CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE

A COMPARATIVE STUDY OF DEVELOPING AND DEVELOPED MARKETS

By

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Dedicated To

Holy Prophet (P.B.U.H.)

THE GREATEST SOCIAL REFORMER

&

MY PRAISEWORTHY MOTHER,

DEARLY LOVED FATHER (LATE),

Abstract

This study has been conducted to compare the impact of corporate governance on various areas of performance between the USA (developed economy) and Pakistan (developing economy). Areas tested in this study are the dividend policy, capital structure, internal and external performance, and multifactor model of publicly traded companies in Pakistan. A specially constructed CG Scorecard and individual corporate governance factors have been used as the measures of corporate governance for the Pakistani perspective and the corporate governance index has been used for the analysis in USA. The Corporate Governance Scorecard has been developed on the basis of a literature review and by a survey of CEO's, COO's, and company secretaries of various listed companies in Pakistan. Dividend policy is measured by using the payout ratio and Lintner's (1956) Model. A total of 120 listed companies in Pakistan and 1,035 listed companies in the USA have been investigated to analyze the relationship for the period 2002 to 2007. This study also analyzes separate proxies of corporate governance. In Pakistan the study found positive relationships between managerial ownership, institutional ownership, and CEO duality with dividend payout. We also found a positive relationship between the Corporate Governance Score and dividend payout. The same relationship has been found in the USA. Using Lintner's Model, the study also found that companies with good governance have higher payout ratios. Descriptive statistics, the correlation matrix, and common effect models have been applied to test the panel data. For capital structure, the study found a negative relationship between leverage and CGI in Pakistan. Managerial ownership has been found positively associated with gearing ratio in both cases. It has also been found that the presence of CEO duality leads to more debt in capital structures. This may be due to the transitional phase through which the Pakistani companies passed after the promulgation of codes of corporate governance in 2002, but in the USA the study found positive relationships between leverage and corporate governance.

Internal and external performance were measured in both of the countries by taking ROE and ROA as internal performance measures and Tobin's Q and Marris (Market to book value of equity) as external performance measures. Common Effect, Fixed Effect, Random Effect, and Fuller and Parks Effect have been used to test the panel data in this regard. In both the case of

Pakistan and the USA, the study found a positive relationship between the Corporate Governance Score and the performance measures.

The study also tested the Fama and French (1973) three factor model, the Carhart (1997) four factor model, and the CGI contained fifth factor model for the sample companies in Pakistan. The study found significant effects for all variables on stock returns.

Research Publications/ Acceptance

1. "Ownership structure and earnings management", accepted for publication in International research journal of finance and economics.
2. "Corporate Governance and cost of equity: An empirical evidence from Pakistani equity market", published in Lahore Journal of economics, Vol 14, Issue 1.
3. "Earnings Management and Dividend Policy: A comparative study between China and Pakistan", accepted for publication in International Research Journal of Finance and Economics.
4. "Impact of Corporate Governance on Earnings Management", An empirical study on Pakistani market", published in European Journal of scientific Research, vol. 26 , issue 4.
5. "Board Structure and Earnings Management: An empirical Study of Pakistan", published in Middle Eastern Finance and Economics, issue 3.
6. "Calendar Anomalies: Case of Karachi Stock Exchange", published in Research Journal of International studies", issue 9.
7. "Determinants of CEO Compensation: Empirical Evidence from Pakistan", published in International Research Journal of Finance and Economics, issue 32.
8. "Impact of Corporate Governance on Financial Performance", An empirical study Published in Business Review Cambridge".
9. "Weak form of efficiency: An empirical evidence from Pakistan", published in Business Review, Cambridge 9th edition.

10. "Impact of macro economic announcements on stock prices; An empirical evidence from Pakistan", published in Business Review, Cambridge 9th edition.
11. "An Empirical Analysis of Association between Operating Cash Flows and Dividend Changes in Pakistan", Published in Business Review Cambridge Volume 10, Summer 2008.
12. "Non Executive Directors and Performance of Firms: Empirical Evidence from an Emerging Market", Published in Business Review Cambridge Volume 10, Summer 2008.
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Conference Presentations

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(Syed Zulfiqar Ali Shah)

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Chapter one

Introduction

While public attention towards the importance of corporate governance gained momentum only after the unearthing of major scandals like Enron and WorldCom, it would be wrong to assume that the concept of corporate governance is something new. The need for strong corporate governance arose at about the same time as the ownership and management of corporate entities were separated and the application of agency theories set in. Like the proverbial child who has to cry to get his mother's attention, companies have always needed strong corporate governance. Only when the small investors cried out (after losing heavily through corporate scandals) did the regulators and professional bodies start paying formal attention to developing and documenting more elaborate corporate governance mechanisms.

A somewhat narrow definition of corporate governance was given by Shleifer and Vishny (1997): "corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment." A broader definition was provided by the Organization for Economic Co-operation and Development (OECD) in 1999 by describing corporate governance as "a set of relationships between a company's board, its shareholders and other stakeholders. It also provides the structure through which the objectives of the company are set, and the means of attaining those objectives, and monitoring performance, are determined."

The prime objective of corporate governance is to ensure protection of the interests of all the stakeholders in a company. It involves decision-making at the board level, timely transparent communication to all concerned, and enabling equity-providers to have greater confidence in the company. In turn, this reduces the perception of risk and ultimately curtails the agency cost.

In the developed markets this fact has been proven by a number of studies conducted by the regulators: government and independent institutions. The theme of current worldwide corporate governance has been influenced by reports issued by the Cadbury Committee (1992), Greenbury Committee (1995), Hampel Committee (1998), Turnbull Committee (2003), and Sir Derek Higgs (2003) in the UK. The rest of the world followed. On the basis of these reports, several corporate governance codes and recommendations have emerged and are being practiced in different parts of the world.

The definition of corporate governance differs from country to country. In the case of Continental European countries such as Germany, the term refers to all the stakeholders of a firm, while in the Anglo-American countries corporate governance focuses on generating a fair return for investors (Goergen, Manjon and Renneboog, 2005). The corporate governance devices are utilized to ensure economic efficiency including, among others, shareholder's monitoring, creditor's monitoring, executive remuneration contracts, dividend policy, and the regulatory framework of the corporate law regime and the stock exchanges. The increasing international integration, deregulation, technological developments, and resulting challenges are calling for a review of national corporate governance systems. Countries that are in dire need of

external financing require stronger and more effective corporate governance systems. Pakistan's failure to attract external financing both from national and foreign investors may be largely attributed to weak investor protection.

Corporate governance is more important for emerging and less developed markets; Pakistan is no exception. The first Code of Corporate Governance in Pakistan was promulgated in March 2002 by the Securities and Exchange Commission of Pakistan (SECP), which is the apex regulator of corporate sectors in the country.

A number of international studies have examined the effect of corporate governance practices on publicly traded firms. The recent flow of capital from developed countries to developing countries increases the number of stakeholders and the types of resources provided by them. As more countries are adopting International Financial Reporting standards, the evaluation of firm performance may be more comparable across firms. The Standard Corporate Governance (CG) Index has been developed and is used to assess management performance. The present study addresses the effects of corporate governance on different areas of business in developing and developed countries. Pakistan has been taken as a proxy for a developing economy and the USA as a developed economy.

As external stakeholders from other parts of the world expect an adequate return on their investment, financial reporting and corporate governance issues come under increased scrutiny. Since the developing markets do not have adequate measures to assess management performance and have insufficient transparency in financial reporting,

emulating existing practices from well developed economies may provide some of the tools to satisfy these stakeholders.

This research adds value by capturing the effect of CGI (Corporate Governance Index) on various corporate performance measures. Such performance measures include internal performance (return on equity and return on assets), market performance (Tobin's Q and Marris ratio and stock returns), cost of capital, and the ability of the company to generate finances. CGI was developed for Pakistani companies following the literature review and a detailed survey of Chief Executive Officers (CEOs), Chief Operational Officers (COOs), company secretaries, and Chief Finance Officers (CFOs) as to their recommendations about inclusion of variables (Appendix) and weights. For the U.S., which has been taken as a developed market for comparison, an established Corporate Governance Index has been used.

After evaluating the CG practices with different measures, it has been established that CG is one of the significant factors for the success of a corporation, whether it is the case of a developed market (America) or a developing market (Pakistan). Companies will strong Corporate Governance will be less risky while those with poor CG will have a higher risk premium. On the basis of these facts, it has been suggested that CG be incorporated in a multifactor model to calculate the returns for shareholders.

Following are the major objectives of the study:

1. To establish a standardized Corporate Governance Index (CGI) for Pakistan.

2. To study the effect of CG on companies' Internal Performance and compare the effect in developing and developed economies.

3. To study the effect of CG on companies' Market Performance and compare this effect in developing and developed economies.

4. To analyze the effect of CG on companies' ability to generate the finances both in developing and developed economies.

5. To determine the effect of CG on the cost of capital of the companies in developing and developed economies.

6. To include CGI as a measure of unsystematic risk that should be included in a multifactor model of returns.

The following section describes the relationship between the corporate governance, performance measures, and strategic decisions of the companies.

1.1 Corporate Governance and Dividend Policy

Investors invest in businesses for capital gains and dividends. Paying dividends is a strategic decision, which is taken by the board of directors of a company. The dividend decision, one of the top ten unsolved issues in finance (Brealey and Myers 2005), becomes more crucial when ownership is concentrated. In this situation, an agency conflict could arise in which internal shareholders misappropriate earnings from external or minority shareholders. For this reason, external shareholders prefer the payment of dividends (Jensen 1986, Mayers 2000). In countries where legal protection is strong,

minority shareholders can use their rights to compel internal shareholders for dividend payments. But in countries with weak legal protection, external shareholders are unable to compel the management to pay dividends. Laporta (2000) confirmed in his study that dividend payments are, on the average, higher in the countries where legal protection for minority shareholders is strong.

It becomes even more important in this situation to know what type of governance mechanism is being used in the company. After the collapse of large businesses like WorldCom and Enron, governance mechanisms have received increased attention from policy makers. Steps were taken quickly to provide specific guidelines for the governance of companies so that the interests of the minority shareholders could be protected, and an environment of trust could be created. The Code of Corporate Governances is one example of these steps. The Securities and Exchange Commission of Pakistan, a country with a transitional economy, launched a Code of Corporate Governance in March 2002. The basic objective of this code was to ensure the protection of the interests of the stakeholders. Although this code is voluntary, almost all of the listed companies are following its guidelines. They fulfill the reporting requirements in their annual reports for the Code of Corporate Governance through a "Compliance with a Code of Corporate Governance" statement.

As a transitional economy, Pakistan has less legal protection for minority shareholders as compared to developed economies. This research compares the results of adopting the code of CG in Pakistan with a developed economy (USA). Many Pakistani businesses are family owned and their strategic decisions depend on their governance

mechanisms. This study examines the relationship between corporate governance and dividend policy so that policy makers can consider the interests of minority shareholders in their decision making processes. The crisis in financial markets due to governance and risk issues highlights the importance of understanding the link between corporate governance and strategic policy.

This study measures corporate governance through different proxies after collecting primary data as well as secondary data. Variables have been incorporated on the basis of previous studies, a literature review, and the views of practitioners in Pakistan (CFO, COO, CEO, brokers etc.).

The theoretical framework behind the study is that a good system of corporate governance results in decisions which consider the interests of all of the shareholders. In this scenario, according to the theory, there should be a positive relationship between a strong corporate governance system and dividend payouts.

This is the first study in Pakistan using extensive corporate governance data and measuring its relationship with dividend policy. Another contribution of the paper is the use of the Lintner Model with respect to a Corporate Governance Score.

1.2 Corporate Governance and Capital Structure

A Capital Structure decision is one of the most imperative strategic decisions taken by top management. Selection of debt or equity is very critical, and the wrong selection may bring huge losses to a corporation. Continuous and intensive research using the irrelevance theory of Modigliani and Miler (1958) explores the issue. On the basis of

these studies, several theories have garnered interest from different researchers. Agency theory provides empirical evidence to support one aspect of MM theory. The theory claims that a cost due to a conflict of interest is the determinant of capital structure, and that cost is an agency cost (Fama & Miller (1972) and Jensen & Meckling (1976)). Agency costs can be minimized by good governance systems. Many economists are of the view that in the Financial Crises of 1997, malfunctioning corporate governance was one of the biggest factors responsible for creating dependency of firms on debt from banking institutions (Suto 2003).

Leverage plays an important role in mitigating the agency cost in multiple ways. Including debt in the capital structure reduces the percentage of equity financing. Creditors act as watchdogs to monitor the performance of the company which reduces agency cost. Another way of minimizing agency cost is the Employee Shareowner Program (ESOP). By increasing management ownership, agency cost reduces (Jensen and Meckling 1976). Grossman and Hart (1982) argued that the manager's job and their personal wealth is dependant on the success or failure of the companies. Managers who own significant stocks in the firm will avoid too much debt so as not to be financially distressed. This study has been conducted with the hypothesis that a relationship may exist between corporate governance and capital structure.

The present research was motivated by the current financial crises all over the world. The researcher began with the perception that one solution for the economic crises could be good corporate governance. If companies are governed properly and the interests of all stakeholders are taken care of, a healthy corporate culture could be built.

Capital structure decisions are some of the core decisions of today's businesses. The inclusion of debt in the capital structure may affect the overall performance and market value of the company. This research will provide the policy makers with insight to the type of corporate governance which may ensure an optimal capital structure.

This study tries to analyze the different variables of corporate governance individually to find out their impacts on corporate governance. Afterwards, the research was used to build a governance score card following the Brown and Caylor (2006) model to measure the quality of corporate governance. The score is used for calculating a corporate governance score (CGI) and studying the relationship between CG and capital structure.

1.3 Corporate Governance and Cost of Equity

The relationship between corporate governance and cost of equity has been examined for the developed and emerging markets. Since no significant work has been done in this regard in Pakistan, the study is an effort to bridge this gap. It intends to provide an insight into the relationships between the different variables as well as help finance managers and policy-makers in making judicious and rational financial decisions.

With reference to Pakistan, this study has a greater significance. The Pakistani corporate sector has been historically dominated by family owned businesses and non-professional boards of directors elected on the basis of links with concentrated ownership. In this situation, decisions appear to be serving the interests of only one party, making it difficult to gain and sustain the trust of other stakeholders. With the company being permanently controlled by one family with a restricted professional base, the

decision-making process at the board level often stagnates. Generally, investing in the family-controlled companies cannot be supported; the family is deemed to make all decisions to suit their own particular interests. Very often they expropriate the dues of other stakeholders. Thus the chances for a family-controlled company to become a truly public company are remote as a very high level of agency costs are involved, pushing up the company's Weighted Average Cost of Capital (WACC).

As WACC is normally used as an opportunity cost for evaluating further investment opportunities, very few new investments can measure up to the high level of returns sought. This curtails both growth and diversification possibilities. Cost of equity is one of the foremost constituents of WACC. In un-leveraged companies, it is the only component of WACC. A high cost of equity is a severe deterrent for managers and a serious impediment to attempts to raise additional funds.

If companies succeed in gaining and sustaining the confidence of the investing public, their cost of equity can shrink. This brings down the threshold of IRR sought from new projects: opening doors for expansion and diversification which in turn has positive consequences for the company, its stakeholders, and the country at large.

This study seeks to highlight the relationship between corporate governance practices which help a company gain and sustain confidence of the investing public and the cost of equity which helps a company to grow and diversify. Hopefully, the findings will provide a direction to policy-makers to augment or modify the extent and depth of corporate governance practices which will support the growth of a proper corporate culture in the country.

1.4 Corporate Governance and Earnings Management

The evolution of today's modern business has resulted in many of the corporations becoming owned and controlled by families and the major agency problem exists not only between the management and owners in general, but between the management (the controlling family) and minority shareholders as well. Due to the increase in this conflict, the issue of trust has taken the key position in today's financial analysis procedures. Management is accountable to shareholders, and within the business other stakeholders are also present. Each stakeholder has his own interest in the business; anyone with authority tries to convert the results in his own favor. Earnings management is one of the examples which is used to smoothen the earnings by accountants according to the will of authorities. The concept of appropriate corporate governance has emerged as a result of such problems. For this purpose the Securities and Exchange Commission of Pakistan introduced a Code of Corporate Governance in March, 2002.

Better governance is supposed to lead to better corporate performance by preventing the expropriation of controlling shareholders and ensuring better decision-making. This expropriation may be due to the results of smoothing the earning intention, which is known as earnings management. This study attempts to assess whether corporate governance creates any impact on earnings management or not.

Good governance means little expropriation of corporate resources by managers or controlling shareholders, better allocation of resources, and better performance. As investors and lenders will be more willing to put their money in firms with good governance, they will face lower costs of capital. This is another source of better firm

performance. Other stakeholders, including employees and suppliers, will also want to be associated with and enter into business relationships with such firms, as the relationships are likely to be more prosperous, fairer, and longer lasting than those with firms with less effective governance.

Over the past two decades, a number of prominent participants in the debate surrounding professional accounting and auditing standards have increased the attention given to the role of corporate governance procedures in financial reporting practices. Corporate governance is not just about the process by which elected representatives, as directors, make decisions. It is also about the way organizations are held accountable. The most obvious way is via financial reporting. A lot of financial reporting issues have remained under discussion in the financial literature; earnings management is one of them. The impact of corporate governance on earnings management is the core theme of this paper. Implicit in all of their recommendations is the assertion that the credibility of financial statement information is related to specific institutional features of corporate governance. The purpose of this research will be to identify the empirical evidence that such a relationship exists. The purpose is to find the correlation between different measures of earnings management and the composition of the firms' boards of directors, particularly the subset of directors serving on the audit committees.

In developing countries like Pakistan, more attention needs to be paid to the corporate governance issue. With most large corporations owned and controlled by families and with family members holding key managerial positions, the major agency problem exists. The problem is not between the management and owners in general, but

between the management (the controlling family) and the minority shareholders. The existence of large shareholders may by itself not be a matter of concern, or may even be a blessing, but the beneficial effect of large shareholders should be expected only when management is separated from ownership or when proper corporate governance mechanisms are in place. This ensures that outside shareholders can effectively check misbehavior by controlling owners. The researcher's perception is that these conditions are generally not met in most companies in Pakistan.

1.5 Corporate Governance and Firm Performance

The basic characteristic necessary to call any entity a business is its intention to earn profit. Corporations put in their best efforts to earn as much profit as they can. In the modern corporate culture, performance measurement is not only done by the bottom line but also through the market. How can reputation and bottom line be assured? It's a difficult question to answer but different researchers have addressed this question in different ways.

For corporate governance structures to work effectively, shareholders must be active and prudent in the use of their rights. In this way, shareholders must act like owners and continue to exercise the rights available to them. Benjamin Graham and David Dodd stated in the 1930's, "The choice of a common stock is a single act, its ownership is a continuing process. Certainly there is just as much reason to exercise care and judgment in being a shareholder as in becoming owner." A number of studies published in recent years have shown a strong link between good corporate governance and strong profitability and investment performance measures. For example, a joint study

of Institutional Shareholder Services ("ISS") and Georgia State University found that the best–governed companies, as measured by ISS's Corporate Governance Quotient, had mean returns on investment and equity that were 18.7 % and 23.8%, respectively, better than those of poorly governed companies during the year reviewed.

On the basis of this, one would expect investors to reward companies that have superior governance with higher valuations. Indeed, a study of U.S. markets by Paul Gompers of Harvard University and colleagues from Harvard and the University of Pennsylvania found that portfolios of companies with strong shareowner right protection practices outperformed portfolios of companies with weaker protections by 8.5% per year. A similar study in Europe found annual disparities of 3.0%. Another study establishing and testing a governance rating system in the German market for the period from March 1998 to February 2002 shows that a portfolio consisting of the best governed companies outperformed a portfolio of the worst governed companies by a statistically significant average of 2.33% per month.

This phenomenon is neither new nor limited to developed markets. Even before the collapse of Enron, Amar Gill, an analyst in Malaysia, found that investors in emerging markets experienced higher investment returns from companies with good governance. Of the 100 largest emerging market companies his firm followed, those with the best governance based on management discipline, transparency, independence, accountability, responsibility, fairness, and social responsibility generated five-year returns well above the average. The conclusion is that good corporate governance leads to better results for companies and for investors.

Corporate governance, therefore, is a factor that investors cannot ignore, but should consider in seeking the best possible results for themselves and their clients. In general, good corporate governance practices seek to ensure that: board members act in the best interests of shareholders; the company acts in a lawful and ethical manner in their dealings with all stakeholders and their representatives; all shareholders have the same right to participate in the governance of the company and receive fair treatment from the board and management, and all rights of shareholders and other stakeholders are clearly delineated and communicated; the board and its committees are structured to act independently from management, individuals, or entities that have control over management and other non-shareowner groups; appropriate controls and procedures are in place covering management's activities in running the day-to-day operations of the company; and the company's operating and financial activities, as well as its governance activities, are consistently reported to shareholders in a fair, accurate, timely, reliable, relevant, complete, and verifiable manner. How well a company achieves these goals depends, in large part, on the adequacy of the company's corporate governance structure and the strength of the shareowner's voice in corporate governance matters through shareowner's voting rights. The success of the board in safeguarding the shareowner's interests depends on these factors.

The present study investigates the effects of corporate governance and its impact on the financial performance of the firm. At the heart of agency theory is the conflict of interests between the owners (principals) and their managers (agents). Monitoring and incentive alignment are the tools suggested by agency theory to resolve this agency

conflict and align the interests of the agents with the principals (Jensen & Meckling, 1976; Eisenhardt, 1989).

1.6 Potential Contributions of the study

This study contributes to the existing literature through many sites which may be elaborated, as follows:

1- A practical based, practitioner's suggested, Corporate Governance Index for a developing economy is the core achievement of this study.
2- A comprehensive study on different aspects of business, which would relate with governance styles in both developing and developed economies.
3- Inclusion of a separate factor of Corporate Governance in a Multifactor Model is the other major contribution of this study.
4- Application of Lintner's Model with respect to CGI is another distinction of this study.

1.7 Organization of study

The rest of the thesis is organized as follows:

Chapter two provides a comprehensive review of theoretical and empirical literature with reference to the stock market, Capital Asset Pricing Model, Multifactor Model, corporate governance, its impact on different companies' decisions like capital structure, cost of equity, dividend policy, and especially with emphasis on its effect on equity returns and firm performance. Chapter three explains the data and methodology being used in the rest of the chapters for analysis purposes. Chapter four provides results and discussions, which are distributed in multiple sections describing the detailed

analysis of corporate governance and dividend policy with respect to Pakistan and the USA, governance and capital structure, corporate governance and cost of equity in both countries, corporate governance with performance in both countries, and corporate governance and the Multifactor Model. Chapter five concludes the study.

1.8 Delimitations of the study

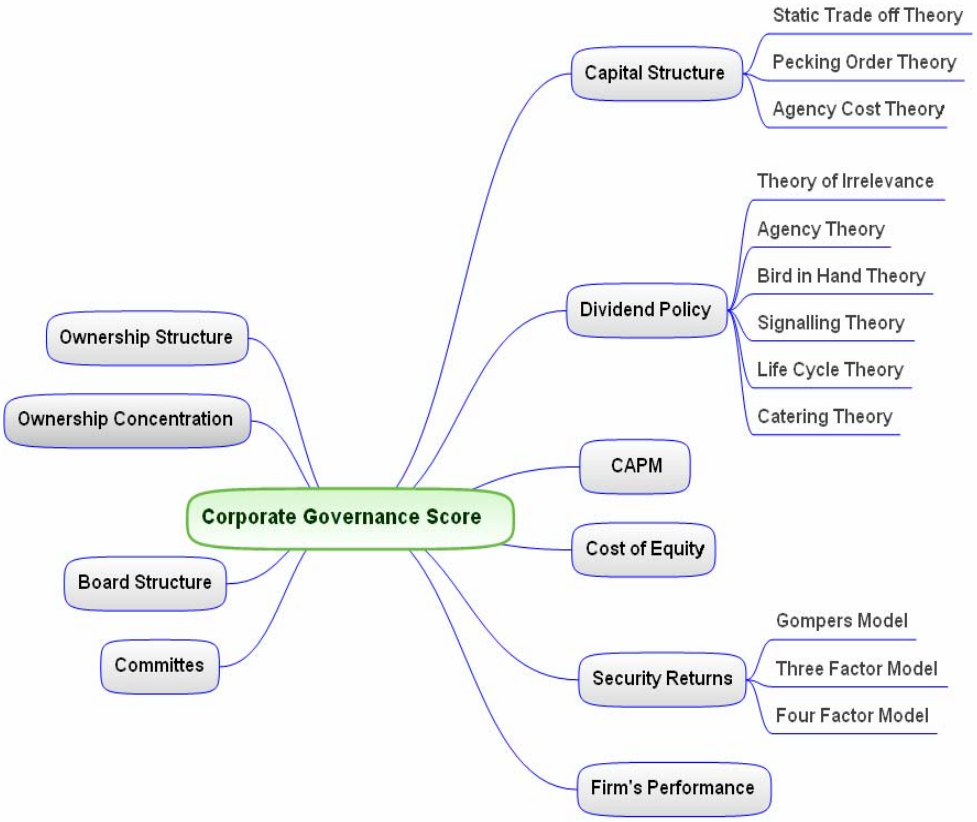
1- The study was delimited to the period of 2002 – 2007.

2- Only those companies where data were available were included in the sample.

3- The study was delimited to Pakistan as a developing economy and to the USA as a developed economy.

Chapter Two

LITERATURE REVIEW



The world is facing grave economic crises because of giant corporate failures. A large number of these failures were caused by inept governance practices. These failures have sent shock waves all over the world and have drawn the attention of investors towards corporate governance practices. They have been forced to acknowledge the fact that corporate governance is a separate risk class which requires special attention and intensive analysis (El Mehdi 2007). Business literature abounds with extensive research

in this area, which has motivated the researcher to conduct this study. This study might help the corporate gurus to analyze the corporate governance practices. The literature reviewed is presented as follows:

2.1 Corporate Governance

From the beginning of 21st century capitalism have sprung a collection of different economic systems. Every economic system has a different mode of capitalism. For example, in the USA the maximum independent companies compete with each other. According to Alchian (1950) and Stigler (1958), competition among firms takes care of corporate governance. In the long run, the product market forces the competitors to minimize cost. In order to minimize cost, external finances are generated at lower costs. Monopolies are illegal. Corporate policies and strategies are dependent upon a single decision making authority: the Chief Executive Officer (CEO). Other shareholders seem powerless in these systems. Shliefer and Vishney (1997) termed corporate governance as the ways through which suppliers of finance assure themselves of getting the return on their investments. They raised different questions in their study about how investors get managers to return their profit. How do they know that the capital they provided is not being stolen by managers and is not being invested in bad projects? How do investors control managers? The way corporations are governed is different from country to country, and governance systems are different in each economy. Laporta ET. Al (1991) conducted a study to contrast the ownership of differently owned companies across different countries. In Mexico and Argentina, most of the corporations are held by a few wealthy families, while in the UK and the USA large companies are not controlled by

some wealthy families. In poor economies concentrated ownership is found. This is not restricted only to these countries; a lot of rich countries also have same pattern of ownership like Hong Kong, Israel and Sweden. These trends in business led to a special type of business setup known as Pyramidal Business Group. This means a single wealthy family controls a single company. Berle and Means (1932), Bebchuck, Kreakman and Triantes (2000), Mork, Steglad and Yeug (2000), and Clessens, Djaukov and Lang (2000) discussed the problems of corporate governance in the Pyramidal Business setups. Investors want to invest in a company for which they can trust that the company will be run both honestly and cleverly. In this situation, corporate governance becomes critical. This intention of investors motivates them to monitor the quality of corporate governance in each listed company and their consensus is shown in share prices (Randal K, Mork and Lloydsteir, 2005).

In this way corporate governance mechanisms become so vital, but still corporate governance systems are not yet well developed in huge economies. Barca (1995) and Pagano, Panetta, and Zingales (1995) documented that in less developed countries these practices are practically non-existent.

According to Shliefer and Vishney (1997), corporate governance determines the agency perspectives toward how investors motivate managers to give back their money. Coase (1937), Jensen and Meckling(1976) , and Fama and Jensen (1983a,b) documented that agency problems are important elements of the contractual view of the firm between managers and shareholders. Managers and shareholders sign a contract which specifies the use of funds by managers and allocation of profits to shareholders. Grossman and

Hart (1986) and Moore (1990) further commented that as future contingencies cannot be anticipated with certainty, it becomes impossible to write the complete contracts. Because of these unseen future problems, managers and financers both have to allocate the residual control rights to each other. Now the problem is to allocate these residual control rights efficiently, which is addressed by theory of ownership. Normally managers are left with significant control rights for the allocation of investor's funds, which managers can use for their own benefits. A study conducted by Zingales (1994) gave an example of manager's theft in Italy. They found an Italian state-controlled firm sold some assets to another at very high prices. The cases like this were the reason that in 18th and 19th century most of the focus of law making companies was to address the theft of managers. As a result of this, most of the developed economies have very stringent rules to avoid theft by managers. But there are many other areas where managers can use their discretion. Most managers entrench themselves and stay on jobs even if they are unqualified for the jobs (Shlifer and Vishney, 1989). A large amount of literature is found which discusses one way to reduce managers' problems: give them incentives. These incentives could be share ownership, stock options, or a dismissal threat if profits are low (Fama (1980), Jensen and Meckling (1976), Ross (1973), Mirrlees (1976), and Holmstrom (1979, 1982)).

Another solution which has emerged for agency problems is debt contract. Large amounts of research is available on this topic. Townsend (1978) and Gale and Hellwig (1982) analyzed the companies in which profits of firms escaped from the lenders. They were of the argument that if lenders are not receiving their return, they can check the documents and pressurize the management to maintain the transparency and avoid the

misappropriation of money. They were of the view that lenders can reduce the agency cost. In contrast to this argument, Aghian and Bolton (1992) described debt as an instrument which transfers the controls from borrowers to lenders in a bad state. Bolton and Scharfstein (1990) presented a model in which lenders have enough power to exclude the firm from the capital market in case of default and can also restrict the firm from future financing. Hart and Moore (1989, 1994a) also gave the same model in which they argued that lenders can repossess the assets in case of default. This may be the reason that companies moved towards debt financing. Rajan and Zingales (1995) conducted research on the United States and different OECD countries and found that the companies which have more tangible assets are debt financed. Debt financers prefer to finance the companies because of their legal protection. But this analysis brought with it another question about how companies can raise equity financing in those countries which have weak investor protection (Singh 1995). Shliefer and Vishney (1997) said that the countries having minimal legal protection still have the unresolved puzzle of equity financing.

Sappington and Stiglitz (1987) argued that firms' decisions can be improved by state ownership. This argument also justifies the state involvement in the industrial sector as well. But Hart, Shliefer and Vishny (1997) refuted this argument and said that in reality, state ownership causes inefficiency because state firms do not work in the interest of the public as private companies do. Kikeri, Nellis, and Shirley (1992) argued that state firms not only distort the industrial sector, but due to their losses the country's treasuries are also affected. For establishing corporate governance rules, these evidences are a help for policy makers. In view of these problems of different governance structures, agency

problems make it difficult to make a hard and fast rule for good governance because ownership structure and legal protection rules are not the same for all countries. In the USA and the UK companies do not have the concentrated ownership, while in the majority of the rest of the world companies are family owned. Shliefer and Vishney (1997) concluded in their study that legal protection of investors and concentrated ownership can improve the corporate governance system. But if this is the solution then why did Enron, WorldCom, and other frauds appear, especially in United States where investor protection rules are very stringent? Roe (1994) in his book argued that American Corporate Law has been framed by politics and not by economics. He said that American law discouraged the large investors over time. The problem with the politically developed law is that these laws protect the economy and not the social welfare. Different economies have tried different systems, and this process of evolution doesn't provide any evidence to say any system is more efficient. This continued discussion on corporate governance made it the most discussed point in corporate boards, academic meetings, and amongst the policy makers around the world (Stijn Claessens 2006). The attention of the policy makers was diverted towards corporate governance systems after the 1998 financial crises of Russia, Asia, and Brazil. These financial crises affected the global economy, and the corporate scandals of the USA and the UK also drew the attention of policy makers towards corporate governance systems. Stijn Claessens (2006) identified in his report different reasons subsequent to these crises due to which Corporate Governance gained more importance.

They identified the following reasons:

1- State owned companies were converted into private owned, and a lot of businesses like sole proprietorships and partnerships moved towards stock markets to get more funds.

2- Advancements in technology, removal of restrictions on ownerships, and products across countries gave rise to more fund requirements due to which governance of companies became more complex and more difficult.

3- With the increase in the size of businesses, financial intermediaries intervened and investment power was delegated to these intermediaries by principals. IT gave rise to another issue to be handled with good corporate governance.

4- The financial systems have changed due to deregulation and reforms. Due to this transfer, gaps between principal and manager have increased.

5- An increase in multinationals has created a mix of corporate governance styles in different cultures, which is not easy.

Large amounts of empirical research in corporate governance focuses on the relationships among corporate governance and different financial parameters of the firms. In a number of studies corporate governance has been measured through different variables like board effectiveness, ownership concentration, and ownership structure. To measure the board effectiveness, board size, CEO duality, board independence, and presence and formation of different boards, sub-committees have been used in various studies. To gauge the importance of each variable in corporate governance, the following literature review has been conducted.

2.2 Ownership Structure

Ownership structure has been under extensive discussion for a long time. Several authors have given reasons for the difference in this ownership structure. La Porta et al. (1997 and 1998) studied ownership concentration and its relation to the strength of legal systems. Barca (1994) finds that in Italy, 88 percent of the manufacturing companies are controlled by one person or family. Furthermore, Franks and Mayers (1995, 1997) show that in Germany, 85 percent of the public companies have a major shareholder, similar to the 79 percent in France. By contrast, in the U.S., the corporation (owned by many shareholders) is the predominant business form. Although studies such as Demsetz and Lehn (1985) and Shleifer and Vishny (1986) found that ownership dispersion was not as high as suggested by Berle and Means (1933), the concentration of ownership in the U.S. was not nearly as high, for example, as it was in Mexico, Spain, and Italy. Similarly, Prowse (1992) and Landreth (1992) suggested that corporations owned by a large number of shareholders prevail in Japan and England.

Sun and Tong (2003) indicated that important differences between state ownership and other forms of ownership (like legal ownership, employee ownership, and public ownership) exist, which effect corporate governance styles and have several implications for firms.

2.3 Ownership concentration

Shlifer and Vishney (1997) analyzed how ownership concentration is one of the important determinants of corporate governance. Several views of ownership concentration are found in the literature. Some say it is good, and Johnson et.al (2000)

evaluated ownership concentration as a source of tunneling; large shareholders become the managers and cause serious agency problems for minority shareholders. Laporta et al. (1999, 2002) regarded ownership concentration as one of the big agency problems in the countries where legal protection is weak. Morck et al (2000) also accorded great importance to ownership concentration and found that majority shareholders may have different objectives than minority shareholders. Chen et al. (2006b) pointed out that previous studies (such as Sun and Tong, 2003; wei et al. 2005) may lead to wrong conclusions due to their simplicity in work. They gave new patterns for ownership classification in their study.

2.4 Board Structure

Kee et al (2003) and Hutchinson and Gul (2003) analyzed that the presence of non-executive directors in a Board of Directors reduces agency cost. That's why the way companies structure their boards is very important as far as corporate governance is concerned. Fama and Jensen (1983) argued that non-executive directors ensure the effective running of the firm and monitor the management to protect their reputation in the market. Lin Chen et al. (2008) emphasized three different elements of the Board of Director's characteristics.

1- Presence of outside directors on the board.

2- Chief Executive Officer (CEO) duality

3- Board meetings.

Dalton and Kesner (1997) argued that the CEO is the post from where decisions are directly taken. If the CEO holds the position of Chair, it weakens the Board of

Directors. Yermack (1996) talked about the board size. He was of the view that small boards have higher market valuation. Rosenstei (1990) and Wyatt (1997) argued that, due to the presence of non-executive directors on the board, the value of the company increases.

Board members at the same time approve and monitor management's performance; these are the roles of board members which have been defined by Fama and Jensen in 1983. Demsetz (1983), Demsetz and Lehn (1985), and Shleifer and Vishny (1986) presented that shareholders and institutional investors are essentially the controllers of equity agency problems, and their increased shareholdings can reward them better incentives to monitor firm's performance and managerial behaviors. In essence this will help stop the "free rider" problems associated with ownership dispersions.

2.5 Committees

A corporate governance system provides for the establishment of different committees for different important decisions like a remuneration committee, audit committee, etc. Canyon and Mallin (1997) analyzed that UK firms remain reluctant in the establishment of committees, which is a symptom of a corporate governance system's failure. Forker's (1992) argued that financial reporting is weakly correlated with nomination of audit committees.

NYSE and NASDAQ issued new standards for audit committees, which state that companies must nominate audit committees comprising of at least three directors, ''all of whom have no relationship to the company that may interfere with the exercise of their independence from management and the company'' (NYSE Listing Guide, Section

303.01(B)(2)(a)). April Klein (2000) argued that audit committees are the most important part of a corporate governance system. Kam C. Chan and Joanne Li (2008) concluded that the presence of audit committees on boards enhances the value of firms.

2.6 Scoring of Corporate Governance

Recent studies have focused on a composite measure of corporate governance instead of using individual variables for examination of agency problems. Studies have been conducted on an inter-country and intra-country basis. LaPorta et. Al (2002) conducted a study to evaluate the differences of corporate governance practices in 27 countries and found that the companies show higher values which operate in good governance systems. A number of studies have been conducted on an inter-firm basis in a single country. Drobetz et (2003), Gompers et al (2003), Klapper and Love (2004) also confirmed for emerging countries that good governance is positively related with the value of the firm. Klapper and Love (2004) and Durnev and Kim (2002) investigated the determinants of corporate governance. Drobetz et al. (2003) and Chen et al. (2003) also used a governance score card in their study. There are different companies and data bases which provide corporate governance score cards for different companies of different developed and underdeveloped countries. These data bases include GIM, IRRC, and FTSE. A majority of studies used the existing score cards available on these databases as the basis for their analysis.

In the literature, different authors have used different criteria to measure the efficacy of corporate governance practices. Some have used score cards; others have directly identified variables of corporate governance and independently found out the

relationships which they wanted to capture. Some have used both styles. The corporate governance rankings by the investment bank Brunswick Warburg that Black (2000) researched used eight corporate governance elements with different weights: disclosure and transparency, dilution through share issuance, asset stripping and transfer pricing, dilution through a merger or restructuring, bankruptcy, limits on foreign ownership, management attitude toward shareholders, and registrar risk.

Black, Jang, and Kim (2003) chose 42 items from 123 survey questions, excluding those asking management's views rather than facts, those irrelevant to corporate governance, those that were ambiguous as to whether they represent good or bad corporate governance, and those to which the answers vary little from firm to firm. They then classified the 42 items into four categories, each of which had an equal weight of 0.25: shareholders' rights, board of directors in general, outside directors, and disclosure and transparency.

The survey of Klapper and Love (2002) used a total of 57 questions with yes or no answers. They were classified into the following seven categories: discipline, transparency, independence, accountability, responsibility, fairness, and social awareness. Each category had a weight of 0.15 except for the last one, which had a weight of 0.10.

Vidhi Chhaochharia et al (2005) measured the corporate governance with four different dimensions: insiders' engagement in fraudulent activity, existence of well-functioning internal control mechanisms, insiders' engagement in related party transactions, and the compliance of the board of directors with the new independence requirements.

Kevin CW Chen (2004) included 57 criteria that are grouped into seven major categories: transparency, management discipline, independence, accountability, responsibility, fairness, and social awareness.

Opinion surveys of professional investors may provide some guidance on the construction of corporate governance scores. McKinsey & Company's (2002) survey respondents said that for corporations, timely and broad disclosure is the highest priority, followed by independent boards, effective board practices, and performance-related compensation for directors and management.

Investors' responses will, of course, reflect their major concerns given realities in particular regions or countries. A survey by PricewaterhouseCoopers of Indonesia and the Jakarta Stock Exchange (2002) reported that what Indonesian institutional investors value most highly includes disclosure of related-party transactions and corporate governance practices. The existence of corporate governance codes and business ethics, as well as the quality and independence of external auditors, audit committees, commissioners, and directors is also important. The existence of nomination and remuneration committees and the number of independent commissioners seem to be less essential for their investment decisions.

However, as Klapper and Love (2002) found, the effect of CG on firm performance may vary depending on the country-specific level of investor protection. More specifically, firms with relatively good governance practices are likely to be more highly valued by investors in countries where investor protection is generally poor.

Extending this argument, we may also expect the market to assess the same CG differently depending on corporations' ownership and control structure. For instance, controlling owners can find ways to maximize their interests at the expense of other shareholders, however good their firms' corporate governance practices may appear. Then the market is likely to discount the value of measured CG.

2.7 Corporate Governance and Dividend Policy

Dividend policy has been regarded by a number of researchers as part of the agency theory. Todd Mitton (2004) argued that in countries, like the USA, which have strong investor protections, the debate of dividend payment remains always active but in the countries where investor protection is weak dividend payment becomes a big question mark. Jensen (1986) and Myers (2000) incorporated in their studies that dividends are the preference of outside shareholders because, in their view, retained earnings would give more chances to managers to expropriate the earnings (Agency theory). Laporta et al. (2000) also supported the argument of Todd Mitton that in countries where investor protection is weak this preference of dividend would be higher. If this view of agency problems is taken into consideration one can say that dividend policy is also the function of corporate governance mechanisms. Gugler Klaus and B. Burcin Yurtuglo (2002) conducted a study to find out the relationship between corporate governance and dividend payout in Germany. To analyze the relationship they took the proxy of corporate governance as ownership structure and ownership concentration and evaluated six years of changes in dividend announcements and found a significant negative relationship. Another study was conducted by Todd Mitton (2004) and found this puzzle in emerging

markets. They performed the analysis using 19 emerging economies and found that strong corporate governance has a significant positive relationship with dividend payout. Large amounts of literature can be found on why firms announce dividends. Literature presents the following six most prominent theories about dividend decisions.

1- Miller and Modigliani (1961), who gave a theory of irrelevance also known as MM theory, argued that dividend doesn't matter for shareholders because in perfect markets dividends don't have any effect on the value of the firm. It doesn't matter for shareholders whether they receive cash in the form of dividends or incorporated in share prices, and they get it in the form of capital gains.

2- Gordon and Walter (1963) gave a theory known as "The Bird in the Hand Theory," which suggests that in order to minimize future risk investors prefer cash in spite of the promise of future capital gains.

3- Jensen and Meckling (1976), while discussing agency theory, said that insider owners influence the dividend payout.

4- Bhattacharya (1980) and John Williams (1985) discussed signaling theory and that insider information creates asymmetry between managers and shareholders. That's why dividends should be paid out according to the prices of the stocks.

5- Lease et. al (2000), Fama and French (2001) discussed the life cycle theory and explained that firms should care about different factors like life cycle, market imperfections, taxes, agency cost asymmetric information, floating costs, and transaction costs before making dividend decisions.

6- Baker and Wurgler (2004) gave a catering theory in which they provided that managers should cater the investors' interests by paying smooth dividends.

Dividend policy was analyzed by agency cost and other different factors by D'Souza (1999) and found that agency cost is negatively related with dividend payout. Another variable analyzed in this study was investment opportunity about which they did not get any significant result. Another study was conducted by DeAnglo et al (2004) with the same intention: to find the relationship between agency cost and dividend policy. They found that dividend payment helps in preventing agency problems. Another very important factor that affects the dividend policy is using taxes. This issue has been addressed by a large number of researchers who have tried to capture the effect of both corporate and personal taxes. As far as personal taxes are concerned, investors face two types of taxes. One is capital gain tax and the other is personal income tax. In the USA, capital gain tax is less than the personal income tax (Copeland, Weston and Shastri, 4th edition of *Financial Theory and Corporate Policy*). In Pakistan, capital gain tax is exempted on stocks. As far as an investor's decision about dividend or capital gain is concerned, it's a two step process; first, they decide whether to invest in a levered or all equity firm. If they acquire shares in an all equity firm then they would face personal leverage; otherwise, it would be corporate leverage (Farrar & Selwyn (1967). The second decision is the mode of gain that investors prefer. It can be in the form of dividends or can be gained in share prices. If investors take the form of dividends, that would be double taxed: once in corporation and second as personal tax. Farrar & Selwyn (1967) found that in general the least taxation mode should be opted for payments. Brennan

(1970) extended the work of Farrar & Selwyn and concluded that investors demand more return on the same level of risk in the form of dividends, as dividends would be considered as their personal income. Personal income tax rate is greater than capital gain tax. Many researchers further debated on the issue, and Miller and Scholes (1978) explained that when firms decide to repurchase shares, individuals become indifferent in dividend and capital gain. In this situation even personal tax rate is higher than capital gain rate, and individuals would not need to pay more taxes on personal incomes.

Masulis and Trueman (1988) conducted a study to see the relationship between investment opportunities and dividend payout. They concluded that high tax bracket shareholders would prefer reinvestment rather then dividend payment, while those in low tax brackets would prefer dividends. They further argued that profitable firms would use internally generated funds until the time they mature, and after maturity, as all internally generated funds would not be able to be used, they would announce dividends. Another implication of the internally generated fund issue is that firms would face takeover attempts, proxy fights, and efforts to go private as well.

Life cycle theory was tested by Stulz (2005) and observed that dividend payout has significant impacts on capital mixes. Another study was conducted to find out the link between insider ownership and dividend payout. Farinah and Foronda (2005) found out in their study that Anglo-Saxon traditional firms have a negative-positive-negative relationship between dividend payout and insider ownership. This relationship is positive-negative-positive in civil law traditional firms. Institutional holding is a very important aspect of agency problems and corporate governance. This variable was tested

along with other variables and dividend policy by Amidu and Abor (2006) and found that there is a negative relationship between institutional holdings and dividend payout. Canadian managers announce dividends on the basis of expected earnings, stable earnings, past dividend trend, and level of current earnings (Baker et. al 2007). Another view about dividend policy was tested by Daniel et al (2007) who found the link between dividend policy and earnings management and found that dividend policy really matters in relation to earnings management.

Pornsit Jiraporn et al (2008) analyzed the view of agency theory to find the relationship between the quality of corporate governance and dividend policy. They found evidence showing a vigorous positive relationship between these two variables. These results support the literature evidence that shareholders can force management to announce the dividends instead of retaining the earnings.

A dividend stability model was developed by John Lintner in 1956. Many economists are of the view that dividends are determined by the Lintner Model (Gugler K. B.B 2003). According to this model, dividends are announced after a partial adjustment in target payout ratios. After calculation of this target ratio through his model, Lintner calculated the target dividend, which was a fixed percentage of earnings and determined the change in dividend by comparing the last year's dividend with the target dividend. But in reality, the change in dividend is actually the current dividend minus last year's dividend. In the long run, target payout ratios became consistent with the change in real dividend and last year's dividend. So, the actual model was as follows:

Dit = TPR * Earnings it;

$\Delta Dit = \infty + \alpha (TPR * Earnings\ it - Dit{-}1) + €it$ or

$Dit = \infty + \alpha\ TPR * Earnings\ it + (1 - \alpha)\ Dit{-}1 + €it;$

Where Diy target payout ratio of firm I in year t, TPR is target payout ratio, earnings are current years net profit, ΔDit is change in dividend between last year and current year, ∞ is a constant, α is a coefficient of speed of adjustment, $Dit{-}1$ is the last year's dividend and €it is the error term. Fama and Babiak (1968) presented the Lintner (1956) Model with some alteration; they took change in earnings inspite of constant earnings in explanatory variable. Vasilio and Eriotis (2003, 2004, and 2006) used the following from Fama and Babiak's research and improved Lintners (1956) Model.

$Dit = \infty + \alpha 1 \Delta Eit + \alpha 1 \Delta Dit + €it$

Where ΔDit is change in dividend calculated as (Dit - Dit-1), and ΔEit is change in earnings calculated as (Eit - Eit-1). The basic objective of this model is to find out the target payout ratio. Larger values of target payout indicate that management is not retaining the earnings and is intended to expel the earnings in the form of dividend to shareholders. Gugler, Yurtoglu (2003) captured this impact by introducing three dummy variables for ownership structure.

After having the detailed discussion of the above mentioned literature, it is clear that corporate governance has significant effects on dividend policy. We are interested in understanding the importance of corporate governance on dividend policy in the context of Pakistani firms. Pakistani regulatory authorities are making serious efforts to promote good corporate governance among the business sector entities of the country. This study will be of some assistance to them.

2.8 Corporate Governance and Capital structure

The selection of capital structure is a topic which has been under discussion for a long period of time. Modigliani and Miller (1958) propounded a theory of capital structure, known as MM theory, which states that there is no optimal capital structure because each structure is based on different assumptions like perfect a market, no taxes, etc. After their research, a lot of researchers in the world tried to find out different determinants of capital structure. (Kim & Berger (2008) and Toy et al. (1974) found growth, profitability, and international risk as the determinants of capital structure. After this study, firm size, industry class, business risk, and operating leverage were tested by Ferri and Jonnes (1979) as the possible determinants of capital structure. Barclay et al. (1995) found market to book ratio and signaling effect (increase in earnings) had effects on optimal capital structure by conducting research in the USA on different firms. Titman and Wessel (1988) found profitability having negative relationship with capital structure. They also found that small firms rely on short term financings.

Laporta at al. (1998) worked to find out why firms have different financing behavior in different countries and found that different legal protection in different countries explains the firms' financing behaviors. In a country where legal protection is weak, the chances of agency conflict increases. In this situation, leverage can play a role to alleviate the agency cost between managers and shareholders (Grossman and Hart, 1982). Israel (1991) found in his study that optimal capital structure is obtained when managers seek a balance between value maximization for share holders with decreased probability of tender offers. Various research studies have also tried to find out the effect

of ownership structure in determination of optimal capital structure. Slutz (1988) developed a model for firms' targets, capital structure, and ownership structure. Hartzell, Sun and Titman (2006) found a strong association between institutional ownership and leverage. Barnhart and Rosnstein (1998) further elaborated that institutional ownership and board composition are substitutes for ownership structure. All these variables constitute an overall corporate governance style. Extensive research is found on different corporate governance characteristics with capital structure decisions (Wen, Rwegasira and Biderbeek (2002). Jiraporn and Liu (2008) conducted a study to find the relationship between a staggered board and capital structure. They found that the companies which have a staggered board are less leveraged than the other boards. Berger et al (1997) conducted a study to find the relationship between board size and capital structure decision and found that there is a negative relationship between board size and leverage and also found a positive relationship between the presence of outside directors on boards with debt in the capital structure. Lipton & Lorsch (1992) argued that there is a significant relationship between board size and capital structure. Jensen (1986) found that big boards have larger debt in their capital structure, while Berger et al. (1997) found the reverse effect and argued that there is a negative relationship between board size and debt ratio. Managerial equity proportion has also been studied by various researchers and both positive and negative evidence has been found with capital structure. Agrawal and Mandelker (1987) and Amihud et al. (1990) found a positive relationship between these two variables, while Friend and Hasbrouk (1998) found a negative relationship between these two variables. Wen, Rwegasira and Biderbeek (2002) conducted a study on corporate governance and capital structure in China and found that when corporate

governance is strong in the board, firms have lower financial leverage, and these results are statistically significant only in the cases of board composition and CEO tenure.

Considerable discussion is also found in the literature on CEO duality. That is when the positions of Chairman and CEO are held by the same person. Fama and Jensen (1983) first started this discussion. Fosberg (2004) found that firms in which CEO duality is present have lower debt to equity while in the firms where these two positions are held by two different people the debt to equity is high. CEO compensation has also been discussed as a characteristic of corporate governance with capital structure in the literature. Leland and Pyle (1977) found a positive association between CEO compensation and financial leverage while negative relationship was found by Friend and Lang (1988) and Friend and Hasbrouk (1988).

The discussion and views about the capital structure can be classified into three major theories which are presented as follows:

2.8.1 Static Trade Off Theory (Baxter 1967, Altman 1984) states that if firms' assets and investment decisions are kept constant, optimal capital structure can be attained at the level where tax benefits obtained by debt financing balances out debt related costs like Financial Distress and Bankruptcy. Myers (1984) argued that firms which follow this theory of capital structure try to have their target debt to equity ratio and work to attain this ratio for having an optimal capital structure, and equity is only issued when it is properly priced or overvalued. Otherwise, managers remain reluctant in issuing the equity.

2.8.2 Pecking Order Theory (Myers 1984): This theory states that firms follow a sequence in financing. In order to finance, firms prefer to use internally generated funds like retained earnings; if more funds are required, they will move towards debt financing and as the last option they opt for equity financing. This order may be due to the fact that internally generated funds don't have floatation cost and don't have disclosure requirements.

2.8.3 Agency Cost Theory (Jensen and Meckling 1976): This theory states that optimal capital structure refers to the combination of debt and equity in a way which minimizes the costs generated by conflicts between the agent and principal. There could be the conflict between shareholders and debt holders as well which can be minimized by debt and interest payments. Debt holders have legal protection for their interest payments. If management fails to pay the interest to debt holders, they may sue the management and there is a potential chance of their loss of job. So, in order to pay their interest payments in time, management will try to run the company efficiently. This would ultimately increase the wealth of shareholders as well (Buferna, Bangassa, Hodgkinson (2005/08).

Extensive research is found which targets the capital structure issue in developed countries like Bancel & Mitto (2004), Graham & Harvey (2001), Rajan & Zingales (1995), Antoniou et al. (2002), etc. There are few research articles found on the capital structure issue in developing countries like Bhabra, Liu & Tirtiroglu (2008), Booth et al. (2001), Panday (2001), Chen (2004), Jordan and Al-Sakran (2001), etc. Many researchers

have found that the factors which influence the selection of debt or equity are similar in developing and developed economies (Bhabra, Liu, Titiroglu (2008).

2.9 Corporate Governance and Cost of Equity

Chen et al. (2005) investigated the effects of disclosure and other corporate governance mechanisms on equity liquidity and found that companies with poor information transparency and disclosure practices have greater economic cost of equity liquidity. With the same view, Hollis Ashbaugh et al. (2004) conjectured while engaged in the study that since the governance attributes are intended to reduce agency costs, governance attributes should have significant effects on firms' cost of equity capital and provide evidence that is consistent with this conjecture. They found that the quality of firms' financial information is negatively related to the firms' cost of equity.

Chen et al. (2004) examined the effects of firm-level disclosure and corporate governance on the cost of equity capital. They analyzed how disclosure can significantly lower the cost of equity in emerging markets, and that this effect is observed only in countries that protect investors relatively well. Thus, firm-level disclosure and country-level legal protection seem to play a complementary role in reducing a firm's cost of equity. They further found that corporate governance always has a significantly negative effect on the cost of equity capital under various regression specifications. In addition, this effect is significant only in countries that provide relatively poor legal protection for investors.

Contrary to the above studies, Omrane Guedhami & Dev Mishra (2006) found robust evidence that the implied cost of equity increases with excess control. Another

aspect of corporate governance was highlighted by Ole-Kristian Hope (2007) in his latest study on the impact of excessive auditor remuneration on cost of equity and found that cost of equity increases if auditors' remuneration is excessive, but only in countries with stronger investor protection.

2.10 Corporate Governance and Performance of Firms

Demsetz, (1983), Demsetz and Lehn, (1985), and Shleifer and Vishny, (1986) reported that the firm's abnormal positive returns are associated with presence of outside directors on the Board of Directors.

Shleifer and Vishny (1989) also made a model which shows that managers have the ability to entrench easily. To get higher perquisites and salaries, they make manager specific investments and also maximize the wealth of shareholders resultantly by increasing their shareholders' wealth. In the process their own wealth is also maximized.

Another study relating to corporate structure by Denis, Denis and Sarin (1997b) analyzed how firms with low managerial ownership and poor performance have higher management turnover than the companies which have higher managerial ownership and low performance. In the concluding remarks they argued that firms with larger managerial ownership have to exhaust less in monitoring efforts.

Gompers, Ichii and Metrick (2003) constructed a Corporate Governance Index (CGI) by using 24 proxies and found a significant relationship between this constructed CGI and stock returns. They found, using that index, that the companies which are purchased by managers are in the highest ranking and showing significant abnormal

returns. On the performance side it was analyzed that the companies with low rankings in that index were not as good in performance as companies involved in acquisitions and capital investment strategies. Another study was conducted by Black (2001) and found the same relationship in Russia by using a small sample size. He found that companies with higher CGI scores have higher market value then the companies with lower CGI scores.

Lewellen, Loderer and Martin (1987) worked to find the relationship between compensation packages and agency cost and found a negative relationship.. This analysis was also conducted in the US by Jensen and Murphy (1990) and found that in a majority of compensation contracts management incentives are actually not included. They concluded that reward strategies are incoherent with the propositions of formal agency models of contracting.

Mehdi (2007) conducted a study in Tunisia to check the relationship between corporate governance and performance of firms and found a significant relationship between them. They also identified that governance in Tunisia is always affected by family controlled businesses. Another study was carried out in Bangladesh by Karim, Zijl and Farooque (2007). They tried to analyze the relationship between ownership and firm performance. On the basis of literature they used both the single equation model and the simultaneous equation model assuming ownership acts as exogenous and as endogenous at the same time in emerging markets. They found that there is a linear and non linear relationship between board ownership and firm performance. Fama and Jensen (1983) found a negative relationship between ownership and performance and gave the

entrenchment hypothesis. A discussion is present in the literature which addresses the issue of the non linear relationship between these two variables. Stulz (1988) proved by creating a formal model that managerial ownership has a nonlinear relationship with performance. Different types of ownerships provide different results. Lichtenberg and Pushner (1994) found a positive relationship between board ownership and performance and expressed that other types of ownerships give mixed results. Randoy and Goel (2002) found a positive relationship between inside ownership and performance in family controlled firms while Agrawal and Mandelker (1990) found a negative relationship between ownership and performance. Ownership was also found positively associated with stock returns by Mitton (2002). There are some studies which provided the non existence of any relationship between ownership and performance. Demsetz and Lehn (1985) provided that there is no significant relationship between ownership and performance. Himmelberg et al (1999) also reported in their study the non existence of a significant relationship between these two variables.

Hecht, Benson and Finegold (2007) reviewed the literature addressing the issue between corporate boards and performance of firms. They reviewed about 105 articles published from 1989 to 2005. They concluded in their study that there is limited guidance for policy makers to set up the corporate governance rules which would lead to higher performance. Larcker et al (1999) tried to find the effect of corporate governance on CEO compensation and firm performance. They found that CEO's get more compensation when governance structures are not effective. They also identified that poor governance leads to the agency problems. And firms who have agency problems do not perform well. Sen (2001) conducted another study to find the relationship between governance

mechanisms and performance of firms. Their first objective in this study was to create appropriate governance structure variables so that its measurement could be possible. They found that governance mechanisms actually impact performance.

Core, Guay and Rusticus (2004) found that weak corporate governance firms do not perform well. Researchers have also tried to find the effect of corporate governance on the productivity of the firms. Lin et. al (2009) conducted a study in China by taking the data from 461 manufacturing firms over a period of time to analyze the effect of corporate governance practices on firm productivity efficiency. They used different measures as a proxy to measure the corporate governance practices like state ownership, employee share ownership, ownership concentration, board independence, etc. and found that state ownership is negatively related to the efficiency of firms. They found that efficiency was greater in the firms with more employee share ownership. They found a very important relationship between ownership concentration and firm efficiency and that this relationship was u-shaped. In concluding their analysis they have argued that to enhance the firm's productivity, corporate governance practices should be improved in China.

Bhagat and Bolton (2008) conducted a study to analyze the relationship of corporate governance with financial performance. They measured the performance in different ways such as Tobin's Q, the return on equity, and stock returns. To measure the governance they used GIM, BCF E Index, board independence, and median director value ownership.

2.11 Capital Asset Pricing Model

Markowitz (1952) and Tobin (1958) started the work on the capital asset pricing model. In the beginning, different researchers proposed standard deviation as the risk for a particular security's return. So, the securities with greater standard deviation were assumed as having greater risk. With the passage of time it was realized that an investor's concern is not just for his individual security; he cares about the mix of his investments, constituting a portfolio. Markowitz worked on it and derived a proper measure for the calculation of risk of a portfolio. He developed the efficient frontier of portfolios for the very first time. This model made it easier for the investors to select their portfolio from the efficient frontier. This model was proposed with a lot of assumptions and there has been a lot of discussion on this model as well.

Sharpe (1964) also developed a model named the Single Index Model, relating the return of an individual security with the return of a common index. The common index was a bench mark which could be any of the leading factors having influence on the stock returns (Jones, 1991). This model had the tendency to be extended for a portfolio because of the reason that return on a portfolio is calculated by taking the weighted average of expected returns of all investments in a portfolio.

There are two types of risks which investors face practically. One is systematic and the other is unsystematic. The last one is diversifiable but the first one is non-diversifiable. If negatively correlated securities are included in the portfolio, unsystematic risk can be minimized. Systematic risk is considered as the market risk and is calculated by Beta. This Beta can be used for the calculation of an individual's return on the basis of the total risk by assuming that unsystematic risk has been eliminated.

2.11.1 CAPM

Sharp (1964) and Lintner (1965) captured the attention of financial economic Gurus by introducing the Capital Asset Pricing Model (CAPM) besides other methods. The Security Market Line (SML) has been used for the calculation of return in these models. These models were tested by different researchers later in different situations. There is an intensive discussion available in the literature on the Capital Asset Pricing Model.

Lintner (1965) and Douglas (1969) developed a model for single security returns. However, their results were not satisfactory. Miller and Scholes (1972) further tested this model and identified the statistical problems in this model. Many researchers conducted studies to cope with these problems afterwards. Black, Jensen and Scholes (1972) found linear relationships between the returns of portfolios and beta. Fama and MacBeth (1973) extended their model and included a risk free rate in the model. They found a linear relationship between returns and beta over a long period of time. Further studies were also conducted but did not produce strong evidence in favor of this model. This model was known as the Single Factor Model. A very important criticism of this model was raised it only assumes the risk which is related to the uncertainty of future prices. Investors, however, have to face the other uncertainties like relative price of consumer goods and future investment opportunities, etc. To address this criticism of the model, financial gurus have tried to introduce different factors into this model. This gave birth to the concept of the Multifactor Model, such as the Arbitrage Pricing Theory (APT) by Ross (1976) and Intertemporal Asset Pricing Model (ICAPM) by Merton (1973). Fama

and French (1992, 1993, 1995, 1996, 1998, and 2004) have a series of papers on this issue. Fama and French (1996) documented a Three Factor Model stating that the excess of expected returns from zero risk portfolios is the function following three factors.

1. Excess market returns
2. The difference between returns on portfolios of small size (market capitalization) and big size stocks named as Small Minus Big (SMB) (Banz, 1981).
3. The difference between the returns of portfolios of high book to market and low book to market stocks known as High Minus Low (HML) (Rosenberg, Reid and Lanstein, 1985; Chan, Hamao and Lakonishok, 1991)
4. Price to earnings ratio and macro economic variables (Basu, 1983)

Fama and French (1995) also incorporated SMB (the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks) and HML (the difference between the return on a portfolio of high-book-to-market stocks and the return on a portfolio of low-book-to-market stocks).

In this study an effort has been made to examine the empirical validity of this model in the Pakistani stock market, which has already been tested in developed markets and got recognition. Even practitioners have named it as the alternative to the capital asset pricing model for the estimation of cost of equity (Fama and French (2004), Ibbotson Associates). The logic of testing this model is apparent, as this is a comparative study of developed and developing economies.

Different researchers tried to add more factors in this model to increase its explanatory power. Carhart (1997) introduced another very important factor named momentum, which actually increased the explanatory power of this model. In his study a very important factor was discussed which influences the majority of strategic decisions of the companies: a corporate governance factor. Actually this factor matters for performance as well, whether it is a developing economy or a developed economy. If corporate governance matters for performance of firms, strategic decisions (as discussed in previous parts of this study) and this relationship are fully incorporated by the market, then stock prices should adjust if there is any change in governance of a company (Gompers et al. (2003). Gomper analyzed the impact of corporate governance on stock returns by making portfolios on the basis of corporate governance. Otten et al. (2004) also examined the relationship in the same way and found a positive relationship between stock returns and corporate governance. Drobetz et al. (2004) also examined the same relationship and found a negative relationship but all of them documented that governance matters for stock returns.

2.12 Corporate Governance and Security Returns

The significance of corporate governance has been realized all over the world and has been tested in every aspect of the corporate sector; people have also tested it with stock returns as well. Chen et al (2004) conducted a study on the same topic and found that firms with greater shareholders' rights have negative returns. This is due to the fact that companies which have stronger shareholders' rights are less risky, so the premium of risk is low. Hence, the expected stock return is also low. They also found a strong effect

on shareholders' rights in the companies which have higher free cash flows and less insider ownership.

Gompers et al (2003) conducted an in depth study on corporate governance and equity prices. They used the Multifactor Model for the analysis. They made ten portfolios on the basis of the quality of governance practices and found that the firms with stronger shareholders' rights have higher firm values, good profits, and good sales growth. After this study many other studies have been conducted on the same issue.

The literature discussed in this chapter has focused on the measurement of corporate governance and its impact on different aspects of firm performance. On each aspect we have found extensive literature which has been made the basis for the generation of our theory. First of all, different variables have been discussed for calculation of the corporate governance index. Different researchers have used different variables according to the relevance of the variables in their country. There isn't any particular evidence which constitutes a standard set of variables which could be applied everywhere in the world because corporate governance practices are different in every region.

After settling the issue of corporate governance measurement, it has been tested with different aspects of company's performance at different times in different regions. Corporate governance has been, and still is, a controversial issue. Some researchers have found a positive relationship between corporate governance practices with dividend payouts, while some have found a negative relationship. There is some evidence showing no relationship between these two variables at all.

Corporate governance has also been tested with financing strategies of the companies. Researchers have tried to find out which companies finance more debts. In this regard the same level of relationships is available in the literature. Positive, negative, and no relationship make this comparison more confounding. One of the basic elements of financing options is the cost. In the context of cost of capital, the more eminent cost is the cost of equity.

Pure performance has also been intensively researched. Some researchers have taken market measures as the proxy of performance, some have used company measures like ROE, ROA, etc. Mixed results are found in the literature. The significance of corporate governance is apparent with the fact that it has been taken as the premium risk measure for the calculation of stock returns.

After a review of literature which has been described above, a study will be conducted to resolve the puzzle. This study will address almost all issues of corporate governance and their impact on performance. The methodology opted for the analysis has been discussed in the next chapter. The hypothesis extracted after the literature review is presented as follows:

2.13 Hypotheses:

H1 = Corporate governance has an impact on dividend policy.

H2 = Corporate governance has an impact on cost of equity.

H3 = Corporate governance has an impact on capital policy

H4 = Corporate governance has an impact on internal performance

H5 = Corporate governance impacts market performance

H6 = Corporate governance impacts stock returns

Chapter Three

3 Research Methodology

This chapter contains a description of the methodology of the study. Which covers Population, Sample, Instrument, List of variables, Data collection, Data Analysis.

3.1 Population

The following formed the population of the study:

- 654 listed companies of the Karachi Stock Exchange (KSE).
- All listed companies of the New York Stock Exchange (NYSE).

3.2 Sample

The following was selected as the purposive sample on the basis of availability of corporate governance data:

1- 120 non-financial listed companies in the KSE.

2- 1029 listed companies in the NYSE.

3.3 Instrument

A questionnaire (Appendex A) based on the five point Likert Scale was constructed to collect data for the construction of a Corporate Governance Index (CGI). The following table shows the variables used for this purpose:

Table: 1 List of Variables

Variable	Abbr.	Definition
Ownership structure	OS	Shares held by board of directors/ Total no. of shares outstanding, following Eric Sevrin (2001),
Ownership concentration	OC	Shares owned by top-10 shareholders/ Total no. of shares following Lin Chen et. al (2008)
Institutional Ownership	IO	Shares held by institutional owners/ Total No. of shares following Lei Luo (2005)
Board Size	BS	Ln. of total No. of Board members.
Board Independence	BI	Non Executive Directors/ Total No. of Directors in Board) being in line with Kee et al (2003), Lin Chen (2008)
Audit Committee Independence	ACI	Non Executive directors in Audit committee/ Total No. of Directors in Audit Committee) following Forker's (1992)
CEO Duality	CEOD	Whether CEO and Chairman are the same person.
Share Holder's Activism	SHA	No. of meetings attended by more then 70% directors/ Total No. of meetings) following Lin Chen (2008)

The following equation can be used to explain the variables used in corporate governance functions in the study:

QCG = f (BS, BI, OS, OC, IO, ACI, SHA, CEOD)

3.4 Data Collection

Two types of data were used for the study: secondary and primary. Secondary data were collected from the State Bank of Pakistan (SBP) Annual Balance Sheet Analysis, the company's' annual reports, the KSE web site, and the Business Recorder website. Primary data was obtained by administering the questionnaire to the relevant people. These included the company's CEO's, COO's, CFO's, secretaries, and exchange

brokers. 66 responses were received. The following table contains descriptions of the responses:

Table: 2 Descriptions of Responses

Variable	**Abbr.**	Very Imp.	Important	Average	Not Important	Strongly not important
Ownership structure	OS	92%	8%	0%	0%	0%
Ownership concentration	OC	15%	73%	10%	0%	2%
Institutional Ownership	IO	10%	86%	1%	2%	1%
Board Size	BS	10%	68%	10%	2%	10%
Board Independence	BI	95%	5%	0%	0%	0%
Audit Committee Independence	ACI	98%	2%	0%	0%	0%
CEO Duality	CEOD	32%	62%	3%	3%	0%
Share Holders Activism	SHA	76.50%	12%	10%	1.50%	0%
Remuneration Committee Independence	RCI	8%	40%	22%	15%	15%
Any Other		0%	0%	0%	0%	0%

On the basis of responses, the following weights were assigned to each variable:

Table: Three Variables and Weights

Variable	**Weight**
BS	10%
BI	15%
ACIS	15%
OC	10%
OS	15%

IO	10%
SHA	15%
CEOD	10%
Total	100%

The variables which had been strongly agreed upon by the respondents were assigned a 15% weight and other agreed upon responses were assigned a 10% weight.

On the basis of the data given in annual reports, the mean score of each variable was calculated for every year from 2002 to 2007. The scores ranged from one to five with the mean of three. A normal curve was then used to identify companies on both sides of the mean score. Then each variable for every company was multiplied by the weight assigned to it on the basis of the responses given by the respondents. The scores of all variables for each company were then accumulated to arrive at a CG Score.

3.5 Data Analysis

The effects of corporate governance on different areas of financial performance like dividend policy, cost of capital, capital structure, internal and external performance, and stock returns were determined. The CG score obtained, stated in the previous section, was used as an independent variable. All other variables mentioned in respect of financial performance were taken as dependant variables.

The following techniques were used for the analysis:

- Common Effect Model
- Fixed Effect Model
- Random Effect Model

- Parks Model
- Multifactor Model

3.5.1 Common Effect Model:

This is one of the modeling techniques used in panel data analysis. It performs the test with constant coefficients, i.e. constant intercept and constant slope.

3.5.2 Fixed Effect Model: -

This is another type of panel data analysis technique in which slopes are kept constant but intercepts vary according to the cross sectional groups. In fixed effect sometimes it is assumed that there may not be the temporal effects in the series, but there may be cross sectional effects. In the other type of fixed effect model slopes are kept constant and intercept varies over time. In this case the model would not have any cross sectional differences, but it would have temporal differences.

In another type of fixed effect model, slope is kept constant but intercept may vary over cross section as well as time. There are other fixed effect models in which both slope and intercept may vary over time as well as over cross section.

3.5.3 Random Effect Model: -

Regression analysis with a random constant term is called the random effect model. Random effect models depend on both a cross section and a time series within them.

3.5.4 Parks Model: -

The Parks Model is an analytical technique in panel data analysis to deal with autocorrelation in the random errors. It assumes the autoregressive error structure of the first order along with the contemporaneous correlation among the cross sections. This model is estimated by two stages of GLS.

3.5.5 Multifactor Model:

This model was developed to calculate stock returns. It includes risk premium, size, and book to market ratios as factors for the determination of stock returns.

Chapter Four

Results and Discussion

This chapter pertains to the discussion and results of the study. The impact of corporate governance on various financial parameters has been studied in Pakistan and the USA. The chapter consists of following five sections.

- Corporate governance and dividend policy
- Corporate governance and cost of equity
- Corporate governance and capital structure
- Corporate governance and financial performance
- Corporate governance and the multifactor model

4.1 Corporate Governance and Dividend Policy

The hypothesis that corporate governance has an impact on dividend policy developed after a comprehensive literature review.

Extensive literature is found on the link between dividend policy and corporate governance. Agency theory states that one way to reduce conflicts between outside shareholders and management is the payment of dividends so that management cannot play with the retained earnings (Mayers 2000, Jensen 1986). Countries with weak investor protection need to know how investors can motivate management to announce the dividends (Mitton 2004). The researcher has tried to find out the answer to this question by taking different proxies for corporate governance. There is not a single proxy of corporate governance, especially in transitional economies where this concept is not well developed. Pakistan is an example of a transitional economy which launched a code of corporate governance in March 2002.

For the analysis, each variable of corporate governance has been tested individually so that the impact could be measured in depth and the Corporate Governance Score has also been analyzed individually with the dependant variables. The following table gives detailed insight towards the variables used in this section:

List of Variables

Dependant Variable		
Variable	**Abbreviation**	**Description**
Dividend Payout	DPO	Dividend Paid/ Net Profit after Tax
Independent Variables		
Ownership structure	OS	Shares held by board of directors/ Total no. of shares outstanding, following Eric Sevrin (2001),
Ownership concentration	OC	Shares owned by top10 shareholders/ Total no. of shares following Lin Chen et. al (2008)
Institutional Ownership	IO	Shares held by institutional owners/ Total No. of shares following Lei Luo (2005)
Board Size	BS	Ln of total No. of Board members
Board Independence	BI	Non Executive Directors/ Total No. of Directors in Board) being in line with Kee et al (2003), Lin Chen (2008)
Audit Committee Independence	ACI	Non Executive directors in Audit committee/ Total No. of Directors in Audit Committee) following Forker's (1992)
CEO Duality	CEOD	Whether CEO and Chairman are the same person.
Share Holders Activism	SHA	No. of meetings attended by more then 70% directors/ Total No. of meetings) following Lin Chen (2008)
Corporate Governance Score	CGS	Calculated on the basis of survey
Control Variables		
Sales Growth	SG	Current sales minus previous years sale/ previous years sale following signalling theory
Return on Equity	ROE	Net Profit/ Shares Holders equity.
Size of the firm	Size	Ln of total Assets following Scott and Martin (1975)
Gearing Ratio	GR	Fixed Debt/ Capital Employed following Gugler Klaus (2003)
Self Finance Ratio	SFR	Retained Earnings/ change in capital employed following John and Willaims (1985) and Ahmed and attiya (2009)

4.1.1 Analysis Technique

As the data used for the analysis comprises both time series and cross sectional data, which is known as panel data, the descriptive statistics common effect model was applied after to find out the relationship between corporate governance and dividend policy. The following two models have been tested.

In the first model, individual corporate governance proxies were regressed with dividend payout, and then in the second model, regression analysis was applied to the Corporate Governance Score with dividend payout.

4.1.2 Results and Discussion (Pakistan)

Table 4: Descriptive Statistics

	BS	*B.I*	*ACI*	*OC*	*OS*	*IOS*	*SHA*
Mean	7.97	0.61	0.75	0.73	0.28	0.39	0.82
Median	7.00	0.68	0.67	0.76	0.24	0.31	0.80
Minimum	7.00	0.00	0.00	0.08	0.00	0.00	0.00
Maximum	15.00	1.00	1.00	0.53	2.99	4.85	2.00

Descriptive statistics have been used to identify the type of data. The results of the common effect model are presented as follows:

4.1.2.1 Common Effect Model

Table 5: Corporate Governance Proxies and Dividend Payout

Variable	**Coefficient**	**T statistics**
C	-0.67766	-13.2623
CEOD (CEO Duality)	**0.043093**	**4.507758**
SHA (Share Holders Activism)	0.02588	1.276036
IO (Institutional Ownership)	**0.049961**	**2.647994**
OS (Ownership Structure)	**0.211339**	**7.330401**
OC (Ownership Concentration	-0.00833	-0.35697
ACI (Audit committee Independence)	-6.51E-05	-0.00287
BI (Board independence)	-0.07595	-0.27435
BS (Board size)	**0.062892**	**12.01047**
SIZE (Size of the company)	**0.031877**	**6.991851**
SG (Sales Growth)	-3.15E-06	-0.10268
ROE (Return on Equity)	**6.32E-05**	**2.429299**
SFR (Self Finance Ratio)	**-0.00014**	**-2.81211**
GR (Gearing Ratio)	-1.18E-06	-0.47431
R Square	0.16065	
Adjusted R square	0.144679	
F Statistics	10.34238	0

The results in the above table indicate that CEOD is positively related with dividend payout, and it is statistically significant. The study allocates one if there is not duality and zero if there is CEO duality. This positive relationship shows that the companies in which the CEO and the chairman are differently held posts pay more dividends. Institutional ownership also has a positive relationship with dividend policy

that is statistically significant. It indicates that just as many shares would be held by institutional shareholders, because many managers would be forced to pay dividends. Institutional shareholders normally prefer dividends. Ownership structure also has a positive significant relationship with dividend payout. This means that many owners would be sitting on the board, and they would be putting pressure on management for the announcement of dividends. These results are in line with Kouki Mondher and Guizani Moncef (2009). They conducted research on Tunisian firms from 1995 to 2001 and found the positive relationship between ownership structure and dividend policy. Board size is also positively related with the dividend policy, and this relationship is also statistically significant. Larger boards contain a more diversified portfolio of directors, and in the presence of large shareholders, dividend announcements gain more importance. In this study ROE has a significant positive relationship with dividend policy. This seems more logical because the companies that earn more profits would be more willing to pay dividends (holding all other factors constant). SFR, which is also known as slack in the literature, has a significant negative relationship with the dividend policy. This is logical since companies which use earnings for their internal financing would be less inclined to pay dividends. Ahmed and Javid (2009) found the same results in research on the Pakistani listed companies from 2001 to 2006.

Shareholders are found to be positively impacting dividend policy, but this relationship is statistically insignificant. Ownership concentration, audit committee independence, board independence, sales growth, and gearing ratio have a negative, but insignificant, impact on dividend policy. These results are statistically insignificant.

The R square shows that the variation explained by the independent variables is 16.6%. According to these results, it can be said that the independent variables incorporated in the study explain 16.67% of relationships. This is because the study's data is time series and cross sectional based.

4.2 Corporate Governance Score and Dividend Policy

After taking a detailed look at the relationship between the individual variables adopted as a proxy for corporate governance and dividend policy, the results of the CGS are presented in the following table:

Table 6: Corporate Governance Score and Dividend Payout

Variable	Coefficient	t-Statistic
C	**-0.280071**	**-9.705321**
CGS (Corporate Governance Score)	**0.049961**	**2.647994**
SIZE (Size of The Company)	**0.048733**	**15.31087**
SG (Sales Growth)	**2.33E-05**	**0.734098**
ROE (Return on Equity)	**8.71E-05**	**2.391773**
SFR (Self Finance Ratio)	**2.12E-05**	**0.91288**
GR (Gearing Ratio)	**-1.71E-06**	**-1.006586**
R Square	0.070007	
Adjusted R square	0.06217	
F Statistics		0

The Corporate Governance Score is found to have a positive and statistically significant impact on dividend policy. This means that the companies which have good governance prefer to announce dividends, which reduces the agency conflict and an environment of trust prevails. The results are in line with the findings of Gugler Klaus and Burcin (2003), Mitton (2004) and Laporta et al. (2000). The size of the firm is found to be having a statistically significant positive relationship with the dividend payout. The same results about size were presented by Mitton (2004) and Ahmed Hafeez and Javid Attiya (2009). ROE also has a positive and significant impact on dividend policy. Sales growth and the self financing ratio are positively related with dividend policy but have an insignificant impact. The gearing ratio has a negative and insignificant impact on dividend policy.

The R square in the above table shows that the variation explained by the independent variables is only 7%. This is low, and in the panel data it is due to an increase in the number of observations.

4.2.1 The Lintner's Model

The researcher, by following the same strategy used by lintner (1956), introduced three dummies in the model to capture the impact of the Corporate Governance Score. Companies were distributed in three categories:

1. Good Corporate Governance (Good CG)
2. Medium Corporate Governance (Medium CG)
3. Bad Corporate Governance (Bad CG)

The determination of good, medium, and bad governance was taken on the basis of the normal curve methodology; Each year, mean and standard deviation had been calculated and, by the adjustment of the standard deviation in mean, the higher and lower points were identified. On the basis of those points the categorization was made. After incorporating the dummies into the model, the following model has been used in this study:

$$\Delta D_{it} = \infty + \alpha_1 (\Delta E_{it} \times D_1) + \alpha_1 (\Delta E_{it} \times D_2) + \alpha_1 (\Delta E_{it} \times D_3) + B_1 (\Delta D_{it} \times D_1) + B_2 (\Delta D_{it} \times D_2) + B_3 (\Delta D_{it} \times D_3) + \epsilon_{it}$$

All of the other variables are the same as defined above; D1 was allocated one when the company was having good corporate governance and zero for all the other companies. D2 represents one for the medium and zero for all the others, and D3 was

allocated one when company governance was bad and zero for all the others. The following result table was extracted after analysis:

Table 7: Corporate Governance and Dividend Payout

Good CG		
Variable	**Coefficient**	**T value**
Ch in Earnings	0.342182227	6.828464
Ch in Dividend	0.37530774	6.923662
Medium CG		
Variable	**Coefficient**	**T value**
Ch in Earnings	0.071846112	1.322235
Ch in Dividend	0.490123175	2.505491
Bad CG		
Variable	**Coefficient**	**T value**
Ch in Earnings	0.131832794	0.246279
Ch in Dividend	0.588027442	0.539292
R square	0.261443457	
Adjusted R square	0.255228395	

The above table indicates that the companies in which corporate governance is good have positive and significant coefficients for dividends. These are insignificant in companies with Bad Corporate Governance (BCG). According to the instructions of the model, the speed of adjustment was calculated as (1- B) and the target payout ratios have been calculated as (α / 1- B). The results of the speed of adjustment and target payout ratios are as follows:

Table 8: Corporate Governance and Dividend Payout Adjustment

	GCG	**MCG**	**BCG**
Speed of adjustment (1-alpha)	0.62469226	0.509876825	0.411973
Target Payout	0.547761273	0.1409087	0.320004

Companies with Good Corporate Governance (GCG) have the highest target payout ratios, which shows that minority shareholders can motivate managers to disgorge the earnings in the form of dividends. Medium CG companies have the lowest ratio and companies with bad CG have a medium ratio. This could be due to the insignificant coefficients.

4.3 Results and discussion (USA):

The financial data from the US companies was taken from the Compustat data base, while the Corporate Governance Index was taken from "Brown LD., & Caylor M.L. (2006), Rose, P. (2007), SS 2005. ISS Corporate Governance: Best Practices User Guide & Glossary, revision 3.0, ISS 2008. ISS Corporate Governance Quotient" The period was the same as for Pakistan: 2002 to 2007. Companies were selected on the basis of their CGI availability.

Table : 9 Descriptive Statistics

	DPO	*GR*	*ROE*	*Size*	*SG*	*CGG*	*CGM*	*CGB*	*SFR*
Mean	100.5	33.6	3.1	7.2	11.1	28.3	17.7	5.2	18.7
Std Error	57.1	0.4	0.9	0.0	0.3	0.5	0.3	0.1	12.1
Median	0.0	30.9	10.0	7.2	8.4	0.0	0.0	0.0	4.4
Mode	0.0	0.0	7.0	7.5	6.8	0.0	0.0	0.0	-7.6
Std Dev	4484.9	30.4	68.6	1.6	21.8	40.1	24.6	9.4	947.9
S.V	20114323.5	923.2	4711.5	2.5	475.0	1611.8	607.4	87.5	898500.6
Kurtosis	2542.9	68.2	1913.6	0.2	80.8	-1.4	-1.2	1.1	5538.6
Skew	49.7	4.5	-36.1	0.1	5.2	0.8	0.8	1.6	72.7
Range	237936.1	854.6	4593.4	12.1	570.3	100.3	66.9	33.0	80466.8
Min.	-1936.1	-215.2	-3942.5	1.8	-100.0	0.0	0.0	0.0	-7988.4
Max.	236000.0	639.4	650.9	13.9	470.3	100.3	66.9	33.0	72478.4

Descriptive statistics show that the mean value of dividend pay out is 100.49, which is good. Among independent variables, the gearing ratio has the highest mean value at 33.557, which shows the greater impact of the gearing ratio for determining dividend payout. The second highest value occurs for CGG, implying its importance for dividend pay out in the USA.

The standard deviation is also the highest for dividend payout. This shows that there is no smooth trend of dividend payout in the USA, which could be due to inter-firm or inter-period variation. This could be due to the use of the panel data in the study. In some years it may be the highest, and in some years it may be either low or absent. The standard deviation for ROE and CGG is also very high. The lowest variation has been observed in the size of the firm with a value of 1.57. All the variables except ROE are positively skewed. Slightly skewed results have been observed in CGG, CGM and the size of the firm.

Table: 10 Common Effect Analysis

	Coefficients	**t Stat**
Intercept	-99.1284	*-0.31012*
GR	-0.07151	*-0.0362*
ROE	-0.12494	*-0.14966*
Size	9.909697	*0.255833*
SG	-1.15398	*-0.44586*
CGG	0.849392	*14.32694**
CGM	7.311358	*1.8366***
CGB	-4.83815	*-1.21534*
SFR	-0.04935	*-0.83233*
F Stat	26.24458	*2.65E-40*
R Square	0.032935	
Adjusted R Square	0.03168	

*significant at 95%
**significant at 90%
T-values in italics

While determining the affect of CG variables on dividend payout, it was discovered that good CG practices are positively and significantly related to the dividend payout. This implies that the firms with good CG practices announce more dividends. A relatively weak but positive relationship between dividend payout and medium level CG practices is also found. However, at the bad level, there is no impact of CG practices on DPO.

The rest of the variables, including GR, ROE, size and SG, are found to have insignificant relationships with DPO. This shows that among our selected variables, CG is the only component which affects DPO.

To conclude, it can be said that the results of the data analysis, in respect of corporate governance and dividend policy, show that corporate governance has an impact on dividend policy, and H1 is accepted.

4.4 Corporate Governance and Cost of Equity

Since the objective of the study was to measure the extent of the impact of corporate governance on a company's cost of equity, the latter is a dependent variable while the various aspects of corporate governance (practices) have been used as independent variables. As seen in the literature review, there are a number of factors which have an influence on the cost of equity; the researcher has used two control variables, namely Return on Equity (ROE) and size (log of total assets). Corporate governance is a qualitative variable: incapable of being measured directly. So, proxies were used for this purpose. These proxies have their own limitations. Empirical literature provides a number of proxies used for quantification of corporate governance. These range from individual factors to the score card approach; the score card approach entails the combined effects of all factors of corporate governance. An attempt has been made to capture the effect of individual factors, as well as the collective effects of the concerned variables.

4.4.1 Cost of Equity

Cost of equity capital has been calculated by the use of the Capital Asset Pricing Model (CAPM), which is in line with Fama and French. The equation used in the calculation is as follows:

$$Ke = Rfr + B(Rm - Rfr)$$

Where

Ke = cost of equity,

Rfr = Risk Free Rate,

Rm = Market rate and

B = Beta.

Beta (B) has been calculated on the basis of two years of monthly returns by the use of the following formula.

$$B = \text{Cov (Security \& Market)} / \text{Var.(Market)}$$

Return on Equity (Net profit after tax/ Shareholders' equity) is a measure of finding out the return being earned by the company on shareholders' equity. It has been used as a control variable in finding out the relationship because of its impact on the risk of the company. When it is higher, the investors are more comfortable and the risk would be lower.

A log of the total assets has been used as a proxy for the firm size. Larger companies would be having lower risks, and investors would be willing to accept lesser returns from such companies.

4.4.2 Results and Discussion (Pakistan)

Table: 11 Descriptive Statistics

	Ke	CGG	CGM	CGB	Size	ROE
Mean	0.02	3.18	0.64	0.15	7.28	0.18
S.E	0.00	0.02	0.02	0.01	0.06	0.13
Median	0.02	3.15	1.00	0.00	7.03	0.08
Mode	0.06	3.00	1.00	0.00	6.32	0.06
S.D	0.10	0.59	0.48	0.36	1.54	3.46
S.V	0.01	0.35	0.23	0.13	2.37	11.99
Kurtosis	103.47	-0.62	-1.67	1.69	-0.07	300.14
Skew	-7.86	0.01	-0.58	1.92	0.07	10.33
Range	1.95	2.85	1.00	1.00	8.50	114.21
Min.	-1.63	1.70	0.00	0.00	2.56	-42.06
Max.	0.33	4.55	1.00	1.00	11.06	72.14

Mean values show that the highest mean values occur for the size of the firm: 7.2792. The lowest values occur for Ke: 0.0168. The values for CGM and CGB are quite low, whereas the mean value for CGG is fairly high but less than the size of the firm.

The standard deviation is highest for ROE and lowest for Ke. Minor standard deviation has been found in CGG, CGM and CGB. An analysis shows that only Ke and CGM are negatively skewed. The rest of the variables have positively skewed results.

The descriptive statistics penal data analysis was applied after using the common effect model. In the first instance, assuming that the basic assumptions of the classical linear regression model hold true, the data has been analyzed using the OLS (Ordinary

Least Square method) according to the following equation. The results of which are shown in the following table:

$$Y_{it} = \alpha_1 + \sum \beta_1 X_{it} + \epsilon_t$$

Where:

$\sum X_{it}$ is the set of independent variables

ϵ_t is the error term in year t

The above equation can also be written as:

$$Ke_{it} = \propto + \beta_1 . ROE_{it} + \beta_2 . Size_{it} + \beta_3 . CGG_{it} + \beta_4 . CGM_{it} + \beta_5 . CGB_{it} + \epsilon_{it}$$

Where Ke = Cost of equity, Size = Log of total Assets, ROE = Return on Equity, CGG = Good Corporate Governance, CGM = Medium Corporate Governance, CGB= Bad Corporate Governance.

Table: 12 Regression results for CG and COE (Pakistan)

	Coefficients	t Stat
Intercept	-0.040660707	-0.696594145
CGSG	0.001549649	0.109750242
CGSM	-0.000816973	-0.051378441
CGSB	0.012609984	0.456340976
Size	0.007007618	2.579743718*
ROE	0.000690833	0.612518309
F statistics	1.77629541	0.000115413
R Square	0.012389045	
Adjusted R Square	0.005414392	

* Significant at 95%

Regression results show that only the size of the firm has a significantly positive relationship with the cost of equity. The rest of the variables have insignificant relationships. This shows that only the size of the firm affects the cost of equity of a firm, and all the other variables, like CGG, CGM and CGB, do not affect the cost of equity at all. F stat and R2 are low and show that there could be a number of other variables that can affect Ke.

4.4.3 Results and Discussion (USA)

Table 13: Descriptive Statistics

	Ke	ROE	Size	CGG	CGM	CGB
Mean	0.076	5.578	7.320	28.070	18.264	5.137
Standard Error	0.001	0.770	0.025	0.625	0.388	0.146
Median	0.041	10.736	7.281	0.000	0.000	0.000
Mode	0.113	7.498	7.612	0.000	0.000	0.000
Standard Deviation	0.071	49.372	1.576	40.089	24.918	9.366
Sample Variance	0.005	2437.546	2.484	1607.133	620.928	87.725
Kurtosis	6.999	808.896	0.235	-1.333	-1.259	1.105
Skewness	2.298	-19.943	0.098	0.767	0.737	1.613
Range	0.644	2738.294	12.100	100.000	66.800	32.900
Minimum	-0.017	-2087.440	1.775	0.000	0.000	0.000
Maximum	0.628	650.855	13.874	100.000	66.800	32.900
Sum	314.254	22958.060	30128.580	115535.000	75175.360	21144.800
Count	4116.000	4116.000	4116.000	4116.000	4116.000	4116.000

Descriptive statistics show that the highest mean values occur for CGG (Good Corporate Governance). The second highest value occurs for medium CG, which shows that on average companies in the USA practice good CG. The standard deviation is highest for ROE; however, the standard deviation for CGG is also fairly high, showing high volatility.

Figures for skewness show that ROE is negatively skewed. The rest of all the variables are positively skewed. However, size, CGG, and CGM are very slightly skewed as they are near to zero.

Table 14: Common Effect Model KE and CG in the USA

	Coefficients	t Stat
Intercept	0.122144914	19.29003*
ROE	-6.20464E-05	-2.72195*
Size	-0.005858501	-8.20633*
CGG	-4.62267E-05	-0.95334
CGM	-3.33135E-05	-0.42374
CGB	-0.000128488	-0.6612
F Stat	18.09485302	8.45E-18
R Square	0.021539059	
Adjusted R Square	0.020348718	

* Significant at 95%

Regression results show that all the variables have negative relationships with Ke, except the intercept. However ROE and size are significantly related to Ke and CGG. CGM has no relationship with Ke, although their values are negative. These results make us believe that ROE and the size of the firm are two variables which affect Ke significantly, and CG at any level (good, bad or medium) does not have any relationship with Ke. R2 for this model is also very low at 0.0203, whereas the F stat has an insignificant value.

4.4.3.1 Comparison:

The regression results for both the USA and Pakistan have been obtained, and it is observed that in both the countries the cost of equity has no relationship with CG. This implies that any improvement in corporate governance would not reduce or increase the cost of equity born by the firm. For the USA, the size of the firm and ROE both are found to be significantly related to Ke. However, according to our results for Pakistan, only an increase in the size of the firm would increase the cost of equity for the firm.

4.5 Corporate Governance and Capital Structure

After Miller and Modigliani (1958) propounded their theory about capital structure, many researchers discussed the capital structure in different aspects. A very rigorous body of literature is found on the debate about the link between capital structure and corporate governance.

4.5.1 Analysis

All of the variables of corporate governance have been analyzed first with the dependant variable, and then the corporate governance score has been analyzed to have a comprehensive investigation.

The following table gives detailed insight into the variables used in this section:

Table 15: List of Variables (CG & CS)

Dependant Variable		
Variable	Abbr.	Description
Leverage (Book value)	Lev BV	Total Debt/ Total Debt + BV of share holder's Equity
Leverage (Market value)	Lev MV	Total Debt/ Total Debt + MV of share holder's Equity
Independent Variables		
Ownership structure	OS	Shares held by board of directors/ Total no. of shares outstanding, following Eric Sevrin (2001),
Ownership concentration	OC	Shares owned by top10 shareholders/ Total no. of shares following Lin Chen et. al (2008)
Institutional Ownership	IO	Shares held by institutional owners/ Total No. of shares following Lei Luo (2005)
Board Size	BS	Ln of total No. of Board members
Board Independence	BI	Non Executive Directors/ Total No. of Directors in Board) being in line with Kee et al (2003), Lin Chen (2008)
Audit Committee Independence	ACI	Non Executive directors in Audit committee/ Total No. of Directors in Audit Committee) following Forker's (1992)
CEO Duality	CEOD	Whether CEO and Chairman are the same person.

Share Holders Activism	SHA	No. of meetings attended by more then 70% directors/ Total No. of meetings) following Lin Chen (2008)
Corporate Governance Score	CGS	Calculated on the basis of survey
Control Variables		
Sales Growth	SG	Current sales minus previous years sale/ previous years sale following signaling theory
Return on Equity	ROE	Net Profit/ Shares Holders equity.
Size of the firm	Size	Ln of total Assets following Scott and Martin (1975)

After the descriptive statistics and correlation analysis, the Common Effect Model, as mentioned in the following equations, has been used for the analysis. In the first model, individual corporate governance variables were regressed with capital structure. Before doing so, the researcher took care of multi-co-linearity as well. In the second model, the corporate governance score has been tested with leverage. The study used the leverage ratio, both with respect to the market value of equity and book value of equity, so that a robustness check could be performed simultaneously.

4.5.2 Model 1:

The study calculated capital structure by two methods following Yermack, Ofek and Berger (1997). It has two dependant variables: the market value of equity and the book value of equity.

$$\text{Lev (BV)}_{it} = \alpha_0 + \alpha_1 (BS_{it}) + \alpha_2 (BI_{it}) + \alpha_3 (ACI_{it}) + \alpha_4 (OC_{it}) + \alpha_5(MO_{it}) + \alpha_6 (IO_{it}) + \alpha_7(SHA_{it}) + \alpha_8(CEOD_{it}) + \alpha_9(SG_{it}) + \alpha_{10}(ROE_{it}) + \alpha_{11}(\text{Size of f}_{it}) + €_{it}$$

$$\text{Lev (MV)}_{it} = \alpha_0 + \alpha_1 (BS_{it}) + \alpha_2 (BI_{it}) + \alpha_3 (ACI_{it}) + \alpha_4 (OC_{it}) + \alpha_5(MO_{it}) + \alpha_6 (IO_{it}) + \alpha_7(SHA_{it}) + \alpha_8(CEOD_{it}) + \alpha_9(SG_{it}) + \alpha_{10}(ROE_{it}) + \alpha_{11}(\text{Size of } f_{it}) + €_{it}$$

4.5.3 Model 2:

$$\text{Lev (BV)}_{it} = \alpha_0 + \alpha_1 (CGS_{it}) + \alpha_2 (SG_{it}) + \alpha_3 (ROE_{it}) + \alpha_4 (\text{Size of } f_{it}) + €_{it}$$

$$\text{Lev (MV)}_{it} = \alpha_0 + \alpha_1 (CGS_{it}) + \alpha_2 (SG_{it}) + \alpha_3 (ROE_{it}) + \alpha_4 (\text{Size of } f_{it}) + €_{it}$$

4.5.4 Results and Discussion (Pakistan)

(Model 1)

Table 16: Descriptive Statistics

	Lev MV	*Lev BV*	*SG*	*ROE*	*Size Of F*	*BS*
Mean	0.64	0.72	18.41	-0.17	7.29	2.06
Med	0.69	0.64	10.1	0.04	7.03	1.95
Min	0.04	0.02	-1	-42.06	2.56	1.95
Max.	1	4.84	164	27.34	11.06	2.71

	B.I	*ACI*	*OC*	*M.O*	*IO*	*SHA*	*CEOD*
Mean	0.61	0.75	0.75	0.28	0.39	0.82	0.7
Med	0.67	0.67	0.76	0.24	0.3	0.8	1
Min	0	0	0.08	0	0	0	0
Max.	1	1	7.67	2.99	4.85	2	1

Table 17: Correlation Matrix (Lev MV)

	LMV	*SG*	*ROE*	*SOF*	*BS*	*B.I*	*ACI*	*OC*	*M.O*	*IO*	*SHA*	*CD*
LMV	1.0											
SG	0.0	1.0										
ROE	-0.1	0.0	1.0									
SOF	-0.3	0.0	0.1	1.0								
BS	-0.5	0.1	0.0	0.4	1.0							
B.I	0.0	0.0	0.0	-0.1	-0.1	1.0						
ACI	-0.1	0.0	0.0	0.2	0.1	0.3	1.0					
OC	-0.1	0.0	0.0	0.1	0.0	0.0	0.1	1.0				
M.O	0.3	-0.1	0.0	-0.3	-0.3	0.1	-0.1	0.2	1.0			
IO	-0.2	0.1	0.0	0.4	0.4	0.0	0.2	0.1	-0.5	1.0		
SHA	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	1.0	
CD	-0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	0.1	0.1	1.0

Correlation was checked to find out whether there is multi-co-linearity in the independent variables or not. Due to the presence of correlation, some of the control variables were excluded from the equation.

Table 18: Correlation Matrix (Lev BV)

	LBV	*SG*	*ROE*	*SOF*	*BS*	*B.I*	*ACI*	*OC*	*M.O*	*IO*	*SHA*	*CD*
LBV	1.0											
SG	0.1	1.0										
ROE	0.0	0.0	1.0									
SOF	-0.4	0.0	0.1	1.0								
BS	-0.2	0.1	0.0	0.4	1.0							
B.I	0.1	0.0	0.0	-0.1	-0.1	1.0						
ACI	-0.1	0.0	0.0	0.2	0.1	0.3	1.0					
OC	0.0	0.0	0.0	0.1	0.0	0.0	0.1	1.0				
M.O	0.0	-0.1	0.0	-0.3	-0.3	0.1	-0.1	0.2	1.0			
IO	0.0	0.1	0.0	0.4	0.4	0.0	0.2	0.1	-0.5	1.0		
SHA	-0.1	0.0	0.0	0.1	0.1	0.0	-0.1	0.0	-0.1	0.0	1.0	
CD	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	0.1	0.1	1.0

Table 19: Common Effect Model

	Leverage Market Value		**Leverage Book value**	
Variable Description	Coefficient	T statistics	Coefficient	T statistics
Intercept	**1.964191252**	**16.24972**	**2.151911211**	**8.674410834**
SG	0.000110938	1.039332	0.000389051	1.775969903
ROE	-0.00425008	-1.08155	-0.0011981	-0.14855761
Size of f	**-0.017788574**	**-2.72263**	**-0.12838473**	**-9.574464071**
BS	**-0.55556479**	**-9.72841**	-0.20633415	-1.760483532
B.I	0.003106687	0.080672	**0.176296017**	**2.230592437**
A.C.Ind.	-0.030271642	-0.82334	-0.06742212	-0.893508932
O.C (Top 10)	-0.039857995	-1.4868	0.042190047	0.766831238
M.O	**0.087585418**	**2.3711**	**0.26115193**	**3.444806789**
inst. Ownership	-0.007626859	-0.26091	0.090576421	1.509764605
SHA	-0.015055507	-0.42082	-0.12083482	-1.645670079
CEO duality	**-0.032436548**	**-2.01086**	-0.04117324	-1.052518244
F Statistics	19.52984123	1.64E-34	12.91405494	1.56598E-22
R Square	0.233552571		0.167704188	
Adjusted R Square	0.221593817		0.154718012	

The above table shows that board size has a negative effect on leverage in the companies. Independent boards prefer debts in their capital structure, but this relationship has been only found statistically significant in leverage (book value) not in leverage (market value) . Berger et al (1997) also found the positive relationship between board composition and debt ratio and a negative relationship between board size and leverage. Managerial ownership also has a positive impact on leverage in both cases. The results are the same as Berger et al (1997). When more owners are present on the board they prefer to incorporate debt in their financing, as debt is the cheapest source of financing being tax exempt. CEO duality has been found to be negatively related with leverage, which means when duality is present capital structure is based upon leverage as a major

component. These results are in line with Abor (2007). The study defines this relationship by indicating one when CEO duality is not present and indicating zero when duality is present, because the study had to calculate the score for the corporate governance. In the control variables, the size of the company has been found to be negatively related with leverage. This means big companies prefer to have equity financing for their assets. All of the other variables have been found to have statistically insignificant relationships with leverage. The market value and book value of shareholders' equity in capital structure have different results, especially for governance variables.

4.5.5 Results and Discussion (Model 2)

Table 20: Descriptive Statistics

	Lev MV	*Lev BV*	*SG*	*ROE*	*Size of f*	*CGS*
Mean	0.635206	0.72	18.40851	-0.17289	7.287151	3.169735
Median	0.690412	0.64	10.1	0.03912	7.032624	3.15
Minimum	0.035182	0.02	-100	-42.0625	2.557227	1.7
Maximum	0.997528	4.84	1640	27.34483	11.05982	4.55

Table 21: Correlation Matrix (Lev MV)

	Lev MV	*SG*	*ROE*	*Size of f*	*CGS*
D/D+MVE	1				
SG	0.008735	1			
ROE	-0.05216	0.035287	1		
Size of f	-0.30156	-0.01006	0.048239	1	
CGS	-0.26736	0.06493	0.001098	0.336948	1

Table 22: Correlation Matrix (Lev BV)

	Lev BV	*SG*	*ROE*	*Size of f*	*CGS*
D/D+BE	1				
SG	0.071119	1			
ROE	-0.01889	0.035287	1		
Size of f	-0.36147	-0.01006	0.048239	1	
CGS	-0.04576	0.06493	0.001098	0.336948	1

Table 23: Common Effect Model:

	Leverage Market Value		**Leverage Book value**	
Variable Description	Coefficient	T statistics	Coefficient	T statistics
Intercept	**1.263196282**	**9.26084248**	**1.341558017**	**5.021879024**
SG	3.82788E-05	0.337988254	0.000370434	1.670055845
ROE	-0.004842059	-1.16343978	-0.000661882	-0.081202838
Size of f	**-0.042296424**	**-6.6449425**	**-0.130762328**	**-10.48932031**
CGS	**-0.089305426**	**-2.710601731**	0.098572544	1.527639774
D1 (M)	-0.056974163	-1.537261457	0.003259135	0.044900303
D2 (B)	-0.013357477	-0.207203347	0.068634914	0.543618925
F Statistics	18.0795301	1.39026E-19	19.6119886	3.02328E-21
R Square	0.132535376		0.132535376	
Adjusted R Square	0.125204689		0.125204689	

The results of the second model, analysis using the Corporate Governance Score, are shown in the above table. The Corporate Governance Score has been found here to be negatively affecting the leverage market value, but it doesn't have any statistically significant relationship with leverage book value. That means corporate governance matters for capital structure. Companies in which the corporate governance is good are more equity financed and are more solvent in Pakistan. Once again, in this table, the

study found that the size of the firm has the same relationship as has been discussed in the above Model 1.

4.5.6 Results and Discussion (USA)

The financial data of the US companies has been taken from the Compustat data base while the Corporate Governance Index has been taken from "Brown LD., & Caylor M.L. (2006), Rose, P. (2007), SS 2005. ISS Corporate Governance: Best Practices User Guide & Glossary, revision 3.0, ISS 2008. ISS Corporate Governance Quotient." The period was the same as for Pakistan: 2002 to 2007. Companies were selected on the basis of their CGI availability.

Table 24: Descriptive Statistics

	CS	***ROE***	***Size***	***SG***	***CGG***	***CGM***	***CGB***
Mean	33.56	3.07	7.23	11.10	28.30	17.67	5.18
Std Error	0.39	0.87	0.02	0.28	0.51	0.31	0.12
Median	30.86	9.96	7.16	8.40	0.00	0.00	0.00
Mode	0.00	6.98	7.54	6.76	0.00	0.00	0.00
Std Dev	30.38	68.64	1.57	21.79	40.15	24.64	9.36
SV	923.17	4711.53	2.47	475.01	1611.80	607.36	87.54
Kurtosis	68.19	1913.55	0.17	80.83	-1.35	-1.18	1.12
Skewness	4.46	-36.08	0.14	5.20	0.75	0.79	1.61
Range	854.62	4593.36	12.10	570.32	100.30	66.93	32.99
Min.	-215.20	-3942.51	1.77	-100.00	0.00	0.00	0.00
Max.	639.42	650.86	13.87	470.32	100.30	66.93	32.99
Sum	207181.00	18958.00	44637.00	68521.00	174728.00	109117.00	31958.00
Count	6174.00	6174.00	6174.00	6174.00	6174.00	6174.00	6174.00

The above table shows that the highest mean value occurs for capital structure at 33.5570, which is a dependent variable. Among independent variables, the highest mean

value is for CGG and the second highest is for CGM. This shows that CG practices at their best level have more impact on the capital structure of the firm. Even at a medium level, CG practices have considerable value for capital structure. The lowest mean value is for ROE at 3.0707. This implies less importance of ROE for determining capital structure.

The standard deviation is highest for ROE at 68.6406. This means that even with the lowest mean value, ROE is the most volatile measure of capital structure. Standard deviations for CGG and CGM are also considerably high, making them more risky measures. All the variables except ROE are positively skewed. Slightly skewed results have been observed in CGG, CGM and the size of firm series.

Table 25: Common Effect Model

	Coefficients	t Stat
Intercept	-15.8056	*-7.70797**
ROE	-0.03112	*-5.79936**
Size	6.869128	*29.37037**
SG	-0.04488	*-2.69234**
CGG	0.030846	*1.963706***
CGM	0.030087	*1.172383*
CGB	-0.00362	*-0.05715*
F Stat	145.5937	*2.9E-173*
R square	0.124076	
Adjusted R square	0.123223	

*significant at 95%
**significant at 90%
T-values in italics

The regression analysis depicts that ROE and sales growth are negatively and significantly related to the capital structure of the firm, and this means that any increase in these two variables would affect the capital structure negatively. However, the size of the firm has a positive relationship with its capital structure.

When it comes to corporate governance measures, only good CG practices are found to be significantly affecting the capital structure of the firm. At any other level, such as medium and bad level, CG practices do not impact the capital structure of the

firm at all. The value of R2 is also not very high for this model at around 12%, which shows the presence of several other factors not included in the model that may be influencing the capital structure.

4.6 Corporate Governance and Performance

Table 26: Common Effect Model

	ROE		ROA		Tobin's Q		Marris	
	Common Effect Model							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	-0.29	*-0.43*	-24.02	*-6.3346**	1.09	*4.4214**	-2.24	*-1.08*
Size	0.11	*1.7915***	1.54	*4.5203**	-0.10	*-4.4346**	0.22	*1.16*
FMV	0.00	*0.62*	-0.12	*-4.8603**	0.00	*0.68*	-0.02	*-1.30*
FBV	-0.12	*-34.8131**	0.01	*0.31*	0.00	*0.07*	0.29	*27.6853**
SG	0.00	*0.48*	0.02	*2.6896**	0.00	*0.41*	0.00	*-0.91*
BS	0.02	*0.41*	2.09	*6.5527**	0.10	*4.8143**	0.38	*2.2026**
BI	-0.35	*-1.00*	-2.27	*-1.13*	0.45	*3.4166**	-0.47	*-0.43*
ACI	-0.43	*-1.28*	-0.70	*-0.36*	-0.11	*-0.86*	0.46	*0.44*
OC	0.18	*0.74*	3.91	*2.7902**	0.16	*1.7129***	0.25	*0.33*
MO	-0.23	*-0.69*	-2.41	*-1.25*	-0.64	*-5.0905**	-2.37	*-2.2590**
IO	0.05	*0.20*	-0.23	*-0.15*	0.33	*3.2993**	0.06	*0.07*
SHA	0.03	*0.08*	1.66	*0.89*	-0.14	*-1.17*	0.17	*0.17*
CEOD	0.18	*1.01*	-0.50	*-0.50*	-0.10	*-1.55*	-0.82	*-1.52*
R Square	0.63		0.21		0.14		0.53	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

The above table shows the results of the Common Effect Model, which was applied to assess the impact of selected CG variables on firm performance. Firm performance is measured by taking four different variables: ROE, ROA, Tobin's , and the Morris Ratio. The Common Effect Model has been applied to each of these variables separately.

The results for the Common Effect Model applied with ROE as the dependent variable show that the size of the firm and FBV significantly affect the firm's ROE. Size and ROE are positively related, whereas FBV and ROE are negatively related. However, the significance of impact of FBV on ROE is greater than the impact of size on ROE. R2 of almost 63% shows that all the CG variables under study determine the 63% of ROE.

The Common Effect Model applied on ROA shows a number of variables having significant relationships with ROA. This includes size, FMV, sales growth, board size and ownership concentration. A significantly positive relationship exists between the size of the firm, SG, BS and OC, whereas there is a negative relationship between ROA and FMV. The value of R2 is not so high at 21%: indicating the presence of other variables affecting the ROA of a company.

The results for Tobin's Q show that Tobin's Q is significantly affected by the size of the firm and the managerial ownership (MO) in a negative manner. BS, BI, OC, and IO are positively and significantly related to Tobin's Q. R2 is again too low at only 14%.

The Common Effect Model applied for the Marris Ratio shows that the Marris Ratio is significantly affected by FBV. A positive relationship exists between them. Board size and managerial ownership are also significantly related to the Marris Ratio. BS has a positively significant relationship, and MO has a negatively significant relationship with the Morris Ratio.

R2 for this model is considerably good at 53%.

Table 27: Random t Model

	ROE		ROA		Tobin's Q		Marris	
	Random Effect Model							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	-0.26	*-0.38*	-22.08	*-4.190**	0.52	*1.59*	-2.68	*-1.12*
Size	0.11	*1.7000***	1.47	*2.9300**	0.05	*1.50*	0.24	*1.11*
FMV	0.00	*0.64*	-0.09	*-3.830**	0.00	*-3.6300**	-0.01	*-0.87*
FBV	-0.12	*-34.8000**	0.00	*0.30*	0.00	*-0.43*	0.29	*27.9200**
SG	0.00	*0.54*	0.01	*3.040**	0.00	*1.33*	0.00	*-0.91*
BS	0.02	*0.42*	1.79	*3.8100**	0.04	*1.6000***	0.38	*1.8600***
BI	-0.37	*-1.02*	-0.15	*-0.06*	0.17	*1.23*	-0.84	*-0.66*
ACI	-0.44	*-1.25*	-0.17	*-0.06*	-0.03	*-0.24*	0.55	*0.45*
OC	0.19	*0.75*	-0.17	*-0.06*	-0.04	*-0.71*	0.33	*0.42*
MO	-0.25	*-0.70*	3.37	*2.5700**	-0.12	*-1.13*	-2.13	*-1.8300***
IO	0.04	*0.14*	0.10	*0.07*	0.23	*3.5600**	-0.33	*-0.37*
SHA	0.03	*0.09*	1.09	*0.58*	-0.01	*-0.10*	0.60	*0.56*
CEOD	0.17	*0.96*	-0.77	*-0.53*	-0.06	*-0.76*	-0.80	*-1.25*
R Square	0.63		0.09		0.06		0.53	

* Significant at 95% level of confidence

** Significant at 90% level of confidence

T-values in italics

The results of the Random Effect Model applied to CG variables to determine their impact on firm performance are shown in the above table. The results show that ROE has a significantly positive relationship with the size of the the firm and a significantly negative relationship with FBV. None of the other variables impact ROE in a significant manner.

ROA is significantly and positively related to the size of the firm, sales growth, board size, and managerial ownership. The relationship of ROA and FMV is also significant but negative. When it comes to Tobin's Q, it is found that board size and institutional ownership impacts Tobin's Q positively and significantly. FMV has a

significantly negative impact on Tobin's Q. The Marris Ratio shares a significantly positive relationship with FBV and board size but a negatively significant relationship with managerial ownership.

R2 for the Random Effect Model applied on ROE is the best among all the other models applied for different dependent variables at 63%. The value of R2 is low for Tobin's Q at 5% only.

Table 28: Fixed Effect Model

	ROE		**ROA**		**Tobin's Q**		**Marris**	
	Fixed Effect Model							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	4.48	1.71**	-2.14	-0.18	-0.43	-0.91	5.71	0.74
Size	-0.34	*-1.40*	-0.59	*-0.53*	0.16	*3.68**	-0.54	*-0.74*
FMV	0.01	*1.73*	-0.05	*-1.71***	-0.01	*-5.01**	0.01	*0.61*
FBV	-0.12	*-31.6**	0.01	*0.40*	0.00	*-0.59*	0.28	*25.98**
SG	0.00	*1.35*	0.01	*3.03**	0.00	*1.38*	0.00	*-0.62*
BS	-0.05	*-0.26*	0.21	*0.24*	0.03	*0.87*	-0.36	*-0.62*
BI	-1.35	*-1.65***	3.93	*1.06*	0.07	*0.46*	-3.23	*-1.34*
ACI	-1.17	*-1.29*	1.06	*0.26*	-0.07	*-0.42*	-0.16	*-0.06*
OC	0.17	*0.56*	2.94	*2.11**	-0.06	*-1.02*	0.19	*0.21*
MO	-0.20	*-0.32*	-1.31	*-0.47*	-0.06	*-0.56*	0.79	*0.44*
IO	-0.29	*-0.78*	-0.25	*-0.15*	0.23	*3.36**	-1.93	*-1.76***
SHA	0.10	*0.22*	0.93	*0.45*	0.01	*0.13*	1.93	*1.42*
CEOD	0.20	*0.37*	-0.72	*-0.30*	-0.10	*-1.03*	-0.47	*-0.30*
R Square	0.70		0.58		0.83		0.65	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

The Fixed Effect Model is applied with ROE, ROA, Tobin's Q, and Marris being dependent variables to find the impact of CG variables on them. Results have revealed that FBV and board independence is negatively related to ROE; an increase in both of

these variables leads to a decrease in ROE. None of the other variables has a significant relationship with ROE.

ROA is positively affected by sales growth and ownership concentration in a significant way. However, there exists a negatively significant relationship between ROA and FMV. Similarly Tobin's Q has a negatively significant relationship with FMV. However, a positive relationship between Tobin's Q and the size of the firm and institutional ownership has been revealed by the results. The Marris Ratio, finally, is positively and very highly correlated with FBV. A relatively less significant relationship between the Morris Ratio and institutional ownership is also found.

R^2 is the highest for the Fixed Effect Model applied to Tobin's Q at 80%; this shows that 80% of the variation in Tobin's Q is covered by the variables under study.

Table 29: Fuller Test

	ROE		ROA		Tobin's Q		Marris	
	Fuller Effect							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	-0.57	*-0.82*	-20.25	*5.4982**	1.45	*4.23**	-2.73	*-1.13*
Size	0.14	*2.23**	1.26	*0.53*	-0.08	*-2.34**	0.24	*1.08*
FMV	0.00	*0.63*	-0.08	*0.02*	0.00	*-1.86***	-0.02	*-1.08*
FBV	-0.12	*-35.5**	0.01	*0.02*	0.00	*-0.57*	0.28	*27.75**
SG	0.00	*0.39*	0.01	*0.00*	0.00	*1.18*	0.00	*-0.86*
BS	0.02	*0.28*	1.82	*0.48*	0.07	*2.54**	0.38	*1.86***
BI	-0.33	*-0.93*	-0.34	*2.6698**	0.06	*0.48*	-0.85	*-0.68*
ACI	-0.40	*-1.18*	-0.35	*2.6865**	-0.11	*-0.84*	0.58	*0.47*
OC	0.21	*0.87*	3.30	*1.30*	-0.05	*-0.90*	0.38	*0.49*
MO	-0.15	*-0.44*	-2.72	*2.2463**	-0.20	*-2.06**	-2.10	*-1.81***
IO	0.04	*0.14*	0.05	*1.51*	0.24	*3.83**	-0.29	*-0.34*
SHA	0.08	*0.25*	0.84	*1.8899***	-0.04	*-0.54*	0.67	*0.62*
CEOD	0.19	*1.08*	-0.78	*1.45*	-0.07	-0.88	-0.82	*-1.29*
R Square	0.64		0.08		0.06		0.53	

* Significant at 95% level of confidence
** Significant at 90% level of confidence

T-values in italics

The Fuller Test application showed that the only variable that affects ROE in a significantly positive way is the size of the firm. Similarly, the only variable that affects ROE in a negatively significant way is FBV. No other variable has any significant impact on ROE when analyzed through the Fuller Test.

An analysis with ROA being the dependent variable reveals that board independence, audit committee independence, and managerial ownership has a significantly positive impact on ROA. And shareholder activism also affects ROA in a positively significant way. However, its magnitude is lower than that of BI, ACI, and MO. None of the variables affect ROA in a negative manner, either significantly or insignificantly.

An examination of Tobin's Q shows that most of the variables under study have a negative impact on Tobin's Q. However, among these, only managerial ownership (MO), size and FMV has a significant negative relationship with Tobin's Q. Board size and institutional ownership are positively and significantly related to Tobin's Q.

Similarly, the Morris Ratio is negatively affected by most of the variables. However, the only significantly negative relationship found is between managerial ownership and the Morris Ratio. FBV and board size are positively and significantly related to the Morris Ratio, but the magnitude of the relationship between FBV and the Morris Ratio is higher than that of BS and the Morris Ratio.

R^2 is best for the Fuller Test when applied to ROE at 64%, as compared to that of 8% and 6% of ROA and Tobin's Q respectively.

Table 30: Park's Test

	ROE		ROA		Tobin's Q		Marris	
	Park's		Park's		Park's		Park's	
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	3.18	*2.96**	-70.48	*-2.05**	0.63	*0.89*	-14.38	*-1.52*
Size	-0.11	*-1.33*	2.57	*2.03**	-0.02	*-0.42*	0.22	*0.37*
FMV	0.01	*2.03**	-0.22	*-1.99***	0.00	*-0.63*	-0.07	*-2.98**
FBV	-0.12	*-34.21**	0.01	*0.64*	0.00	*0.00*	0.18	*4.33**
SG	0.00	*2.69**	0.01	*2.67**	0.00	*-0.57*	0.00	*-1.80*
BS	-0.25	*-1.74***	6.62	*1.64***	0.07	*0.80*	1.74	*2.53**
BI	-1.35	*-2.91**	-0.24	*-0.05*	0.04	*0.28*	2.74	*1.55*
ACI	-0.44	*-1.83***	-1.62	*-0.43*	-0.05	*-0.53*	0.12	*0.36*
OC	0.47	*2.53**	6.08	*3.2**	0.07	*0.67*	-2.12	*-1.97***
MO	0.20	*0.78*	-2.88	*-0.53*	0.04	*0.21*	-1.36	*-0.78*
IO	-3.09	*-2.04**	-2.73	*-0.48*	0.43	*1.15*	3.46	*1.14*
SHA	0.65	*1.6***	0.76	*0.45*	-0.03	*-0.28*	-1.44	*-1.92***
CEOD	0.87	*1.99***	5.92	*1.28*	-0.06	*-0.44*	3.09	*1.42*
R Square	0.99		0.93				0.95	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

An examination of Park's results to find out the impact of CG variables on firm performance has provided mixed results. The same set of independent variables affects one dependent variable in a very significant manner and at the same time has no impact on the other dependent variables. A detailed analysis is given below.

When it comes to ROE, almost all of the independent variables are significantly related to ROE except for size and managerial ownership. Among these, FMV, sales growth, ownership concentration, shareholder activism, and CEO duality has a positively significant relationship, whereas institutional ownership, audit committee independence,

board independence, board size, FBV and the size of the firm are negatively yet significantly related to ROE.

ROA has a negative relationship with most of the independent variables; however, it has the only significant relationship with FMV. On the other hand, sales growth, board size, and ownership concentration are positively and significantly related to ROA.

Tobin's Q has mixed results. However, none of the independent variables has a significant impact on the Tobin's Q of a firm when evaluated through Park's Model.

For the Marris Ratio, FMV, ownership concentration, and shareholder activism have a negatively significant impact on the Marris Ratio. The magnitude of the relationship of FMV and the Marris Ratio is higher than the other two. A positively significant relationship has been found between board size and FBV.

R^2 is best for ROE at 0.9949 with almost all of the significant values except size and MO explaining the 99% variation in ROE.

4.6.1 CGI and Firm Performance

The relationship of the firm's performance with the CG score has been evaluated in this section using five different models. All of these models are analyzed below.

Table 31: Common Effect Model

	ROE		ROA		Tobin's Q		Marris	
	Common Effect Model							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	0.76	*0.64*	-20.19	*-2.8908**	-0.20	*-0.44*	-7.00	*-1.9010***
Size	0.13	*2.3269**	2.44	*7.5177**	-0.04	*-1.8020***	0.47	*2.7622**
FMV	0.00	*0.35*	-0.13	*-5.1353**	0.00	*0.33*	-0.02	*-1.37*
FBV	-0.12	*-34.8009**	0.00	*0.03*	0.00	*-0.16*	0.28	*27.4246**
SG	0.00	*0.60*	0.02	*2.7967**	0.00	*0.78*	0.00	*-0.73*
CGS	0.38	*2.2026**	2.15	*1.28*	0.48	*4.2749**	1.30	*1.46*
CGIM	-0.46	*-1.44*	0.72	*0.38*	0.26	*2.0502**	1.27	*1.28*
CGIB	-0.59	*-1.06*	2.04	*0.62*	-0.72	*-1.29*	1.18	*0.68*
R square	0.63		0.15		0.05		0.53	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

The results for the Common Effect Model show that the firm's ROE is positively and significantly dependent on the size of the firm and negatively significantly dependent on FBV. A significant value of the CGS shows that the firm's good governance practices contribute a lot to improve the ROE of the firm. R2 in this case is fairly good at 0.6320. This means that 63% of ROE is explained by these variables.

The size of the firm and the sales growth have a significantly positive impact on ROA, whereas FMV has a negatively significant relationship. The quality of corporate governance practices or the CG score do not have any impact on ROA in either way.

Tobin's Q has a negative relationship with the size of the firm but with a low level of significance. CGS and CGIM both are positively and significantly related to Tobin's Q. This means that CG practices at their optimum level, as well as at a moderate level, have a positive impact on the value of the Tobin's Q of a firm. However, R2 for this model is too low at only 4%.

The Marris Ratio is significantly affected by the size and FBV in a positive manner. The corporate governance rating or practicing CG has no impact on the Marris Ratio.

Table 32: Random Effect Model

	ROE		**ROA**		**Tobin's Q**		**Marris**	
	Random Effect							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	0.92	*0.76*	-16.39	*-2.3300**	0.18	*0.51*	-5.20	*-1.36*
Size	0.13	*2.2000**	1.96	*3.9400**	0.06	*1.92*	0.47	*2.3200**
FMV	0.00	*0.37*	-0.10	*-4.1400**	0.00	*-3.820**	-0.01	*-1.03*
FBV	-0.12	*-34.790**	0.00	*0.30*	0.00	*-0.45*	0.28	*27.7300**
SG	0.00	*0.67*	0.01	*3.08*	0.00	*1.6400***	0.00	*-0.80*
CGS	-0.33	*-1.13*	2.25	*1.30*	0.17	*2.0700**	0.83	*0.88*
CGIM	-0.49	*-1.52*	-0.40	*-0.23*	0.14	*1.9700***	0.90	*0.89*
CGIB	-0.66	*-1.16*	1.28	*0.44*	0.22	*1.8500***	0.55	*0.31*
R square	0.63		0.06		0.03		0.53	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

When The Random Effect Model was applied to selected variables it was found that CG practices or the CG score of the firm have no impact on the ROE of the firm. The only significant and positive relationship found is between the size of the firm and ROE.

Also, a negatively significant relationship has been found between FBV and ROE. R2 is the same as that of the Common Effect Model at 63%.

ROA is positively and significantly correlated with the size of the firm only. With FMV, it has a negatively significant relationship. Again in this case, the firm's ROA is independent of CG practices at any level. Not even a bad CG score has any impact on ROA.

Tobin's Q is the only variable which has a significantly positive relationship with the CG score or CG practices at all the levels. However, the magnitude of the impact in the case of a good CG score is higher than in the case of a medium or bad CG score. Other than the CG index, sales growth has a positive impact on Tobin's Q, and FMV has a negative impact on the Tobin's Q of a firm.

Again in the case of the Marris Ratio, no significant relationship is found with CG practices as measured by the CG score. The only independent variable that affects the Morris Ratio in a significant manner is FMV. R2 for this model is also pretty good and the same as that of the Common Effect Model at 52%.

Table 33: Fixed Effect Model

	ROE		ROA		Tobin's Q		Marris	
	Fixed Effect							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	6.14	*2.7900**	-0.80	*-0.08*	-0.55	*-1.36*	9.06	*1.38*
Size	-0.35	*-1.48*	-0.56	*-0.52*	0.14	*3.2900**	-0.64	*-0.91*
FMV	0.01	*1.7000***	-0.05	*-1.770***	-0.01	*-4.7100**	0.01	*0.73*
FBV	-0.116	-31.750*	0.008	0.47	-4E-04	-0.54	0.283	26.0300*
SG	0.00	*1.22*	0.01	*3.0100**	0.00	*1.6200***	0.00	*-0.77*
CGS	1.14	*2.4400**	2.26	*1.06*	0.10	*1.9200***	-1.95	*-1.41*
CGIM	-0.74	*-1.820***	-0.42	*-0.23*	-0.11	*-1.53*	0.09	*0.07*
CGIB	-1.12	*-1.690***	1.96	*0.65*	0.19	*1.55*	-0.26	*-0.13*
R square	0.70		0.58		0.83		0.64	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

An application of the Fixed Effect Model shows that ROE is the only performance measure that is significantly related to CG practices at all three levels of the score card. However, the magnitude of impact is higher for companies with a good CG Score as compared to that of companies at medium and bad levels. Other than the CG score, FMV and the size of the firm are negatively related to ROE, and FMV has a positive impact on the ROE of the firm. R2 in this case is higher than the previous two models applied at 70%.

ROA is not related to CG practices or the CG score at any level. The only positive relation it has is with sales growth and is negatively related to FMV. Tobin's Q has a positive relationship with the CG score when CG practices are done at their best. Sales growth and size are also positively correlated to Tobin's Q, whereas FMV has a negative impact on Tobin's Q. R2 for this model is fairly high at 82%.

The Marris Ratio is not affected by any of the independent variables included in our study except by FBV. There exists a positively significant relationship between FBV and the Marris Ratio. No relation has been found for the Morris Ratio and the CG score at any level.

Table 34: Fuller Test

	ROE		ROA		Tobin's Q		Marris	
	Fuller							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	0.39	0.32	-14.36	-1.99**	1.11	3.03*	-5.64	-1.46
Size	0.16	2.71*	1.78	3.38*	-0.06	-1.77**	0.48	2.34*
FMV	0.00	0.39	-0.09	-3.77*	0.00	-2.2*	-0.02	-1.23
FBV	-0.12	-35.5*	0.01	0.52	0.00	-0.50	0.28	27.56*
SG	0.00	0.49	0.01	3.02*	0.00	1.52	0.00	-0.74
CGS	-0.26	-0.90	2.07	1.20	0.17	2.27*	0.92	0.99
CGIM	-0.38	-1.19	-0.65	-0.38	0.08	1.20	1.00	0.98
CGIB	-0.45	-0.81	0.77	0.26	0.07	0.62	0.73	0.42
R square	0.64		0.05		0.03		0.52	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

Applying the Fuller Test shows that ROE has no relationship with the CG score of the company. This means that CG practices at any level, whether performed at their best or performed at a very low level, do not affect the ROE of the firm. The Fuller Test reveals that the size of the firm has a positive impact on ROE, while FBV has a negative impact. R2 is again similar to the R2 in the case of the Common Effect and Random Effect Models at 64%.

ROA again has no relationship with CG practices or the CG score obtained by the firm by the index. However, significant relationships with size, FMV and sales growth

have been found. With FMV the relationship is negative, whereas it is positive with size and sales growth.

Tobin's Q is the only variable that has some relationship with the CG score of the firm. It is positively related to good CG scores of the firm. This means that the firms practicing good CG practices have high Tobin's Q. Other significant relationships include the relationship with size and FMV. Both have negatively significant relationships. However, R2 for this model is too low at only 3%.

The Marris Ratio again has no relationship with the CG scores or CG ratings of the firm. Whatever the status of the firm in terms of CG practices, the Marris Ratio remains independent of it. However, significant relations have been found with size and FBV.

Table 35: Park's Model

	ROE		ROA		Tobin's Q		Marris	
	Park's							
	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*	Coe.	*T stat.*
Intercept	0.73	*2.4300**	-26.64	*-4.8800**	0.59	*3.9900**	-38.82	*-1.33*
Size	0.11	*3.8700**	3.08	*6.3900**	-0.02	*-2.1000**	-0.05	*-0.13*
FMV	0.00	*0.17*	-0.10	*-2.5800**	0.00	*-1.02*	-0.04	*-2.7100**
FBV	-0.12	*-127.09**	0.01	*2.0500**	0.00	*-1.15*	0.19	*5.1000**
SG	0.00	*3.1800**	0.02	*12.1400**	0.00	*21.9500**	0.00	*-3.0100**
CGS	0.42	*10.1300**	3.86	*4.4200**	0.26	*8.5200**	0.64	*1.26*
CGIM	0.10	*0.44*	-4.85	*-2.2800**	-0.04	*-1.04*	38.57	*1.27*
CGIB	0.00	*0.00*	0.00	*0.00*	0.00	*0.00*	0.00	*0.00*
R square	1.00		0.97		0.98		0.75	

* Significant at 95% level of confidence
** Significant at 90% level of confidence
T-values in italics

The results from Park's Model, when applied to find out the impact of CG scores on firm performance, show that except FMV and medium and bad CG score, ROE is significantly correlated with other variables. Only FBV has a negative relationship with ROE. The rest of the variables are positively and significantly related. A good CG score means that the company is doing well in terms of CG practices, and thus it has a positive affect on the ROE of the firm.

ROA is significantly related with almost all the variables. The relationship of ROA with the CG score at medium and optimal level is not only positive but significant. However, a bad CG score has no impact on the ROA of the firm. As far as Tobin's Q is concerned, it has a positive relationship with sales growth and a good CG score. Size,

FMV, and FBV are negatively and significantly affecting the Tobin's Q of the firm. Bad CG practices have no impact on Tobin's Q. However, a medium CG score has a negative impact on Tobin's Q; a CG score falling in medium range causes the Tobin's Q to drop down. R2 for this model is also extremely high at 98%. This confirms the reliability of this model and the results.

Contrary to other variables, no relationship between the Marris Ratio and CG scores at either level has been found. However, sales growth and FMV impact the Marris Ratio in a negative manner, and FBV has a positive relationship with the Marris Ratio. R2 for this model is also fairly good at 75%.

4.6.2 Results and Discussion (USA)

The financial data of the US companies has been taken from the Compustat data base while the Corporate Governance Index has been taken from "Brown LD., & Caylor M.L. (2006), Rose, P. (2007), SS 2005. ISS Corporate Governance: Best Practices User Guide & Glossary, revision 3.0, ISS 2008. ISS Corporate Governance Quotient." The period was the same as for Pakistan: 2002 to 2007. Companies were selected on the basis of their CGI availability.

Table 36: Descriptive Statistics

	ROA	***ROE***	***TQ***	***Marris***	***Size***	***FMV***	***FBV***	***SG***	***CGG***	***CGM***	***CGB***
Mean	1.6	3.1	1.9	2.9	7.2	0.8	1.7	11.1	28.3	17.7	5.2
Std Error	0.2	0.9	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.3	0.1
Median	4.2	10.0	1.5	2.2	7.2	0.5	1.1	8.4	0.0	0.0	0.0
Mode	2.1	7.0	0.9	0.7	7.5	2.4	1.6	6.8	0.0	0.0	0.0
Std Dev	15.1	68.6	1.0	3.2	1.6	1.3	3.3	21.8	40.2	24.6	9.4
S.Var	227.4	4711.5	1.1	10.3	2.5	1.8	10.7	475.0	1611.8	607.4	87.5
Kurtosis	43.8	1913.6	11.3	173.3	0.2	179.6	260.6	80.8	-1.4	-1.2	1.1
Skew	-5.0	-36.1	2.7	9.5	0.1	8.9	4.2	5.2	0.8	0.8	1.6
Range	303.8	4593.4	11.4	114.8	12.1	41.9	163.0	570.3	100.3	66.9	33.0
Min.	-254.6	-3942.5	0.3	-37.2	1.8	0.0	-96.2	-100.0	0.0	0.0	0.0
Max.	49.2	650.9	11.7	77.6	13.9	41.9	66.8	470.3	100.3	66.9	33.0

Descriptive Statistics

Table 36 shows the descriptive statistics for the dependent and independent variables under study. An overview of table shows that the highest mean value occurred for CGG; that is a symbol of good corporate governance. The highest value of CGG, at 28.3006, shows that the US companies have good corporate governance practices which enable them to score on the Corporate Governance Index. The second highest value is for a medium corporate governance score (CGM) at 17.6736. This shows that companies which are not practicing maximum corporate governance practices fall in the medium category on the CGI. However, it is still satisfactory for the corporate governance environment.

FMV has the lowest mean value among all the variables at 0.8448. This shows the minimum magnitude of FMV as compared to other variables.

When it comes to standard deviation, the highest deviation from the mean is observed for CGG again at 40.15. This shows the volatility among companies practicing corporate governance, implying that more risk is involved in the data series for CGG. The second highest standard deviation occurs for the CGM score, and the lowest variation is observed in Tobin's Q at 1.0405. This shows that the most smooth and reliable data occur for Tobin's Q only.

ROA and ROE are negatively skewed variables, whereas the rest of the variables are positively skewed. The magnitude of skewness for the size of the firm, CGG, and CGM is less than the other variables: especially less than the Marris Ratio with the skewness value of 9.5133. Kurtosis shows that the highest peaked data sets are ROE, FMV, FBV, and sales growth.

4.6.2 Common Effect Analysis

The impact of corporate governance practices has been observed on firm performance (having ROE, ROA, Tobin's Q and the Marris Ratio as firm performance indicators) in the USA. Corporate governance practices are ranked on the CGI and are marked as good, medium, and bad. Four distinct models are applied to check their significance on firm performance. Discussion on each of these models follows:

Table 37: Common Effect Model

	ROE		**ROA**		**Tobin's Q**		**Marris**	
	Common Effect Model							
	C	*T*	C	*T*	C	*T*	C	*T*
Intercept	-58.40	*-12.0889**	-24.22	*-24.0207**	2.43	*35.0305**	3.30	*16.9683**
Size	9.31	*16.2639**	3.73	*31.1717**	-0.07	*-8.1094**	-0.10	*-4.1371**
FMV	-5.87	*-8.0612**	-2.02	*-13.3090**	-0.25	*-23.7980**	-0.94	*-31.9835**
FBV	-0.61	*-2.1156**	-0.04	*-0.71*	0.01	*3.2428**	0.55	*47.6099**
SG	-0.22	*-5.5792**	-0.02	*-2.3137**	0.01	*12.3359**	0.01	*7.0692**
CGG	0.07	*1.9457***	0.02	*2.1781**	0.00	*2.5517**	0.00	*1.8453***
CGM	0.06	*1.03*	0.02	*1.33*	0.00	*-1.18*	0.00	*0.31*
CGB	0.11	*0.72*	0.04	*1.34*	0.00	*0.66*	0.00	*0.27*
R square	0.05		0.14		0.15		0.29	

*significant at 95 %

**significant at 90%

T-values are shown in italics

The application of the Common Effect Model to the variables under study revealed that almost all the variables except CGM and CGB are significantly related to ROE. However, the size of the firm and CGG are positively related to ROE, whereas FMV, FBV, and sales growth are negatively related to ROE in the US companies. Although the impact of good corporate governance practices on the firm's ROE is positive, the magnitude of its impact is very low as compared to other variables.

Corporate governance practices at medium or low levels do not show any impact on the ROE of the firm.

When it comes to ROA, FBV, CGM, and CGB tend to have no impact on the firm's ROA. FMV and the sales growth of the firm are negatively associated to the firm's ROA, whereas the size of the firm and good corporate governance practices are positively related to ROA. In this case, a strong impact from CGG is observed on the ROA but not the ROE of the firm.

Tobin's Q ratio is again significantly related to almost all the independent variables. But again in this case, just like ROE and ROA, CGM and CGB have no impact on Tobin's Q in a significant manner. Other variables which affect Tobin's Q significantly in a positive way are FBV, sales growth, and CGG. The rest of the significant variables have a negative impact on Tobin's Q.

The Marris Ratio has almost the same results as Tobin's Q except that good corporate governance in this case has comparatively less effect on the Marris Ratio. The rest of the independent variables are significantly related to the Marris Ratio with size and FMV being negatively and FBV, SG, and CGG being positively related to the Marris Ratio. R2 for the Marris Ratio is best among all other variables at around 29%.

Table 38: Random Effect Model

	ROE		ROA		Tobin's Q		Marris	
	Random Effect							
Intercept	-59.30	*-10.3**	-24.77	*-16.2**	2.79	*25.92**	3.68	*12.71**
Size	9.65	*13.72**	3.82	*19.27**	-0.11	*-8.06**	-0.17	*-4.44**
FMV	-6.13	*-7.88**	-1.82	*-12.3**	-0.14	*-15.72**	-0.62	*-20.65**
FBV	-0.98	*-3.29**	-0.15	*-2.8**	0.00	*-0.20*	0.48	*44.12**
SG	-0.22	*-5.32**	0.00	*-0.19*	0.00	*4.74**	0.01	*4.86**
CGS	0.03	*0.66*	0.01	*0.80*	0.00	*1.93***	0.00	*1.99***
CGIM	0.04	*0.66*	0.02	*1.24*	0.00	*-0.55*	0.00	*0.56*
CGIB	0.07	*0.42*	0.02	*0.76*	0.00	*-0.07*	0.00	*0.63*
R square	0.04		0.07		0.01		0.26	

*significant at 95 %
**significant at 90%
T-values are shown in italics

Applying the Random Effect Model to variables under study reveals that the size of the firm has a positively significant impact on the ROE and ROA of the firm and a negatively significant impact on Tobin's Q and the Marris Ratio. FMV is significantly related to all the four dependent variables. FBV is also significantly and negatively affecting ROE and ROA. The Marris Ratio has a significant positive relationship with FBV.

Sales growth shows mixed trends. It is negatively and significantly related to the ROE of the firm, whereas no relationship exists between ROA and sales growth. Tobin's Q and the Marris Ratio are positively related to sales growth significantly, showing that any increase in sales growth would also increase Tobin's Q and the Marris Ratio values.

In the case of corporate governance related variables, medium corporate governance practices have no impact on any of the dependent variables. Only good corporate governance scores help in improving the Tobin's Q and the Marris Ratio significantly. ROA and ROE still have no impact on CGG. The most reliable results are from the Random Effect Model being applied to the Marris Ratio with a R2 of 25% approximately.

Table 39: Fixed Effect Model

	ROE		**ROA**		**Tobin's Q**		**Marris**	
	Fixed Effect							
	C	*T*	C	*T*	C	*T*	C	*T*
Intercept	-68.84	*-2.29**	-19.74	*-4.14**	3.42	*11.76**	-0.30	*-3.11**
Size	14.96	*5.03**	4.29	*9.08**	-0.40	*-12.26**	-0.46	*-13.9**
FMV	-7.85	*-7.68**	-1.77	*-10.88**	-0.08	*-8.16**	0.46	*39.89**
FBV	-1.94	*-5.48**	-0.18	*-3.14**	0.00	*-0.23*	0.01	*3.67**
SG	-0.23	*-4.61**	0.00	*0.23*	0.00	*5.67**	0.00	*1.27*
CGS	0.00	*-0.01*	0.00	*0.40*	0.00	*0.98*	0.00	*0.81*
CGIM	-0.02	*-0.25*	0.01	*1.04*	0.00	*-1.06*	0.01	*0.88*
CGIB	-0.06	*-0.30*	0.01	*0.45*	0.00	*-0.37*	-0.26	*-0.13*
R square	0.30		0.63		0.06		0.66	

*significant at 95 %
**significant at 90%
T-values are shown in italics

The Fixed Effect Model shows that none of the dependent variables is significantly related to any of the corporate governance levels. This means that corporate governance practices at any level do not affect the firm performance at all. Among the rest of the independent variables, size is negatively related to ROA, ROE, Tobin's Q and the Marris Ratio. FMV is negatively related to ROA, ROE, and Tobin's Q, whereas

positively related to the Marris Ratio. The relationship of FBV with firm performance is the same.

Sales growth has a significant negative relationship with ROE and a significantly positive relationship with Tobin's Q, respectively. R2 is best for the Marris Ratio at 65%.

Table 40: Fuller Test

	ROE		**ROA**		**Tobin's Q**		**Marris**	
	Fuller							
	C	*T*	C	*T*	C	*T*	C	*T*
Intercept	-59.30	*-10.31**	-23.20	*-14.28**	3.07	*24.31**	4.11	*12.64**
Size	9.65	*13.73**	3.60	*17.61**	-0.15	*-10.39**	-0.23	*-5.92**
FMV	-6.13	*-7.88**	-1.61	*-10.72**	-0.11	*-12.44**	-0.56	*-18.53**
FBV	-0.98	*-3.29**	-0.15	*-2.91***	0.00	*-0.24*	0.48	*44.25**
SG	-0.22	*-5.32**	0.00	*-0.02*	0.00	*5.72**	0.01	*5.14**
CGS	0.03	*1.66***	0.00	*0.62*	0.00	*1.26*	0.00	*2.22**
CGIM	-0.04	*-0.66*	0.01	*0.93*	0.00	*-1.13*	0.00	*-0.24*
CGIB	-0.07	*-0.42*	0.02	*0.56*	0.00	*-0.47*	0.00	*-0.41*
R square	0.04		0.06		0.05		0.26	

*significant at 95 %
**significant at 90%
T-values are shown in italics

Finally, the Fuller Test is applied to determine the relationship of firm performance and CG variables. Results reveal that just like the Fixed Effect Model, size in this case is also related to ROA and ROE in positive manner, whereas with Tobin's Q and the Marris Ratio it has a negatively significant relationship. FMV for all the dependent variables is negative. This means that an increase in the FMV value reduces the ROE, ROA, Tobin's Q, and the Marris Ratio of the firm. This is the same as the pattern exhibited by FBV except that it has a positive impact on the Marris Ratio and

does not impact Tobin's Q at all. Sales growth is negatively and significantly related to the ROE of the firm, but has no impact on the ROA of the firm. However, it has a strong positive impact on Tobin's Q and the Marris Ratio.

As far as CG related variables are concerned, a weak significant positive relationship has been observed between ROE and good CG practices of the firm. ROA and Tobin's Q have no relationship with CGG; CG practices, even at their best, do not impact these two dependent variables. A strong and significantly positive relationship is present between the Marris Ratio of the firm and CGG. However, CGM and CGB do not have any impact on any of the dependent variables. R2 in this model is low for almost all the variables except for the Marris Ratio at 25.5%.

4.6.3 Discussion of Results

As different models have been applied to Pakistani and US firms to find out the effect of the CGI score (dependent on the CG practices of the firms) on the firm's performance (measured by ROE, ROA, Tobin's Q, Marris Ratio). Each of the models are discussed separately.

4.6.4 Common Effect Model

The results of the Common Effect Model for Pakistani firms show that CG practices even at their best level (CGS) do not impact all variables of firm performance. ROE and Tobin's Q are the only variables affected positively by good CG score practices. Tobin's Q is positively related to even moderate levels of CG practices.

This is not so in the case of US firms. Results for the USA show that only the best CG practices, with high ranking in the CGI, have an impact on the performance variables

of the firm significantly. However, the magnitude of the effects in the cases of ROE and the Marris Ratio is lesser than the ROA and Tobin's Q. CGM and CGB have no impact on any variable of the firm performance.

4.6.5 Random Effect Model

The results for the Random Effect Model for Pakistani firms reveal that CG practices at any level do not impact any of the firm performance variables except Tobin's Q. For Tobin's Q, a significant relationship has been found with CGI scores at high, medium and bad levels. However, the relationship is stronger in the case of good CG practices as compared to that of the CGI score at medium or at bad levels.

For the US firms, the Random Effect Model provides weak evidence of a relationship between CG practices and firm performance. ROA and ROE do not get any influence from CG practices and their ratings at all. The only positive relationship found is between the CGI score, Tobin's Q and the Marris Ratio. However, the nature of this relationship is not very strong.

4.6.6 Fixed Effect Model

The results found by applying the Fixed Effect Model have shown that, in Pakistani firms, good CG practices positively affect the ROE and Tobin's Q. On the other extreme, good and bad CG practices have either no impact or a negative impact on firm performance. Significantly negative effects have been found for ROE only.

In the USA, the application of the Fixed Effect Model provided no evidence of a significant impact of CG practices on the firm's performance. Thus, with this model it can be said that both of these phenomena have no relation with each other.

4.6.7 Fuller Test

As far as the Fuller Test is concerned, the situation is more or less the same in Pakistan and the USA in the case of the Fixed Effect Model. One exception is that at least one performance indicator has a significant relationship with CG at the good level. Tobin's Q is found to be positively related to good CG practices in the Pakistani firms.

In the US firms, performance has a positive relationship with good CG scores/ practices. However, the only significant relationship is found with ROE and the Marris Ratio. The results revealed no significant impact of bad or medium CG scores on any of the dependent variables.

4.6.7 Discussion

A general trend observed in all four of these models is that, in Pakistan, a positive relationship between firm performance and corporate governance practices has been found. This is true not only when CG practices are at their best but also at the moderate level. In the USA, significant relationships have been found between good CG practices and firm performance only. The remaining two levels, bad CG practices and medium CG practices, do not affect firm performance in general.

These results are quite surprising as the USA is much more developed and aware as a nation when compared to Pakistan. Even at the economic level, the USA is a highly developed economy, whereas Pakistan is still under a developed or developing economy. With this background, it is astonishing to find more response towards CG practices in Pakistan as compared to the USA. It was expected that in the USA the CG practices at

the medium level will also impact firm performance in a significantly positive way. Similarly, at bad CG levels the response would be negative for firm performance. But contrary to this, no relationship of any kind has been found. This shows that the US market does not care about the level of CG practices, whereas in Pakistan people seem to be more aware and conscious regarding the CG practices of firms.

Also in the USA, a code of corporate governance is implemented by law; it is mandatory for every firm to follow certain norms. In Pakistan, a code of corporate governance is voluntary to adopt. And thus there are no bounds for specific levels of CG practices. Every firm adopts it according to its own requirements and structure. Some firms implement the whole code with all its essence, which is rated good on the CGI. Some firms adopt some parts of the , and some firms do not bother about the code. This environment provides the reasons why, in Pakistani scenarios, significant results are found at even moderate and bed levels.

In the USA, as mentioned above, a code of corporate governance is mandatory to implement; there is no concept of either amending it or not implementing it to full capacity. As people are also aware of the importance of a code of corporate governance, only those firms which follow the whole code are considered good, and the firms falling in the category of moderate and bad CG practices are not given much importance. This causes the firm profitability to fall followed by the corresponding performance measures of the firm.

4.7 Corporate Governance and the Multifactor Model

Asset pricing is an issue which has remained a controversial issue for a long time, and there is not a single methodology that fulfills the criteria which would be equally acceptable to all economies, cultures, and environments. So, intensive research is available on this issue, and various researchers have tried to introduce their own models to calculate asset prices which would be more appropriate for the satisfaction of the investors.

In this study the researcher also tried to see the impact of corporate governance on stock returns. On the basis of the related literature and the findings of the study, the researcher has incorporated corporate governance as a factor of return determination in the Multifactor Model. First, the researcher made the portfolios of stock returns on the basis of governance practices and analyzed the implications of the Multifactor Model. The researcher then tested the three factor model, four factor model, and five factor model (with corporate governance as a new factor) in this section. Details of the analysis and methodology have been documented as follows:

4.7.1 Multifactor Model:

Empirical literature provides two basic approaches for testing the Multifactor Model. One is statistical and the other is theoretical. The statistical approach uses factor analysis and tests whether expected returns are explained by the cross sectional loadings of asset returns on the factors or not. In this method of factor estimation, only the risk factors that may affect the asset returns are detected.

The theoretical approach uses variables on the basis of their correlation with asset returns and tests whether loadings of these variables explains the cross section of returns of firms or not. The theoretical approach can be applied in two ways:

The first approach was used by Chen, Roll and Ross (1986), in which they used the macro economic variables which could capture the systematic risk. A second approach was based upon the firm characteristics which could explain the anomalies in asset returns, such as small firm effect, January effect, earning to price ratio, leverage, and book to market, etc. Fama and French (1996) used this approach for their analysis. The present study also makes use of the same approach.

4.7.2 Gomper's et al. Model:

Gomper used the Fama and French (1996) and Carhart (1997) models in his study. The equation of his model is as follows:

$$\left(R_{it} - RFR_{t}\right) = \alpha_{iT} + b_{iT}\left(R_{mt} - RFR_{t}\right) + s_{iT}SMB_{t} + h_{iT}HML_{t} + p_{iT}Momentum_{t} + \epsilon_{it}$$

Where:

Rit – RFRt = the excess stock returns

Rmt –RFRt = the excess returns on the market portfolio

αiT = Alpha of the Carhart 4-factor model

SMBt = the difference in returns between a small capitalization (market value) portfolio and a large capitalization (market value) portfolio

HMLt = the difference in returns between a portfolio of high book-to-market stocks and a portfolio of low book-to-market stocks

Momentum t = the difference in cumulative abnormal returns between a portfolio of winners and a portfolio of losers also known as winner minus losers (WML).

eit = error term

4.7.3 Construction of factors

For the construction of Small Minus Big (SMB) and High Minus Low (HML), the researcher has followed the same strategy as used by Fama and French (1993) for their construction of variables.

4.7.4 Calculation of Small Minus Big (SMB):

First of all, the data were arranged in descending order on the basis of their market values. They were then distributed in two main portfolios, breaking in the middle. After that the researcher made six portfolios as SV (Small Value), SN (Small Neutral), SG (Small Growth), BV (Big Value), BN (Big Neutral), and BG (Big Growth). After construction of these value weighted portfolios, the researcher calculated the equal weight average for each portfolio and calculated the SMB on the basis of the following equation.

$$SMB = ((SV - BV) + (SN - BN) + (SG - BG))/3.$$

Where SMB= Small Minus Big, SV = Small Value, BV = Big Value, SN = Small Neutral, BN = Big Neutral, SG = Small Growth and BG = Big Growth.

4.7.5 Calculation of High Minus Low (HML):

The study constructed the six portfolios the same as they were calculated in the SMB. The only difference is, in Small Minus Big, the base of construction was market capitalization. Here, the study used Book to Market ratio to establish the portfolios. These portfolios are constructed in January every year on the basis of the December data. The researcher used the same portfolios for the next 12 months. The same process has been repeated until 2007. After the construction of the portfolios, the equal weighted average return was calculated and the HML was calculated by the use of the following equation:

HML = ((SG − SV) + (BG − BV))/2.

4.7.6 Calculation of Momentum:

The study used the Carhart (1997) method to calculate the momentum. Same as previous strategy, we constructed six portfolios: SW (Small Winner), SN (Small Neutral), SL (Small Loser), BW (Big Winner), BN (Big Neutral) and BL (Big Loser) on the basis of the cumulative average return of past returns (K-2 to K-12). The highest return portfolio was considered as the winner and the lowest return portfolio was considered as the loser. Originally, break points were used in this model, but the researcher divided the portfolios equally. The highest return companies fell in large portfolios and the lowest returns fell in small portfolios. The portfolios were constructed in January 2002 on the basis of past cumulative abnormal returns. The study held the winner/loser portfolio for the next 12 months, and then the next year new portfolios were made and the researcher continued doing this until 2007. This factor (WML) was calculated with the help of the following equation:

WML = ((SW − SL) + (BW − BL))/2.

4.7.7 Calculation of Rm-Rfr:

Marker risk premium (Rm- rfr) has been calculated by taking the difference of the average returns of KSE 100 Index (85% of market capitalization) as market representative and 91 days T-Bill rates on a monthly basis. The study derived the time-series of the market, size, book-to-market, and momentum premiums, and regressed with Rt-Rfr.

4.7.8 Calculation of Rt-Rfr:

On the basis of the corporate governance score established in this study, with the help of the literature review and the survey, 10 portfolios were made by arranging the firms in descending order. The study equally divided all of the firms in every portfolio except the last one, because the share price data of only 119 companies from the total sample of 120 companies were available. The last portfolio of the study has 11 companies while other portfolios have 12 companies. The top-most portfolios are named as Good Governance Portfolios and the last one is named as a Bad Governance Portfolio. The CGI details for 2002 and 2007 of these companies, which fell in Good Governance and Bad Governance Portfolios on the basis of 2002, are presented in the following tables:

Table 41: Companies in Good Governance Portfolios

Good Governance Portfolio		
Co. Name	2002	2007
Ghandhara Industries Ltd.	4.35	4
Atlas Battery Ltd.	4.35	4
Jubilee Spinning & Weaving Mills Ltd.	4.35	4
Pakistan Tobacco Company Ltd.	4.3	4
Attock Refinery Ltd.	4.25	4.1
Fauji Fertilizer Bin Qasim Ltd	4.2	4.3
Biafo Industries Ltd.	4.2	3.6
Zeal Pak Cement Factory Ltd.	4.2	4.15
Kohinoor Textile Mills Ltd.	4.2	3.8
Fauji Fertilizer Company Ltd.	4.15	4.2
National Refinery Ltd.	4.15	4.25
Engro Chemical Pakistan Ltd.	4.1	3.95

Out of 12 good governance companies in 2002, only three were left in the 2007 good governance portfolio. One moved to the bad governance portfolio, and six were dropped out and placed in other portfolios. This shows the variation of activities, in terms of governance, in these firms. As far as the Bad Governance Portfolio is concerned, not even a single company was left in bad governance by 2007. This means companies had tried to improve their governance quality.

Table 42: Companies in Bad Governance Portfolios

1		
Co. Name	2002	2007
Nadeem Textile Mills Ltd.	2.5	2.3
Nishat Mills Ltd.	2.5	2.65
Chashma Sugar Mills Ltd.	2.45	2.35
Premium Textile Mills Ltd.	2.45	2.3
Highnoon Laboratories Ltd.	2.4	3
Quality Textile Mills Ltd.	2.4	2.6
J.K. Spinning Mills Ltd.	2.35	2.15
Azam Textile Mills Ltd.	2.35	2.2
D.M. Textile Mills Ltd.	2.15	2.15
Hamid Textile Mills Ltd.	1.9	1.85
Fawad Textile Mills Ltd.	1.9	2.55

The study calculated equally weighted average returns for each portfolio and found out the difference of these average returns from 91 days T-bills (risk free rates) on a monthly basis.

4.7.9 Governance; Empirical Analysis

4.7.9.1 Correlation

The study checked the correlation of book to market and size with the Corporate Governance Index for each year. The Results of are presented in the following table:

Table 43: Correlation results of multifactors with CGI

	CGI	*CGI*	*CGI*	*CGI*	*CGI*	*CGI*
Years	2002	2003	2004	2005	2006	2007
BM	-0.06725	-0.0347	-0.08925	-0.13037	0.066971	0.024464
Size	0.245651	0.273459	0.30869	0.39022	0.383745	0.413814

The CGI is negatively correlated with book to market ratios in 2002, 2003, 2004 and 2005, but the relationship is statistically insignificant. As far as size is concerned, the CGI is positively correlated with size in all of the years and is statistically significant as well.

4.7.10 Governance and Portfolio Returns:

As it was mentioned above, ten portfolios were created each year on a monthly basis according to the last year's governance score. On the basis of governance score, portfolios were created in January, and they continued till the end of the year for every year. The next January, new portfolios were constructed on the basis of the last year's governance score, and this methodology remained in practice till 2007. The first portfolio was named as the Good Governance Portfolio (GGP) and last one was named as the Bad Governance Portfolio (BGP).

In this section, the study analyzed the returns of these portfolios in detail. In January 2002, when the analysis started, the portfolios were analyzed by the investment of 1Rs. In GGP (value weighted), an investor could realize a 2.3874% return, while the market was giving a 1.09% return on this investment and the return of BGP was 1.07%. The return of GGP had reached 1.261% in December 2007. The market return in December 2007 was .97%, and the return of BGP was .442%. Apparently, the return of GGP had decreased from January 2002 to 2007, but it was still more than market and BGP. The percentage change in returns of GGP declined by -47%, while BGP declined by -58.4%.

This analysis clearly indicates that the companies with good governance can provide good returns to investors. Performance differences are actually driven by a lot of factors, such as risk level and styles of the portfolios management. The researcher has identified various factors which can affect the realized returns. Just as Fama and French (1993) suggested book to market and size variables, Carhart (1997) included past returns in these factors. The present study reveals that corporate governance matters in every strategic decision. It is evident from the study that the returns of Good Governance Portfolios are higher than Bad Governance Portfolios. It clearly indicates that the style of governance matters for performance, whether it is internal (ROE, ROA) or whether it is external (market returns.). If governance is so important for companies, then any change in governance should be reflected through an adjustment in stock prices. On the basis of this theory, the researcher tried to find empirical evidence of governance for stock returns. That is why governance was introduced in the Multifactor Model as a fifth factor.

4.7.11 Results of the Multifactor Model where the Dependant Variable is Constructed on the Basis of the CGI:

The following table illustrates the results of the Multifactor Model for each portfolio. The study has constructed one more portfolio on the basis of Good Governance minus Bad Governance (GGP-BGP), The following equation shows the methodology adopted to test the relationship:

$$\left(R_{it} - RFR_{t}\right) = \alpha_{iT} + b_{iT}\left(R_{mt} - RFR_{t}\right) + s_{iT}SMB_{t} + h_{iT}HML_{t} + p_{iT}Momentum_{t} + \epsilon_{it}$$

The results from the above equation are summarized in the following table:

Table 44: Results of Gomper's Model

		Intercept	Rm-Rfr	SMB	HML	Momentum	R square
	Coefficients	0.001	0.071	**-0.713**	**-0.443**	0.148	0.194
CGSG-SGSB	T values	0.325	0.200	**-3.632**	**-2.092**	0.825	
	Coefficients	0.002	**1.252**	-0.115	**-0.440**	-0.089	0.333
Portfolio 1	T values	1.233	**4.767**	-0.797	**-2.825**	-0.679	
	Coefficients	0.000	**1.214**	0.020	**-0.265**	0.111	0.540
Portfolio 2	T values	-0.287	**8.001**	0.236	**-2.942**	1.454	
	Coefficients	0.001	**1.057**	**0.539**	**-0.404**	**-0.316**	0.470
Portfolio 3	T values	0.732	**4.150**	**3.843**	**-2.677**	**-2.470**	
	Coefficients	0.000	**1.210**	-0.008	-0.089	**-0.540**	0.325
Portfolio 4	T values	0.104	**3.692**	-0.044	-0.457	**-3.285**	
	Coefficients	-0.001	**0.756**	**0.479**	-0.088	-0.028	0.446
Portfolio 5	T values	-1.118	**4.133**	**4.763**	-0.810	-0.300	
	Coefficients	-0.001	**1.033**	**0.601**	0.124	-0.105	0.544
Portfolio 6	T values	-0.876	**5.431**	**5.735**	1.102	-1.096	
	Coefficients	0.001	**1.503**	**0.514**	0.190	**-0.439**	0.588
Portfolio 7	T values	0.765	**6.547**	**4.067**	1.391	**-3.807**	
	Coefficients	-0.001	**0.979**	**0.335**	-0.007	**0.230**	0.429
Portfolio 8	T values	-1.302	**5.122**	**3.180**	-0.065	**2.394**	
	Coefficients	-0.003	**0.801**	**0.950**	**-0.436**	-0.053	0.398
Portfolio 9	T values	-1.392	**2.232**	**4.810**	**-2.049**	-0.297	
	Coefficients	-0.001	**1.323**	**0.598**	0.002	**-0.237**	0.472
Portfolio 10	T values	-0.800	**5.092**	**4.177**	0.015	**-1.817**	

Bold items in above table show the significance of relationship.

In the above table, column one shows the description of the dependant variables. The first row shows the results of the analysis in which the dependant variable was the Good Governance Portfolio minus the Bad Governance Portfolio. The alpha shown in this relationship is the abnormal return on a zero investment strategy: buying Good Governance Portfolios and selling short Bad Governance Portfolios. In this estimation, the alpha is a .065% basis point per month or about .78% per annum. This point estimation is not statistically significant, so it can be said that an almost negligible difference can be attributed to the two portfolios on the basis of governance styles.

The remaining rows show the estimation of other portfolios. Portfolio one and Portfolio 10 describe the two extremes of governance mechanisms. Portfolio one represents the Good Governance Portfolio and Portfolio 10 represents the Bad Governance Portfolio. Performance of both portfolios is shown very clearly in the above table. Portfolio one has outperformed by having a positive alpha value of .181% per month return, which is approximately 20172% per annum. Portfolio 10 shows the alpha value of -.116% per month return, which is -1.392% per annum. Results show that as governance decreases in deciles, value of alpha also decreases. The exception is portfolio three, which has positive return but is less then other portfolios; The lowest alpha value is of Portfolio 10 with bad governance firms.

Furthermore, four portfolios (one, three, four, and seven) have positive returns in the above table amongst the 10 portfolios, including the best one with governance perspective. All of the other portfolios have negative alphas. Rm-Rfr, which is the market representative explanatory variable, has positive and statistically significant relationships with all the portfolios. Small minus Big has a negative relationship with Rt-Rfr in the case of Good Governance minus Bad Governance Portfolios (1st and 3rd portfolio), but is only significant in Good minus Bad Governance Portfolios. In all of the other dependant variable estimations it has positive relationships with Rt-Rfr, which is statically significant as well.

High Minus Low is negatively associated with all of the above estimations of portfolios except portfolios ten, six and seven. This negative relationship is statistically significant as well. Positive relationships are statistically insignificant. Momentum has negative significant relationships with portfolio three, four, seven, & ten. It has positive

relationships in the case of portfolio eight, which is statistically significant as well. In all of the other portfolios it does not show any statistically significant relationships. The value of R square ranges from 19.3% to 58.78%, which shows the explanatory powers of explanatory variables.

From the above analysis it is apparent that Good Governance Portfolios have the tendency to produce good returns, unlike Bad Governance Portfolios. So, it can be said that style of governance really matters in the performance. Any change in governance is reflected in stock prices as investors rate the style of governance. Same results were produced by Gompers et al (2003) in the USA where he made 10 portfolios on the basis of governance value. The first portfolio was named the Democracy portfolio (with minimum shareholders' rights) and the last was named the Dictatorship portfolio (with maximum shareholders' rights). The in-between portfolios were arranged by increasing value of G (shareholders' rights). They found that the Good Governance Portfolio (Democracy portfolio) outperformed the Bad Governance Portfolio (Dictatorship Portfolio) in the USA. Results of the present study are almost the same as far as the governance mechanism is concerned. So, it can be said that governance really matters whether it is a developed economy or it is a developing economy.

The next step of the study, after proving the importance of corporate governance, is to test the applicability of the governance factor in the Multifactor Model. The basic intention of the study behind this step is to see whether this important company-specific characteristic explains the return for the investors or not. To test this theory, the following steps were taken. In the first step, the researcher tested the applicability of Fama and French's (1996) Three Factors Model. Then the researcher moved towards Carhart's

(1997) Four Factor Model. After analyzing the results of these two models, the study included the fifth factor of governance named as Bad minus Good (BMG) as an explanatory variable as shown in the following equations:

4.7.12 Fama and French (1996) Three Factor Model:

$$\left(R_{it} - RFR_{t}\right) = \alpha_{iT} + b_{iT}\left(R_{mt} - RFR_{t}\right) + s_{iT}SMB_{t} + h_{iT}HML_{t} + €_{it}$$

Where:

$R_{it} - RFR_t$ = the average excess stock returns

$R_{mt} - RFR_t$ = the average excess returns on the market portfolio

α_{iT} = Alpha of the Fama and French 3-factors model

SMB_t = Small minus Big

HML_t = High minus Low

$€_{it}$ = error term

4.7.13 Carhart (1997) Four Factor Model:

$$\left(R_{it} - RFR_{t}\right) = \alpha_{iT} + b_{iT}\left(R_{mt} - RFR_{t}\right) + s_{iT}SMB_{t} + h_{iT}HML_{t} + p_{iT}Momentum_{t} + €_{it}$$

Where:

$R_{it} - RFR_t$ = the excess stock returns,

$R_{mt} - RFR_t$ = the excess returns on the market portfolio

α_{iT} = Alpha of the Carhart 4-factor model,

SMB_t = Small minus Big,

HML = High minus Low,

WML_t = Winner minus Loser (Momentum),

e_{it} = error term

4.7.14 Five Factor Model

$$(R_{it} - RFR_t) = \alpha_{iT} + b_{iT}(R_{mt} - Rfr_t) + S_{iT} SMB_t + h_{iT} HML_t + p_{iT} Momentum_t + g_{iT} BMG_t + €_{iT}$$

$R_{it} - RFR_t$ = the excess stock returns,

$R_{mt} - RFR_t$ = the excess returns on the market portfolio

α_{iT} = Alpha of the 5-factor model,

SMB_t = Small minus Big,

HML_t = High minus Low,

WML_t = Winner minus Loser (Momentum),

BMG_t = Bad minus Good (Governance),

$€_{it}$ = error term

The new fifth explanatory variable has been calculated the same as Small minus Big factor. Details of the calculation are presented as follows:

4.7.15 Calculation of Bad minus Good (BMG): -

The researcher arranged the data in descending order on the basis of their Corporate Governance Scores. In the methodology chapter, the calculation of the Corporate Governance Score has been mentioned in detail. After arranging all the data in descending order, the data were divided in two portfolios; one is big, and the other is small. Then each portfolio was further divided into three parts and finally into six portfolios as: SV (Small Value), SN (Small Neutral), SG (Small Growth), BV (Big Value), BN (Big Neutral), and BG (Big Growth). BMG (Bad Minus Good) was calculated on the basis of following equation:

$$BMG = ((SV - BV) + (SN - BN) + (SG - BG))/3.$$

Where SMB= Small minus Big, SV = Small Value, BV = Big Value, SN = Small Neutral, BN = Big Neutral, SG = Small Growth, and BG = Big Growth.

Descriptive statistics of the data are provided in following table:

Table 45: Descriptive Statistics (Five Factors)

	Rt-Rfr	*Rm-Rfr*	*SMB*	*HML*	*Momentum*	*BMG*
Mean	-0.00567	-0.00311	-0.00399	-8.9E-06	-0.00038872	-0.0019
Standard Error	0.000925	0.000546	0.001013	0.000905	0.001100429	0.001486
Median	-0.00581	-0.00327	-0.00283	0.00051	-0.000722257	-0.00116
Minimum	-0.02074	-0.01355	-0.03327	-0.01633	-0.032942472	-0.06046
Maximum	0.011045	0.006355	0.012902	0.022217	0.022071554	0.049928

The mean value of excess portfolio stock returns in the study's data is -.567% with a .0925% standard deviation. The excess returns of the stock portfolio range from a –2.07% to 1.145 % return per month in all of the time series we have. Excess returns of the market portfolio range from an average return of -1.35% to .6355% per month. The mean return of the market portfolio is -.311% with a standard deviation of .0546%. The mean values of small minus big and high minus low are -.311% and -.008% with standard deviations of .0546% and .0905%, respectively. The range of their returns is from -3.327% to 1.2% per month for SMB and -1.63% to 2.227% for HML. Portfolios made on the basis of past abnormal returns have a mean value of -.038872% with a standard deviation of .110%. The range is from -3.29% to 2.27%. Portfolios made on the basis of Bad minus Good governance have a mean per month return of -.19% with .14% of standard deviation. The minimum value of returns on this portfolio is -6%, and the maximum per month return in this portfolio is 4.99%, which is the highest maximum per month return amongst all of the explanatory variables.

4.7.16 Results of Three Models:

Table 46: Results of Models

		Alpha	Rm-Rfr	SMB	HML	WML	BMG	R square
Fama and French 3 factor model	Coefficients	-0.001	**1.182**	**0.352**	**-0.132**			0.759
	T values	-1.006	**11.561**	**6.228**	**-2.113**			
Carhart 4 factor model	Coefficients	-0.001	**1.111**	**0.389**	**-0.143**	**-0.146**		0.786
	T values	-1.291	**11.099**	**7.054**	**-2.399**	**-2.908**		
CG as Fifth Factor	Coefficients	-0.001	**1.081**	**0.339**	**-0.128**	**-0.161**	**0.102**	0.808
	T values	-1.547	**11.239**	**6.074**	**-2.253**	**-3.341**	**2.741**	

Table 46 presents the results of the three models which estimate the returns on common stocks by having different explanatory variables. Interpretations of each of the models are presented separately as follows:

4.7.17 Three Factors Model

An alpha value of -.1% in the three factor equation shows that the per month return would be available to investors in the absence of other explanatory variables and is different from zero. R square shows that a 75.9% variation has been captured by explanatory variables. The study found market returns having significant positive relationships with average per month returns of stocks. This means that as the market grows, the return for investors would also grow. Small minus Big has also been found positively affecting stock returns, which means that the premium of small cap returns minus big cap returns also increases the return of investors. This is statistically significant as well. The premium of book to market value risks has a negative and significant

compensation. Study's results are consistent with Clare et al (1998) and Fama and French (1996).

4.7.18 Four Factors Model:

In the four factor model, regression is applied between dependant and independent variables. The results indicate that market excess returns are positively related with stock portfolio returns and have a statistically significant relationship. The parameters of sensitivity of firm attributes, such as size, book to market, and momentum, show different signs. Size is positively affecting stock returns, as in the three factors model, and is also statistically significant. High minus Low is having negative significant relationships with stock returns, and momentum is also negatively affecting stock returns with statistically significant values. This means that portfolios constructed on the basis of past returns have negative relationships with stock returns. By the addition of this fourth factor, R square value has increased by 2.7%. Now the explanatory power of explanatory variables is 78.6%. This shows that this variable also participates in explaining the behavior of stock returns. The intercept value in this model is -.1%, which is different from zero. And it can be said that in the absence of the explanatory variables, stock returns should be this much.

4.7.19 Five Factors Model:

On the basis of the behavior of corporate governance, the study has incorporated the governance factor as an explanatory variable with the name of Good minus Bad. By applying this Five Factor Model, the study got an intercept of -.1%. This is the same as

the other models' intercepts, which are still different from zero, and it is slightly more significant than the other models at the 90% level. Market risk has the same pattern of compensation as in other models that have a positive impact on stock returns with statistically significant value. Small minus Big also brings an increase in stock returns by having an increase in its premium. SMB also has significant relationships as well. High minus Low and Winner minus Loser has negative significant signs, which shows an inverse relationship with stock returns. Good minus Bad, which is the representative of the Corporate Governance Score premium, has a positive impact on stock returns. This is statistically significant as well. Consequently it can be said that governance really matters for stock returns. The increase in risk premium due to governance is adjusted by compensation in stock returns. Value of R square has increased to 80.8%. That means the explanatory power of the stock returns has increased with the addition of this variable. This is 4.9% more than the Three Factor Model and 2.3% more than the Four Factors Model. The increase of variation is almost the same, which was brought by the momentum factor in the Three Factor Model.

On the basis of the above discussion, hypothesis H6 "Corporate Governance impacts on stock returns" is accepted.

Chapter Five

Conclusion

This study explores the relationships of corporate governance with various performance measures. It also compares the relationships between developed (USA) and developing (Pakistan) economies. The results of the study have been quite interesting, and there is a strong similarity in the relationships between the two countries. Even Multifactor Models have been tested in Pakistan's economy, and significant impacts of the Multifactor Model have been found. These impacts have already been tested in developed economies by various researchers, and the importance of corporate governance is apparent from its significant impact in the Multifactor Model as a fifth model. A detailed discussion is presented in the subsequent paragraphs.

A positive relationship has been found between ownership structure and capital structure in Pakistan. Firms with more managerial involvement on the board will prefer to include debt in their capital structure. The presence of more debt in capital structure reduces agency conflict (Jensen 1986). Debt holders play the role of watch dogs and keep an eye on the decisions of managers. Another reason which indicates this positive relationship is the cost of debt. Owners would always like to have cheaper sources of finance so that profits of the company could be higher.

The study also found that big boards have less debt and more independent boards have more debts. Big boards provide diversification in the board members. Independent

boards prefer to have debt in capital structure because it reduces the agency conflict and debt is the cheapest source of finance at the same time.

When the Corporate Governance Score was regressed with leverage, the study found a negative relationship in Pakistan. This means that firms having good governance try to incorporate equity financing in their capital structure. Good corporate governance and debt financing are both used to reduce the agency cost. So, one can play the role of the other. Therefore, firms with good governance would easily be able to raise equity capital. But in the case of firms which lack good governance, investors do not feel comfortable and need protective policies in those firms. As far as Pakistan is concerned, it seems that firms with bad governance are forced to acquire debt. This can be justified in Pakistani corporate culture as the majority of the firms in Pakistan are family owned firms. In order to keep the companies solvent, good governance seeks less debt in the organizations.

Now let us first see higher leverage. One common reason for high leverage is poor management, particularly when the company is being managed by the majority shareholder family. These people simply over-borrow based on inflated prices of assets, having no intention to repay. Their aim is to funnel out funds. Again, higher leverage is due to poor financial results: poor profits lead to non-repayment of debts. All these are indicators of poor handling of affairs, whether deliberate or otherwise. It can be said that poor management will always lead to a poor CGI.

Another aspect of poor CGI is poor market value of equity shares. Naturally, shares of only those companies who are seen by the market as being poorly managed lose

value at the stock exchange. This means that these companies are more likely to have poor corporate governance as well.

The study has, on the other hand, also found that big companies are less debt financed. It can be argued that big companies can easily raise equity capital. They maintain their solvency by keeping a balance between debt and equity. In the USA, a positive relationship was found between debt and the Corporate Governance Index.

There is very comprehensive research on dividend policy decisions in Anglo Saxon Corporate Governance Regimes (K. Gugler, B.B Yurtoglu, 2003). In transitional economies like Pakistan, the topic of dividend policy decision has not been widely discussed with respect to corporate governance. Dividend policy is a strategic decision in which governance plays a very important role. Whether minority shareholders can motivate the managers to announce dividends or not in those setups where ownership is mostly concentrated can become a big problem. In this study, an effort has been made to solve the puzzle over whether the governance matters for dividend policy in the countries like Pakistan where investor protection is weak (Laporta 2000). We have tried to present a new Lintner's Model with respect to corporate governance to find the dividend stability.

After detailed econometric modeling we have found the following results:

1. Corporate governance has a statistically significant and positive impact on dividend policy in both USA and Pakistan. In case of leverage CGI has negative relationship in Pakistan but positive relationship in USA.

2. Companies with good corporate governance score have good performance (internal and external) both in USA and Pakistan.

3. Companies, which have good governance mechanisms have higher payout ratios, lower leverage and good performance.

4. Ownership structure is also positively related with dividend policy and leverage but has negative relationship with market performance .

5. Board independence has not been found to have any statistically significant relationships and the same is the case with audit committee independence in case of dividend payout but it has positive relationship with market performance.

6. Board size has a statistically significant positive impact on dividend payout. It has negative relationship with leverage and positive relationship with internal and external performance.

7. Institutional ownership and CEO duality have also been found to have statistically significant positive impacts on dividend policy and capital structure. In case of performance Institutional ownership has positive impact on market performance.

8. Corporate governance also matters for the stock returns. It has been found statistically significant impact in multifactor model and with its inclusion explanatory power of the model has also been increased.

In light of the above results, it can be concluded that governance mechanisms really matter for strategic decision making. As such, good governance can always bring good economic results. Board independence is very important for governance mechanisms. The study did not find any relationship between independence and dividend policy. One reason for this could be that in Pakistan there is no concept of independent non-executive directors. Besides, non-executive directors actually are not independent. Therefore, it is suggested to policy makers to incorporate the provision of independent non-executive directors in the Code of Corporate Governance. Board size relationships clearly show that bigger and more diversified boards can bring the decisions to reduce the agency conflicts.

5.1 Recommendations: -

1- Board independence is one of the most important element of good corporate governance. So, There should be a clear definition of independent non executive directors in Code of corporate governance.

2- Institutional owners perform a role of watch dogs in any organization so, presence of institutional owners should be enhanced.

3- Currently the code of corporate governance is volunteer to opt. It should be legally enforced.

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Appendix A

QUESTIONARE FOR CONSTRUCTING

CORPORATE GOVERNANCE INDEX VARIABLES

I am a Ph D scholar, and, for the purpose of writing my doctoral dissertation, I am conducting research on the impact of good corporate governance on the financial and operational performance of companies in Pakistan. This is a relatively new area where adequate research has not yet been carried out in Pakistan. As you will be aware, corporate governance is a mechanism for which one cannot take a single proxy because of the vast difference in its application in different countries. Historical research has amply proved that the parameters used to measure the various aspects of good corporate governance in developed countries are vastly different from those that are perceived to be of relevance by executives and investors in developing countries. Again, in many developed and developing countries, some professional agencies like GIM, FTSC, BCF, etc. publish the governance indices for the companies which researchers use as the proxy of corporate governance in their research. However, in Pakistan we don't have any standardized Corporate Governance Index. Therefore, every researcher ends up using different variables to construct the index.

For my PhD dissertation I want to construct a simple yet practical CGI (Corporate Governance Index) that is purely relevant to Pakistani companies. After the literature review, I have found the following concrete variables which can be included in the index of the Pakistani Corporate Governance Index. Two important aspects, however, remain to

be decided: first, I want to be sure that this list is relatively comprehensive, and secondly, I want to assign appropriate weights to each item on the list. And for this purpose I need your expert opinion, cooperation, and assistance.

Kindly go through the following carefully and respond to the two requests that follow the list of variables:

LIST OF VARIABLES:

1. Ownership structure (No of shares held by board of directors/ Total no. of shares)
2. Ownership concentration (No. of shares held by top 15 shareholders/ Total no. of shares)
3. Board independence (No. of NED's in the Board/ Total No. of Board members)
4. Size of Board (Total No. of directors in Board)
5. CEO/Chairman Duality
6. Institutional Ownership (No. of shares held by institutional members/ Total No. of shares)
7. Shareholders activism (No. of meetings in which attendance was more then 80%/ total No. of meetings)
8. Audit Committee independence (No. of NEDs in audit committee/ Total No. of directors in Audit Committee)
9. Remuneration Committee Independence (No. of NED in remuneration Committee/ Total No. of directors in Audit Committee)
10. Any other you may wish to suggest

Request 1:

The above list of variables is based on past research which was generally carried out outside of Pakistan. As an executive (or investor) who has close knowledge of the corporate scene in Pakistan, if you strongly feel that there is an aspect of good corporate governance that is not covered in the above list of variables, please add that item (or items) to the above list.

Request 2:

Please consider each variable very carefully and tick on one of the following options.

According to your selection, each variable would be assigned a weight.

A VERY BIG THANK YOU FOR YOUR COOPERATION.

RESPONSE SHEET FOR

QUESTIONARE FOR CONSTRUCTING

CORPORATE GOVERNANCE INDEX VARIABLES

RESPONDER'S DETAILS (OPTIONAL)	
Name	
Company	
Contact details	

Variable
Ownership structure (No of shares held by board of directors/ Total no. of shares) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Ownership concentration (No. of shares held by top 10 shareholders/ Total no. of shares) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Board independence (No. of NED's in the Board/ Total No. of Board members) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Size of Board (Total No. of directors in Board) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
CEO/Chairman Duality 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Institutional Ownership (No. of shares held by institutional members/ Total No. of shares) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Shareholders activism (No. of meetings in which attendance was more then 80%/ total No. of meetings)

1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Audit Committee independence (No. of NED in audit committee/ Total No. of directors in Audit Committee) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Remuneration Committee Independence (No. of NED in remuneration Committee/ Total No. of directors in Audit Committee) 1- Very Important 2- Important 3- Average 4- Not important 5- Strongly not important
Any other
Any other

Appendix-B

Company Name

	Period covered		
SYMBOL	**VARIABLE**	**DEFINITION**	**Individual Year**
OS	Ownership structure	Percentage of total shares held by executive directors divided by the total number of shares.	
OC	Ownership concentration	Percentage of total shares held by the top 10 shareholders divided by the total number of shares.	
IO	Institutional Ownership	Shares held by Institutional owners devided by Total No. of shares outstanding.	
BS	Board Size	LN Number of directors on the board.	
BI	Board Independence	Total No. of Non Executive Directors divided by Total no. of Directors on the Board	
ACI	Audit Committee Independence	No. of non executive Directors in Audit Committee divided by total no. of directors in audit committee.	
CEOD	CEO duality	Whether CEO and Chairperson is the same.	
SHA	Share holders Activism	No. of meetings attended by more then 70% directors divided by total no. of meetings.	

Appendix C

Ohlson and Jeuttner Nauroth (2005)

$$K = A + \sqrt{A^2 + \frac{e_1}{p_0}\left[g_2 - (y-1)\right]},$$

Where

K = cost of equity

A = ½ [(y-1) + D1/Po]

e1 = Earning per share for year 1

g2 = e2- e1/ e1

e2 = Earning per share for year 2

Y = constant (1+ growth rate g)

D1 = e1 * dividend payout ratio.

Claus and Thomas (2001)

$$P_T = B_T + \frac{EPS_{T+1} - KB_T}{(1+K)} + \frac{EPS_{T+2} - KB_{T+1}}{(1+K)^2} + .. + \frac{EPS_{T+5} - KB_{T+4}}{(1+K)^5} + \frac{(EPS_{T+5} - KB_{T+4})(1+gn)}{(K-gn)(1+K)^5}$$

Where

PT = Price per share

BT = Current Book Value

EPS T*J = Forecast of future earning per share

gn = long term growth rate

K = cost of equity capital

BT+I = BT+i-1 + EPST+i – PT+i

Easton (2004)

$$P_T = \frac{EPS_{T+2} + K.D_{T+1} - EPS_{T+1}}{K^2}$$

Where

DT+i = EPST+i * Dividend payout ratio