PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS

Does Inside Ownership Matters in Financial Decisions and Firm Performance: Evidence from Manufacturing Sector of Pakistan

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July 2014

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**PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD**
2014

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ABSTRACT

This study provides the evidence on the effect of managerial ownership on the firm's performance and financial policies (debt and dividend) for 140 listed manufacturing firms of Pakistan. Firstly, effect of managerial ownership on dividend and leverage policies of the firm are investigated by simultaneous equation model. The results indicate that high level of managerial ownership decreases the tendency of firms to go for debt financing. Similarly in firms having high financial leverage probability to engage in managerial ownership programmes decreases. As managerial ownership increases the firm chose to distribute less to shareholders. These results support the predictions of agency theory which is of the view that managerial ownership results in the decrease in asymmetric information. Secondly, the impact of managerial ownership on the performance is examined. The study finds conclusive evidence that managerial ownership exerts positive and significant on performance only up to a moderate level. The relationship revolves around the cubic function of managerial ownership and firm performance by following convergence of interests (incentive alignment theory) and entrenchment theories. Thirdly, the response of managerial share ownership to the agency cost is considered and result indicate that managerial ownership is an important instrument to reduce agency cost in-case of manufacturing sector of Pakistan.

Keywords: Managerial Ownership, Leverage, Dividend, Agency Cost, Entrenchment Theory, Incentive Alignment Theory

1. INTRODUCTION

Since the late 1990s, in an emerging economy like Pakistan, corporate governance and ownership structure of the firms have been one of the most contentious and attention grabbing issues. Considering the fact that a number of researches have been conducted in the past on the ownership structure of cos that explores, in the Asian economies, the ownership is profoundly concentrated. Particularly India; families and groups mostly control the corporate businesses. Pakistan's case is not too different, a larger part of the Pakistan's corporate shareholding structure has concentration of family ownership, in which the mainstream shareholders not only maintain the control, but are also betrothed in managing it.[1] As suggested by the definition of ownership concentration, ownership control is concentrated in the hands of a small number of individuals, families, managers, directors, holding companies, banks and/or other non-financial corporations. These individuals or groups are also called "insiders" as they often manage, control or strongly influence the operation of a company. Accordingly, concentrated ownership structures are referred to as "insider systems".

Although, it has been a long quest of financial economists to figure out the association between managerial ownership and financial policies to comprehend its impact on the performance of enterprises. Still there exists an ambiguity and no consensus has been developed among researchers regarding the multidimensional role played by managerial ownership in corporate literature.

Many researchers highlighted the conflict of interest between managers and shareholders; managerial ownership has been suggested for alleviation of agency problem [Jensen and Meckling (1976)], however there are contradicting views on this suggestion. As far as the impact of managerial ownership on firm performance is concerned some studies propose that increasing management equity shares result in better alignment of monetary incentives between managers and other shareholders (incentive alignment argument). On the other hand some studies support entrenchment argument which argues that relation between managerial ownership and firm performance is negative [Demsetz (1983) and Fama and Jensen (1983)]. In disputation between these two arguments Morck, *et al.* (1988) combined argument and Stultz's (1990) integrated theory arises. These arguments are of the view that corporate

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[1]See Shareholding pattern of corporate sector in Pakistan (2011).

performance is a non-monotonous function of management ownership. Many studies also have proved that there is no association between managerial ownership and firm performance (Natural Selection Argument).

Management ownership has also proved to have significant impact on financial policies of firms (dividend and leverage). This channel usually operates through agency cost mechanism, as debt and dividend can be used to resolve agency issues arising among managers and other stockholders [Grossman and Hart (1982), Jensen (1986) and Stultz (1988)]. Interdependent relationship between managerial ownership and debt exists. As when firms go for debt, equity financing is reduced which in turns reduce conflict between managers and stock holders but it may also lead to increase agency cost of debt. The direction of relationship between leverage and managerial ownership is still a subject of debate. As far as dividends are concerned they are paid mostly to reduce agency conflict, managerial ownership also serves the same purpose [Rozeff (1982)]. Therefore, when managerial ownership increases it may become responsible for decreasing dividend payout as the effectiveness of dividend policy is a bridged.

The present study focuses on the role of managerial ownership and financial polices to control agency costs and increasing firm performance. The study examines the interdependence between managerial ownership and financial policies namely leverage and dividend. To analyse the impact of managerial ownership on firm performance and to verify how firm performance varies with different levels of managerial ownership is also investigated. The non-linear relationship between firm performance and managerial ownership is examined. The study also examines the relationship between agency costs and managerial ownership and figure out how agency costs varies with different levels of managerial share ownership.

Most of the research in this field has focused on developed countries. This issue is less researched for developing markets in general and particularly for Pakistan there is lack of research. In Pakistan dividend payments are voluntary, the firms are generally more leverage dependent and also about 60 percent ofthe firms are family owned and are typically managed by owners themselves. Usually, it is considered that family subjugated boards pay less attention to defend marginal shareholders' right. [Cheema, *et al.* (2003)].

This study contributes to the existing body of empirical literature on insider ownership in manufacturing sector of Pakistan. This study not only segregates the insider ownership into different levels to check its impact on firm performance and agency costs but also extends the analysis beyond the entrenchment theory in order to capture the behaviour of curve-linear relationship of managerial equity ownership and performance of the firms. Moreover, it examine the effect of inside ownership on agency conflict with shareholders, to ensure the optimal decision-making regarding financial policies (dividend and leverage) of a firm.

The plan of the study is as follows. After introduction, Section 2 presents the literature review; Section 3 gives theoretical background and formulation of hypothesis; Section 4 explains the methodological framework and data. The empirical results and discussion are presented in Section 5 and last section offers conclusion and implications.

2. REVIEW OF LITERATURE

This section provides brief overview of literature on the role of managerial ownership in determining firm performance and its financial policies.

2.1. Managerial Ownership and Firm Performance

Agency model forwarded by Jensen and Meckling in 1976 states that the separation of ownership and management in modern enterprises gives rise to the conflict of interest between the two stakeholders. Managers often engage in an opportunistic behaviour which maximises their own interests rather than that of firm because they obtain the full reimbursement of such activity but stand far less than their full share of the costs. They are considered as pioneer to shed light on the role of managerial in determining firm performance. They have suggested that managerial ownership is a device to align the interests of mangers and shareholders. They anticipate a positive association among managerial ownership and firm performance (interest convergence hypothesis).

Again it was Jensen (1986) to explore that managerial ownership have negative association with firm performance at fairly high levels of managerial ownership (managerial entrenchment hypothesis). Similarly many researchers recognised a non-monotonic relation among different measures of firm value e.g. Tobin's Q and managerial share ownership; "inverted-U" or "hump-shaped" relationship between Tobin's Q and the level of managerial ownership.

To further strengthen above mentioned arguments of Jensen, Ruan, *et al.* (2006) have provided empirical evidence on "interest convergence" and "entrenchment" effects of managerial ownership, also found that nonlinear relationship exists among managerial ownership and the value of a firm. Managerial ownership drives the leverage into a nonlinear shape. Results of the study have suggested that firstly it is managerial ownership which affects leverage, which in turn impacts the value of a firm. Firm value increases as managerial ownership rises from 0 to 18 per cent, after that it decreases until it reaches 64 percent. For managerial ownership levels above 64 percent firm value again increases. Similarly when managerial ownership is in the range of 17.8 to 46.4 percent, there is a positive association among managerial ownership and leverage ratios and negative relation otherwise. In this study leverage is also incorporated to check its impact on firm's Q ratio but the results have proved to be insignificant. However managerial ownership significantly affects capital structure and capital structure effect firm value.

Another important research which has studied the effect of managerial ownership on performance as well as tried to explore the determinants of managerial ownership for small and medium-sized private companies is by Mueller and Oener (2001). Study has used a large panel of 1300 firms operating in the German business-related service sector for the years 1997-2000. Analysis finds a positive effect of managerial ownership share up to around 80 percent on firm performance, for managerial ownership beyond 80 percent this effect becomes negative. Performance improves in those companies which are entirely owned by managers. The study has failed to report any gain as a result of monitoring done by outsiders. As far as determinants of managerial ownership are concerned firm's business risk influence the level of managerial ownership in a non-linear way.

Pant and Pattanayak (2007) have stated that initially when the stock ownership by managers increases it contributes to increase firm value. Increase in value may result due to the fact that initially managers do not get entrenched as market disciplines force them to pursue value maximising goals they also prefer to show their performance so that they may not get targeted by superior management for takeover. According to this study when the level of managerial ownership exceeds 20 percent it becomes reasonable enough for them to pursue value non-maximising goals without fearing any deterioration in their position in the firm. Increase in ownership stake above 49 percent their interests converge with those of firms as they have elevated interest in the firm because they will have to stand loss for each dollar loss in firm value. For ownership between 0 and 20 percent each one percentage point increase leads to increase firm value by an average 0.005 and for each 1percent increase in ownership from 20 per cent to 49 percent, firm value declines by 0.007 points.

Thomsen and Pedersen (1999) have selected a sample of firms in 12 EU countries ranging from the year 1990 and 1993. Using return on equity to measure performance results reveal that performance has negative relation with ownership concentration however it is not significant. Performance when measured by Tobin's Q decreases with ownership by 5 or 20 largest shareholders or the Herfindal index but the result was insignificant. A different approach to analyse the role played by managerial ownership is adopted by Zhou and Hu (2007). Study compared the performance of firms having insider ownership with those not having insider share ownership. Using matching-sample comparisons research finds that firms having a significant managerial ownership succeed to perform better than firms having no managerial stock ownership. The positive effect of managerial ownership is robust and strong.

Abdullah, *et al.* (2011) have studied the impact of corporate ownership structure on firm performance. Using a sample of 183 KSE listed firms for the period 2003-2008. They use OLS and 2SLS regression models. Market-based measure Tobin's Q and accounting-based measures ROA and ROE of firm performance both were employed and found to be negatively related to the

ownership shares of managers. Tangibility of assets and growth opportunities leads to increase Tobin's Q, whereas it decreases with firm size, market risk, firm-specific risk, and institutional shareholdings. Their results indicate that Tobin's Q is significantly higher in firms where the percentage ownership of associated holdings and block holdings is above their respective 50th percentiles. Empirical results of the research supported the view that block holdings reduce agency costs, and create positive signalling effect. Firms with high sales turnover ratios in other words larger firms have increased values of Tobin's Q meaning that performance increases with size.

Javid and Iqbal (2007) investigate the major determinants of ownership concentration, and its relationship with corporate performance. Fifty firms were taken as sample from manufacturing sectors of Pakistan for the period of 2003 to 2008. Corporations have more concentrated ownership which may be due to weak legal environment in Pakistan. Ownership concentration leads to increase firms' profitability and performance. Moreover corporate governance practices namely transparency and disclosures have negative relation with managerial ownership concentration. The study also proves that some firm specific factors also affect ownership concentration e.g. more investment opportunities acts as attraction for managers to increase concentration of their ownership. Firm size has opposite effect and leads to delusion of ownership.

Bathala, *et al.* (1994) have focused on the relationship between institutional ownership, managerial ownership and leverage level of the firm. They conclude that the institutional ownership is negatively associated with the level of leverage and managerial shareholding in the firms. Simultaneous equation system is used and two stage least square method (2SLS) techniques are used to incorporate the problem of endogeneity. The evidence that institutional holdings have negative impact on managerial equity ownership is quite weak. Obtained results support that institutional investors' act as monitoring agents effectively which leads to alleviate agency cost. R&D expenses and growth are also inversely related to debt ratios. This study also proves that the leverage levels and managerial stock ownership are negatively related. This evidence support agency theory predictions as increases in the level of managerial ownership is found to be coupled with higher level of growth and R&D which suggest the existence of high agency costs.

Kaserer and Moldenhaure (2008) taking a sample of 648 German listed firms covering the years 2003 to 2007 have tried to explore the impact of insider ownership on firm performance. Empirical evidence supports the existence of positive and very significant relationship among the two variables. Corporate performance is measured using different proxies like the stock price, market-to-book ratio and return on asset (ROA). Two techniques of estimation are used. Firstly in order to achieve a more wide-ranging perception of the usefulness of managerial ownership as a corporate governance mechanism to control agency costs, OLS is used. Secondly as the relationship between insider ownership and

firm performance are endogenous study further used simultaneous equation system to control for the problem of endogenity in the data set. Results of the study show that level of insider ownership remains stable overtime and affects corporate performance positively. These results are robust as it holds for all the performance measures used in the study but when stock prices are used to measure performance the evidence become stronger as compared to when they used to market-to-book ratios and ROA. More importantly signs and significance of all the relationship remained the same even after accounting for endogenity by using 2SLS approach of regression analysis. Results show that ownership concentration of any type whether its insider or any other form leads to improve the corporate performance. This study concludes that ownership is a very important variable in determining the value of a firm.

Lim, *et al.* (2007) have examined the relationship between managerial ownership and firm performance. The sample included 155 firms listed on Shenzhen stock exchange and Shanghai stock exchange China. Managerial ownership is computed as no of shares owned by the firm's director and top executives as percentage of total number of shares. Three proxies are used to measure firm performance these are return on sale, return on asset and normalised real profits. Four variables which are used to control agency effect are age, CEO duality, firm size and leverage. Study used a dummy variable that equals 1 if the firm is listed in Shanghai stock exchange and 0 if it is listed in Shenzhen stock exchange. Results have suggested that managerial ownership is associated with profitability. Firms having high levels of managerial share holdings better control the growth of total assets relative to the profit growth.

Fahlenbrach and Stulz (2008) taking a sample of US listed firms explored the association of managerial ownership and firm's value. Managerial ownership is measured to include the ownership of firm's shares by its directors and officers. Fixed effect regression model is used and changes in Q on lagged ownership changes are the variables measured. Other independent variables included in the study are the log of (book value of assets, property, plants and equipment as ratio to total assets), R& D expenditure volatility, free cash flow and Dummy variable which equals 1 if the firm does not make any R&D expenditure and 0 otherwise, change of CEO and capital expenditure. This study comes to the conclusion that managers significantly decrease their ownership of firm's shares when firms are performing better and are more probable to raise their ownership when financial conditions of firms are not satisfactory i.e. become financially constrained. Another finding is that in US firms, on average the change in insider ownership is significantly negative. The results also show that when there is a big increase in insider ownership it leads to increase in firm's Tobin's Q ratio. However, no satisfactory evidence is found that big decline in ownership exerts unfavourable impact on the value of a firm.

Chan, *et al.* (1993) have focused on the period 1976 to 1984 including US corporations. The study examines the association of ownership structure and corporate value. Study focuses only on those firms having net annual sales greater than those of the smallest 500 firms during the period of analysis. To measure corporate value Tobin's Q is used. Other variables possibly affecting firm value other than ownership structure are included to be leverage ratio, firm size, advertising and R&D expenditures and other industry specific variables are also used to eliminate the disparity in the dependent variable. Results find that corporate value depends on managerial ownership significantly. Q ratio of firm increases when managerial ownership lies between 0 percent and 5–7 percent. However, it falls when the level of ownership increases up to 10–12 percent. The findings show that low level of managerial ownerships is associated with firm value positively. This may be due to the operation of many peripheral and inner factors for example effective opposition of management to takeovers attempts by the market of corporate control.

The chain of mechanisms between managerial ownership, firm performance and financial policies operates through agency theory framework.

2.2. Managerial Ownership and Firms Financial Policies

Findings of Crutchley and Hansen (1989) support the predictions of agency theory in regard to common stock ownership, dividend and leverage policies. They conclude that managerial ownership is negatively associated with the diversification of common stock. Study indicates that manager's surrogate between different alternatives of the policies in a way to reduce agency costs in other words managers choose ownership, leverage, and dividends rationally to control agency costs.

Working on the same lines of research Jensen, *et al.* (1992) examine the determinants of insider ownership, debt, and dividend policies. As across different firm levels of insider ownership differs, firms with high insider ownership go for low levels of leverage and dividends. Results support modified "pecking order" theory when impact of firm specific variables growth profitability, and investment spending these two policies are considered. Their results further proved that not only level of ownership has significant impact on financial decisions but also financial decisions and insider ownership are interrelated.

In favour of the argument that financial decisions are not only affected by managerial ownership but also have their impact on level of stocks hold by managers; are the findings of De Miguel, *et al.* (2004). When leverage increases the managers and outside owners reduce the risk they bear by reducing their holdings of firm shares, means leverage leads to reduction in managerial ownership. When dividend increases managers increase their stake in firm. Research further stated that the levels of managerial ownership and its

concentration increases with new investment project (positive impact of growth on MSO). Positive relation between dividends and insider ownership is also observed. Tobin's q has a positive influence which means that managers of those firms which have superior opportunities of investment usually hold a bigger portion of their firms' shares. Larger firms are characterised with lower levels of insider ownership and ownership concentration which was consistent with the findings of Mahadwartha (2004) as this study also found that there exists negative association between size and managerial ownership as when size is small the probability increases the firm will engage in managerial ownership as management only requires a minute portion of their capital to acquire a major segment of firm shares. So the study has proved that managerial ownership programme is more useful for small firms. Another finding of this research is associated with investment opportunities; high investment opportunities are induce managers to acquire more shares of firm also find that leverage and dividend policies can be used to predict probability of managers to engage in managerial ownership programme. Empirical research has proved the importance of the role played by managerial ownership in controlling agency costs. Leverage and dividend can also be used as controlling mechanism for agency costs. Low level of leverage increases firm's probability to engage in managerial ownership which multiplies the impact of decreased agency cost of debt with reduction in agency cost of equity.

Consistent with these results are the findings of Yanming (2007) which has proved that relationship among managerial ownership and leverage. Moreover leverage and firm value are found to be influenced jointly and positively. Non-linear U-shaped relationship between Managerial ownership and firm performance is observed which is consistent with other studies. An inverse U-shape relation between Tobin's Q and managerial ownership supported the alignment of interest hypothesis for low level of managerial ownership and that of entrenchment hypothesis for high level of managerial ownership. Research results also recommended that external monitors (debtors) are helpful in reducing agency costs and increasing investment efficiency which will further result in improved market value of a firm.

Yarram (2010) has analysed the relationship between ownership structure and leverage of a sample of 465 Australian firms for the period 2004 to 2010. Pooled OLS analysis shows evidence of significant non-linear relationship between ownership structure and capital structure. Block holding of shares has positive impact on leverage level but as it gets more concentrated the impact becomes negative. Managerial ownership is proved to have influence only on short-term debt levels.

When talking about financial policies dividends cannot be ignored; so it is imperative to check evidence related to the relationship between managerial ownership, agency cost and dividends. Managerial ownership acts as an alternative for dividend as it serves to reduce agency costs, Rozeff (1982). The

relationship between insider ownership and dividend is also reported to be two way; stock ownership by managers also affect firms decision to pay dividends. Taleb (2012) examine dividend policy of industrial firms in Jordan. The evidence from regression analysis this provided much support for the inverse impact of agency cost on dividend. Leverage is found to be affected positively and significantly by free cash flows. When used as explanatory variable agency cost found to exert negative influence on dividend payouts and profitability measures increased dividend payments in firms.

Al-Gharaibeh, *et al.* (2013) have tried to examine the impact of ownership structure on corporation dividend policy. Study used sample of 35 Jordanian corporations listed on the Amman Stock Exchange over the period 2005-2010. To examine the relationship between dividend policy and managerial ownership both full Adjustment and Partial adjustment models were used. Full Adjustment Model proved to better explain the dividend behaviour since it explained 61.57 percent of the variation in dividend on the other hand Partial Adjustment Model explained only 20.65 percent of variation. Using Partial Adjustment Model negative and significant coefficient for managerial ownership is obtained whereas Full Adjustment Model provided an unexpected but significant sign. The reason for unexpected sign of MSO may be that firms in Jordan do not depend on dividend policy in order to alleviate the agency conflict between managers and shareholders. Similar are the findings of Ahmed and Roslan (2012) which also explored the association of ownership types and structures with dividend payments. To analyse 100 firms listed on the main board of Bursa Malaysia, the study used the full adjustment and the partial adjustment model. It incorporated foreign ownership, ownership dispersion, institutional ownership, managerial ownership and ownership concentration. Dividend behaviour of firms is only affected by ownership concentration significantly in both partial adjustment and full adjustment model. Research findings support agency theory predictions as increase in payment of dividends results in extenuating conflicts as dividends acts as an alternative to monitoring done by shareholders. Contradicting to the findings of Al-Gharaibeh, *et al.* (2011) results of this study revealed that partial adjustment model better explains the variation in dividend behaviour as compared to the full adjustment model.

For the case of Pakistan Hamid, *et al.* (2011) have studied the factors which determines the dividend payment behaviour of firms, keeping in view the agency theoretic approach. Taking data for eight year period including seventy KSE-listed firms, multiple regressions technique investigated the relationship of ownership structure and dividend policy. Results suggest negative association among dividend policy and the level of managerial ownership. The reason for existence of negative relation between MSO and dividend is that; the presence of insider ownership decreases effectiveness of dividend policy in controlling conflicts between managers and shareholders, so some alternative tool should be used to lessen the agency problem.

Ellili (2009) has determined the association between performance of the firm financial policies and ownership structure. Managerial ownership is modelled as an endogenous variable. Using simultaneous equation model for 33 companies study proved that entrenched managers keep away from leverage to escape the pressure of good performance and also in order to protect their own interests. This study also establishes that there exists negative association between leverage and managerial ownership and positive association of firm performance with MSO. Larger firms were found to have high levels of both debt and managerial share ownership. Along with MSO the study further added squared and cubic managerial ownership which are found to be significant showing the nonlinear impact of MSO on the performance of companies. The negative coefficients of managerial ownership and cubic managerial ownership and a positive coefficient of the squared managerial ownership confirmed the existence of both convergence of the interest entrenchment effect of MSO at the same time. Entrenchment effect dominates for ownership levels of higher than 51.76 percent or lower than 10.82 percent. It is found that the managers do not act in value maximising way if he/she hold an ownership lower than 10.82 percent or higher than 51.76 percent managers.

It has been a subject of prolonged debate that whether the ownership structure and debt policy resolves the conflict of interest between stockholders and managers or not. Fatma and Chichti (2011) has tried to answer this question by estimating three stage least square simultaneous model for 35 non-financial Tunisian listed companies for the period 1999–2008. Empirical results of the study are consistent with the theory of free cash forwarded by Jensen (1986). This theory states that leverage acts as a control instrument to control the risk associated with free cash flows. Major finding is that insider ownership contributes to bring down the conflict of interest associated with free cash flow. Concentration of ownership leads to boost the hazards related to free cash flow and the problem of overinvestment can be reduced by increasing debt component and by raising the level of managerial ownership. Bradford, *et al*. (2012) has studied the relationship between managerial ownership, firm performance and agency costs. They conclude that increase in the number of owners does not have any positive effect on firm value. The findings of research prove that agency costs decreases as the equity ownership of managers in the firm increases. They also prove that managers hold a higher fraction of the firm shares when they expect better performance in future as they have insider information regarding future performance of the enterprise.

In context of the Pakistani market which is also the target of this study Din and Javid (2011) have evaluated the effect of insider ownership on the debt and dividend policies and firm's performance taking a sample of sixty KSE listed firms and covering the period of seven years. Their research supported the view point that the increase in managerial ownership has great impact on the firm's financial

policies both leverage and dividend. Using the 2SLS regression framework results revealed that leverage is negatively associated with MSO. Similarly the association of managerial ownership concentration and dividend policy are observed to be negative and significant. The findings maintain the predictions of agency theory suggesting that as the level of insider ownership increases, asymmetric information will reduce which will unswervingly shrink the efficiency of the dividend policy. MSO is divided into three levels, (0–5 percent) which is a low level of MSO, moderate level ranges from 5 percent-25 percent and high level represents concentration above 25 percent. Findings suggest that only low and a moderate level of MSO effects firm performance in a positive way. When the level of MSO increases above 25 percent it has a negative impact on performance which is supported by the entrenchment argument, Morck, *et al.* (1988).

Ahmed (2008) has used logit model in order to check the association of managerial ownership and agency cost. Covering a period of 5 years from 1997 through 2000 on the 100 blue-chip stocks, the empirical findings suggest a positive association among MSO and level of risk (agency costs) but high levels of risk and insider ownership are negatively related. Leverage acts as a monitoring alternate to control agency conflict. Dividend policy which also acts as a monitoring device to reduce agency clash among managers and equity providers, does not proved to have a significant role in determining managerial ownership.

Ang, *et al.* (2000) utilising a data on 1,708 small corporations examined the factors affecting agency costs. They have formed absolute and relative measures of agency costs for the firms with different ownership structures. Comparing the efficiency of those firms which are managed by shareholders with those managed by outsiders study revealed that agency costs are higher in case of outsider managers. These results support the arguments of Fama and Jensen (1983a) and Jensen and Meckling (1976). Study's major finding states that agency costs have converse association with the MSO, and as number of non-manager shares increases it leads to increase agency costs. However, monitoring by banks contributes positively in the reduction of agency costs.

When it comes to the interdependent relation between the variable of interest Li and Cui (2003) further strengthen interrelationship among leverage and agency costs. Studying 211 non-financial Chinese listed firms for the period 1999-2001, the research suggests that firms having high leverage levels also have high annual sales to total assets ratios and return-on-equity is also high in these firms. Findings suggest that there exists positive association between managerial ownership and the ROE. They give a view that the owner managers have a deep concerns regarding firm value and therefore have keenness to trim down agency costs. They also use an industry dummy to incorporate differential industry effects of managerial ownership. Out of 11 industries five industry coefficients are significant with asset turnover. Firm size turned out to have positive connection with the performance measure ROE.

Jiang, *et al.* (2005) using new firm level database study focused on the factors having influence on financial decisions of the firms in China. The study explored the relationship between ownership structure and financing choices. All manufacturing firms covered by NBS over the period 2000-2003 are included in the study. Study's results show that firm age, asset maturity and state ownership are positively associated with total leverage. The factors which have negative influence on total leverage are profitability and foreign ownership. The study also discusses the impact of macroeconomic variable on capital structure. It is found that an increase in regional GDP leads to increase leverage ratios. When it comes to short-term debt, it is found to be influenced positively by private ownership. The level of long-term debt shows positive and significant association with state ownership and negative association with foreign and domestic ownership. Moreover the economies which are growing rapidly usually borrow short-term debts. Growth rate of economy is negatively associated with the debt maturity of firms. Firms which are located in the regions having strong legal environment have lower level of leverage.

Jensen, *et al.* (1992) using a three stage least squares (3SLS) to scrutinise the determinants of managerial ownership and the policies of debt and dividend. The vector of explanatory variables capturing profitability, business risk, R&D and fixed assets was used to estimate a system of structural equations for debt, dividends and insider ownership. Study finds an evidence of interdependent relationship among leverage, dividend and the level of insider ownership. Insider ownership is negatively linked with both the debt and dividend levels of firms. Agency costs and bankruptcy costs are found to influence financial decisions of firms as suggested by modified version of the pecking order theory.

Most of the research in this area is done on developed economies ignoring the emerging and transiting economies. As far as the case of Pakistan is considered, only one study has been done so far Din and Javid (2011) which incorporates a detailed analysis of the association between managerial ownership and financial policies of Pakistani non-financial firms. However, the relationship between managerial ownership and agency cost is not even touched in this study too. Moreover, financial policies of dividend and leverage have significant impact on agency cost but this side of the coin is also neglected by the researchers especially for Pakistani market.

3. THEORETICAL FRAMEWORK AND WORKING HYPOTHESIS

3.1. Theoretical Background

3.1.1. *Managerial Ownership and Financial Policies (Leverage and Dividend)*

Grossman and Hart (1980), Jensen (1986) and Stultz (1988) argue that leverage can act as a pre-commitment tool to alleviate agency issues. Firms

having high levels of managerial ownership should use less debt and vice-versa, if managerial ownership and debt serve as alternate disciplining mechanisms. According to this view point level of debt and managerial ownership are interdependent as debt level is a determinant of managerial ownership and managerial ownership also determines what level of debt a firm will go for.

When more debt is used by a firm it reduces total equity financing, which in turn shrink the possibility of the conflict between management and stockholders. However, conflicts of interest between shareholders and creditors arise due to debt financing which introduces debt agency costs. It is a major concern of bondholders that stockholders may try to find a way to confiscate their capital by opting for investment decisions, which increase their risk. If the firm is having discretionary investments, another type of conflict will arise as when some discretion lies with managers they possibly will abstain from those investments which mainly increase bondholders' wealth rather than that of stockholders'.

Firms with towering levels of managerial ownership often trim down dividend payouts as the rationale of managerial ownership is almost identical to that of dividend policy that is both leads to reduce agency cost related with equity financing. It will turn out to be unproductive to use both the tools at the same time for the alleviation of same problem. Lower dividend increases the likelihood of firm to engage in managerial ownership and will be effectual in the lessening of agency costs.

The Signalling Theory

Leland and Pyle (1976) and Ross (1981) developed theory of signalling. Managers have greater insider information concerning the firm than other investors, but they are always unwilling in giving access to transparent information. They usually try to hide information from other equity providers. So investors interpret the dividend policy as information, in other words we can say that it act as a signal for future projections of the enterprise.

The Agency Theory

Jensen and Meckling (1976) forwarded agency theory which argued that conflicts take place when the owners appoint agents to execute some of their duties on their behalf. As the interests of the managers and owners are conflicting there arise agency costs. According to Short, *et al.* (2002) dividend policy has a crucial role in the lessening of agency issues arising from the conflicting interests of both the parties. Similarly, Rozeff (1982) also regarded dividend payment as a device to control agency cost.

As far as the association among managerial ownership and dividend policy is concerned Jensen (1986) has suggested that whenever there is elevated level of managerial ownership, payment of dividend is reduced.

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This is due to the fact that dividend payment may create conflicts between the managers and shareholders as managers are usually more willing to retain capital instead of paying it in the form of dividends. Mostly managers prefer to follow the growth strategies because the increase in growth of a firm will provide them with added power to control the resources. On the other hand, shareholders favour dividends as dividend is a direct compensation made to shareholders. If profits are not paid to the shareholders and free cash flows lies with the company, there is a possibility that the managers might alter their intentions towards the remuneration of the management. They can also slot in the retained earnings into unprofitable projects if the earnings are not paid as dividends. All of these contribute to increase the interest conflict among them, which can be controlled through dividend payout policy. Therefore, Rozeff (1982) also regarded dividend payment as a mechanism to reduce agency costs.

3.1.2. *Relationship between Management Ownership and Financial Performance*

Incentive Alignment Argument

The proponents of this hypothesis are of the view that increase in equity ownership by managers leads to the boost in firm performance due to alignment of interests (mostly through monetary inducements) among managers and other shareholders. This argument depicts performance as an increasing function of managerial ownership. In other words incentive alignment hypothesis suggest positive relation connecting managerial ownership and firm performance. According to Jensen and Meckling (1976) when equity of management increases it acts as a device to decrease agency costs which is due to the decrease in divergence of interest among shareholders and managers.

Entrenchment Argument

The view that performance is a decreasing function of managerial ownership is known as entrenchment argument. According to Morck et al. (1988) additional stock ownership by managers leads to reduce financial performance of firm as when the ownership stakes of managers are large they become too commanding that they do not even give much attention to the interests of other shareholders. Moreover, as they turn out to be so wealthy that they no more act in a profit maximising way, but they get more utility by maximising market share. Another fact related to this negative relationship is that; managements may cause control problems at high levels of ownership. Shareholders become unable to dispense managers even if they do not perform efficiently, which results in the form of increased agency cost.

Takeover Premium Argument

This argument also suggest that managerial ownership is positively related to corporate performance, as the managers are more competent to oppose any threat of takeover from the corporate control market. According to Stulz (1988) the raiders in the market of corporate control will have to give more takeover premiums.

Stulz's Integrated Theory

A model explaining a roof shaped relationship between managerial ownership and firm performance is presented by Stulz (1988). This model incorporates both the takeover premium hypothesis and entrenchment hypothesis in a single theory.

Morck, *et al*. Combined Argument

Both the existence of incentive alignment and entrenchment effect is forwarded by Morck, *et al*. (1988). When the level of managerial ownership is lower the incentive alignment effect dominates the entrenchment effect. Around 5 percent managerial ownership, the situation is inverted and for further high levels of ownership (30 percent) again the relation connecting managerial ownership and financial performance become positive. In other words, the dominant effect is only for medium concentrated levels of management ownership.

Fig. 1. Relationship between Firm Performance and Managerial Regarding Some Arguments[2]
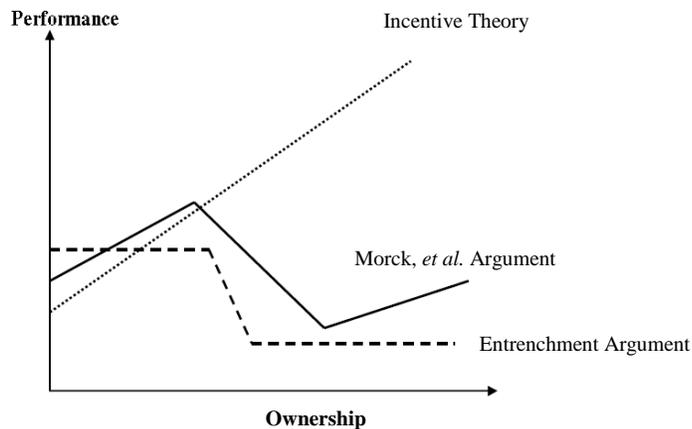
Source: Salehi and Baezegar (2011).

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[2]See Salehi and Baezegar (2011).

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Cost of Capital Argument

This argument is of the view that an increase in concentration of whichever sort of ownership decreases firm performance as it contributes to lift up firm's costs associated with capital [Fama and Jensen (1983)]. From an investor's perspective market liquidity and opportunities of diversification decrease as a result of ownership concentration, which become a reason of increased cost of capital and low performance afterwards.

Monitoring Argument

Another proponent of positive relation of managerial ownership and financial performance Shliefer and Vishny (1986, 1997) states that block owners are more capable to control and monitor the activities of management, which contributes to better corporate performance.

Fig. 2. Non-Linear Relation between Managerial Ownership and Firm Performance

Apologise
Non-Linearity between Managerial Ownership and Firm Performance
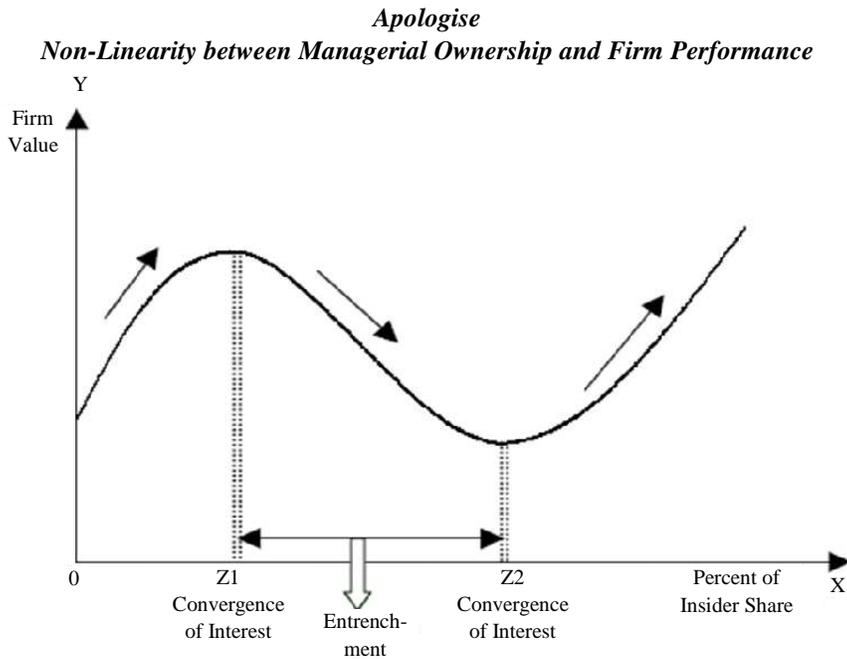
Source: Pant and Pattanayak (2007).

The combined existence of both incentive alignment effect and entrenchment effect suggest that the relationship between managerial share ownership and corporate value is curvilinear. Studies such as Morck, *et al.*

(1988) have found nonlinear or inverted U-shaped relationship between managerial ownership and firm performance, suggesting that at low levels managerial share ownership increases firm value due to the convergence of interests between managers and shareholders. Then with increase in the level of managerial ownership in the overall structure of the firm, the performance of the firm starts declining because of the fact that the managers start expropriation. In simple words, managers become powerful enough and start exploiting the rights of minority shareholders. As they only take care of their own benefits. This biasedness results in a decrease in the firm performance due to the entrenchment effect. But when managerial ownership reaches extremely high levels then they start behaving in a value maximising way and would not undertake any risky and non-profitable decisions as by now they will have to bear considerable loss resulting from non-optimal actions because their share will be huge in case of any possible loss or gain. It would have a direct impact on their own-selves.

3.1.3. *Managerial Ownership and Agency Cost*

Agency cost refers to conflict of interest among managers and stockholders. These costs are result of separation of ownership and management and arise when management do not act for the interest of shareholders. To control agency costs various solutions have been suggested by researchers, one of which is to increase management share ownership. Increase in managerial ownership leads to decrease agency cost as result of alignment of interest between managers and other shareholders. When managers own considerable stock of firm's equity they act in a profit maximising way as it results in increased personal wealth of them. So the conflict of interest decreases between managers and other shareholders. But when managerial ownership increases beyond a certain level it may results in increased agency costs. As managers become more powerful they may take decisions for their personal benefits, ignoring the interests of other shareholders. Minority shareholders often get exploited whenever managerial ownership exceeds a certain limit. In short we can say that managerial ownership of only moderate level contributes to decrease agency costs.

3.2. Hypothesis

The above mentioned theoretical framework leads to construct the following hypothesis for the managerial share ownership with financial policy variables, firm performance and agency cost.

The following hypotheses are developed to test the relationship between managerial ownership and financial polices:

H_1: All else equal there is a negative impact of managerial ownership on leverage.

H₂: All else equal there is a negative influence of managerial ownership on dividend.

H₃: All else equal there is a negative effect of financial policies (leverage and dividend) on managerial ownership.

Regarding performance the following hypotheses are constructed:

H₄: There is a relationship between managerial ownership and firm performance, other things remaining the same.

The sub-hypothesis are as follows:

H₄ₐ: Managerial ownership affects firm performance positively.

H₄ᵦ: Only a moderate level of ownership has positive effect on firm performance.

H₄꜀: There exist non-linear association among firm performance and managerial ownership.

For agency cost following hypotheses are framed:

H₅: All else remains the same there is relationship between managerial ownership and agency cost.

The sub-hypothesis are as follows:

H₅ₐ: There is a negative relationship between managerial ownership and agency cost.

H₅ᵦ: There is negative relation between leverage and agency cost.

H₅꜀: There is negative relation between dividend and agency cost.

4. METHODOLOGY AND DATA

4.1. Methodological Framework

4.1.1. *Managerial Ownership and Financial Policies*

As the relationship between managerial ownership and financial policies is interdependent therefore relationship is estimated by estimating the simultaneous equation system. This analysis is trying to explain the effect of managerial ownership on the financial policies, following Din and Javid (2011) the reduced form equations are as follows.

$$DIV_{it} = \alpha_1 MSO_{it} + \alpha_2 SIZE_{it} + \alpha_3 LEV_{it} + \alpha_4 G_{it} + \alpha_5 NI_{it} + \varepsilon_{it} \quad \dots \quad (4.1.1)$$

$$LEV_{it} = \beta_1 MSO_{it} + \beta_2 SIZE_{it} + \beta_3 DIV_{it} + \beta_4 G_{it} + \beta_5 NI_{it} + \varepsilon_{it} \quad \dots \quad (4.1.2)$$

$$MSO_{it} = \gamma_1 DIV_{it} + \gamma_2 SIZE_{it} + \gamma_3 LEV_{it} + \gamma_4 G_{it} + \gamma_5 NI_{it} + \varepsilon_{it} \quad \dots \quad (4.1.3)$$

Where managerial ownership (MSO), dividend (DIV) and leverage (LEV) and the control variables included are Growth (G), net income (NI) and firm size (SIZE).

4.1.2. *Managerial Ownership and Firm's Performance*

In order to test the hypothesis of relationship between firm performance and managerial ownership this study is taking three different proxies for firm performance namely return on assets (ROA), return on equity (ROE) and Tobin's Q. Besides managerial ownership (MSO), dividend (DIV) and leverage (LEV) the control variables included are Growth (G), net income (NI) and firm size (SIZE).

$$FP = \delta_{\circ} + \delta_1 MSO_{it} + \delta_2 SIZE_{it} + \delta_3 DIV_{it} + \delta_4 LEV_{it} + \delta_5 G_{it} + \delta_6 NI_{it} + \varepsilon_{it} \quad (4.1.4)$$

To capture non-linearity the following specification is used, where all the variables remained the same

$$FP = \gamma_0 + \gamma_1 MSO_{it} + \gamma_2 MSO_{it}^2 + \gamma_3 MSO^3_{it} + \gamma_4 SIZE_{it} + \lambda_5 DIV_{it}$$
$$+ \gamma_6 LEV_{it} + \gamma_7 G_{it} + \gamma_8 NI_{it} + \varepsilon_{it} \quad ... \quad ... \quad ... \quad ... \quad (4.1.5)$$

4.1.3. *Managerial Ownership and Agency Cost*

Agency costs which arise due to the conflict of interest between management and owners depends upon many factors e.g. managerial ownership (MSO), dividend (DIV) and leverage (LEV) the control variables included are Growth (G), net income (NI) and firm size (SIZE). To relate agency cost with managerial ownership asset utilisation ratio (AUR) issued as proxy of agency cost. Again three levels of managerial ownership: low, moderate and high are considered. The empirical specification takes following form:

$$AUR = \mu_0 + \mu_1 MSO_{it} + \mu_2 SIZE_{it} + \mu_3 DIV_{it} + \mu_4 LEV_{it} + \mu_5 G_{it} + \mu_6 NI_{it} + \varepsilon_{it} \quad (4.1.6)$$

4.2. Estimation Techniques

This study covers the data of 140 firms for the period of nine years; therefore it is appropriate to use panel data estimation technique. In panel data observations on different cross-sectional units over several time periods are pooled together which allows to increase the sample size and increasing the degrees of freedom.

4.2.1. *Estimation Technique for Simultaneous Equation Model*

For estimating the panel data simultaneous equation model, which describes the relationship of managerial ownership and financial policies, GMM estimation technique is used to overcome the problems of endogenity and simultaneity which is present among the variables of the study managerial ownership, dividend and leverage. The lag explanatory variables are used as instruments and Sargan J test is applied to test the validity of the instruments.

4.2.2. *Estimation Technique for Performance Model and Agency Cost Model*

Three approaches are used for estimation of the panel data, the common effect model, fixed effect model and random effect model is estimated. To compare between common effect model and fixed effect model F test is used. For that purpose two models are estimated separately: common effect model; that constant term are all equal and fixed effect model; intercepts are different. Then F test is applied to check the null hypothesis that there is no difference in common effect model and fixed effect model. Hausman test is used to compare the fixed effect and random effect model This test statistic is asymptotically distributed as chi-square under: H_0: correlation between stochastic error term and explanatory variables is zero. If so, then random effect model is preferred over fixed effect model.

4.3. Data and Sample Selection

The data of 140 firms is derived from Balance Sheet Analysis of KSE[3] listed non-financial firms of the manufacturing sector published by State Bank of Pakistan and Annual Reports of included companies covering the nine year period; 2003 to 2011. The following table gives the list of variables, definition and the source of data.

Table

List of Variables

Variables	Description	Source
Managerial Share Ownership	Number of shares held by the company's top five executives divided by the number of common shares outstanding	Financial Reports of the companies
	Financial policies	
Leverage	Debt /Equity	Balance Sheet Analysis
Dividend	Dividend paid per share	Balance Sheet Analysis
	Firm performance	
Return on Asset	Net profit before tax / total assets	Balance Sheet Analysis
Return on equity capital	PBIT / the total outstanding paid up equity capital of the firm	Balance Sheet Analysis
Tobin's Q	(Total Borrowings + Market Value Equity) / Total assets	Balance Sheet Analysis
	Agency Cost	
Assets utilisation ratio	The ratio of annual sales to total assets	Balance Sheet Analysis
	Control Variables	
Growth	Book to market value of equity	Balance Sheet Analysis
Net income	Net income over net sales	Balance Sheet Analysis

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[3]KSE the biggest and the most liquid stock exchange in Pakistan. It has been declared as one of the best performing stock exchanges in Pakistan [*Business Week* (2002)].

5. RESULT AND DISCUSSION

5.1. Data Description and Tests

5.1.1. *Summary Statistics*

Appendix Table A1 provides summary statistics of asset utilisation ratio, dividend paid per share, sales growth, leverage, percentage shareholding of managers, net income, ROA, ROE and size of the sampled firms for the period 2003 to 2011. In order to test the problem of multicollinearity, the correlation coefficients between the explanatory variables have been examined. The results of the correlation coefficients are presented in Appendix Table A2. It is found that most of the coefficients measuring correlation between the explanatory variables are found to be less than 0.50. So, it can be said that the problem of multicollinearity doesn't exist.

5.1.2. *Panel Unit Root Test*

The first step is to check that whether the data is stationary or having a unit root. The Levin, Lin and Chu (LLC) test has been used in the study. The results reported in Appendix Table A3 show that the data is stationary at level.

5.2. Regression Results

Managerial Ownership and Financial Policies of a Firm

In this section the relationship between managerial ownership and firm's financial policies is analysed using simultaneous equation model given by the Equations 4.3.1, 4.3.2 and 4.3.3. To cope up, with the issues of endogenity and simultaneity GMM technique of estimation is used in the system of equations. The lag explanatory variables are used as instruments and Sargan J test is used to check the validity of instruments. The results of the system of equations are reported in Table 1.

The results of Model 1 empirically evaluate the impact of managerial ownership on leverage and dividend and other three control variables namely net income, size and growth. Column1 of Table 1 summarises the regression results.

The managerial ownership has turned out to have a negative and significant association with the financing structure, showing that increase in managerial ownership have a deteriorating impact on the likelihood of a firm to go for additional debt. This outcome is in line with our hypothesis which states that existence of managerial ownership lessen the level of debt in a firm as both serves the same purpose of controlling agency cost. Moreover, the result is consistent to the findings of Ellili (2009) and Din and Javid (2011). The dividend has significant and positive effect on leverage, which may be due to the fact that when firms pay dividends to its shareholders, then it becomes inevitable to

Table 1

GMM Results, Dependent Variables: LEV, DIV and MSO

Explanatory Variables	Model 1 LEV	Model 2 DIV	Model 3 MSO
MSO	–0.06***	–0.043***	–
	(0.002)	(0.005)	
DIV	0.212***	–	–0.255***
	(0.039)		(0.040)
LEV	–	–0.464***	–0.213***
		(0.820)	(0.024)
SIZE	0.955***	1.064***	–0.295***
	(0.041)	(0.067)	(0.044)
NI	–1.028***	0.268***	–0.219***
	(0.029)	(0.073)	(0.022)
G	0.441***	1.626***	1.751***
	(0.145)	(0.370)	(0.511)
R^2	0.30	0.31	0.31
Sargan (P value)	0.920	0.816	0.639

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively.
Standard error in parenthesis.

depend on external financing to undertake investment opportunities, as a large part of internally generated funds are exhausted to pay dividends. This result is also supported by the findings of Din and Javid (2011). Among the control variables, size is positively and significantly related to leverage level. This is an evidence to support the hypothesis that firms having more total assets use them as collateral to obtain funds from financial markets. This result is consistent with the findings of Mueller and Oener (2006). Further, net income shows the negative sign with leverage and significant as well implying that an increase in income after tax decreases the debt component in firm's capital structure. These finding points to the fact that firms prefer to use internally generated funds to finance investment in Pakistan. This result is consistent with pecking order hypothesis and the findings of Frank and Goyal (2009) and Gill, *et al*. (2009) and Prahalathan (2010). Finally, growth as positive and significant coefficient in this model. As growing firms have more investment opportunities available to them, so in addition to the use of internally generated funds firms have to go for debt financing to take the full benefit of business expansion. Studies like those of Ahmed (2009) and James, *et al*. (2000) reported similar results.

Column 2 represents the results of Model 2, regression of dividend variable on MSO, leverage and a set of control variables. The negative relationship of managerial ownership with dividend is obtained and it is consistent to the hypothesis with the negative and significant coefficient of managerial ownership, showing that dividend payment is quite reduced in the firms having high levels of managerial ownership. As dividend payment contributes to control agency problems, the effectiveness of this tool decreases when the firm is already involved in managerial ownership structure. Crutchley and Hansen (1989), Jensen, *et al*. (1992) and Taleb (2011) Din and Javid (2011) also concluded with the same results. In Pakistan mostly firms facing financial distress depends more on leverage. The negative coefficient of leverage is consistent with the findings of Grossman and Hart (1980), Stulz (1990). Similarly, Meckling (1970) and Jensen (1986) also suggest that firms with higher level of leverage have negative impact on dividends because of debt covenants and restrictions imposed by debt holders.

In control variable size has a positive impact on dividend payment of firms which is consistent with the findings of Javid and Iqbal (2009). Large firms pay more dividends as compared to small firms in Pakistan as they are expected to have easier excess to external capital markets and are in good position to borrow on better conditions. The manager-shareholder conflict is also more severe in larger firms which indicate that larger firms should be more inclined to make dividend payments and more importantly due to the fact that larger firms have more cash flows and creditors (debt providers) are also monitoring their activities, so management choose to pay more dividend in order to disperse their free cash flows. Net income enters the regression to be positively affecting dividend payment depicting that when net income increases more cash flows are available with firm to pay dividends to the shareholders. Result implies that firms having stable earnings are capable to pay more dividends. The evidence of significance of earnings in formulation of dividend policy is supported by Priestley and Garrett (2000), Kim and Ettredge (1992), Adaoglu (2000), Bhattacharya (2003) and Wilson, *et al.* (2006) and Din Javid and (2011). Finally growth turns to have a positive impact on dividend payment, using sales growth as a proxy variable the results are consistent with the findings of Amitabh (1999) and Rozeff (1982) which confirms that growing firm pay more dividends. Signalling theory states that firms achieving high growths are competent to pay dividends to the shareholders, as high earnings ensure the ability to pay more dividends.

Third equation in the system examines the effect of financial policy variables and control variables on managerial ownership of the firm and results are reported in column 3. Firstly, negative and significant coefficient of leverage confirms agency theory predictions and is also in line with our hypothesis of negative relation between managerial ownership and this policy variable of firm. This finding is aligned with those of Fama and Jensen (1983), Al-Gharaibeh, *et al.*

(2013), Torre (2004). Leverage is a bonding mechanism to control agency costs, one of the reasons is increased monitoring on the part of third party (the debt provider). So the firms having higher level of debt burden tend to engage in low managerial ownership as there remains less need to control agency costs through increased managerial ownership. The negative coefficient of dividend is also supported by Rozeff (1982), Taleb (2011), Amitabh (1999), Jensen, *et al.* (1992) and Din and Javid (2011). The dividend payment decreases asymmetric information however, if a firm is already using this tool to control agency cost it will reduce the need for managerial ownership programme on the part of firm. Size enters our regression to be negatively associated with managerial ownership because when size is small the probability increases the firm will engage in managerial ownership as management only requires a minute portion of their capital to acquire a major segment of firm shares. So the study proved that managerial ownership program is more useful for small firms, same findings are reported by Mahadwartha (2004) and Din and Javid (2011). Finally growth is detected to have positive impact on managerial ownership. Above documented positive effect of growth on managerial ownership is in accordance with the theory. It confirms that managers prefer to invest in their firms if it is growing fast. Same findings are reported by Bathala, *et al.* (1994) and Din and Javid (2011).

5.3. Managerial-Ownership and Firm-Performance

5.3.1. Relationship between Managerial-Ownership and Firm-Performance (Overall)

First the empirical findings related to accounting measures of performance ROA and ROE, and then market measure of performance Tobin's Q are analysed.

In Table 2 the column 1 and 2 present the results of accounting measures of performance which are return on assets and return on equity and column 3 with market measure Tobin Q, when regressed inside ownership and other control variables. Panel data estimation technique is used employing fixed, random and common effect models by applying OLS. The Hausman supports the fixed effect model therefore results of fixed effect model are reported

In contrast to the findings of Jensen and Meckling (1976) this study reports insignificant impact of inside ownership and firm performance for all the three performance measures. Nevertheless, it is consistent with Morck and Vishny (1988) leading to the fact that level of inside ownership is not a significant determinant of firm performance in Pakistan. This result does not support the hypothesis that inside ownership affects firm performance positively. It is also contradicting the predictions of agency theory. As the result is insignificant the study does not find it supportive enough to conclude that managers use the resources to avail their personal benefits and thus decreasing firm value, in case of Pakistan.

Table 2

Results of Impact of Inside Ownership on Firm Performance (Overall MSO)

Explanatory Variables	ROA	ROE	Tobin Q
C	0.344***	0.677***	0.514***
	(9.414)	(7.178)	(6.682)
MSO	-0.01	0.011	0.010
	(-0.377)	(0.647)	(0.366)
SIZE	-0.074***	-0.145***	0.006
	(-15.389)	(-11.660)	(0.660)
DIV	0.0140***	0.019**	-0.010**
	(4.168)	(2.245)	(-1.544)
LEV	-0.058***	-0.074**	0.947***
	(-4.574)	(-2.237)	(35.128)
NI	0.063***	0.131***	-0.013**
	(18.879)	(15.180)	(-1.872)
	0.01***	0.01***	-0.010***
G	(11.278)	(7.855)	(-4.449)
R-squared	0.32	0.32	0.33
Hausman Test (p value)	0.02	0.00	0.003

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively. The t-Statistics in parenthesis and based on the standard errors adjusted for heteroscedasticity using White's (1980) heteroscedasticity-consistent covariance matrix.

Now coming to control variables, negative coefficient of size with ROA and ROE shows that increase in size contributes in weakening of financial performance of firms. Increase in size may lead to underutilisation of resources in Pakistani manufacturing firms. This finding is in accordance with the many studies such as that of Mahadwartha (2004) and Din and Javid (2011). Important implication that can be derived from this result is that, in order to remain profitable firms should not increase their total assets unchecked. The insignificant coefficient of size which emphasises that size possibly has no role to play in determining firm's Q ratio.

The positive and significant relationship of dividend with ROA and ROE is consistent with the results reported by Khan (2007). It gives an indication to the fact that dividend payment improves the firm performance as it reduces the conflict between shareholders and managers. Due to decrease in agency cost of equity, firm performance is improved; the reason may be more dedicated efforts of the managers as a result of decreased conflict of interests with shareholders. Results suggest that if used effectively, dividend payment is beneficial for firms aiming to improve their value and performance. The dividend does not affect the market performance measured by Tobin Q

The negative and significant association of leverage with ROA and ROE shows that leverage effect performance negatively which may be due to the overdependence of Pakistani firms on debt. The fact that an increase in level of debt decreases accounting performance suggests that it is not profitable for firms to increase the proportion of debt in their financing structure in case of Pakistan. So firms should use debt only as a last resort. However leverage enters the regression confirming its positive association with Tobin's Q. It strengthens the view that taking on debt goes as a positive signal to investors regarding firm's future cash flows, which in turn contributes in the improvement of firm value. Moreover, net income and growth turned out to have a positive and significant association with firm performance as expected in all the three models. Whenever the earnings and growth of the firm increases it affects firm performance positively.

5.3.2. *Impact of Different Levels of Managerial Ownership on Firm Performance*

As impact of managerial ownership on firm performance varies with the levels of ownership, this study has divided the sample into three parts. First, the analysis includes firms having level of managerial ownership less than 10 percent, Second part comprises of those firms having levels of managerial ownership ranging between (10-25) percent, finally the last division of sample includes firms with relatively high managerial ownership i.e. above 25 percent following Zhou and Hu (2007), Abdullah, *et al*. (2009) and Pant and Pattanayak (2007). Then the study runs separate regressions on each group to empirically evaluate the relationship.

First of all, the sample with lower level of managerial ownership (less than 10 percent) is regressed by using common effect, fixed effect and random effect models. The results are presented in the Table 3 for three performance measures below:

The results show that low level (<10 percent) of managerial ownership affects accounting measures of performance; ROA and ROE positively but fixed effect estimates does not show any significant association. Findings about Tobin's Q does not support the hypothesis of positive relationship, however it is consistent with the results of Khan (2007). Moreover empirical literature also provides evidences in support of both negative and positive association of Tobin's Q with managerial ownership.

The leverage show that it does not have any impact on ROA but increases return on equity which may be due to the decrease in conflict of interests between shareholders and managers. Dividend payment has positive and negative impact on accounting and market measures of performance respectively.

Table 3

Impact of Low Level of Inside Ownership (MSO<10) with Firm Performance

EXP VAR	ROA	ROE	Tobin Q
C	0.602***	1.190***	0.44***
	(6.94)	(8.07)	(2.65)
MSO<10	0.510	0.893	-0.53
	(1.03)	(0.72)	(-0.38)
LEV	-0.042	0.237**	0.59***
	(-0.68)	(2.25)	(4.89)
DIV	0.018**	0.008	-0.05***
	(2.22)	(0.58)	(-3.07)
NI	0.092***	0.150***	-0.01
	(11.99)	(11.52)	(-1.25)
G	-0.01	-0.01	-0.05
	(-0.04)	(-0.02)	(-0.10)
SIZE	-0.131***	-0.225***	0.03*
	(-10.42)	(-10.53)	(1.48)
R^2	0.35	0.35	0.36
F-)p value)	0.00	0.00	0.00

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively.
The t- Statistics in parenthesis and based on the standard errors adjusted for heteroscedasticity
using White's (1980) heteroscedasticity-consistent covariance matrix.

Secondly, the sample (10-25 percent) of managerial ownership is regressed by using common effect, fixed effect and random effect models. The results are presented in the tables below:

Table 4

Impact of Moderate Level of Inside Ownership (MSO 10-25) with Performance

Explanatory Variables	ROA	ROE	Tobin Q
C	0.50***	0.74***	0.31**
	(6.52)	(2.77)	(1.85)
MSO(10-25)%	0.18***	0.28*	0.04*
	(2.70)	(1.79)	(1.82)
LEV	-0.04***	-0.05	1.05***
	(-3.00)	(-1.10)	(33.06)
DIV	0.02	0.05	-0.03
	(0.65)	(0.21)	(-0.20)
NI	0.05***	0.10***	-0.01
	(7.87)	(4.78)	(-1.20)
G	0.02	0.10*	0.15***
	(0.98)	(1.42)	(3.26)
SIZE	-0.07***	-0.11***	0.02*
	(-8.55)	(-3.88)	(1.39)
R^2	0.33	0.32	0.34
F-(p value)	0.00	0.00	0.00

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively.
The t-Statistics in parenthesis and based on the standard errors adjusted for heteroscedasticity
using White's (1980) heteroscedasticity-consistent covariance matrix.

Table 4 shows that moderate level of managerial ownership depicts positive and significant impact on both ROA and ROE and Tobin's Q. This result strongly supports the hypothesis that moderate level of ownership which ranges from manager's holdings of 10-25 percent of firm's shares, has a positive impact on firm performance regardless of whichever measure is used to represent performance. These results are in line of those reported by Din and Javid (2011).

Thirdly, the sample (above 25 percent) of managerial ownership is regressed by using common effect, fixed effect and random effect models. The results of fixed effect model are reported in Table 5 as Hausman suggests that fixed effect model better fits the data.

Table 5

Impact of High Level of Inside Ownership (MSO >25) with Performance

Explanatory Variables	ROA	ROE	Tobin's Q
C	–0.03	–0.01	0.98***
	(–0.92)	(–0.21)	(13.88)
MSO>25%	–0.01	–0.02	–0.01
	(–0.47)	(–0.31)	(–0.16)
LEV	–0.12***	–0.09	0.65***
	(–2.15)	(–0.95)	(7.95)
DIV	0.01	0.01	0.012
	(0.60)	(0.64)	(0.98)
NI	0.04***	0.10***	–0.011
	(9.19)	(8.33)	(–0.90)
G	0.015	0.01	0.01
	(0.63)	(0.53)	(0.97)
SIZE	–0.01***	–0.03***	–0.05
	(–2.60)	(–3.55)	(–6.76)
R^2	0.31	0.31	0.33
F-(p value)	0.00	0.00	0.oo

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively. The t-Statistics in parenthesis and based on the standard errors adjusted for heteroscedasticity using White's (1980) heteroscedasticity-consistent covariance matrix.

When firm performance is regressed on high level of managerial ownership (>25 percent), negative effect on ROA, ROE and Q, hints to the predictions of entrenchment hypothesis. Entrenchment theory is of the view that when the stake of share ownership increases with managers of the firm they turn out to be self-centred. They start using firm's resources for their personal benefits hence sacrificing the best interests of the firm. All this leads to the weakening of firm performance. Negative sign shows that in case of Pakistan

where most of the chief firms are family owned and family members effectively control the firms acting as managers, increase in level of managerial ownership increases above the threshold of 25 percent destroys firm value. However as the coefficient is insignificant the study does not find any conclusive evidence upon existence of entrenchment effect for the level of ownership above 25 percent. Also the estimated signs of ROE do not support any hypothesis regarding relationship between firm performance and managerial ownership.

5.3.3. *Evidence of Non-Linear Relationship between Managerial Ownership and Firm Performance*

To provide empirical evidence on non-linear relationship between managerial ownership and firm performance, firm performance variables are regressed on linear, squared and cubic terms of MSO and the results are presented below.

Table 6

Impact of Non-linearity of Insider Ownership of Firm Performance

Explanatory Variables	Dependent Variable: ROA	Dependent Variable: ROE	Dependent Variable: Q
C	0.337***	1.585	–0.245***
	(4.86)	(1.79)	(–3.76)
MSO	0.031**	0.055*	0.011
	(1.82)	(1.87)	(0.36)
MSO^2	–0.01**	–0.001*	–0.007
	(–1.97)	(–1.41)	(–0.81)
MSO^3	0.014***	0.013*	0.016
	(2.25)	(1.82)	(0.94)
SIZE	–0.078***	–0.152***	0.017*
	(–7.17)	(–3.83)	(1.85)
DIV	0.038***	0.644***	–0.04
	(5.19)	(3.77)	(–1.28)
LEV	–0.010*	0.095***	0.155***
	(–1.58)	(5.93)	(26.11)
G	0.025	0.141	0.036
	(1.23)	(0.07)	(1.28)
NI	0.058***	0.020	–0.007
	(5.19)	(0.07)	(–1.30)
R^2	0.36	0.35	0.36
F (p value)	**0.00**	**0.00**	**0.00**

Notes: Significant at 1 percent, 5 percent and 10 percent are denoted by ***, ** and * respectively. The t-Statistics in parenthesis and based on the standard errors adjusted for heteroscedasticity using White's (1980) heteroscedasticity-consistent covariance matrix.

The coefficient of managerial ownership and cubic managerial ownership turned out to be positive, whereas that of squared managerial ownership is observed to be negative. These are all significant for ROA and ROE but again in significant for Tobin's Q. Consequently one can state that initially firm performance increases with the increase in the level of managerial ownership, and then there comes a point above which it decreases as when managers obtain a significant control of the firms they get entrenched. Again when their stake of ownership goes much higher they start behaving in value maximising way as by now they will have to bear considerable loss resulting from non-optimal actions because their share will be huge in case of any possible loss or gain. This result supports Ellili (2010), Fatma and Chichti (2011) and Li and Cui (2003), which also reported non-linear relationship between the two variables.

5.4. Managerial-Ownership and Agency Cost

Asset utilisation ratio is used as proxy for agency cost, which itself is inversely related to agency cost. Asset utilisation ratio is regressed on test variables of dividend and leverage and other control variables and results are discussed below.

The overall managerial ownership has positive and significant impact on agency cost as the result reported in column one of Table 7. This suggests that increase in managerial ownership contributes in decreasing agency cost as it has positive association with asset utilisation ratio. This finding strongly supports the hypothesised relationship between agency cost and managerial ownership, suggesting that increase in level of managerial ownership results in better utilisation of firm's assets which is transformed into decreased agency cost, supporting the findings of Taleb (2012) and Michael (1983).

The positive and significant coefficient of dividend turns out to be consistent with our hypothesis of inverse relation between dividend payment and agency cost. Furthermore it is in line with the agency-theory predictions. It strongly implies that dividend payments effectively play its role in reduction of agency cost as the conflict of interest between shareholders and managers decreases with the increase in dividend payment it leads to improve the utilisation of resources which in turn lessens agency costs. This study's findings are same as the results depicted by Pindado and Torre (2005) and Mahadwartha (2003).

The positive effect of leverage on asset utilisation ratio also confirms the hypothesis of negative relation between debt level and agency cost, but unfortunately it turned to be insignificant. This implies that debt policy does not play its role effectively, in the minimisation of agency costs. These results are in contrast of the conclusions of Mahadwartha (2003) and Jensen and Meckling (1976). So this analysis does not get any conclusive evidence in support of the view that leverage decreases agency costs, for the case of Pakistan.

The negative and significant coefficient of size shows that increase in size leads to suboptimal utilisation of resources. This in turn contributes to increase agency cost which is consistent with the findings of Javid and Din (2011). Moreover, growth and net income proved to have positive and significant association with asset utilisation ratio. So it is reasonable enough to state that firm's growth and increase in cash flows results in increasing the utilisation of its assets and in turn decreasing the cost of conflict between its managers and shareholders.

5.4.2. *Impact of Different Levels of Managerial Ownership and Agency Cost*

To analyse the impact of different levels of managerial ownership on agency cost, asset utilisation is separately regressed on managerial ownership and other variables in each group. Findings of the sample for MSO ranging (0-10 percent), (10-25) percent and >25 percent are presented in column 2, 3 and 4 respectively.

The positive and significant coefficient associated with managerial ownership in the regression results of sample having firms with ownership level in the range of (0-10) percent; suggest that increase in managerial ownership contributes in decreasing agency cost as it has positive association with asset utilisation ratio. This finding strongly supports the hypothesised relationship between agency cost and managerial ownership, suggesting that low level of managerial ownership results in better utilisation of firm's assets which is transformed into decreased agency cost. Supporting the findings of Crutchley and Hansen (1988), Taleb (2012) and Michael (1983).

The negative and insignificant coefficient of leverage is in contrast of our hypothesis, stating that increase in the debt component results in decrease of agency cost of equity. This may be result of overdependence of Pakistani firms on debt. As debt introduces agency cost of debt, it is neutralising the positive gains from decreased cost of equity in Pakistani non-financial firms. The results are consistent with the empirical findings Khan (2007) and Ahmed (2009). Therefore, the estimated coefficient is well justified for the case of Pakistan where over leveraged firm structures results in lessening the benefits of decreased agency cost of equity due to inclusion of agency cost of debt. Dividend enters the equation proving it to be negatively associated with agency costs, supporting the hypothesis of negative relation between dividend payment and agency cost. Announcement of dividends increases the confidence of shareholders in firm's cash flows and policies of management; this implies that increase in the payment of dividends reduces agency cost. Results are supportive enough to state that if used wisely dividend policy can seriously play its role in the minimisation of agency cost in KSE listed firms. Similar are the results of Crutchley and Hansen (1988) and Michael (1983) regarding the dividend policy.

Table 7

Impact of Managerial Ownership on Agency Cost

	MSO	MSO<10	MSO (10-25)	MSO>+25
C	4.39***	4.20***	4.39***	3.01***
	(7.16)	(8.11)	(7.16)	(10.29)
MSO	0.024*			
	(1.86)			
MSO<10		0.35*		
		(1.58)		
MSO (10-25)			0.07*	
			(1.63)	
MSO>25				-0.45
				(-1.47)
LEV	0.072	-0.34	0.27***	-1.06***
	(0.712)	(-0.92)	(2.39)	(-3.12)
DIV	0.109***	0.14***	0.01	0.05
	(4.055)	(2.82)	(0.21)	(1.23)
NI	0.123***	0.009	0.06	0.16***
	(4.610)	(0.19)	(1.17)	(3.80)
G	0.010***	0.58***	0.45***	0.25***
	(5.208)	(3.71)	(2.63)	(3.13)
SIZE	-0.46***	-0.46***	-0.35***	-0.27***
	(-11.989)	(-6.23)	(-5.14)	(-7.82)
R^2	0.44	0.47	0.43	0.49
F (p value)	0.00	0.00	0.00	0.00

Another positive and significant effect is that of growth on agency costs, showing that sales growth of firms decrease the cost of conflicts existing between its managers and shareholders. This result is consistent with the theory and this also confirmed by Fama and Jensen (1983). Finally, size depicts itself to have increasing influence on agency costs, which is due to the possible underutilisation of increased total assets. This is in line with the findings of Javid and Din (2011) and Mahadwatha (2002).

When the level of managerial ownership varies within the range of (10-25) percent, agency cost is significantly reduced. As the coefficient of managerial ownership is significant and positive it shows reduction in agency cost. So it is reasonable enough to conclude that moderate level of managerial ownership also results in the reduction of agency conflicts between management and stock holders.

However the variables of dividend and leverage have started behaving oppositely in this range. Role of dividend payment is reduced in lessening of agency cost (as it is found significant only in the common effect model), which

may be due to the reason that when level of managerial ownership increases it decreases the efficiency of dividend policy as tool for an efficient control of agency-cost.

Finally, the results for sample division of MSO (above 25 percent) are given in the column four of Table 7. Finally, the negative and significant coefficient of managerial ownership reflects the fact that above the threshold level of 25 percent, managerial ownership leads to significantly increase the agency cost which is in line with the theory and empirical literature. Findings of Meckling (2000) also come up with the similar results. Leverage also contributes to increase agency costs in this range. Size as usual contributes to the increments in agency cost.

6. CONCLUSION AND IMPLICATIONS

This study analyses the relationship between managerial ownership firm performance, financial policies and agency cost. A sample of 140 non-financial firms is taken for the period of 2003 to 2011. Firstly it is recognised that financial policies of firms are affected by the level of managerial ownership. The results prove that high level of managerial ownership decreases the tendency of firms to go for debt financing. Similarly in firms having high financial leverage probability to engage in managerial ownership programs decreases. In Pakistan's case managerial ownership decreases the efficiency of dividend policy variable as a tool to minimise agency costs. These results support the predictions of agency theory which is of the view that managerial ownership results in the decrease in asymmetric information.

The study fails to observe some significant association between firm performance (ROA, ROE and Tobin's Q) and overall managerial ownership suggesting that the impact of managerial ownership on firm performance is quite weak. This is due to the fact that in Pakistani corporate sector major firms are family owned and members of the owner family acts as managers, they are unable to play any significant role in improvement of firm performance as they are not always suitable to accomplish the responsibilities of effective management. Moreover, most of the managers in family owned business are usually not qualified enough or trained to take better decisions regarding firm performance. However, these director and family mangers have great influence on corporate decision making than the others. When segregated into different levels, a low level (0-10) percent, a moderate level (10-25) percent and a high level of ownership above 25 percent, it is evident that in Pakistani listed firms, managerial ownership exerts significant and positive influence on firm performance only up to a moderate level. There exists non-linear relationship between managerial owners and firm performance indicating that initial increments in managerial ownership have increasing influence on firm performance but when they acquire a significant control of the firm they get

entrenched and start pursuing their own motives. Again when managerial ownership reaches extremely high levels then they start behaving in a value maximising way and would not undertake risky and non-profitable decisions as their share will be huge in case of any possible loss or gain.

Furthermore, there exists negative association of managerial ownership and agency cost. The study finds conclusive evidence to state that level of managerial ownership contributes to lessen the conflict of interest between management and stock holders. Also dividend policy is found to have a crucial role in reduction of agency cost in context of Pakistani non-financial listed firms.

The study implies that financial policies of KSE-listed firms are affected by managerial ownership. Therefore, the decisions about managerial ownership programs should be taken carefully. The moderate level of managerial ownership can play positive role in increasing the firm performance. Agency cost can be controlled by an effective use of dividend and leverage policy as the findings show significant association between these variables.

APPENDICES

Table A1

Descriptive Statistics

	AUR	DIV	G	LEV	MSO	NI	ROA	ROE	SIZE
Mean	1.353046	4.93757	0.26556	4.950099	22.54343	5.423756	7.353255	-0.06798	8.016465
Median	1.000422	4.783676	0.115453	5.005288	12.94	5.509907	6	0.174798	8.144187
Maximum	67.26453	10.61788	1	12.49457	98.24	11.08867	205.2	24.55068	15.09407
Minimum	0	1.20397	-203.703	0.87546	0	-2.30258	-407.59	-324.635	-3.24419
Std. Dev.	2.963118	2.053982	7.270218	1.114158	2.559007	2.180548	2.357328	9.678582	1.969057
Observations	1226	669	1260	1136	1034	930	1229	1167	1226

Null Hypothesis: There is Unit Root

Variables	LLC Test Stat	P – Value	Decision
MSO	-3.80247	0.0001	Stationary
DIV	-45.5961	0.0001	Stationary
LEV	-31.8554	0.0000	Stationary
SIZE	-1.0E+16	0.0000	Stationary
NI	-3.66091	0.0001	Stationary
G	-24.2175	0.0000	Stationary
ROA	-13.2611	0.0000	Stationary
ROE	-3.5E+14	0.0000	Stationary
Q	-1.5E+15	0.0000	Stationary
AUR	-112.890	0.0000	Stationary

Notes: LLC denotes the Levin, Lin and Chu panel unit root test. Managerial Ownership, Dividend, Leverage, Size, Net Income, Growth, Return on Assets, Return on Equity, Tobin's Q and Asset Utilisation Ratio are denoted by MSO, DIV, LEV, SIZE, NI, G, ROA, ROE, Q and AUR respectively.

Table 4.1

List of Variables

Variables	Description	Source
Managerial Share Ownership	Number of shares held by the company's top five executives divided by the number of common shares outstanding	Financial Reports of the Companies
Financial Policies		
Leverage	Debt /Equity	Balance Sheet Analysis
Dividend	Dividend paid per share	Balance Sheet Analysis
Firm Performance		
Return on Asset	Net profit before tax / total assets	Balance Sheet Analysis
Return on Equity Capital	PBIT / the total outstanding paid up equity capital of the firm	Balance Sheet Analysis
Tobin's Q	(Total Borrowings + Market Value Equity) / Total assets	Balance Sheet Analysis
Agency Cost		
Assets Utilisation Ratio	The ratio of annual sales to total assets	Balance Sheet Analysis
Control Variables		
Growth	Book to market value of equity	Balance Sheet Analysis
Net Income	Net income over net sales	Balance Sheet Analysis

Appendix A3

Correlation Matrix

Variables	AUR	DIV	EXPR	G	LEV	SIZE	MSO	NI	Q	ROE
AUR	1	0.090	–0.016	0.025	0.007	0.068	–0.051	0.142	–0.022	0.016
DIV	0.090	1	–0.035	0.010	–0.059	0.200	–0.078	0.193	–0.009	0.018
EXPR	–0.016	–0.035	1	–0.108	0.186	0.002	0.090	–0.22	–0.074	–0.01
G	0.025	0.01	–0.108	1	0.042	0.035	–0.053	0.089	0.002	–0.0001
LEV	0.007	–0.059	0.186	0.042	1	–0.016	0.133	–0.263	0.283	–0.232
SIZE	0.068	0.200	0.002	0.035	–0.016	1	0.063	0.086	–0.053	0.043
MSO	–0.051	–0.078	0.09	–0.053	0.133	0.063	1	–0.177	0.021	0.018
NI	0.142	0.193	–0.22	0.089	–0.263	0.086	–0.177	1	–0.178	0.172
Q	–0.022	–0.009	–0.074	0.002	0.283	–0.053	0.021	–0.178	1	0.0003
ROE	0.016	0.018	–0.01	–0.0001	–0.232	0.043	0.018	0.172	0.0003	1

Appendix A4

Panel Unit Root Test

Null Hypothesis: There is Unit Root

Variables	LLC Test Stat	P – Value	Decision
MSO	–3.80247	0.0001	Stationary
DIV	–45.5961	0.0001	Stationary
LEV	–31.8554	0.0000	Stationary
SIZE	–1.0E+16	0.0000	Stationary
NI	–3.66091	0.0001	Stationary
G	–24.2175	0.0000	Stationary
ROA	–13.2611	0.0000	Stationary
ROE	–3.5E+14	0.0000	Stationary
Q	–1.5E+15	0.0000	Stationary
AUR	–112.890	0.0000	Stationary

Notes: LLC denotes the Levin, Lin and Chu panel unit root test. Managerial Ownership, Dividend, Leverage, Size, Net Income, Growth, Return on Assets, Return on Equity, Tobin's Q and Asset Utilisation Ratio are denoted by MSO, DIV, LEV, SIZE, NI, G, ROA, ROE, Q and AUR respectively.

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