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Impact of Firm Capital Structure Decisions on Debt Agency Problem: Evidence for Pakistan

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ABSTRACT

Agency problem is highly discussed topic in financial literature, but mostly focused on one aspect of agency cost and agency problem of debt is still debatable. Present study determines mechanisms to protect the interests of debtholders in Pakistani firms. By analyzing top 100 capitalized Pakistani manufacturing firms and by applying fixed effect and random effect techniques of generalized least square regression, study aims to check the effectiveness of capital structure decisions of firm on agency cost of debt. Study also incorporates the effect of managerial ownership and ownership concentration on the debt agency cost while keeping the impact of dividend policy constant. Moreover study finds whether monitoring of banks is effective in agency cost of debt. Study suggests that managerial ownership, concentrated ownership and Increased level of debt in firm reduces the agency cost of debt.

KEYWORDS: Capital Structure, Ownership Structure, Managerial Ownership, Ownership Concentration, Debt Ratio, Bank Debt, Debt Agency Problem

INTRODUCTION

Jensen and Meckling (1976) identified agency conflict between debtholders and shareholders which is recognized as agency problem of debt. They narrated that creditors will not be willing to approach the debt level of the firm near 100%. Although capital structure theory suggest that higher debt level is optimum but critics of this concept have identified that large debt level may create risk shifting or asset substitution problem which constitute agency cost of debt. For example at higher level of debt in the capital structure, managers on behalf of shareholders may invest in highly risky project in the expectation of higher return. If the project is successful, benefit will be received by shareholders in the form of extra return. But if project is not successful, then cost will be bear by debtholders. So risk is shifting from shareholders to debtholders. This is called the agency problem of debt i.e. conflict of interest between debtholders and shareholders. Agency cost of debt is related with the monitoring of debtholders. If debtholders are able to strongly monitor manager's actions, then it should have lower agency cost of debt. Fix assets of the firm are always easy to monitor. While liquid assets and those assets which are not tied in fix plant and equipment are difficult to monitor by debtholders. So these unmonitored assets may be invested in wrong projects. Managers may use such assets to expropriate wealth form debtholders.

Although there are various studies that have investigated the effectiveness of capital structure (Utami et. al. 2011, Byrd 2010, Mcknight and Weir 2009, Florackis 2008, Jong and Dijk 2007, Fleming 2005, Wu 2004, Ferreira 2004, Mao 2003, Vilasuso and Minkler 2001), but very few have studies the distinctive effect of bank debt, present study does. Present study is testing the impact of capital structure and leverage policy on the agency cost of debt. Our analysis also includes the controlling effect of ownership structure on agency cost by incorporating the proportion of equity ownership by managers and managerial concentration. This is still controversial issue whether ownership of directors reduce or exacerbate agency problem. There are two opinions about this. One says that when directors own stake, they try to reduce agency cost of debt for their better reputation. Other opinion supports convergence of interest hypothesis presented by Jensen (1986), illustrating that when managers are also owners of the company, then owner mangers interest are converged and managers do in the best interest of shareholders in such situation. Our study is testing these two controversial hypotheses in case of Pakistan. Our analysis also includes the effect of ownership concentration on cost of debt financing.

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There is no work available on agency cost in Pakistani literature. So this study is pioneer in such concept. The rest of the paper is structured as follows: Second section contains review of selected literature regarding variables of study. Third section is the methodology adopted to do this research. Section four presents results and discussion on results and section five is comprise of conclusion of the study.

LITERATURE REVIEW

Literature has discovered various controlling mechanisms to reduce agency cost. Till now, control through decisions regarding capital structure and ownership structure is considered more influential. It is because debt disciplines the managers to not to act in against of debtholders. Financial institutions grant debt only when monitoring of firm is possible by them and when they are satisfied with management's vision and actions. Moreover this analysis is has tested the effectives of bank debt.

Agency Cost, Managerial Ownership and Concentrated Ownership

Agency problems experienced by owner-managed firms. They argued that insider ownership frees firm from market control, so creates agency hazardous. Lasfer (2002) recommend that the monitoring role of block holders and bondholders is not effective. He concludes that only low growth firms can be benefitted by managerial ownership and board structure in controlling the agency problem. Fan and Wong (2002) described that concentrated ownership create agency conflicts between controlling owners and outside investors. Jung and Kwon (2002) conducted study on Korean companies and found that Blockholders have incentives to actively monitor management. But blockholders are not expert in monitoring in case of Korea, they fail to establish strategically alliance with management.

Doukas and Pantzalis (2003) defined agency cost of debt as conflict between shareholders and bondholders. They found that multinational corporations (MNCs) are vulnerable to higher agency costs of debt as compared to domestic corporations because geographic diversity results in active monitoring more difficult and expensive in comparison to domestic firms. Singh and Davidson (2003) found weak evidence that higher managerial ownership reduces agency costs. Doukas and Pantzalis (2003) defined ACD as conflict between shareholders and bondholders. Anderson and Reeb (2003) that family firms may experience lower agency costs due to their concentrated equity ownership. Schulze (2003) argued that blockholding reduces the risk of free riding of insiders on outsiders' equity, thus reducing the risk of information asymmetry. Kusnadi (2003) found two main determinants of corporate cash holdings: board size and non-management blockholders ownership. They found that small non-management blockholder ownership face severe agency problem and poor corporate governance.

Byrd (2010) finds no evidence, that managerial stock ownership or board independence mitigating agency conflicts. Mustapha and Ahmad (2011) found that the greater the managerial ownership in an organization, the lower is its total monitoring costs. This study also supported the notion that managerial ownership results in convergence of interest between owners and managers. This means that an increase in the proportion of ownership of insiders is expected to result in increased firm value as the interest of inside and external shareholders are converged. Therefore there will be less asymmetry of information.

Ehsan (2012) found that in Pakistan, firm's insiders not only possess strong control over the funds but also attempts to use them for their personal benefits. This is because Pakistan is among those emerging economies where minority rights are not well protected under any corporate law authority and due to these reason insiders with more concentration of shareholdings in companies have the capacity to misuse their rights for their personal benefits.

Agency Cost & Bank Debt

Florackis (2008) checks if the source of debt financing matters in mitigating agency problems. He reported that bank debt is effective monitoring device to lessen the agency cost in UK firms. Managerial ownership, ownership concentration and, to some extent, bank debt can also work as potential corporate governance mechanisms or devices for UK firms. According to him, announcement of a bank credit agreement, for example, conveys positive signals about a borrower's worthiness and, therefore, decreases the asymmetric information between borrowers and investors. Moreover, it is argued that bank debt has an advantage in comparison to publicly traded debt in monitoring a firm's activities and in collecting and processing information.

Ferreira (2004) found that cash holdings are positively affected by the leverage. Significant negative relationship between bank debt and cash holdings is found. Bank debt and cash holdings are negatively related, which supports that a close relationship with banks allows the firm to hold less cash for precautionary reasons. Ang et. al. (2000) also found that agency cost decrease when firm is subjected to greater monitoring of banks. They argued that banks generally require a firm's managers to report results honestly and to run the business efficiently with profit, bank monitoring complements shareholder monitoring of managers, indirectly reducing owner-manager agency costs. That is, by incurring monitoring costs to safeguard their loans, banks lead firms to operate more

efficiently by better utilizing assets and moderating perquisite consumption in order to improve the firm's reported financial performance to the bank. Thus, lower priority claimants, such as outside shareholders, should realize a positive externality from bank monitoring, in the form of lower agency costs. Additionally, local bankers' ability to acquire knowledge concerning the firms from interactions with the firm's customers and suppliers makes them especially good monitors.

Fleming et. al. (2005) tested the assumption that separation of ownership and control creates equity agency costs on sample of selected Australian SMEs. Investigation of the relationship between the debt-to-asset ratio, proxying for bank's incentive to monitor, and equity agency costs failed to generate any clear results. Jensen (1985) stated that organizations will have to go regularly to the financial markets to obtain capital. At these times the markets have an opportunity to evaluate the company, its management, and its proposed projects. Investment bankers and analysts play an important role in this monitoring, and the market's assessment is made evident by the price investors pay for the financial claims.

Agency Cost and Capital Structure

Utami et al (2011) reported that firms use debt and dividend policy to reduce free cash flow problem. McKnight and Weir (2009) found that firms with more debt tend to have lower agency costs. Results of Byrd (2010) revealed that large debt reduces the agency problem. Analysis is supportive of Jensen's theory that debt financing, with its mandatory payout of cash, is associated with lower agency costs.

De Jong and Van Dijk (2007) studied four types of agency problems, i.e. direct wealth transfer, asset substitution, underinvestment and overinvestment. they did not find any relationship between agency problems and leverage. Lingling Wu (2004) discovered that amount of free cash flow increases with increased level of debt in case of low growth firms. Mao (2003) found some contrary results. He defined agency cost of debt as "*the difference between the net present value of an all-equity firm and that of a leveraged firm*."In his research, he addressed two agency costs of debt problems: risk-shifting and underinvestment He studied the marginal volatility investment, optimal debt level and underinvestment problem along with the agency cost of debt. He found that that agency cost of debt does not increase with increase in leverage. It is because if the volatility of project cash flows increases with investment scale, risk-shifting by equity holders will mitigate the under-investment problem. Vilasuso and Minkler (2001) also found that optimal capital structure reduces the agency cost. The main finding is that although equity finance reduces transaction costs when assets are highly specific, equity finance also offers bondholders greater protection from excessive risk taking which reduces the agency costs of debt. As a result, the optimal capital structure of the firm uses both debt and equity finance to minimize the sum of agency cost and asset specificity considerations. Ang and Cox (1997) reported that debt has not consistent efficiency in controlling the agency cost of insider trading. Jensen (1986) declared debt as the remedy of agency problem. To save the cash from inefficient use of managers, part of the cash flow is given directly to bondholders and is thus taken out of the company.

Thus majority of researchers have determined that debt disciplines the managers in taking care of the interest of shareholders as well as debtholders. So present study also hypothesizes that use of debt reduces the agency cost for debtholders.

METHODOLOGY

Sample and Data Source:

Sample Selection:

Sample of this study is top 100 highly capitalized Pakistani manufacturing firms. We selected sample of companies from Karachi Stock Exchange (KSE). Data is collected from 2006 to 2010. Moreover we followed following guidelines while selecting the sample:

1. Firms must remain in business for the whole study period.
2. Should remain enlisted during the entire study period.
3. Should not have merged, due to any reason.
4. Data, including ownership structure, of entire period must be available.
5. For payout policy we will include only those firms which pay dividend at least once in five years.

Data Collection:

Data for this study have been collected from Karachi Stock Exchange, Economic Survey of Pakistan, Published financial statements of companies, Annual reports and bulletin of State Bank of Pakistan.

Variables:

The consumption of resources on manager's perquisites and shareholders welfare on the debtholders expense can be measured by different proxies. Present study used two proxies of agency costs. One is proportion of firm assets not invested in fixed plant and equipment and other is liquidity of firm assets. Researchers have used these and also other proxies of agency cost of debt. For example Manso (2008) took the ACD as the difference between the total value of the all-equity and levered firms. Doukas and Pantzalis (2003) used three definitions of ACD i.e. Market-to-book ratio, Ratio o Total Assets to Gross Fixed Assets and proportional measure of free cash flow. Kayakachoian (2000) and Prowse (1990) also used three measures for agency cost of debt. One is R&D intensity. Second is the proportion of firm assets not tied in fixed plant and equipment Third is the liquidity of firm assets measured as ratio of cash and marketable securities to total assets. It shows the ease with which the firm's assets can be manipulated by shareholders at the expense of debtholders. So greater the liquidity of firm assets, greater the debt agency cost.

Following all these researchers, present study is adopting following two proxies of agency cost of debt.

Proxy 1: Proportion of firm assets not invested in fixed plant and equipments.

It measures the firm's non-collateralized assets. Equity holders find it easier to engage into wealth-transferring actions at the expense of bondholders' wealth when the noncollateralized assets of the firm are of large proportions. Whereas shareholders are less likely to be motivated by wealth transfer incentives at the expense of bondholders when more of the firm's total assets are fixed. If a firm has higher proportion of fixed assets, then it is more difficult for the agents to engage in activities that harm debtholders. It is because if firm has higher proportion of fixed assets, it shows that firm has invested all its free cash flows in fixed assets to main that proportion. On the contrary, if a firm has higher proportion of firm assets not invested in fixed plant and equipment, it indicates the agency cost of debt.

Proxy 2: Liquidity of firm assets.

Liquidity indicates the ease with which wealth can be manipulated at the bondholders' expense. For example managers may put out cash dividends to shareholders, potentially expropriating wealth from debtholders. If the assets are more liquid, then managers can expropriate wealth from debtholders for the equityholders more easily. Higher the liquidity of firm assets, the greater the opportunity for managers to engage in activities that harm debtholders. So higher the liquidity of firm assets, higher the probability of agency cost of debt.

Independent Variables:

Among the independent variables, two are regarding ownership structure, four are regarding capital structure and 4 are control variables. Definition of each variable is given in table 1.

Regression Models:

$ACDI_{it} = \beta_0 + \beta_1 (MNG) + \beta_2 (CONCENT) + \beta_3 (BANK) + \beta_4 (DR) + \beta_5 (SHORTDEBT) + \beta_6 (TOTALDEBT) + \beta_7 (DP) + \beta_8 (PROF) + \beta_9 (SIZE) + \beta_{10} (Q) + \beta_{11} (YRDUM) + \varepsilon_{it}$

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Table 2 shows the descriptive statistics of all variables data. First independent variable is managerial ownership. Our sample has average of 0.9% insider's ownership with standard deviation of 3.37%. Pakistani firms have average of 0.9% managerial ownership in them. Managerial ownership in Pakistani firms is 0% in its lower case and 32.54% at its extreme case. These statistics depict that Pakistani firms have less trend of managerial ownership. Although ownership of Board of directors is quite prominent in pattern of shareholding in Pakistani firms, but the directors who own majority of shares are more often family members, so their ownership falls in the category of family ownership in our study. Maximum proportion of ownership concentration in Pakistani firms is 98.47% Average percentage of ownership concentration in Pakistani firms is 56.5%.

Mean of bank debt to total debt is 13.12%. This means out of total debt used by the Pakistani firms, debt from banks is 13.12%. Lowest proportion is 0 and highest is 86%. Average debt ratio of DR for our sample is 0.158 with standard deviation of 0. 164. Minimum and maximum values range from 0 to 0.741. Average dividend payout ratio comes out to be 0. 608. Its standard deviation value is 1.718. Its minimum value is minus 4.420. It is because, in Pakistan, some firms have negative earnings per share in last year's. The maximum value for this ratio is 22.75. Average of Ratio of short term debt to total debt is 71.39%. Mean of ratio of total debt to total equity is 52.75% and its minimum and maximum values are 3.1% and 108.2%.

Table 1: Variables and their Definitions

Variables	Symbol	Definition
Agency Cost of Debt (Proxy I)	ACDI	Proportion of firm assets not invested in fix plant and equipment, taken as 1 minus ratio of fix assets to total assets
Agency Cost of Debt (Proxy II)	ACDII	Liquidity of firm assets = Cash & marketable securities / Total Assets
Ownership Structure		
Managerial Ownership	MNG	The percentage of equity ownership held by directors and executives
Ownership Concentration	CONCENT	The sum of the stakes of firm's shareholders with equity ownership greater than 5 per cent
Capital Structure		
Bank Debt	BANK	The ratio of bank debt to total debt
Short Debt	SHDEBT	The ratio of short-term debt to total debt
Total Debt	TDEBT	The ratio of total debt to total assets
Debt Ratio	DR	The ratio of long term debt to total assets
Control Variables		
Dividend payout Ratio	DP	Ratio of dividend per share to earnings per share
Profitability	PROF	Ratio of Operating income to total assets
Size	SIZE	Natural logarithm of Total Assets
Growth opportunities	Q	$Tobins's\ Q\ (TQ) = \frac{\text{market value of equity} + \text{Book Value of debt}}{Book\ Value\ of\ Total\ Assets}$

Profitability is a measure of efficiency. The average for profitability is 0.101 with standard deviation of 0.174. Generalization of these statistics shows that Pakistani firms are about 10.18% profitable. Some firms have shown loss no doubt. That's why minimum value of profitability is minus -48.61% and maximum value is 202.24%. That means variations are very broad. Average size of Pakistani firms through our sample comes out to be 23.419. In our study, average Q ratio of our 275 observations is 0.974 with standard deviation of 0.1232954. As average Q ratio is less than one, so stock of Pakistani firms is undervalued and it has potential to have growth. On one side, it has minimum value of 0.3562 and on other side, it has maximum of 1.46 values.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ACD1	500	0.068	0.996	0.625	0.224
ACD2	500	0.000	0.845	0.153	0.171
MNG	500	0.000	0.325	0.009	0.034
CONCENT	500	0.000	0.985	0.566	0.291
BANK	500	0.000	0.860	0.132	0.175
DR	500	0.000	0.741	0.158	0.164
SHORTDEBT	500	0.142	1.000	0.714	0.243
TOTALDEBT	500	0.031	1.082	0.527	0.232
DP	500	-4.420	22.726	.608	1.718
PROF	500	-0.486	2.022	0.101	0.174
SIZE	500	19.215	26.156	23.489	1.269
Q	500	0.356	1.460	0.974	0.1232

Table 3 shows the correlation between different variables. This shows that there is significant positive correlation between our two dependent variables i.e. ACD1 and ACD2 which are proportion of firm assets not invested in fixed plant and equipment and liquidity of firm assets respectively. Correlation statistics is .430 at $p<0.01$ level. This means with 1% increase in proportion of firm assets not tied in fix plant and equipment raises the liquidity of firm assets by 43%. ACD1 is significant and positive correlated with SHORTDEBT (.522), PROF (.182) and Q (.235) at 0.01 levels. This means that agency cost of debt when measured as proportion of firm assets not invested in fixed plant and equipment increases with the increase in Short debt profitability and growth opportunities. ACD1 is significant negative correlated with BANK (-.126, $p<0.05$) and DR (-.550, $p<0.01$). This depicts that agency cost of debt when measured as proportion of firm assets not invested in fixed plant and equipment reduces with increase in bank debt and debt ratio. ACD2 is significant positively correlated with CONCENT (.181, $p<0.01$), SHORTDEBT (.354, $p<0.01$), and negatively correlated with BANK (-0.205, $p<0.01$) and DR (-0.356, $p<0.01$). This means that agency cost of debt measured by liquidity of firm assets increases with increase in ownership concentration and short debt and decreases with decrease in bank debt and debt ratio. MNG is negatively correlated with CONCENT (-0.205, $p<0.01$). Ownership concentration is significantly negative

correlated with Bank debt (-0.327, p<0.01), DR (-0.185, p<0.01) and positive with short debt (0.197, p<0.01). Bank debt is significant positive correlated with total debt (0.121, p<0.05). There is problem of multicollinearity between DR and SHORTDEBT as correlation statistics is more than 70% between them, DR is significant negative correlated with SHORTDEBT (-0.878, p<0.01) and significant positive with TOTALDEBT (0.465, p<0.01) and SIZE (0.320, p<0.01). SHORTDEBT is significant negative correlated with TOTALDEBT (0.140, p<0.05), PROF (-0.214, p<0.01) and SIZE (-0.324). TOTALDEBT is significant negative correlated with PROF (-0.337, p<0.01) and significant positive with SIZE (0.363, p<0.01) and Q (0.281, p<0.01). SIZE is significantly correlated only DP (-0.214, p<0.01) and PROF (0.121, p<0.05)

Table 2: Correlation Matrix

	ACD 1	ACD 2	MNG	CONCENT	BANK	DR	SHORT DEBT	TOTALDEBT	DP	PROF	SIZE	Q
ACD1	1	.430**	.007	.004	-.126*	-.550**	.522**	-.044	.066	.182**	-.073	.235**
ACD2		1	.032	.181**	-.205**	-.356**	.354**	-.060	.000	.112	.027	.097
MNG			1	-.205**	-.016	.101	-.082	.068	-.010	-.019	-.004	.030
CONCENT				1	-.327**	-.185**	.197**	.010	-.042	-.030	.025	.102
BANK					1	.034	.013	.121*	.000	-.008	.000	-.064
DR						1	-.878**	.465**	-.057	-.046	.320**	.076
SHORTDEBT							1	-.140*	.072	-.214**	-.324**	.074
TOTALDEBT								1	-.107	-.337**	.363**	.281**
DP									1	-.047	-.214**	.032
PROF										1	.121*	-.002
SIZE											1	.076
Q												1

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

Table 4 shows the regression results drawn by Generalized Least Square Regression. Model I is showing the relationship between ACDI with independent variables and Model II is showing relationship between ACDII and independent variables. GLS results are illustrating that managerial ownership (-0.285, p<0.01) is negatively related to agency cost of debt measured by proportion of firm assets not tied in fixed plant and equipment. When managerial ownership is significant in a firm, that firm tries to keep lower ratio of such assets which are not tied in fixed plant and equipment. Such firms make the monitoring of debtholders possible by this. So debtholders charge lower finance cost from them because such firms possess lower agency cost of debt. This also highlights that when mangers become owners of the firm, then they focus on long term performance of the firm. They become more concerned about their reputation which may destroy if firm become bankrupt due to not meeting of fixed financial obligations by them due to increased cost of financing. But this result is not supported when we measure agency cost of debt by liquidity of firm assets. MNG is positive related with ACDII (0.102) but this result is proved significant at any level confidence interval. Ownership concentration is found significant and negatively related (-0.121, p<0.018) with proportion of assets not tied in fixed plant and equipment. When ownership is concentrated, then owners are more concerned about cost of debt financing. So they keep lower proportion of those assets which cannot be monitored by debtholders to reduce debt cost. Such results are not verified form our model II. Concentrated ownership is positively related (0.055) with liquidity of firm assets but that relationship is also not significant at any level of confidence interval. Results seem sufficient to illustrate that agency cost of debt is impacted by ownership pattern.

Our analysis also includes the impact of capital structure on the agency cost of debt. First variable is the bank debt. Purpose of including bank debt is to check whether Pakistani banks do effective monitoring of managerial actions or not. Moreover is there any significance of debt from banks in mitigating agency cost of debt. We found that bank debt (-0.101) and proportion of firm assets not tied in fix plant and equipment are negatively related and relationship is significant at confidence level of 10%. This means that with the increase in 1% of bank debt, reduces the proportion of such assets which reduce agency problem by 10%. Same results are also confirmed by GLS of model II. Here bank debt (-0.018) proves to be significantly and negatively related with liquidity of firm assets and this relationship is significant at p<0.01. This means that 1% increase in debt from bank reduces the liquidity of firm assets by 1.8%. So GLS results of both models are strongly recommending that agency cost of debt reduces when firm takes debt from bank. In other words, Pakistani banks have strong monitoring ability in reducing agency cost. Banks obligations discipline the managers and don't let them to expropriate debtholders wealth.

Table 4: Results of Generalized Least Square Regression

Variables	Model I	Model II
	Dep. Var.: ACDI	Dep. Var.: ACDII
Const.	1.116* (0.003)	-0.305 (0.372)
Managerial Ownership	-0.285* (0.001)	0.102 (0.378)
Ownership Concentration	-0.121** (0.018)	0.055 (0.260)
Bank Debt	-0.101*** (0.065)	-0.018* (0.008)
Debt Ratio	-0.545* (0.002)	0.018 (0.925)
Short Term Debt	.0463 (0.680)	0.241** (0.048)
Total Debt	0.172 ** (0.014)	-0.025 (0.737)
Dividend	0.002 (0.489)	0.003 (0.537)
Profitability	0.139* (0.004)	0.089 (0.122)
Firm Size	-0.019 (0.214)	0.0142 (0.294)
Firm's Growth Opportunities	0.004 (0.394)	-0.003 (0.573)
Year Dummy	No	Yes
R^2	0.2623	0.2392
Panel Data Model	Fix Effect GLS Regression	Random Effect GLS Regress.
Hausman Test	45.10	20.98

*significant at p<0.01
**significant at p<0.05
***significant at p<0.10

Second variable regarding capital structure is debt ratio. This ratio tells the proportion of debt to equity in the firm. So it tells complete description of capital structure of firm. GLS results of model I are illustrating that debt ratio (-0.545, p<0.01) is negatively and significantly related with proportion of firm assets not tied in fixed plant and equipment. 1% increase in debt ratio of firm reduces the assets which cannot be monitored by debtholders by 54% in case of Pakistan. This result is result is quite obvious. Debt reduces such assets which are not invested in fixed assets. Assets that are not invested in fixed plant and equipment are difficult to monitor or are easy to convert to cash. Prowse (1990) states that it is relatively easy to monitor the selling of firm assets or their shift from one use to another. So higher the proportion of fixed assets for a firm, the more difficult it is for managers to engage in projects that harm debt holders. Higher the proportion of firm assets not invested in fixed plant and equipment; the easier it is for the managers to engage in activities that harm debtholders. This justifies the negative relationship of debt ratio with proportion of firm assets not invested in fixed plant and equipment. Payment of installments and interest reduces the amount of those liquid assets. So only fixed assets are remaining that can be easily monitored by debtholders. So increase in debt ratio reduces the agency cost of debt. GLS of model II give contradict result but this is not significant at any level.

Short term debt proves to be insignificant in predicting proportion of firm assets not tied in fixeded plant and equipment as GLS results of Model I is showing. But short term debt (0.241) is significantly (at p<0.05) related with liquidity of firm assets but relationship is positive. We were expecting negative relationship because payment of installments might reduce the liquid assets of firm. But results are contradicted. Firms get short term debt to increase the proportion of liquid assets and assets which are not tied in fixeded plant and equipment. This might be due to the reason that firm demand short term financing when they need cash to finance their net working capital. Short term financing is usually done for short needs. So it might not increase agency cost of debt.

Total debt (0.172, p<0.05) is also significant and positively related with proportion of assets not tied in fixed plant and equipment. This means that when firm gains more total debt, then its those assets which are difficult to monitor by debtholders also raise. So it increases agency cost of debt. Contradictory results are obtained through GLS regression results of model II. It is giving negative relationship between total debt (-0.025) and liquidity of firm assets but result is not significant.

Dividends are found to be positive but insignificant related with both proxies of agency cost of debt although we were anticipating strong negative relationship of them. Profitability is found positively related with agency cost of debt measured by proportion of firm assets not invested in fixed plant and equipment at 1% confidence interval. It is because increased profitability means increased cash flows. When firm is profitable, it attains huge amount of cash. That cash can be used to shareholders in the form of dividends to increase their wealth thus expropriating wealth from debtholders. Management may also invest that cash in risky projects. Thus profitability can produce the problem of risk shifting or assets substitution. But other is also present. Highly profitable firm may need to expand its fixed plant and equipment. Thus it may not be able to increase its proportion of firm assets not invested in fixed plant and equipment. Higher profitability shows that firm is operating efficiently. Efficient operation means

managing the cost effectively. A firm having higher profitability has higher accumulation of assets not tied in fixed plant and equipment. Profitability become insignificant related with agency cost of debt when agency cost of debt is measure by the proxy of liquidity of firm assets. Size and growth opportunities are also insignificant related with ACD1 and ACD2.

Conclusion

Agency cost of debt is the topic which is not found in Pakistani finance literature. We have investigated the impact of capital structure on the agency cost of debt in case of Pakistan while controlling the effect of ownership structure. We selected KSE 100 index as our sample and perform Generalized Least Square Regression (Fixed effect and Random Effect Technique) on it. We measured agency cost of debt by two proxies: proportion of firm assets not tied in fixed plant and equipment and liquidity of firm assets. Capital structure is studied by debt ratio, short term debt and long term debt while ownership structure is measured by managerial ownership and ownership concentration. Along with capital structure, we also investigated whether monitoring of Pakistani banks are effective or not in mitigating agency cost of debt.

We found that owners, who are also mangers of the firm, try to keep lower level of such assets which cannot be monitored by debtholders easily; by this they reduce the agency cost of debt. This means when mangers become owners, they are more concerned about their reputation, so they tried to keep debt cost lower. Ownership concentration also found negatively related with agency cost of debt. This study also confirms that Pakistani banks have effective monitoring power because firm which are more financed by debt from banks, have lower agency cost of debt. Capital structure is found effective for its impact on agency cost of debt. Study found that when there is more proportion of debt in capital structure, then firm has lower agency cost of debt. Bur with the increase in short term debt and total debt, cost of debt financing increases.

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