases share-holding pattern do not change dramatically. Our results document that no group of owners confirm to Berle and Means hypothesis after controlling for firm-fixed effects and along with some factors that may influence firm's economic performance. Our results also demonstrate that even after controlling for firm-fixed effects some firm specific controls, such as age, size, advertising intensity, export intensity, marketing intensity and import intensity have significant effect on firm performance. However, in the absence of firm-fixed effects, we do find evidence in favor of the effect of share-holding pattern on firm performance.

1.1 Hypothesis

The hypothesis postulated here is that, in contrast to (Chibber and Majumdar 1998: 1999, Majumdar 1998a: b, Sarkar and Sarkar 2000), share holding pattern does not lead to a significant relationship between performance and ownership structure, as the optimal ownership structure is chosen over time.

H1: Firm performance is unrelated to the percentage of shares held by different group of investors.

Firm performance may depend on managers' knowledge about the market, consumers and its reputation in the market. Which is in relation to learning by doing arguments, suggesting firms age may be one of the determinants of the performance. But with increasing age firms may be reluctant to employ the changes in technology or managerial structure leading to lower performance which is treated as *'rigidity effect'*. It may yield a negative relation between performance and age. Which leads to our second hypothesis:

H2: Firm performance is positively related to its age.

Large firms may have positive benefits, as they may have better penetration in the market (input as well as output), compared to the smaller firms. They may exercise economies of scale. Large size enables greater diversification and specialization, on the other hand it makes the managers task more difficult due to increased coordination requirements. From the perspective of governance, the highly skilled managers are associated with the larger firms, therefore larger firm's performance should be higher (Ahuja and Majumdar 1998, Das 1995).

H3: Firm performance is positively related to size.

If, as is hypothesized here, a positive relationship exists between size, age and firm performance and no relationship exists between firm performance and ownership structure, the presence of large share holders holders would be expected to moderate the hypothesized positive relationship between age and size with firm performance.

1.2 Data sources and Sample selection

For our study of effects of ownership structure (share-holding pattern) on firm performance, in emerging market, we focus our attention on Indian Corporate Sector. The firm level panel data for our study is primarily obtained from the corporate database (PROWESS) maintained by CMIE, the Center for Monitoring the Indian Economy. The data used in the analysis consists of all manufacturing firms listed on Bombay Stock Exchange (BSE), with the data on required control variables along with share holding pattern.

Public Sector firms are not included in the analysis as their performance is influenced by a large number of social obligations, which may be much complex to account for. Firms within financial services segments are removed form consideration, because applying our valuation method to them, is problematic, as earnings before interest and taxes are not meaningful for financial companies.

We confine our analysis to BSE listed firms only because all the listed firms are required to follow the norms set by Securities and Exchange Board of India(SEBI) for announcing the financial accounts. The BSE also has the second largest number of domestic quoted companies on any stock exchange in the world after NYSE, and more quoted companies than either London or Tokyo.

We analyze data from 1990 to 1999, as this is the period for which we have the most coverage in the database. Also, during the 1990's India went for liberalization, allowing diversified share-holding pattern of Corporate firms. There are 530 firms in our final sample, for which we have required data of at least 3 consecutive years.

We restrict our analysis to firms which have no missing data (on sales, age, share holding pattern, return and assets) for at least 3 consecutive years [1]. There are 530 firms spread over 3-10 years, resulting in an unbalanced panel of 2,251 firm years. Thus, we avoid exacerbating the scope for sampling bias by not requiring a balanced panel.

For this unbalanced panel of 2,251 observations, we collect the following additional

[1] We drop observations, where values reported for capital stock, sales and age are missing, zero or negative. We can not avoid these conditioning because we can not use firms with observations fewer than 3 continuous years of data in our methodology.

data for each firm observation: advertising, distribution, depreciation, marketing, imports, exports, excise, capital and r&d expenditure. Despite the problem of attrition and missing data , our sample provides several distinct advantages over the samples used in earlier studies.

2 The Empirical Evidence

The empirical evidence is based on the firm level panel data for 8 Indian Manufacturing Industries over the period of 1990 to 1999, consisting of 2251 firm years.

Percentage share-holding of different investors (fore, fii, corp, and dir) are correlated, because, these shares, along with the shares of other top 50 shareholders and others not included so far (which are not considered here) adds upto '100' and if one of them increases then at least one of the others have to decrease. In order to avoid multi- collinearity, we use only four main share-holders, i.e. fore, fii, corp, and dir. We also use 1-digit 2-digit and 3-digit level industry dummies, based on industrial classification of ASI-NIC' 1998 by NSSO (National Sample Survey Organization).

The results of our empirical analysis are reported in Tables thereafter [2].

Regression of ROA on a simple collection of firm-specific variables, a collection of industry dummies along with time dummies, where the firm-specific variables include *age, age2, lsale, lsale2, adv_int, mkt_int, exp_int, imp_int, excise_int, and rdum* and fore, fii, corp, and dir. The regression, significant at 5% level, is carried out on 2,251 observations, for which the required data is available [3]. The ownership variables show a positive effect of fore, corp and dir and negative effect of fii. This regression specification suggests that firms with higher concentration of share-holdings by fii, under perform. Using different measures of size (such as sales or assets or logarithm of assets) do not change any of these results qualitatively [4].

Age has a strong positive impact on firm performance. This may be because of various reasons. First, although firms in mature as well as infant industries keep learning about their own efficiencies over time and find their niches in the product market as they age, the returns of such learning may be diminishing in a mature industry and increasing in an infant industry. Second, in an infant industry, learning about the existence of

[2]We also perform several analysis to reinforce the choice of functional form. For example, we use MBVR and PQ Ratio as another proxy for firm performance, as suggested by (Sarkar and Sarkar 2000). In due course our sample size reduces, as the share price data is available only from 1996 onwards.

[3]The coefficient estimates for the industry dummies are not reported.

[4]Inclusion of more controls or use of different spline specification for ownership variables, do not change any of our results qualitatively. Which is also consistent with the results of (Sarkar and Sarkar 2000).

the new product, by consumer may increase over the age of the producing firm, leading to a positive impact on its performance. Third, with age a firm's reputation might be enhanced. The managerial return from such reputation building may be high in an infant industry, leading to a positive impact on firm performance.

These point estimates suggests that firm performance is not affected by different class of share-holders and actually it is the unobserved firm-specific heterogeneity, which gets reflected in ownership variables, when we do not control for it. This result is similar to the results of (Himmelberg et al. 1999) and suggests that the share-holdings are optimally chosen. These results are in contrast to those obtained by several authors in the Indian context, for example, (Chibber and Majumdar 1998: 1999, Gupta 2001, Khanna and Palepu 2000, Patibandla 2002, Sarkar and Sarkar 2000). Using data of Indian firms they have found a significant positive relation between firm performance and concentrated share-holdings by some class of owners.

A negative relationship of leverage with firm performance is found, which is in contrast to the Western economies. It may be because in India, suppliers of debt are mainly government-owned financial institutions.

3 Conclusion

This study has examined empirically the relationship between the ownership structure and firm performance. Four aspects of ownership have been considered : equity ownership by dir, equity ownership by fore, equity ownership by fii and equity ownership by corp. The results presented, in this study suggests that, for Indian Corporate Firms, performance and ownership is unrelated in the long run.

We find that a large fraction of cross-sectional variation in share-holding pattern is explained by unobserved firm heterogeneity. Suggesting, the unobserved heterogeneity has important implications for econometric models, to estimate the effect of share-holding pattern on firm performance. The results, do not provide any evidence of the effects of ownership structure on the performance.

We conclude that the share-holding pattern does not influence the firm performance significantly, and the agency problem is solved by the optimal ownership pattern in the long run.

The results of similar studies on Indian data have produced contradictory results. It is possible that the contradictory results can be accounted for by differences in time periods studied and in research design. Given the lack of previous work examining the effects

Table 1: Formula for variables construction

roa	(net_profit+tax+interest+depreciation)/total_assets
fore	foreign holdings
dir	directors and their relatives holdings
corp	corporate bodies holdings
fii	government and financial institutions
age	years since the date of incorporation
lsale	ln(sales)
lsale2	ln(sales)*ln(sales)
leverage	tot_borrowings/(equity_capital+tot_borrowings)
adv_int	advertising expenditure/sales
exp_int	total_exports/sales
imp_int	total_imports/sales
mkt_int	marketing expenses/sales
dis_int	distribution expenses/sales
exc_int	excise tax/sales
rd_int	R&D/sales

of ownership structure on performance of Indian Corporate Firms, with panel data, it is difficult to make comparison between this and other studies. Some comparison can be made with (Himmelberg et al. 1999) US study, which, is consistent with the present study, found performance and ownership to be unrelated, hence suggesting ownership is optimally chosen over the long run.

However, given the contradictory results produced by the current study and the prior Indian Research, it is clear that there are many questions relating to the relationship between share holding pattern and performance of the firm, which remain unsolved. There remains the task of finding out the mechanisms for the determination of share-holding pattern. One other useful extention of this analysis would be to include additional policy variables measuring changes in the market conditions such as trade policy changes, to see whether ownership structure changes dramatical or not, if so to what extent and why? Do companies in emerging markets actually raise substantial equity finance? Who are the buyers of this equity? If they are dispersed minority shareholder, why are they buying equity despite the apparent absence of minority protections?

Table 2: Regressions for ROA

Time Dummy	Yes	Yes	Yes	Yes	No
Group Dummy	1-digit	2-digit	3-digit	Firm Level	Firm Level
age	-0.000	-0.000	-0.000	-0.021	-0.023
	(0.7014)	(0.3447)	(0.3507)	(0.0000)**	(0.0000)**
lsale	0.035	0.036	0.039	0.056	0.056
	(0.0000)**	(0.0000)**	(0.0000)**	(0.0000)**	(0.0000)**
lsale2	-0.002	-0.002	-0.003	0.005	0.005
	(0.0000)**	(0.0000)**	(0.0000)**	(0.0000)**	(0.0000)**
exp_int	0.007	0.011	0.006	0.043	0.044
	(0.4409)	(0.1927)	(0.4741)	(0.1111)	(0.1064)
imp_int	0.001	0.001	0.001	0.001	0.001
	(0.2640)	(0.3402)	(0.1536)	(0.3227)	(0.3179)
dis_int	-0.002	-0.043	-0.076	-0.513	-0.521
	(0.9730)	(0.5277)	(0.2522)	(0.0022)**	(0.0019)**
exc_int	0.020	-0.016	-0.016	-0.203	-0.205
	(0.4743)	(0.6441)	(0.6517)	(0.0039)**	(0.0036)**
rd_int	0.032	-0.077	-0.010	0.108	0.110
	(0.8237)	(0.5265)	(0.9349)	(0.3332)	(0.3171)
adv_int	0.141	0.208	0.214	0.157	0.162
	(0.2341)	(0.0988)+	(0.0858)+	(0.3551)	(0.3382)
mkt_int	-0.055	-0.109	-0.084	-0.163	-0.172
	(0.4583)	(0.1547)	(0.2248)	(0.1177)	(0.1036)
k_int	-0.000	-0.000	-0.000	0.001	0.001
	(0.3332)	(0.2555)	(0.7967)	(0.0002)**	(0.0002)**
leverage	-0.000	-0.000	-0.000	0.000	0.000
	(0.4254)	(0.5400)	(0.6200)	(0.7895)	(0.7581)
fore	0.000	0.000	0.000	0.000	0.000
	(0.0058)**	(0.0319)*	(0.0277)*	(0.6493)	(0.5431)
fii	-0.000	-0.001	-0.000	0.000	0.000
	(0.0157)*	(0.0041)**	(0.0087)**	(0.3154)	(0.2775)
corp	0.000	0.000	0.000	0.000	0.000
	(0.1255)	(0.1716)	(0.1514)	(0.9811)	(0.8921)
dir	0.000	0.000	0.000	0.000	0.000
	(0.1861)	(0.5299)	(0.2978)	(0.1458)	(0.1455)
Observations	2251	2251	2251	2251	2251
No.of groups	530	530	530	530	530
R-squared (within)	0.2936	0.2936	0.2936	0.2936	0.2920

Robust p values in parentheses
+ significant at 10%; * significant at 5%; ** significant at 1%

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