RELATIONSHIP BETWEEN DIVIDEND POLICY AND AGENCY COSTS: A CASE OF PAKISTANI MARKET

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بسم الله الرحمن الرحيم

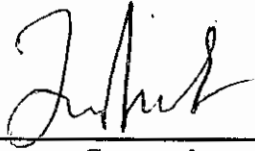In the name of Allah, the most merciful and beneficent

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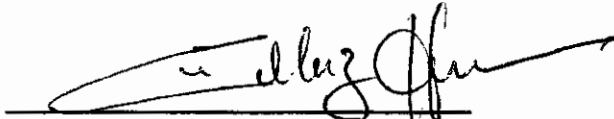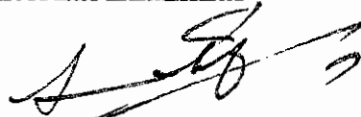
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Date:_____**2012**

DEDICATION

I dedicate this thesis to my parents, husband and my supervisor whose

support has enabled me

to complete this research study successfully.

ABSTRACT

Agency theory posits that the dividend mechanism provides an incentive for managers to reduce the costs associated with the principal/agent relationship. The focus of the research is on the agency cost justification of dividend policy. The focus of this research is to study the private sector firms in Pakistan in order to investigate that how these firms set their target payout ratios. And how dividend policy is affected by the transaction cost of external funding as dividends lowers agency cost by conveying information to the market, but raises transaction cost of external financing. Under the agency approaches of dividends proposed by Laporta *et al* (2000), the agency argument to distribute dividends in Pakistan seems to rely on the necessity to create a clientele for future equity issues. Some evidence has been found that supports agency argument in the determination of dividend payout, by applying Rozeff's (1982) model to a sample of Pakistani companies. The empirical evidence is weaker than in the original model that the optimum level of dividend payout is that which minimizes the agency cost structure relative to the cost of raising needed funds.

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The thesis entitled "Relationship Between Dividend Policy And Agency Costs: A Case Of Pakistani Market" submitted by <u>Ms Fareeha Hina</u> partial fulfillment of M.S degree in Management Sciences with specialization in Finance, has completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow her to submit this thesis for further process as per IIU rules & regulations.

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DECLARATION

I hereby declare that this thesis, neither as a whole nor as a part thereof, has been copied out from any source. It is further declared that I have prepared this thesis entirely on the basis of my personal effort made under the sincere guidance of my supervisor and colleagues. No portion of work, presented in this thesis has been submitted in support of any application for any degree or qualification of this or any other university or institute of learning.

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APPRECIATION AND GRATITUDE

No words of gratitude will ever be sufficient for the Allah Almighty who made me capable of learning, blessed me with the knowledge & intellect and facilitated me with the finest of the mentors all through my academic years.

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Ms. Fareeha Hina

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CHAPTER 1

INTRODUCTION

Dividend pay-out ratios vary among the organizations. Deviances across firms, countries and time, in empirical literature of dividend behavior are not astonishing. To explain this observed deviation a number of dividend theories have been developed. Dividends are considered as tools to control agency conflicts in the firm (Easterbrook 1984). The present study revolves around this theory particularly with relevance to Pakistani firms.

Authors have produced extensive and sometimes conflicting research, with several alternative theories trying to explain why firms pay dividends, or why they should not pay dividends, or even why this decision may be irrelevant. Through the years, the empirical evidence did not clearly favor any of the proposed alternatives.

In the real world, with market imperfections such as taxes and transaction costs, and other issues such as information asymmetries and agency costs, dividend policy seems to be very relevant, for the managers of the firms, shareholders, prospective investors and market analysts. Not only do managers show extra care in their payout decisions, especially in changing payout decisions, but also the markets react strongly to dividend changes, and more so, to dividend omissions and initiations, as proved by Aharony and Swary (1980) and Michaely, Thaler and Womack (1995). After decades of conflicting studies and theories, the field has progressed immensely since the turn of the 21st century, with several important findings. There is now good reason to believe that the dividend puzzle may be largely solved, and that we are nearer to build a complete payout theory. Any theory claiming to be able to explain why firms pay dividends has to make predictions that can be reconciled with evidence from the real world. In the real world, not only firms pay massive amounts of dividends, but also

managers and investors consider payout policy very important. These facts are in contradiction to MM's proposition of irrelevance, and so we need another paradigm.

In this study, we have discussed number of well-established empirical facts in recent investigation and then tried to find answers to some of the facts in our Pakistani setting. First, payout policy is not irrelevant, in the sense that "it doesn't matter if dividends are paid"; an optimal payout policy involves distributing the full NPV of investment generated returns. Second, excess cash holdings by firms tend to be misused by managers or promote inefficiency. Third, shareholders recognize that these agency problems exist and use their rights to force firms to disgorge excess cash. Fourth, when firms pay dividends, managers are extremely reluctant to cut dividends, because they anticipate a very negative reaction from the market, which would affect their firm's value. Fifth, because of this reluctance, shareholders and investors view dividends as an effective pre-commitment device forcing managers to keep distributing cash in the following years. Sixth, in an environment where shareholders rights are strong, shareholders accept that firms do not pay dividends if they have strong growth opportunities, because they know that they will be able to extract those retained earnings, in the future. All these facts add up to a lifecycle / agency costs / outcome theory of dividend policy.

The study looks the agency theory from a broader spectrum, and sees the constitution of agency theory. Agency costs comprise the conflicts among the owners and between owners and other shareholders. Implication of this assumption could be that agency costs interventionist environment as Pakistan is higher. The reason behind this could administrator-owner conflicts.

This study adds to the limited literature on dividend policy and agency conflicts in Pakistan and extended the traditional framework of rozeff(1982).

1.2. The Case of Pakistan

This research opts to carry on the dividend dispute into the area of emerging market because soon Pakistan is going to enter into the emerging markets. Many scholars from advance countries have started to study the dividend payments and dynamics in its behavior of in the emerging countries corporations. Therefore it is effervescent to say that particularly with respect to Pakistan's capital market a gap is there with respect to setting the payout policies. Certainly the Pakistani capital market is totally changed from the advance countries.

The focus of this research is to study the private sector firms in Pakistan in order to investigate that how these firms set their target payout ratios so as to minimize the sum of agency costs and the costs associated with raising external finance. The economy and capital market of Pakistan have numerous significant features for probing the changing aspects of dividend payout. Over the period of time data analysis has shown that Pakistan is gradually developing and strengthening economically since the 1980. This development and growth has been documented by various scholars. The Pakistan's capital market is much developed than before.so it will be vital to find that how firms in growing economy set their payout ratio. Moreover, the corporate governance in Pakistan is not as established as in developed countries, due to which the ownership structure of Pakistani firms is bit different. In

Pakistan it is generally characterized by the control of one prime with little investment manages the whole firm and its affiliated subsidiaries. In corporate finance this is recognized as circular cross investments. In this kind of structure the owner of the business has ownership right to control different organizations in multiple sectors. Consequently the result is agency conflict between the shareholders and the owner and ultimately influences the dividend payout.

Pakistan has entirely different tax culture from that of developed countries. The Pakistani Government has omitted the capital gain tax till 2010. Possibility is there that differences in tax system can impact dividend payout. Lastly, Pakistan's capital market is one of the emerging markets. After the reforms done in last few years by Securities Commission of Pakistan, there is remarkable increase in market capitalization.

1.3. Objectives of the Study

- This study addresses the gap in literature by adding variable of profitability in well researched Cost Minimization Model". Although extensive literature exists in both domains but up to the knowledge of author, profitability has never been incorporated in cost minimization model.

- The second objective of this study is to test the validity of this model in a developing country like Pakistan.

1.4. Contributions of the Study

It is imperative to note that the studies being consulted, related to cost minimization are done in developed country. Keeping this in view we may challenge the uniformity of the results, and the application of the model to developing countries data. It was hypothesized by Samuel(1996) that due to the differences in the financial systems of developed and developing countries the issues related to agency conflict should be less severe in latter. The financial system in developed countries is stock market oriented while in case of developing countries it is bank oriented. According to Samuel (1996) organizations in developing countries are more dependent on outside debt than on outside equity.

This study makes four main contributions:

- The first core addition of this study is that it applied the cost minimization model a specific agency model, to a developing economy like Pakistan. By this we would be able to see and test the agency rationale for dividend outside the preliminary testing ground that was previously established and tested in advance countries like USA.

- Second, the study will focus on the dividend policy of Pakistani organizations. Although extensive literature exists in this domain but up to the knowledge of author, dividend policy by using cost minimization is still unexplored.

- Thirdly the focus of this study is investigating the behavior of dividend policy as investors are very concerned towards dividend policies of firms. So results of this study will facilitate them in making investment decisions.

- Fourthly, in the financing decisions, managers prefer to reinvest the internally generated funds before the issuance of dividends (passive residual model), even if it is the most expensive source of finance. The only reason to opt for this is that it does not have any transaction cost. So this study would give a comprehensive view of this intention that whether these companies will pay dividend or not. These decisions will impact the stakeholders.

1.5.Plan of the Study

In section II the existing literature on agency theory and dividend policy is discussed, in section III discussion regarding methodology and empirical testing of cost minimization model is done in an emerging market i.e. Pakistan. In section IV the data analysis and results while in section V the conclusion, discussion and direction for future research are presented.

CHAPTER 2

LITERATURE REVIEW

Dividend pay-out ratios vary among the organizations. This does not astonish that in general studies we see methodical deviations in payout behavior across firms, countries and time. To explain the observed variation in dividend policies, there are numerous dividend theories.

The agency theory of dividend proposes that dividends are a tool to control agency conflicts in the firm (Easterbrook 1984). The subject of this study is the approach of Pakistani firms towards the agency theory. To understand agency theory we have to study constitutes of agency costs. The conflicts within owner groups and between owners and other stakeholders, is assumed to be included by the agency costs.

This study adds to the limited literature on dividend policy and agency conflicts in Pakistan and extended the traditional framework of Rozeff (1982).

2.1.Introduction

Usually organizations are free to choose whether to pay dividend or not and the level of dividend is also chosen by the organizations, although some factors like legal requirements, debt covenants and the availability of cash resources may enforce few hindrances on this decision. In light of the freedom over dividend policy and the observed variations across firms, countries, time and type of dividends, the question of how dividend policy is determined has been the subject of many studies. It is a fact that from existing studies it has been recorded that there is a systematic deviations in dividend behavior across firms, countries, time and type of dividend. These variations have been recorded by many scholars like Fama and French (2001). Their study showed that usually

larger firms in US pay dividend, while the smaller firms earning less profitable but with high investment opportunities are mostly non payers. La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) showed that there is variation in dividend policies across legal regimes. Minority shareholders put pressure for dividends which limits agency behavior. Thus countries with good legal protection of investors tend to have higher payout ratios compared with firms in countries with weaker legal protection. Changes in dividend with time were explored by Fama and French (2001), and they find that there was a decrease in dividend payments from 66.5 in 1978 to 20.8 percent in 1999 in US firms. From this discussion it seems very difficult to answer the question how dividend policy is to be determined. This debate is generally believed to have been initiated by Miller and Modigliani's (1961) irrelevancy theory. *"Miller &Modilgiani (1961) show that in a perfect capital market with rational behavior and perfect certainty and with investment and borrowing decisions given, dividend policy has no effect on the value of the firm"*. The conclusion of their theory was that the value of firm is not affected by dividend decision. Main issue is that if we relax the assumptions of the irrelevancy theory whether it is still reasonable to conclude that dividends will have no effect on expected earnings, investment or on the firm's risk and hence the discount rate. For example, future earnings of a firm that pays dividends may be lower relative to a similar firm that does not pay dividends if paying dividends involves incurring transaction costs or extra taxes. Indeed, much of the dividend literature has focused on the implications of relaxing the Miller &Modilgiani (1961) irrelevancy theory assumptions and of introducing market imperfections.

2.2.Dividend theories

There are a number of theories on why and when the dividends are paid by firms. We can divide or categorize dividend theories in imperfect market in two groups for and against. On the 'against' group are theories including the transaction cost theory of dividend and the tax hypothesis that suggest that dividend payments reduce shareholder wealth. In the 'for' group are theories that suggest that dividend payments increase shareholder wealth, including the bird in the hand argument, the signaling theory and the agency theory of dividend. These theories have been widely discussed and tested but no consensus could be made on how organizations should determine their dividend policies.

2.2.1. The Transaction Cost Theory

It holds the assumption of a given level of investment, and focuses on the costs of raising external funds when the firm increases its dividend payment. Transaction costs include flotation costs to the firm of raising additional external finance such as underwriter fees, administration costs, management time, and legal expenses. Further, when the firm pays dividend and then has to raise additional external finance, existing shareholders suffer dilution of control. Thus to maintain control or for other reasons, existing shareholders may subscribe to the new issue, incurring trading costs such as stamp duty and stockbrokers' commissions. Ultimately all these transaction costs are reflected in the share price and firm value. There are also less obvious costs in addition to explicit transaction costs that are associated with paying dividend and resorting to external finance, and which are due to information asymmetries and pecking order considerations.

Particularly, raising new equity can be costly if it comes at a time when the shares are temporarily under-valued or due to the signals this action sends to the market regarding the value of the firm. Similarly, debt issues are also problematic because the announcement of the issue may be associated with increased probability of default and with managers trying to issue debt before such bad news are revealed. Like explicit transaction costs, these less obvious costs should also impact earnings expectations and be reflected in the firm's share price and value.

Subsequently, due to the costs associated with raising external finance, the transaction cost theory of dividend suggests that firms should utilize retained earnings to the extent possible.

Dividend should only be paid when this does not result in shortage of internal funds that are required for investment. Thus Rozeff (1982) suggests that firms that have greater dependency on external finance would maximise shareholder wealth by adopting lower payout policies. Leverage, growth potential and volatility are all factors that can increase dependency on costly external funds. High levels of leverage imply high fixed costs that the firm has to ensure it can meet. Growth potential means the firm is faced with good investment opportunities for which it requires funds. Similarly earnings volatility suggests that dependency on external finance is higher because there is less certainty regarding earnings to be generated. This implies that highly leveraged, risky or growth firms should be associated with conservative payout policies.

Another important factor that has implications for control consideration and for the transaction costs of raising external finance and thus for firms' dividend policies, is size. Particularly, the ownership structure of small companies is likely to be less dispersed than

that of larger firms. The more dispersed is ownership the less control is exercised by each shareholder and hence the problem of loosing control is more critical for smaller firms. Further, the cost of external finance is likely to be higher for smaller firms compared with larger, well-established firms with easier access to the capital markets. In addition to this it has been observed that growing firms are usually smaller and the conclusion is that small firms are likely to find the payment of dividends more costly as compared to larger firms. This conclusion may explain the positive correlation often observed between firm size and the likelihood that the firm is a dividend payer. (Redding, 1997, and Fama and French, 2001).

2.2.2. Tax Theories

Another cost associated with dividend payments is taxes. Miller and Scholes (1978) explained how the clientele varies with the change in tax rates on dividends and capital gain. The tax hypothesis proposes that corporate tax on distributions and taxes on dividends in the hand of investors are important costs to be considered when deciding on a dividend policy. More specifically, the difference between tax on dividends and on capital gains should be considered as well as the difference between corporate tax on distributed and on retained earnings. For example, if corporate tax on distributions is higher than that on retained earnings, this may reduce expected earnings of a firm that pays dividends relative to a firm that does not. Similarly, if dividends in the hands of shareholders are taxed higher than capital gains, investors should evaluate expected returns on an after tax basis and share prices will vary inversely with the firm's payout level. Indeed, the basic tax hypothesis proposes that additional taxes on dividends make

capital gains a less costly way of returning wealth to shareholders. Thus, the basic tax hypothesis supports a conservative dividend policy, and proposes that if the firm wants to return cash to shareholders then this should be done through share repurchases. It is thus puzzling to find that although repurchases have increased since the 1980s (Allen and Michaely, 1995, Jagannathan, Stephens and Weisbach, 2000, and Fama and French, 2001), they have not substituted for dividends (Fama and French, 2001, DeAngelo, DeAngelo and Skinner, 2000).

2.2.3. The Bird in the Hand Argument

First is the Gordon and Walter (1963) "Bird in the Hand Theory" , which states that in hand cash is always the preference of the investors rather than a promise of future capital gain. The risk reduction or bird in the hand argument is associated with Graham and Dodd (1951) and with Gordon (1959) and it is often defended as follows. By paying dividends the firm brings forward cash inflows to shareholders, thereby reducing the uncertainty associated with future cash flows. In terms of the discounted dividend equation of firm value, the idea is that the required rate of return demanded by investors (the discount rate) increases with the plough-back ratio. Although the increased earnings retention brings about higher expected future dividend, this additional dividend stream is more than offset by the increase in the discount rate. This argument overlooks the fact that the risk of the firm is determined by its investment decisions and not by how these are financed. The required rate of return is influenced by the risk of the investments and should not change if these are financed from retained earnings rather than from the proceeds of new equity issues. As noted by Easterbrook (1984), in spite of paying

dividends the firm does not withdraw from risky investments, thus the risk is merely transferred to new investors.

2.2.4. The Signaling Theory

Next comes the signaling theory given by Bhattacharya (1980) and John Williams (1985), dividend payout provide inside information of the organization about its performance and future projections thus help to reduce information asymmetric between managers and shareholders. A theory that suggests company announcements of an increase in dividend payouts act as an indicator of the firm possessing strong future prospects. Therefore announcements of increases in regular dividends signal permanent improvements in performance, and should be interpreted as confidence in the firm on behalf of managers thus triggering a price rise. Conversely, announcements of dividend decreases should be interpreted as signalling poor performance and lack of managerial confidence and should therefore trigger drops in prices. If changes in the levels of dividend release information to the market, then firms can reduce price volatility and influence share prices by paying dividends. However, it is only unexpected changes which have an informative value and which can thus impact prices. Therefore, the value of the signal depends on the level of information asymmetries in the market. For example, in developing countries where capital markets are typically less efficient and where information is not as reliable as in more sophisticated markets, the signaling function of dividend may be more important. Moreover, it can be argued that information will eventually be revealed whether or not the dividend signal is sent, hence the dividend impact on prices is only temporary.

2.2.5. The Agency Theory of Dividend

2.2.5.1. Historical perspective of agency theory: Despite having many proponents like Ross and critics like Perrow and Hirsch, agency theory is one of the most persuasive and contentious part of microeconomics. It is very strong theory and provides theoretical basis for understanding reward systems, the use of accounting methods, corporate governance etc. The connection between agent and principal can be understood by the work of Adams Smith and early economist, who tried to high light the issue of conflicts of interest between the owners of joint stock companies and their managers and directors (Smith, 1940). He did not use the term agency costs but from his writings it is very clear that he understands the problem. Smith has a strong believe in the influence of self-interest and the clashes it creates. The elements from agency theory are identified in consideration of the theory of the firm in paper published in 1976 by Jensen and Meckling. They commented: "The firm is a black box; that is operated to meet the relevant borderline conditions with respect to inputs and outputs, thereby generate maximum profits. Except for a few recent and tentative steps, however, we still have no theory to explain how to bring into equilibrium the conflicting objectives of the individual participants, as to yield these results."(MaryOliverio, 1999: p. 123). Joining firm to the organizational behavior directly acts as a breakthrough which leads to tremendous research work.

The transformed agency theory presented by Jensen and Meckling (1976) was derived from the conflict of interests between agents who are generally corporate managers,

outside stockholders, and bondholders and principals. The main issue between them is that the principals mainly focus on their own interests and try to reduce their threats by diversifying away firm specific risks; on the other hand agents have their own interests conflicting with the interests of the principals. For instance, there are many short-run operating decisions taken by agents for their own benefit, without considering the profit and loss of the principal the stockholders. Similarly their decisions may lessen their personal risk while the principal is a risk taker and prefer to take more corporate risk.

As Ross (1973, p. 34) noted: "The relationship of agency is one of the oldest and commonest codified codes of social interaction". We can say that there exists an agency relationship between two (or more) parties when one person (the agent), works for the other(the principal), in a particular field or area. "Examples of agency are universal". Jensen and Meckling (1976) add: "It (agency relationship) exists in all organizations and in all cooperative efforts-at every level of management in firms" (Eisenhardt, 1985).

2.2.5.2. Goal of agency theory: Task programmability, information systems, and uncertainty as determinants of control strategy are yield by the integration of the organizational and agency approaches. The agency relationship defined by Jensen and Meckling (1976) as a contract in which to perform some service, one party appoints another party that is the principal and the agent. As part of the contract, the agent is provided with some decision-making authority by the principal. According to Brenna (1995) agency issues starts due to the imperfection in the contracting mechanism. The reason behind this is that the actions of agent cannot be controlled to the full, and his decisions affect the both parties, agent and the principal. To solve this problem the agent must be persuaded to act in the best interests of the principal. On the other hand the

burden of failure of the project is on agent, in return the profit or benefit they get is minimal. Jensen and Meckling (1976) argue that this inefficiency can be reduced if managerial incentives are given and the agents will take value maximizing decisions.

During 1960s and early 1970s when scholars like Arrow (1971) and Wilson (1968) move their attention towards the risk factor among individuals and groups , agency theory was evolved ,which is an important stream of economics. The use of this theory is in various social fields of research such as accounting (Demski&Feltham, 1978), economics (Spence &Zeckhauser, 1971), finance (Fama, 1980), marketing (Srinivason&Staelin, 1985), and organizational behaviour (Eisenhardt, 1985, 1988; Kosnik, 1987) but its role is not evident and clear in organizational research (Eisenhardt, 1989). Agency theory was presented by Eisenhardt (1989) as it deals in outcome uncertainty, incentives, information systems and expansion of ideas in risk, thus provide a very valuable theoretical bases for organizational research. The relationship between agent and principal is explained by Agency theory, in which one party or individual gives task to the other and vice versa. This theory also explains the type of contracts the parties undergo. Agent is defined the person who makes a transaction on behalf of his or her employer or client. (Oliverio, 1999).

Agency theory is used by micro-economists to study the problems of cooperative actionmotivation and control (Scott 1990, p. 105). The economists' main focal point is to study the circumstances in which one group or individual (the principal) pursues some outcome but to get that outcome needs the support of an agent to carry out the necessary activities. "It is assumed that both parties are driven by self-interest and that these interests may diverge" (Scott 1990, p. 105).

Jensen and Meckling (1976) agency theory was established on the conflict between Managers and shareholder. According to which the percentage of equity controlled by insider ownership affects the dividend policy. Two forms of agency cost were introduced by Easterbrook (1984). One is the cost of monitoring and the second one is the cost of risk aversion on the part of directors or managers.

The underlying assumption is that managers may not necessarily always act as to maximize shareholders' wealth. The problem here is the separation of ownership and control which gives rise to agency conflicts as defined in Jensen and Meckling (1976). Accordingly when the levels of retained earnings are high managers are expected to channel funds into bad projects either in order to advance their own interests or due to incompetency. Hence generous dividend policy enhances the firm's value because it can be used to reduce the amount of free cash flows in the discretion of management and thus controls the over investment problem (Jensen, 1986). Another agency theory based explanation of how dividends increase value is described in Easterbrook (1984). While the transaction cost theory of dividend proposes that dividend payments reduce value because they lead to the raising of costly external finance, Easterbrook (1984) argues that it is this process which reduces agency problems. The idea is that the payment of dividends is one possible solution to the problem of collective action that tends to lead to under-monitoring of the firm and its management. Thus the payment of dividends and the subsequent raising of external finance induce investigation of the firm by financial intermediaries such as investment banks, regulators of the securities exchange where the firm's stock is traded and potential investors. This capital market monitoring reduces agency costs and lead to appreciation in the market value of the firm. Moreover, total

agency cost, as defined by Jensen and Meckling (1976), is the sum of the agency cost of equity and the agency cost of debt. The latter is partly due to potential wealth transfer from bond to equity holders through assets substitutions. Thus Easterbrook (1984) note that by paying out dividends and then raising debt, new debt contracts can be negotiated to reduce the potential for wealth transfer.

The ability of a theory to explain world makes it how important it is. No theory, including agency, is flawless, (Jensen, 1994). According to Eisenhardt, (1989) "agency theory is concerned with resolving two problems that occur in agency relationships" (p. 530). The problems are conflicts of i) risk-sharing, and conflicts of ii) differing goals, desires and information access between agent and principal. Agency theory is fragmented and further described along two lines a) positivist and b) principal-agent (Jensen, 1983). The type of contract between the two parties or individuals was the main unit of analysis for both the fragments.

a) Positivist agency theory: the positivist agency theory was derived from the financial economical approach that in any organization there are a number of complex contracts or agreements between the principals and agents. Its main emphases are on the conflicting goals of principals and agents. And targets to establish such governing procedures or methods to regulate and monitor self- interested actions of agents by different mean like ownership structures of the corporations (Jensen &Meckling, 1976), role of efficient markets (Fama, 1980), role of board of directors (Fama& Jensen, 1983), golden parachuting and corporate raiding (Jensen, 1984, Jensen &Roeback, 1983). To solve the agency problems, the agency theory focuses on using the governance mechanisms (Eisenhardt, 1989). Eisenhardt (1989) illustrated two different ways to control agency

problems are i) to make use of outcome-based contracts (i.e. performance based evaluations of agents) and ii) to monitor agents actions by using efficient information system.

b) Principal-agent model: This model explains the associations of principals and agents for example buyer-supplier, lawyer-client, employee-employer (Eisenhardt, 1989). As compared to positivist stream Principal agent model is more mathematical and abstract due to its broader and well-grounded theory (Eisenhardt, 1989). The main focus of principle agent model is on the selection of best contract, on the other hand the positivist domain only gives information about available options of contracts. By the literature evidence we can state that both domains of agency theory are complementary for each other. Principle agent model gives the best alternative when agents do (and do not) perform in their principals' interests. No agency problem occurs when the agent's behavior is in favor of interest of principal. It means to get minimum loss the agent and principal must have to share common interests(Niskanen 1971, Romer and Rosenthal 1978). Basically same outcome is the desire of principal and agent, principle must know enough about his agent in order to judge whether or not agents' actions serve their interests. Uncommon interests of agent and principal give rise to agency loss. The reason is that, agent usually get benefit when act against the principal's interests. If this is the case out-come based contract can transfer the risk to agents.

Another aspect that could cause Agency loss is when the principal has less knowledge about an agent's activities (Weber 1946, Gerth and Mills; Huber, Shipan, 2000). Among the theories agency theory is radical (Eisenhardt, 1989). Because agency theory has widened vision and has changed the way in stating and foreseeing the possible agency

problem which arises due to collaborating parties having diverse interests and division of labor (Eisenhardt, 1989, Jensen and Meckling, 1976. Ross, 1973).

Furthermore, it is the assumption of agency theory that the principal are less informed than agents. This unevenness in information restricts the ability of principal to have check on agents' behavior and performance, that is whether he/she is working in his/her interest or not. The agency theory also assumes that actions of both agent and principals are based on rational decisions and both have same aim of maximizing their wealth, and for this purpose they will use the contracting process. Incentive systems are developed by principals to make it ensure that agent actions are in principal's interests. Most cost effective information systems were designed by the agency theorists (Eisenhardt, 1989, Alchian and Demsetz, 1972).

The two main problem areas where Principal agent model is applied are i) moral hazards and ii) adverse selection. Agents try to get more benefit by acting against the interest of their owner and usually get the opportunity as they are efficient information seekers (Eisenhardt 1989). This dilemma was stated as the "moral hazard" problem by Scapens and Yan (1999). Adverse selection refers to misinterpretation of ability by the management, the cause of misinterpretation is that all the skills of agent cannot be verified by the principal and also all the available information is not assed at the time when decision is made by the agent, because of this it is difficult for the principal to analyze whether the agent has worked in his interest or not. For example, an agency problem may arise even due to the conflicts in ideas of the management and stockholders on running an organization. So we can say that agency theory pursues the conflicts of interests among people having different interests in the same assets (Neal, Gerald,Peter,

and Stephen, 1993). Worrying for the welfare of others, which is altruism, does not make a person a perfect agent. Encouraging greater altruism in people cannot solve those agency problems. This unbalanced behavior is the core of self-control problems which has plagued all individuals. Agency theory yields expansion by recognizing these self-control problems are another major source of agency cost, along with the costs produced by conflicts of interest among people (Jensen, 1994).

Moreover agency theory introduces additional control mechanisms to hinder the agents from taking benefit and adversely affecting the monitoring process. (Adams, 1994).

2.3. The Impact of Asymmetric Information on Dividend Policy

According to Easterbrook (1984, p. 651), "even if most investors are irrational most of the time, dividends would go away if their costs exceed their benefits to investors". In this case, "dividends would be infrequent occurrences characterizing failing or disinvesting firms."

But, in practice the scenario is totally different. A stimulus is required for firm, so that it would follow a consistent dividend policy. This behavior is beyond our understanding and that allow us to reconcile theory with observed behavior. Two most authentic information asymmetries based arguments explains the observed behavior of preference for dividends. These opinions are the informational content of dividends and the agency cost explanation of dividend policy which has been explained earlier.

The Informational Content of Dividends

This is an old dispute. Modigliani and Miller (1961) described that, when a firm go for dividend stabilization policy investors see these fluctuations in the dividend payout ratios as signifying modifications in management's outlook of the prospect of the firm. Thus, the price endures to be the reflection of future incomes, development prospects of the company and the change in price is encouraged by change in dividend, although not being its reason. According to Modigliani and Miller (1961) change in price with the change in dividend payments will not be compatible with the trivial hypothesis only if there is no major support for the price change and the change is maintainable in time. Logic behind informational content of dividends is that there always exists information asymmetry mainly about firms' profitability as insiders are more informed as compared to the market as a whole. As a result, dividends could be used by the managers to show the true value of the company. Information we get from the increase or decrease of dividends is otherwise inaccessible from a reliable source (Crockett and Friend, 1988). According to financial structure signaling model by Ross (1977) a good signal is set by the dividends as they fulfill the two essential requirements . Firstly the signal is expensive and second is the cost of signaling varies among firms based to their characteristics. Dividend is a costly act keeping in mind that investment and financing decisions are pre-planned; and new shares will have to be floated to fund to pay dividends or by taking debt. So to maintain the optimum investment and financing policies firms are forced to raise capital from time to time, which is a expensive method. The expense of paying dividend also varies with the financial condition of organizations. Companies' faces

trouble in keeping smooth dividend distribution if they had used dividends to "signal" an untrue growth in future profits. Thus, the manager's benefit should be assured to get a true signal. This depends on the firm's corporate governance practices. If firms have adopted good practices of corporate governance about compensation of management as giving benefits in the form of stock-related pay arrangements.

According to Easterbrook (1984), it is not clear that what dividend actually signals and whether dividends really signal. It is also uncertain that are dividends really a better signal than other seemingly less-expensive technique. he conclude this by observing growing and profit making firm which usually hold its earnings for future use as paying dividends and issuing new shares is costly than internal financing. The alternative to dividend could be the firm disclosure. The facts and figure related to the future perspectives must be subject to the authorization of outsiders (e.g. auditors). The difficulty about the informational content of dividends hypothesis is that "dividends have not been shown to be an efficient signal competitive with other technologies for conveying credible private information to the market" (Ambarishet al, 1987, p. 322).

2.4. Literature Review of Selected Studies on Divided Policy

Adaoglu (2000) studied the uncertainty in the dividend policy of emerging markets of Istanbul Stock Exchange (ISE) corporations and find that earning of the firm determines the payout.

DeAngelo et al (2004), conducted the study on why firms pay dividends? The results showed that dividend payments prevented significant agency problems .They also found

very significant relationship between the decision to pay dividends and the ratio of earned equity to total equity. In their study they control for size of the firm, profitability, growth, leverage, cash balance and history of dividends. Farinah and Foronda (2005) studied relationship between the dividend and insider ownership in different legal systems. From their investigation they provided certain international evidence. They claimed that because of difference in characteristics of agency conflict's nature and the legal systems in firms among different countries, considerable difference will be there in the dividend and insider ownership relationship between two set of companies. Different legal system and agency cost problem are supported by the outcome and give new insight into the role of dividend as mechanism in countries.

Amidu and Abor (2006) studied the determinants of dividend policy in Ghana. They took sample from the 20 listed firms of Ghana stock exchange (GSE) listed firms. They dependent variable was Payout Ratio. From their study they concluded that more dividends are paid by more profitable firms. There was a negative association between growth and market to book value, payout ratio, institutional holdings, and risk.

Naceur et al (2006), choose Tunisian stock Exchange to carry out the study on the determinants and dividend policy dynamics. They chose 48 firms (non-financial) to observe that whether the dividends are smoothen by the managers of the listed firms or not. They found that the level of dividends is directly affected by any inconsistency in the current earnings of the firms. Dividend payments by Tunisian firms are not smoothening just like other emerging markets. The low target dividend ratio and high speed of adjustment are the causes of less smooth and unpredictability of dividend policies in Tunisia. They also determined that large cash flow can be managed by the firms that are

profitable and have stable and thus can pay larger dividends. Furthermore investors are attracted, by the fast growing firms, by allocating larger dividends. Dividend payments in Tunisian were not affected by the ownership concentration and agency conflicts is low in the Tunisian firms. To explain the observed behavior, trend and determinants of the companies registered on Bombay Stock Exchange (BSE) , the dividend policy of Indian corporate firms examined by Reddy (2006), with the help of trade off theory and signaling theory hypothesis. Their findings showed that the dividends paying firms are usually large firms, earning higher profits and their dividend policy doesn't seems be affected by the growth.

Megginson and Eije (2006), observed development of dividend policy from 1989 to 2003 of fifteen members of European Union countries. They used the set of more than 3400 listed firms. During this period European firm faces dramatic decline in tendency to pay dividend from 91 to 62 percent. While there was a significant increase in total dividend paid and dividend payments as tendency of total corporate profit. Among European organizations the Dividend and earnings were concentrated, and similar company characteristics increase the both tendency to pay and the amount of dividend paid.

The major aspect was that the payout ratio was not increasing with the increase in the retained earnings to total equity, but company age does. Jeong (2008) conducted a study on the dynamics of dividend policy in Korea. His results showed that how the dividend policies of Korean listed companies is set in different institutional environment as compare to the developed markets of United States. The empirical results showed that the dividend payment of Korean firms is made on the basis of firm's stock face value. Variation in fundamentals of the firm is not reflected by the change in the dividend. He

also observed the key factors that play an essential role to explain the cross section of smoothing the dividend behavior the factors includes determinants of dividend smoothing, firm risk, size and growth. Among the firms of US and korea the relationship between explanatory variables and degree of smoothing was different. There was a positive relationship between dividend and growth. The observed results show that dividend was paid smoothly by the large and older firms, which is opposing the theoretical predictions. There was insignificant effect of leverage and controlling shareholders on dividend policies. The result also exhibited that the dynamics of dividend polices in Korean listed firms cannot be described by signaling and agency theories. The finding also showed that more risky firms pay their dividends more constantly. From the result of ownership variable it was clear that in case of firms Korean listed The ownership variable results shows that the ownership plays an important part to decide the firm's dynamic dividend policy in Korean listed firms.

There has been a chain of work both empirical and theoretical on dynamics of dividend policy. The crux of those empirical studies can be summed up in three main points. Firstly, to the market value of the organization get positively affected with the increase in the dividend payout. Secondly, with the decrease in the dividend payout the value of the firm get affected and thirdly any change in dividend policy do not affect the value of the firm.

From the above discussion it seems very difficult to answer the question how dividend policy is to be determined. This debate is generally believed to have been initiated by Miller and Modigliani's (1961) irrelevancy theory. "Miller &Modilgiani (1961) show

that in a perfect capital market with rational behavior and perfect certainty and with investment and borrowing decisions given, dividend policy has no effect on the value of the firm". The conclusion of their theory was that the value of firm is not affected by dividend decision. Main issue is that if we relax the assumptions of the irrelevancy theory whether it is still reasonable to conclude that dividends will have no effect on expected earnings, investment or on the firm's risk and hence the discount rate. For example, future earnings of a firm that pays dividends may be lower relative to a similar firm that does not pay dividends if paying dividends involves incurring transaction costs or extra taxes. Indeed, much of the dividend literature has focused on the implications of relaxing the Miller &Modilgiani (1961) irrelevancy theory assumptions and of introducing market imperfections. MM theory by Miller and Modigliani (1961) explained that firm's value is not affected by dividend in perfect markets. They find out that information regarding firm's future earning can be passed on by change in dividend.

2.5. Theoretical Framework and Hypotheses Development

2.5.1 Agency Theory and Dividend Policy

An important keystone of agency theory mentioned by Jensen and Meckling (1976), conflicts of interest within the organization due to parting of ownership from control, and its cost is ultimately paid by the shareholders. Monitoring the firms and its management by the shareholders could be one possible method for reducing these conflicts, but its outcome is usually in form of mismanaged and little monitoring.

As suggested by Easterbrook (1984) by increasing the payout ratio the agency related problem could be solved. With raising the dividend payment of firm, the firm will left

with little finances to proceed with the planned investments, thus the firm will be compelled to go to the capital market to acquire further finances. This will cause increase in the external monitoring of the company by interested parties, consequently decreasing agency problem. Firms which stick to giving high dividend payout policy usually visit capital market more frequently. This will force market disciplines on the managers and reduces managerial moral.

Signaling and agency theory address these issues. The idea behind signaling theory is the cost attached with the issuing of dividend that is the transaction cost. That is why only well reputed and developed organizations expecting more cash flows will likely pay dividend (Bhatacharya 1979). Because of the high transaction costs low quality firms have not enough money to match the dividend payments, as the cash flow does not materialize.

Laporta*et al* (2000) state that two of the assumptions of the 'Modigliani-Miller theorem has been modified by the agency approach. Number one is the freedom of the investment policy and second is the deficiency of different features between shareholders. One possibility of paying dividend could be to restrict he investment or it may be to avoid investment in less or unprofitable projects. Now the investment policies of the organizations are in one or another way dependent on its dividend policy. As management (insiders) can use the retained earnings to invest in nonprofit projects, instead of retained earningsoutsiders will prefer to have dividends (Laporta*et al*, 2000, p.2).

Firm's strategies are effected by Different shareholders in different ways. During the distribution of company's profit insider stakeholders may get more benefit or privileged

treatment. There are several ways in which insider shareholders may get some extra benefit either through asset diversion, transfer prices, and theft, or by using investment tactics by which they get personal benefits of control (Laporta*et al,* 2000). To study the agency approach to dividend policy he used difference among legal system of protection for shareholders across countries and comes up with two alternative agency explanations of dividends: the outcome model and the substitute model.

We can say that for legal protect shareholders' dividends is a widely used mode. So when reinvestment prospects are poor the stakeholders in better legally protected countries practice their right to get dividends from organizations. Thus the 'outcome model' forecasts that payment of dividend will have positive relation with investor protection level. so countries where legal system is strong, organizations growing slowly are expected to pay high dividend as compare to the developed or high growth businesses. This is because of the reason that stakeholders know they could extract dividend from high growth firms later. By extracting dividends from firms, the cash flow at managers' disposal is decreased. Secondly Laporta *et al* (2000) considered dividends as a substitute for legal safety of stakeholders. For funds organizations will have to go to money markets. To attract shareholders they have build a good repute. The organization's reputation is more worthy in countries where legal protection of investors is not very strong. On basis of these points Laporta's 'substitute model' expects a negative relation between dividend payout and level of investor protection. Conferring Rozeff (1982), Easterbrook (1984) and then Laporta et al (2000) we can say that organization pay dividends to build reputation in equity market in turn creating a clientele for future equity issues.

Laporta *et al* (2000, p. 27) studied different levels of legal protection systems for stakeholders in 4000 firms from 33 nations. His results consistently supported the outcome agency model of dividend. That is dividend payment is well described by the ability of shareholder to draw cash from organization rather than by the obligation of management to establish a worthy repute. Dividend policy is affected by investment policy through the transaction costs of external funding (Rozeff , 1982). When firms are anticipating or experiencing a growth in sales revenue, they usually pay fewer dividends. Growth requires greater investment expenditures and external funding is expensive. Secondly there is increase in the transaction costs of paying dividends because of financial checks enforced by higher operational and financial leverage. These two points of view for limiting the dividend payment are well-adjusted by the positive influence of dividend payment in the form of reduction of agency costs. Increased dividends lowers agency costs by conveying information to the market, but raises transaction cost of external financing. From this Rozeff (1982) hypothesized that the optimum level of dividend payment will be the one that reduces the sum of these two costs.

A model was developed by Rozeff (1982) called the cost minimization model. It fuses the transaction and the agency costs. Transaction cost and agency cost can be controlled by restricting the payout ratio, and later by increasing the payout ratio. The model main concept was that the best probable payout ratio is at the point where the total of both agency and transaction costs is minimized. We have used cost minimization model with some modifications. Rozeff (1982) and other similar studies that applied the same model are the focal point of this study. The cost minimization model actually combines transaction costs theory with agency theory, and proposes that the optimal payout ratio is

that which minimizes the sum of costs of paying dividends. Thus Rozeff (1982) and subsequent studies regress a proxy of the optimal payout ratio on proxies for agency costs that may be controlled by paying dividends and on proxies for transaction costs that are associated with dividend payment.

Empirically, the cost minimization model regresses the firm's target payout ratio on variables that symbolize agency and transaction costs. Three variables were used by Rozeff in his study for measuring transaction costs. Those were the proxies for past growth, expected growth and risk. The purpose behind the selection of growth and risk was that they both upturn the firm's reliance on external funding. For growth firm need investment therefore increases its dependency on external finance; similarly due to the uncertainty in meeting its financial commitments, its dependency on external funding increases.

Rozeff (1982) measured Agency costs by the portion owned by insiders to the number of external shareholders. Empirically he applied OLSQ on 1000 US firms and 1981 data. The results support the theory put forward. For better understanding we can categorize the cost minimization model into three groups. These include: studies that incorporate mild changes, with addition of new variables to the basic model; next comes the studies with major changes to explore new facets of the original theory; and then the studies that limelight on particular sectors for better understanding of agency theory.

Researches which comes under the first classification, involves studies of Llyod et al. (1985) and Schooley and Barney (1994). Llyod et al. (1985) used the same technique, period, and sample size as used by Rozeff (1982) but add a new variable that is size, but His study provide support to the model. In the same manner Schooley and Barney (1994)

add a squared measure for insider ownership. Their study further supported the cost minimization model.

Studies of Moh'd et al. (1995), Holder et al. (1998) and Monas (2002) can be included in the second category of more fundamental changes. To check for the differences in the dividend behavior in industrial sectors, industry dummies were added by Moh'd et al (1995). He also added a new agency variable to the model, a proxy for institutional holdings. Holder et al. (1998) took a bigger facet of agency conflict. Free cash flow a new agency variable was added by him. The same model was tested by Monas for the period 1994 to 1998. He took 882 private sector corporations listed on the Mumbai Stock Exchange. Method used was cross sectional weighted least square and number of new variables was introduced. Studies that may be classified under the third category, focusing on specific sectors, include Hansen et al. (1994) and Rao and White (1994).

From this we can conclude that despite of using different time periods, data, equations of model and econometrics, the results are more or less consistent with each other. But the most important thing is that, that all the above mentioned studies are US based except from Monas (2003). In this case the consistency of results may be challenged and it applicability to other countries can be checked.

2.5.2 HYPOTHESIS

From above discussion and literature review we can develop the following hypothesis.

H0: Pakistani firms do not set their dividend payout ratios in order to reduce their agency and transaction cost.

H1: Pakistani firms set their dividend payout ratios in order to reduce their agency and transaction cost

CHAPTER 3

DATA DESCRIPTION AND METHODOLOGY

3.1.Sample and Data Collection

Firms listed on the Karachi Stock Exchange, whose published data is available is taken into consideration, for the period of eight years (2004-2009).

3.1.1 Sampling Technique

Convenient sampling technique is implemented due to the limitations of resources. Then after screening the firms with incomplete data, firms qualified were included in the study sample. There were total of 147 firms year data out of which firms with incomplete data were omitted. Total of 83 firms year data were left in the sample which had positive profitability and positive dividends.

3.1.2. Data sources

Data is taken from Karachi stock exchange and State bank of Pakistan, however, main portion has been collected from balance sheets analysis of State Bank of Pakistan. Data is also collected from annual reports of the companies.

3.2.The model

We made an attempt to apprehend the elements which seems to be vital in effecting the dividend payout of companies operational in the Pakistani setting, by using a little modified cost minimization model. Equation (1) shows the general model, it includes the key variables identified in the previous studies and which also have been mentioned in the literature review above.

$$PAYOUT = \alpha_0 + \alpha_1(AGENCYCOST)_i + \alpha_2(TRANSACTIONCOSTS)_i + \alpha_3(SIZE)_i + \varepsilon_i \quad (1)$$

The sample observation is denotes by subscript i ,where i = 1, 2 ...n.

3.3. The variables

According to Rozeff (1982) dividend payout ratios are mainly influenced by two costs. One is the transaction costs of external funding (associated with the investment strategy of the organization and its operating and financing leverage) and second is the agency costs. So we have two sets of independent variables as explained by Rozeff (1982): one to measure the transaction costs effect and the other to measure the agency costs effect and one dependent variable that is dividend payout ratio. Later on new variable of SIZE was added and checked by many researchers.

3.3.1. New variable

In order to further improve this model, I have introduced a new variable "profitability". It is an important determinant of dividend policy. Relationship between dividend policy and profitability had been checked, but its validity in cost minimization model has not yet been explored. It has been researched that more profitable firms pay more dividends (Amidu &Abor ;2006), Reddy (2006). According to Naceur et al (2006) profitable firms manage their large cash flow by allocating large dividends. Problem of free cash flow faced by more profitable firms is regulated by paying dividends, John (1995) . When the levels of retained earnings are high managers are expected to channel funds into bad projects either in order to advance their own interest or due to incompetency thus raising

agency conflict. Thus to overcome this firms have to pay dividend, Suggesting positive relation. The cost of external finance is low for profitable firms which have relatively easy access to capital market. (Easterbrook, 1984). It is relatively easy for more profitable firms to get debt which is a substitute for dividend. Shares of large and profitable firms are actively traded in secondary market thus suggesting lesser need for dividend induced monitoring. Thus profitability has relationship with both agency and transaction cost. After incorporating profitability in the model the equation will be:

$$PAYOUT = \alpha_0 + \alpha_1(AGENCYCOST)_i + \alpha_2(TRANSACTIONCOSTS)_i + \alpha_3(SIZE)_i + \alpha_4(PROFITABILITY)_i + \varepsilon_i \quad (2)$$

3.3.2. Dependent variables

Target dividend pay-out ratio of the firm is the dependent variable. PAYOUT is a proxy for the firm's target payout ratio. It is calculated as the arithmetic average dividend payout ratio of each company for a specified time period. PAYOUT's explanation is taken from Hansen et al. (1994). Precisely, it is defined as the ratio of the total of the common dividends paid during the specified period, divided by the total of the profit after tax of the same period. Rozeff (1982), in his study used average of seven-year. Unluckily, because of lack of data we are using two-year averaging period. This substitute notion was verified by Dempsey and Laber (1992, p. 320), for the dependent variable.

3.3.3. Independent variables

AGENCY COSTS symbolizes agency costs effect.

TRANSACTION COSTS apprehend transaction costs effect.

SIZE captures the size of the firm. And is calculated by taking the natural logarithm of the average of yearly sum of assets in the period 2001 to 2008 and E symbolizes the disturbance.

PROFITABILITY captures the profit of the firm and is calculated by dividing net profit by average share holder equity for period.

The equation (2) is now further expanded and explained by discovering the key variables that symbolize agency and transaction costs.

3.3.3.1 Variables Used to Measure the Agency Costs Effect

Independent variable, AGENCY COSTS in equation (2) is fragmented into five variables to measure the agency cost effect. These comprise: GOV, which is measure of government ownership as the portion of equity shares owned by central and state governments; INST, computing ownership of institution and is measured as the part of shares owned by monetary institutions, insurance companies and commercial banks; DIRS, shows the measure of insider ownership and is computed as the portion of equity shares held by firm's directors and their kin; PUBLIC, measure of dispersion in ownership as the portion of equity shares owned by the Pakistani public ; and FOREIGN, gauging ownership of foreigners and is measured as the portion of equity shares possessed by foreign bodies.

3.3.3.2 Explantion of Variables Used to Compute the Transaction Costs Effect

We broke down the TRANSACTION COSTS into two variables, to calculate the transaction costs of funding.

- Risk variables

- Growth variable.

DEBT is the risk variable , it computes financial risk by taking the eight-year average (2001 to 2008) of the annual ratio of total borrowing to total assets. GROW denotes growth prospects and it is calculated by taking the average yearly growth in total income during the period 2001 to 2003. The annualized growth rate of sales during the prior two years was used to predict the estimated growth rate of sales.

3.4. Hypothesized relationships:

Table 1 shows the descriptions and meaning of the transaction and agency cost variables and specifies the assumed associations among explanatory variables and the dependent variable.

Table 1 shows the descriptions and meaning of the transaction and agency cost variables

Variables	Definitions	Association
Payout	The two year average(2001-2003) of the yearly ratio of common dividends divided by profit after tax	
Gov	Ratio of equity shares possessed by central and state government by total equity shares	−
INST	Ratio of equity shares owned by financial institutions, commercial banks, insurance companies and mutual funds to total equity shares	+ −
DIRS	Ratio of equity shares owned by directors and their families to total equity shares	−
PUBLIC	Ratio of equity shares owned by Pakistani public to total equity shares	+
FOREIGN	Ratio of equity shares possessed by foreign bodies to total equity shares	+ −
DEBT	The 8 year average of annual ratio of total borrowings to total assets	−
GROWTH	$8\sqrt{}$ Total income 2008/Total income 2001 -1	−
SIZE	The natural log of the average of total assets in the 8 years	+ −
Profitability	ROE=net profit/average share holder equity for period	+ −

Now we will discuss these relationships. The association of GOV with that of PAYOUT is likely to be negative. The reason behind it could be that the government monitoring power. Because of its resources it can keep an active eye on the firm to check either it is working in its interest or not. This can be done either by legislative questions or by audits, thus reducing the need for the monitoring induced by dividend. On the other hand with the increase in the government holding, it could be claimed that more the motivation for other shareholders to prompt monitoring through dividends. This is may be because of the clashes of benefits with the state-whose main focus may not be that of capital maximization. Other shareholders will feel in secure if the proportion of government ownership in the firm increases, and may claim higher dividends thus inducing capital market monitoring. This will decrease the ability of government to impact managers' actions. Therefore between GOV and the Payout an inverse relation is anticipated. On the other hand there could be a positive association between shares held by government and the payout ratio. The political scenarios such as governance breaks down and asset stripping could be the possible reasons behind.

Comparative to other investors, institutions, portion of institutional ownership (INST), get more benefit if they to use their means to have a check on the firm and its actions. The reason behind this is their proficiency and better capability of monitoring at a comparatively little cost. Also because of their large holdings they benefit more. Secondly institution can take over inefficient firms and this is a major risk which forces management to be more proficient. This infers that with the increase in the percentage owned by institutions, there is a decrease in the requirement for dividend-induced checking, thus suggesting an inverse association between INST and the PAYOUT (N).

In case of socialist ideologies based economy, stakeholders other than equity holders can be anticipated to be powerful. These non-equity stakeholders will (Holder et al. 1998), will put pressure to decrease payouts in order to guarantee that the firm can meet its embedded responsibilities. This contradicts from the interest of shareholders, in return dominant shareholders will force for higher payouts, thus suggesting a direct association between INST and the dependent variable. With increase in the percentage owned by directors (DIRS) and their kin, their benefits come more in line with those of external shareholders. There are two main reasons. Firstly, with the increase of ownership of insiders in the firm, the costs they bear, related with their consumption of privileges increases. Secondly, with the increase in their ownership in the firm, they get more benefit if the firm's performance is good and its stock price is rising. So there is less need for the dividend regulator mechanism with the increase in insider ownership. Thus the association between DIRS and the PAYOUT (N) is expected to be negative.

Variable PUBLIC is a measure of ownership dispersion. It is the percentage of equity shares owned by the public. We have assumed that average per individual holding is very small. The collection action problem becomes more severe with the increase in dispersion in ownership structure, which in turn enhances the requirement for external monitoring. Therefore it is anticipated that there is a positive relation between payout and public. Variable FOREIGN measures foreign ownership. Because of growth potential investors from advance countries like to have shares of companies in developing countries (Glen et al.,1995) investors' from various developed countries like have shares of developing countries firms because of its long-run growth potential. A negative relation can be anticipated between PAYOUT and Foreign, if shares are held for growth purpose instead

of income purpose. Additionally, with increase in foreign ownership concern of overseas experts' in the firm will increase subsequently more monitoring and lesser requirement for the dividend-induced checking device. Thus it could be concluded that there is a negative relation between FORIEGN and the payout. Similarly monitoring the management for oversea investors seem difficult, so then they will put more pressure for dividend induced monitoring and ultimately the demand for dividend will increase. From above discussion it seems difficult to determine the exact relation of FOREIGN and PAYOUT. The two variables to measure transaction effect that is GROW and DEBT, will probably have negative relation with the PAYOUT the dependent variable. According to Rozeff (1982), if firm have numerous growth prospects than it is probable that it will depend more on external finance, which in turn will cause high transaction cost. Same is the case with DEBT. Because of the interest payments and refunding of principle firms become more dependent on external financial resources. Loan and dividends both are considered substitutable mechanisms to control agency costs because they are occasionally used interchangeably. According to Agrawal and Jayaraman (1994), Crutchley and Hansen (1989), Jensen (1986) and Johnson (1995) by distributing debt or by paying dividends the problem of free cash flow can be regulated. There are mainly two reasons behind this. First, as both are types of obligation, debt and dividend both boost money market monitoring by assuring more recurrent calls to the capital market. Second, there should be an inverse relation between debt and dividend as they can be used as a substitute for one another. The relation between firm size and dependent variable can either be negative or positive. Because of economies of scale larger firms can easily access to the capital market as compare to smaller firms. But as in larger firms

the agency problem is more severe because of more dispersed ownership. So we can infer positive relation between SIZE and PAYOUT (N) because of lower transaction costs and the severe chances of agency problems. Participants in secondary market have continuous and active check on the shares, as shares of large firms are usually highly traded in secondary market thus lesser need for dividend induced monitoring. Moreover, it is rather easy for large organizations to get debt which is a substitute for agency-cost control mechanism. This reduces the requirement of dividend induced monitoring by the management of large organizations, thus suggesting an inverse relation of firm size on PAYOUT. Profitability is assumed to be positively associated to the dividend. As with increase in profit firms have more cash, and thus can pay dividend to the shareholders. There could be a negative relationship with the payout if the firms follow passive residual model, and reinvest before giving out payout.

3.5. Data Analysis tool

To achieve the results, ordinary least square methodology was used. Correlation was used to determine the relationship between hypothesized variables

3.5.1. Mean And standard deviation

The descriptive statistics discuses means and standard deviations for variables. The standard deviation gives indication of the average distance from the mean. Its lower value indicates clustering of most of observations around the mean. Whereas its higher value shows that there was a lot of variation in the answers. The zero standard deviation would

be when there is no variation in responses and the maximum and minimum numbers provide the range of answers given by our respondents.

3.5.2. Correlation

It is a measure of the relation between two or more variables. Correlation coefficients can range from -1.00 to +1.00. A perfect negative correlation is shown by value of -1.00, while a value of +1.00 represents a perfect positive correlation. Lack of correlation is shown by 0.00. The most widely-used type of correlation coefficient is Pearson correlation. Pearson correlation, assumes that the two variables are measured on at least interval scales and it determines the extent to which values of the two variables are "proportional" to each other.

3.5.3. Regression

Regression is a measure to determine the contribution of each independent variable to determine the variation in dependent variable. This is determined by the regression equation which was developed as;

$$Payout = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U$$

Value of R^2 determined the regression of each independent variable for the whole data and also for the two different industries. Ordinary least squares linear regression is the

most widely used type of regression for predicting the value of one dependent variable from the value of one independent variable. It is also used for calculating the value of one dependent variable from the values of two or more independent variables. For two or more independent variables, it is called multiple regression analysis.

CHAPTER 4

DATA ANALYSIS & DISCUSSION

The purpose of this study was to find out how firm in Pakistan set their dividend policy. For this purpose, research has empirically tested certain hypothesis by collecting secondary data from various resources and testing it through statistical tools. This chapter provides the significant findings with explanation and argumentation.

4.1.Descriptive statistics

Table 2 gives the Descriptive statistics of Dependent and Independent Variables

Table 2 Descriptive statistics for Payout and Independent variables

	Debt	DIRs	DIV payout	Foreign	GOV	Growth	INST	Profitability	Public	Size
ean	0.5135	0.0989	0.6268	0.1164	0.1371	0.2258	0.5027	0.2114	0.1469	4.1277
edian	0.5975	0.0012	0.4400	0.0005	0.0000	0.1326	0.5891	0.2310	0.1296	4.1998
aximum	0.9331	0.7876	6.3300	0.8407	0.9502	10.4100	0.9490	1.3720	0.4484	5.2504
inimum	0.0000	0.0000	0.0290	0.0000	0.0000	-4.7000	0.0005	-2.5200	0.0000	0.0000
d. Dev.	0.2216	0.1947	0.8312	0.2343	0.2703	1.9730	0.3175	0.4649	0.1011	0.7392

4.2. Correlation results

Table 3 represents the outcome of the correlations among all the non-dummy variables used. We used Pearson correlation technique to gauge the strength of correlation between these variables at **p<0.01 level and **p<0.05. From result we can see that there is not very high correlation between any two of the explanatory variables.

Table 3 gives the correlation of dependent and independent variable.

	PAYOUT	GOV	INST	DIRS	PUBLIC	FOREIGN	SIZE	DEBT	GROWTH	PRO
PAYOUT	1									
GOV	-.023	1								
INST	0.088	-0.411**	1							
DIRS	0.075	-0.260*	-0.061	1						
PUBLIC	-0.134	0.400**	-.013	0.061	1					
FOREIGN	-0.100	-0.205	0.326**	- 0.013	-0.015	1				
SIZE	-0.097	0.443**	-0.122	-0.326**	-0.188	-0.188	1			
DEBT	-0.109	0.233*	0.094	-0.122	0.017	-0.034	0.236*	1		
GROWTH	0.234*	-0.010	-0.199	0.094	-0.094	-0.002	-0.178	-0.179	1	
PROFITABILITY	0.021	0.337	0.075	-0.199	-0.198	0.070	0.225*	-0.281*	0.203	1

4.3. Multicollinearity

It is a statistical phenomenon of a multiple regression model in which two or more independent variables are highly correlated. In this condition the coefficient estimates may change unpredictably in reaction to minor fluctuations in the model or the data. Sometimes the relation is so strong that it can significantly affect the estimation of the coefficients of the variables. But as we can see from the Table 3 that there does not exists high correlation between any two of the explanatory variable, which confirms that the sample data do not suffer from multicollinearity.

4.4. Regression results

The following table presents the regression analysis results for the overall two industries with the help of regression equation mentioned below. In regression we measure the influence of each independent variable upon dependent variable.

4.4.1. Elements of regression equation

Regression equation that was used to measure the research results are as under:

$$PAYOUT = \alpha_0 + \alpha_1(AGENCYCOST)_i + \alpha_2(TRANSACTIONCOSTS)_i + \alpha_3(SIZE)_i + \alpha_4(PROFITABILITY)_i + \varepsilon_i \quad (2)$$

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U \quad (3)$$

Y is the value of the Dependent variable (Y), what is being predicted or explained. (α Alpha) is the Constant or intercept. The regression coefficients (or $\beta_1 \ldots \beta_2$ coefficients) represent

the independent contributions of each independent variable to the prediction of the dependent variable. $\beta 1$ is the Slope (Beta coefficient) for X1. X1First independent variable that is explaining the variance in Y. $\beta 2$ is the Slope (Beta coefficient) for X2. X2Second independent variable that is explaining the variance in Y and so on for the X5 variable. U is the uncontrollable factor.

R2is a measure of association; it signifies the portion of the variance in the values of Y that can be described by knowing the value of X. R2 varies from minimum of 0.0 (none of the variance is explained), to maximum of +1.0 (all of the variance is explained). F Whether the equation as a whole is statistically noteworthy in explaining the dependency. The following regression equation was used for analysis.

PAYOUT = Intercept + Coefficient (agency theory) + Coefficient (transaction cost) + Coefficient (size) + Coefficient (profitability)

Equation includes the dependent variable is PAYOUT and all others being independent variable. From table 4 we can see that the output in the case of this equation was 17.3%. Result is statistically significant with the aggregate independent variables where the value of R2 0.173. But not a single variable was found significant.

Table 4. Regression Results of Research Model

SUMMARY OUTPUT	
Regression Statistics	
R	0.416
R Square	0.173
Adjusted R Square	0.055
Standard Error	0.8156
Observations	83

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	B	Std. Error
(Constant)	5.226	7.276		.718	.475
GOV	-3.202	7.188	-1.023	-.446	.657
INST	-3.144	7.236	-1.189	-.435	.665
DIRS	-3.771	7.275	-.883	-.518	.606
FOREIGN	-.037	.072	-1.047	-.514	.609
PUBLIC	-4.607	7.246	-.561	-.636	.527
SIZE	-.231	.204	-.162	-1.134	.261
DEBT	-.526	.474	-.136	-1.109	.271
GROWTH	.085	.049	.200	1.732	.088
PROFITABILITY	-.077	.227	-.043	-.339	.736

To check for possible heterokedasticity we applied white test.

4.5. White test

There are number of tests that can be used to test for heteroskedasticity. But we have chosen white test, because it is more generally used test. Secondly all other test requires know how what is the cause of heteroskedasticity. Although this test is a large sample test but it is also applicable to small samples for example up to 30 or more entries. The best we can get is an indication of the likelihood of heteroskedasticity as no test proves its existence in an equation. In it we assume that the data is homokedasticity. In case of heteroskedasticity we reject the null hypothesis.

Table 5.Heteroskedasticity Test

White Heteroskedasticity Test:			
F-statistic	1.446840	Probability	0.145576
Obs*R-squared	61.10219	Probability	0.236043

Value for R square is 61.10219. Whereas the critical value is (=@ qchisq) is 16.918. we will reject null hypothesis as value of R2 is above the critical value this means that there is homoskedasticity.

As there was no multicollinearity and heterokedasticity was also absent so we checked the results by dropping variables. The result of the regression by dropping the variable of government from the equation is shown in table 6. Government was chosen because the ownership structure of oil and gas sector is quite different from that of cement sector which may cause result biasness.

Table 6. Regression Results of Research Model after dropping the variable GOV.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.749929	0.187503	3.999554	0.0001
INST	0.357725	0.416404	0.859081	0.3930
PUBLIC	-1.026980	0.752774	-1.364261	0.1766
DIRS	0.428027	0.373272	1.146690	0.2552
FOREIGN	-0.095003	0.200527	-0.473767	0.6370
DEBT	-0.372579	0.348541	-1.068967	0.2885
GROWTH	0.086003	0.041958	2.049721	0.0439
SIZE	0.131777	0.172824	0.762492	0.3670
PROFITABILITY	-0.054175	0.199529	-0.271513	0.7867
R-squared	0.096853	Mean dependent var		0.626775

We can see from the table that after dropping the variable of government ownership the variable growth became significant but with positive sign. All other variables were still insignificant.

CHAPTER 5

SUMMARY, CONCLUSION AND RCOMMENDATIONS

Major findings will be discussed in detail in this chapter. This comprises implications of the findings for research model, contribution of this study to the existing literature and at the end limitations of the study for further research directions will be discussed.

5.1. Discussion of Findings

The study argues how Pakistani firms set their payout ratio. The results for this research are drawn from various organizations of Oil & Gas and cement sectors of Pakistan. It makes the conclusion generalized and even also sector oriented. In the literature there is no research contribution found in this particular domain although in surrounding countries such as India, researches have focused this domain of setting dividend payout policy where agency and transaction cost is minimized. This makes this study distinctive to be done in Pakistan.

We can see from the table that the expected signs of independent variables are not in the anticipated direction as proposed by the agency theory of dividends. Generally, the outcomes are not fully supporting the hypothesis that the agency theory of dividends and the cost minimization model describe the Pakistani data.

Except the variable GROWTH all other variables are insignificant. A positive impact on dependent variable is clear from the results of the transaction costs variables, measuring growth opportunities. Having a significant impact on payout ratio. The results show a positive relationship between growth and payout. This is in sharp deviance from studies concerning US firms. This includes Fama and French (2002) and Jensen et al. (1992), negative coefficients for growth proxies was proved by all of them. On the other hand,

according to Harada, Nguyen (2003) Growth opportunities have a positive impact on dividend payout and dividend yield. This is because Japanese firms set their dividend policies according to the business conditions. This is also consistent with the studies of Dewenter and Warther (1998).

The following unit includes conclusion of this study and suggestions regarding further researches.

5.2. Summary and Conclusion

5.2.1. Conclusion and Promising Research Ideas

This study follows the footsteps of Easterbrook and Rozeff, and the agency rationale for dividends is endured by the results of this study. The results are inconsistent with the idea that private sector firms in Pakistan set their target payout ratios so as to minimize the sum of agency costs and the costs associated with raising external finance.

The variable growth is significant but the variable did not have the hypothesized signal. There is a Positive relationship between the target dividend payout ratio and the growth. This is in agreement with the findings from Laporta et al (2000). In their study, the authors have presented two models as discussed in the literature review. Both models, the outcome and the substitute, predict a possible positive relation-ship between dividend payouts and investment opportunities for countries with weak legal protection of minority shareholders, we argue that

the predictions of the substitute model of La-porta et al (2000) – where insiders interested in issuing equity in the future pay dividends to establish a reputation for decent treatment of minority shareholders – suit better the Pakistani case. Therefore, under the agency approaches of dividends proposed by Laporta et al (2000), the agency reason to distribute dividends in Pakistan seems to be the necessity to create a clientele for future equity issues. The variables DIRS continue to be statistically insignificant. We argue that the reasons for the statistical insignificance of the variable DIRS are related with the level and the composition of insider-shareholders in Pakistani companies. As stated by Laporta et al (2000, p. 3) the meaning of 'insiders' varies from country to country. Whereas in countries like the United States and the United Kingdom ownership in large corporations is relatively dispersed, pro-viding managers with deeper control over companies, "in most other countries, large firms typically have shareholders that own a significant fraction of equity, such as the founding families". This is also a characteristic of Pakistani companies, where managers often come from the controlling family. Therefore, agency problems between managers and controlling shareholders are not very relevant.

We can conclude that neither transaction costs nor agency costs effects explain why firms start to pay dividends. Their effective payout ratio will depend on investment opportunities. When the firms are growing they will tend to increase their dividend payout ratio as predicted in the substitute model of Laporta et al (2000).Therefore, our results present weak evidence in support of the agency effects in the determination of dividend payout ratios. However the same policy does not seem to be affected by variations in the percentage of common stock held by the owners.

For proper understanding further investigation is required. One option could of investigating simultaneously the payout decision, the decision of capital structure and ownership structure patterns. It is not unreasonable to consider these decisions as interdependent so testing approach (system of equations) used by Noronha et al. (1996) might be a better option. In this study Issues of owners and debt holders were not directly addressed. Yet if an agency cost of debt is incorporated into the model provides opportunity for further investigation. It is clear that in setting the dividend policy of firm ownership of shareholders is insignificant variable. In case of Pakistan the dividend payout does not seem to be affected by its variations.

In short, the heavy reliance of Pakistani firms on short-term debt and ownership structure pattern as discussed in chapter one, might limit the explanatory power of the agency model that is derived from the Western settings. However, empirical findings of this study confirm that some of the insights from cost minimization model are portable to Pakistan.

5.2.2. Final Remarks

The agency cost description of dividend strategy was the emphasis of the study. By using some variation in Rozeff's (1982, p. 249) model and applying it to the Pakistani capital market we come up certain evidence that aids the agency dispute. Although the results did not showed strong evidence as in the original model, however it can be concluded that there is an increase in external cost of financing with increase in dividend payout. Thus we can conclude that transaction cost is influenced by the effective dividend payout ratio of the organization.

5.3. Contributions Of the Current Study

1. The research adds to the researchers' effort to apprehend the association between payout and transaction and agency cost within the Cement and Oil & Gas sector.

2. This study adds to the literature of dividend puzzle and sheds light on impact of ownership on dividend payouts in case of developing economies as Pakistan.

3. Further analysis is required with reference to dynamics and factors affecting the dividends payout strategy. Further research will help in better understanding of the dynamics of dividend payout policy in evolving markets and also on Pakistan's economy.

4. As no research work or empirical evidence supports such research in Pakistan, therefore this research contributes to build the foundation of such topic in Pakistan.

5.4. Limitation Of the Study

The results of this study includes following limitations.

1. The data taken for this study is based upon convenient sampling and results do not include demographic variables to be an indicator of our dependent variable and to justify the phenomena in its true detail.

2. The study is restricted to two sectors including cement and Oil & Gas only.

3. While developing this analysis, major restriction was deficiency of information and data. However with time some improvements may be added in the legislation

regarding the information disclosure by public traded companies in Pakistan. Therefore, regarding this area, we expect to get better results in future.

4. Extensive research is required to be carried out in Pakistan, for longer period of time and with larger number of firms.

5. Further research to examine the market reaction to dividend announcements is also required, and it is also important to find other possible variables effecting dividend payouts such as flotation costs, macroeconomic factors and other firm level factors. Well, there is ample work left for further investigation.

5.5. Direction for Future Research

1. The study can focus on public and private sector organizations categorically to enhance the validity of results and also because of the different structures in these organizations.

2. Future research may seek more empirical evidence to determine how firms set their target payout ratio, by using different statistical techniques.

3. The model can be tested in a different setting to formulate a new research and increase the generalizability of this study in the aforementioned sectors. The Rozeff's model can be upgraded by adding new variables to determine the impact of corporate governance on payout policy.

4. From the results of this study it would be worthwhile to consider the following directions for impending research:

• What controls the decision to pay or not to pay dividends in registered firms?

• What regulates the dividend payout ratios of financial listed firm of KSE?

• What determines the dividend policy decision of registered financial firms and non-financial firms of Karachi Stock Exchange, Pakistan?

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APPENDIXES

ANNEXURE 1

	Oil and Gas	
1	Attock Refinery
2	Mari Gas
3	National Refinery
4	Oil and Gas Deve. Co.
5	P.S.O.
6	Pak Oilfields Ltd.
7	Pak Petroleum Ltd.
8	Pak Refinery
9	Shell Pakistan
	Cement sector	
10	Dandot Cement Company Ltd.
11	Pakistan Slag Cement Industries Ltd.
12	Fauji Cement Company Ltd.
13	Lucky Cement Ltd.
14	Kohat Cement Ltd.
15	Gharibwal Cement Ltd.
16	Fecto Cement Ltd.
17	Dadabhoy Cement Industries Ltd.
18	D.G. Khan Cement Company Ltd.
19	Cherat Cement Company Ltd.
20	Maple Leaf Cement Factory Ltd.
21	Bestway Cement Ltd.
22	Pioneer Cement Ltd.
23	Chakwal cement Ltd.
24	Zeal Pak Cement Factory Ltd.

ANNEXURE 2
Independent variable, AGENCY COSTS is fragmented into five variables to measure the agency cost effect.

Year	Name of Firms	Gov	Inst	Dirs	Public	Foreign
2004	Bestway Cement Ltd.	0	0.1164	0.0661	0.0901	0.7274
2004	Cherat Cement Company Ltd.	0	0.706145	0.19967	0.094185	0
2004	Zeal Pak Cement Factory Ltd.	0	0.9141	0.0002	0.0857	0
2005	Bestway Cement Ltd.	0	0.004	0.1245	0.1441	0.7274
2005	D.G. Khan Cement Company Ltd.	0	0.6479	0.0403	0.2481	0.0637
2005	Kohat Cement Ltd.	0	0.1095	0.7527	0.1378	0
2005	Maple Leaf Cement Factory Ltd.	0	0.881777	0.070494	0.047729	0
2006	Bestway Cement Ltd.	0	0.0113	0.1433	0.1254	0.72
2006	Cherat Cement Company Ltd.	0	0.7202	0.0089	0.27	0
2006	D.G. Khan Cement Company Ltd.	0	0.6425	0.0299	0.2577	0.0699
2006	Fecto Cement Ltd.	0	0.5672	0	0.398	0.0348
2006	Maple Leaf Cement Factory Ltd.	0	0.744995	0.063661	0.184639	0.006705
2007	Bestway Cement Ltd.	0	0.0038	0.1429	0.1268	0.727
2007	Fauji Cement Company Ltd.	0	0.0921	0.5209	0.3522	0.0348
2007	Gharibwal Cement Ltd.	0	0.062624	0.770858	0.166518	0
2007	Pioneer Cement Ltd.	0	0.4198	0.4346	0.1451	0.0005
2007	attock cement ltd	0	0.9398	0	0.0596	0.0006
2008	Bestway Cement Ltd.	0	0.00054	0.1435	0.169	0.7273
2008	Dandot Cement Company Ltd.	0	0.6807	0.2932	0.0261	0
2008	Dewan Cement Ltd. (Pakland Cement Ltd.)	0	0.6093	0.2555	0.1352	0
2008	Fauji Cement Company Ltd.	0	0.85832	0.00000001	0.134551	0.007129
2008	Flying cement ltd.	0	0.102995	0.787583	0.10914	0.000279
2008	Kohat Cement Ltd.	0	0.1739	0.6433	0.1836	0
2008	Zeal Pak Cement Factory Ltd.	0	0.8406	0	0.1504	0
2008	attock cement ltd	0	0.949	0	0.0492	0.0016
2009	Al-Abbas Cement Industries Ltd. (Essa Cement Industries Ltd.	0	0.75816	0.138995	0.202448	0.000395
2009	Dewan Cement Ltd. (Pakland Cement Ltd.)	0	0.5893	0.2233	0.1874	0
2009	Lucky Cement Ltd.	0	0.5236	0.2368	0.23959	0
2009	attock cement ltd	0	0.1593	0	0	0.8407
2004	Ideal Energy Limited	0	0.3572	0.6304	0.0124	0
2004	Kohinoor energy ltd	0	0.1078	0.13	0.2311	0.5311
2004	NRL	0	0.77	0.000021	0.0799	0.15
2004	POL	0	0.8952	0.000011	0.1039	0.0008

2004	SG Power Limited	0	0.0696	0.583	0.1473	0.2001
2004	SHELL	0	0.1155	0.0017	0.1217	0.7611
2004	SSGC	0.6	0.2011	0.0002	0.1944	0
2004	SNGPL	0.36	0.5846	0.00006	0.0534	0.0019
2004	Southern Electric Power Company Limited	0	0.6485	0.001	0.333	0.0175
2005	hubco	0	0.69718	0.00012	0.3024	0
2005	Kohinoor energy ltd	0	0.06194	0.1602	0.2419	0.5359
2005	MARI GAS	0.2	0.7126	0.0012	0.0862	0
2005	NRL	0	0.711	0.000022	0.1309	0.15
2005	OGDC	0.95	0.02733	0.000007	0.0214	0.001
2005	POL	0	0.8747	0.00022	0.125	0
2005	Southern Electric Power Company Limited	0	0.5442	0.0074	0.4484	0
2005	sui Northern pipelines ltd	0.36	0.55	0.00005	0.089	0
2006	hubco	0	0.82	0.00012	0.179	0
2006	Kohinoor energy ltd.	0.	0.4314	0.1299	0.2589	0.1798
2006	MARI GAS	0.2	0.7039	0.0004	0.0957	0
2006	NRL	0	0.769	0	0.081	0.15
2006	OGDC	0.95	0.0283	0.000007	0.015	0.0064
2006	POL	0	0.89	0.000014	0.1095	0
2006	PPL	0.78	0.1574	0.000001	0.0583	0.0003
2006	PRL	0	0.8486	0.0016	0.1498	0
2006	PSO	0.26	0.5409	0	0.1574	0.0466
2006	Southern Electric Power Company Limited	0	0.5325	0.0074	0.4405	0.0195
2006	SHELL	0	0.1019	0.0084	0.1285	0.7611
2006	sui Northern pipelines ltd	0.36	0.5947	0.0053	0.04	0
2007	hubco	0	0.8914	0.0000649	0.1082	0
2007	Kohinoor energy ltd	0	0.06194	0.1602	0.2419	0.5359
2007	mari gas	0	0.9101	0.0003	0.0896	0
2007	NRL	0	0.74	0.000004	0.108	0.15
2007	OGDC	0.85	0.0574	0.000003	0.0237	0.0686
2007	PPL	0.78	0.1766	0	0.0392	0.0002
2007	PRL	0	0.87	0.0088	0.1328	0
2007	PSO	0.26	0.5104	0	0.1296	0.1049
2007	Southern Electric Power Company Limited	0	0.5272	0.0074	0.4463	0.0191
2007	Sui Northern Gas Pipelines Limited	0.36	0.5943	0.0053	0.0404	0

2007	SSGC	0.6	0.2646	0.0002	0.1306	0
2008	HUBCO	0	0.8961	0.000086	0.1035	0
2008	Kohinoor energy ltd.	0	0.4387	0.1299	0.2533	0.1781
2008	MARI GAS	0.2	0.733	0.0002	0.0565	0
2008	OGDC	0.85	0.0318	0.000001	0.0183	0.0997
2008	PRL	0	0.8077	0.0038	0.1885	0
2008	Sui Northern Gas Pipelines Limited	0.36	0.5902	0.001	0.0488	0
2009	HUBCO	0	0.8637	0.000086	0.135	0
2009	Kohinoor energy ltd.	0	0.4499	0.13	0.25301	0.1707
2009	mari gas	0.2	0.7211	0.00028	0.0786	0
2009	national refinary ltd	0	0.8869	0	0.0869	0.0262
2009	ogdc	0.85	0.1007	0.000001	0.0237	0.0706
2009	pol	0.78	0.0343	0.000001	0.1853	0
2009	PRL	0	0.8015	0.0038	0.1947	0
2009	PSO	0.26	0.5891	0	0.1239	0.0319

ANNEXURE 3

Variable TRANSACTION COSTS is broken into two variables, to calculate the transaction costs of funding.

year	Name of Firms	DEBT	GROWTH
2004	Bestway Cement Ltd.	0.5523	2.15
2004	Cherat Cement Company Ltd.	0.4372	10.41
2004	Zeal Pak Cement Factory Ltd.	0.5248	-2.32
2005	Bestway Cement Ltd.	0.5995	2.61
2005	D.G. Khan Cement Company Ltd.	0.4802	1.54
2005	Kohat Cement Ltd.	0.3356	7.98
2005	Maple Leaf Cement Factory Ltd.	0.4483	-4.36
2006	Bestway Cement Ltd.	0.7308	0.36
2006	Cherat Cement Company Ltd.	0.415	0.12
2006	D.G. Khan Cement Company Ltd.	0.4383	0.73
2006	Fecto Cement Ltd.	0.4758	1.16
2006	Maple Leaf Cement Factory Ltd.	0.6397	0.48
2007	Bestway Cement Ltd.	0.7408	-0.46
2007	Fauji Cement Company Ltd.	0.4161	0.29
2007	Gharibwal Cement Ltd.	0.6653	-0.88
2007	Pioneer Cement Ltd.	0.689	-0.7
2007	attock cement ltd	0.413	0.09
2008	Bestway Cement Ltd.	0.73	-4.7

2008	Dandot Cement Company Ltd.	0.894	-3.79
2008	Dewan Cement Ltd. (Pakland Cement Ltd.)	0.614	-2.59
2008	Fauji Cement Company Ltd.	0.2936	-0.49
2008	Flying cement ltd.	0.3179	0
2008	Kohat Cement Ltd.	0.6945	-3.1
2008	Zeal Pak Cement Factory Ltd.	0	1.92
2008	attock cement ltd	0.3984	-0.29
2009	Al-Abbas Cement Industries Ltd. (Essa Cement Industries Ltd.	0.71	-0.46
2009	Dewan Cement Ltd. (Pakland Cement Ltd.)	0.6193	-0.39
2009	Lucky Cement Ltd.	0.3943	0.55
2009	attock cement ltd	0.17805	0.76
2004	IDEAL ENERGY LIMITED	0.2099844	0.723
2004	Kohinoor energy ltd	0.45057334	0.2622
2004	NRL	0.69731395	0.4625
2004	POL	0.40985555	0.1396
2004	SG POWER LIMITED	0.15121829	2.23
2004	SHELL	0.60033498	0.1801
2004	SSGC	0.6283766	-0.1408
2004	SNGPL	0.79631162	0.1514
2004	SOUTHERN ELECTRIC POWER COMPANY LIMITED	0.67448545	-0.1703
2005	hubco	0.32081582	-0.059
2005	Kohinoor energy ltd	0.28809175	0.0715
2005	MARI GAS	0.77715672	-0.0711
2005	NRL	0.62419818	0.345
2005	OGDC	0.26204825	0
2005	POL	0.28765783	0.2047
2005	SOUTHERN ELECTRIC POWER COMPANY LIMITED	0.67327616	-0.481
2005	sui Northern pipelines ltd	0.64623274	0.1553
2006	hubco	0.31096831	-0.25
2006	Kohinoor energy ltd.	0.18378812	0.1201
2006	MARI GAS	0.67937798	-0.1938
2006	NRL	0.62402858	0.3944
2006	OGDC	0.22350638	0.4739
2006	POL	0.37075538	0.557
2006	PPL	0.24745419	0.492
2006	PRL	0.62085253	0.546
2006	PSO	0.70493918	0.368
2006	SOUTHERN ELECTRIC POWER COMPANY LIMITED	0.6788361	-0.567

year	Name of Firms		
2006	SHELL	0.64184616	0.463
2006	sui Northern pipelines ltd	0.80445397	0.182
2007	hubco	0.35434245	-0.263
2007	Kohinoor energy ltd	0.12010575	0.04128
2007	mari gas	0.63042872	0.5913
2007	NRL	0.6098426	0.377
2007	OGDC	0.28553548	0.1326
2007	PPL	0.20452658	0.3523
2007	PRL	0.67381061	-0.481
2007	PSO	0.7210459	-0.062
2007	SOUTHERN ELECTRIC POWER COMPANY LIMITED	0.72050016	-4.64
2007	Sui Northern Gas Pipelines Limited	0.80543947	0.013
2007	SSGC	0.80543947	-0.0704
2008	HUBCO	0.54591885	-0.03
2008	Kohinoor energy ltd.	0.10784074	-0.1966
2008	MARI GAS	0.68889368	1.579
2008	OGDC	0.36213832	0.1064
2008	PRL	0.71412577	2.349
2008	Sui Northern Gas Pipelines Limited	0.82473145	-0.11
2009	HUBCO	0.67253811	1.344
2009	Kohinoor energy ltd.	0.03146321	-0.12
2009	mari gas	0.59745147	0.734
2009	national refinary ltd	0.59020192	-0.11
2009	Ogdc	0.13674772	0.2
2009	Pol	0.25313989	-0.04
2009	PRL	0.93308096	3.07
2009	PSO	0.8	0.766

ANNEXURE 4

Variable size and profitability were added to find their relation with the dividend payout

year	Name of Firms	SIZE	profitability	DIV PAYOUT
2004	Bestway Cement Ltd.	3.77	0.347	0.707
2004	Cherat Cement Company Ltd.	3.339	0.467	2.719
2004	Zeal Pak Cement Factory Ltd.	3.36	-0.22	6.33
2005	Bestway Cement Ltd.	3.955	0.359	0.587

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2005	D.G. Khan Cement Company Ltd.	4.25	0.227	0.3845
2005	Kohat Cement Ltd.	3.21	0.511	2.836
2005	Maple Leaf Cement Factory Ltd.	4.01	0.179	0.184
2006	Bestway Cement Ltd.	4.256	0.357	0.1827
2006	Cherat Cement Company Ltd.	3.55	0.34	0.46
2006	D.G. Khan Cement Company Ltd.	4.53	0.179	0.1876
2006	Fecto Cement Ltd.	3.29	0.618	0.3066
2006	Maple Leaf Cement Factory Ltd.	4.27	0.241	0.184
2007	Bestway Cement Ltd.	4.36	0.009	0.2723
2007	Fauji Cement Company Ltd.	3.806	0.243	0.2657
2007	Gharibwal Cement Ltd.	3.915	-0.073	0.6245
2007	Pioneer Cement Ltd.	3.93	-0.069	0.199
2007	attock cement ltd	3.76	0.351	0.1386
2008	Bestway Cement Ltd.	4.405	-0.061	0.321
2008	Dandot Cement Company Ltd.	3.492	-1.698	0.1055
2008	Dewan Cement Ltd. (Pakland Cement Ltd.)	4.335	-0.07	0.141
2008	Fauji Cement Company Ltd.	4.09	0.052	2.648
2008	Flying cement ltd.	3.729	-0.091	0.51
2008	Kohat Cement Ltd.	3.882	-0.12	0.062
2008	Zeal Pak Cement Factory Ltd.	0	-0.158	0.138
2008	attock cement ltd	3.769	0.191	0.321
2009	Al-Abbas Cement Industries Ltd. (Essa Cement Industries Ltd.	3.773	0.0238	0.263
2009	Dewan Cement Ltd. (Pakland Cement Ltd.)	4.334	-0.089	2.39
2009	Lucky Cement Ltd.	4.58	0.2226	0.0727
2009	attock cement ltd	3.843	0.4163	0.2811
2004	IDEAL ENERGY LIMITED	2.50582803	0.095	1.012
2004	Kohinoor energy ltd	3.83598212	0.186	0.3628
2004	NRL	4.22746248	0.541	0.536
2004	POL	4.10392339	0.448	0.582
2004	SG POWER LIMITED	2.59999218	0.054	0.603
2004	SHELL	4.18594142	0.357	0.8013
2004	SSGC	4.50292941	0.133	0.918
2004	SNGPL	4.75530075	0.316	0.4044
2004	SOUTHERN ELECTRIC POWER COMPANY LIMITED	3.86577297	0.098	0.522
2005	hubco	4.66864679	0.17	0.903
2005	Kohinoor energy ltd	3.83032557	0.169	0.6206
2005	MARI GAS	3.82199799	0.458	0.167
2005	NRL	4.26508445	0.476	0.5289
2005	OGDC	5.05910465	0.58	0.56

2005	POL	4.19975518	0.438	0.623
2005	SOUTHERN ELECTRIC POWER COMPANY LIMITED	3.87560524	0.025	0.306
2005	sui Northern pipelines ltd	4.81342352	0.186	0.4419
2006	hubco	4.63858809	0.092	0.703
2006	Kohinoor energy ltd.	3.8279118	0.186	0.5207
2006	MARI GAS	3.9110297	0.231	0.355
2006	NRL	4.3964086	0.562	0.481
2006	OGDC	5.07468299	0.713	0.7339
2006	POL	4.36625855	0.556	0.531
2006	PPL	4.61235465	0.655	0.3686
2006	PRL	4.07933684	0.453	0.0732
2006	PSO	4.84518303	0.564	0.691
2006	SOUTHERN ELECTRIC POWER COMPANY LIMITED	3.88677828	0.015	0.147
2006	SHELL	4.44923148	0.456	0.388
2006	sui Northern pipelines ltd	4.88778547	0.339	0.411
2007	hubco	4.65310055	0.091	0.698
2007	Kohinoor energy ltd	3.85654764	0.133	0.4302
2007	mari gas	3.93461963	0.435	0.93511
2007	NRL	4.51353055	0.479	0.3996
2007	OGDC	5.00254704	0.845	0.7769
2007	PPL	4.7008672	0.61	0.3544
2007	PRL	4.16628503	0.105	0.029
2007	PSO	4.87280402	0.342	0.7349
2007	SOUTHERN ELECTRIC POWER COMPANY LIMITED	3.89195538	-0.135	0.147
2007	Sui Northern Gas Pipelines Limited	4.92237819	0.261	0.4012
2007	SSGC	4.92237819	0.261	0.696
2008	HUBCO	4.79722806	0.091	1.007
2008	Kohinoor energy ltd.	3.86621643	0.101	0.319
2008	MARI GAS	3.96747777	1.372	0.7854
2008	OGDC	5.05599111	1.079	0.834
2008	PRL	4.37580988	0.479	0.2293
2008	Sui Northern Gas Pipelines Limited	4.9895308	0.233	0.4699
2009	HUBCO	4.95513754	0.127	1.099
2009	Kohinoor energy ltd.	3.84017512	0.058	0.411
2009	mari gas	4.31072521	0.26	0.148
2009	national refinary ltd	4.62679814	0.0883	0.029
2009	ogdc	5.25040048	0.56	0.77

2009	pol	4.540636	0.276	0.44
2009	PRL	4.51277569	-2.52	0.2293
2009	PSO	2.18582536	-0.321	0.532