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Azeem, M.; Ahmad, Nisar; Majid, Safyan; Ur Rehman, Jamshaid; Nafees, Bilal

# Article

# Corporate governance, financial constraints, and dividend policy: Evidence from Pakistan

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*Suggested Citation:* Azeem, M.; Ahmad, Nisar; Majid, Safyan; Ur Rehman, Jamshaid; Nafees, Bilal (2023) : Corporate governance, financial constraints, and dividend policy: Evidence from Pakistan, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 11, Iss. 2, pp. 1-29, https://doi.org/10.1080/23322039.2023.2243709

This Version is available at: https://hdl.handle.net/10419/304173

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**Cogent Economics & Finance** 

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oaef20

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To cite this article: M. Azeem, Nisar Ahmad, Safyan Majid, Jamshaid Ur Rehman & Bilal Nafees (2023) Corporate governance, financial constraints, and dividend policy: Evidence from Pakistan, Cogent Economics & Finance, 11:2, 2243709, DOI: 10.1080/23322039.2023.2243709

To link to this article: https://doi.org/10.1080/23322039.2023.2243709

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Published online: 24 Aug 2023.

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Received: 16 December 2022 Accepted: 29 July 2023

\*Corresponding author: Nisar Ahmad, Associate Professor in Hailey College of Commerce, University of the Punjab, Lahore, Pakistan E-mail: nisar@hcc.edu.pk

Reviewing editor: Goodness Aye, Agricultural Economics, University of Agriculture, Makurdi Benue State, Nigeria

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# GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

# Corporate governance, financial constraints, and dividend policy: Evidence from Pakistan

M. Azeem<sup>1</sup>, Nisar Ahmad<sup>2</sup>\*, Safyan Majid<sup>3</sup>, Jamshaid Ur Rehman<sup>4</sup> and Bilal Nafees<sup>5</sup>

Abstract: Information asymmetry between insiders and outsiders creates various issues for a firm, such as the agency problem where managers pursue their own interests even at the cost of the well-being of the firm's shareholders, and probable external financial constraints where external investors discount risk by causing a surge in the cost of financing. Normally, a firm manages the issues of the agency problem and external financing constraints by omitting or initiating dividend payments. Therefore, this study investigated the impact of corporate governance on dividend policies in the presence of financial constraints using a sample of 139 nonfinancial firms listed on PSE, where a weak regulatory framework generates agency problems and the underdevelopment of the financial sector causes financing constraints for businesses. The results reveal that, in Pakistan, dividends are an Outcome of governance practices. As the guality of firm-level governance improves, shareholders are provided with the legal strength to ultimately force firm managers to pay dividends. Along with the agency problem, the availability of external financing is an important factor related to dividend payment decisions in Pakistan. When a company is confronted with agency problems and financial constraints simultaneously, managers try to avoid costly external financing rather than reducing the agency's problem. The results of the study can be further refined by enhancing the study period and sample size. Furthermore, the work can be extended by classifying sample subjects to the nature of industry and group ownership.

Subjects: Finance; Business, Management and Accounting; Industry & Industrial Studies

Keywords: Dividend Policy; Corporate Governance; Financial Constraints

JEL Classsification: G35; G34; G0

## 1. Introduction

Information asymmetry between corporate insiders and outsiders creates various issues for firms, such as the agency problem where managers pursue their own interests even at the cost of the well-being of the firm's shareholders (Jensen, 1986). This give rise to agency problem. The agency problem can be minimized by converting funds into dividend payments (Hussain & Akbar, 2022; Weisbach & Stephens, 1998; Zwiebel, 1996). Additionally, information asymmetry among insiders and outsiders exhausts the climate of trust and consequently generates financial constraints for the firm (Chen & Wang, 2012; Myers & Majluf, 1984). However, giving higher dividend payouts in order to minimize the agency problem will also raise the firm's dependence on external funds. If





© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent. the capital markets are less-developed and higher information asymmetry prevails, large dividends can also create a surge in external financing rates due to the reluctance of outside investors to provide funds to firms (Rozeff, 1982). When financing constraints prevail, firms have to retain cash in order to finance investment opportunities by avoiding costly external financing (Agca & Mozumda, 2008).

Normally, a firm manages the agency problem and financing constraints by omitting or initiating dividend payments because paying more cash as dividends reduces the chances of management expropriations of free cash flows (Easterbrook, 1984). Conversely, disgorging more cash as dividends forces the firm to depend on external financing for future projects (Awwad & Hamdan, 2018). Therefore, a firm designs its dividend policy by simultaneously considering financing constraints and the agency problem. This is particularly true in a country where financial markets are underdeveloped and where severe information asymmetry exists between firms' managers and external fund providers. Most researchers have observed a straightforward relationship between firms "dividend policies and the probability of the agency problem, but they have done so without explicitly considering the influence that financing constraints have on dividend payment decisions. Most prominently, La Porta et al. (2000) argued that efficient corporate governance leads to curbing managers" expropriations through proper monitoring and shareholders' protections. The study has developed two models, viz., *Substitution* and *Outcome*.

The Outcome-model expresses that organizations with effective corporate governance practices pay more profits to check supervisors' confiscations (La Porta et al., 2000). Conversely, *Substitution-model* describes that dividends are the substitution for firms' governance quality and weakly governed firms distribute higher dividends for establishing their fair repute in the market (La Porta et al., 2000). La Porta et al. (2000) and subsequent research on the topic have generally supported the *Outcome model* and have shown that firms that exercise good corporate governance practices usually pay more dividends to shareholders (Adjaoud & Ben-Amar, 2010; Jiraporn et al., 2011; Mitton, 2004). By following the agency theory, managers make fewer dividend cuts in cases of a strong corporate environment (Francis et al., 2011). In cross-country comparisons, dividends are found to be higher in common-law countries where firms employ good corporate governate governance practices (Swicki, 2009). Also, Wei et al. (2011) confirmed that strongly governed firms pay more dividends than weakly governed ones.

Furthermore, based on the findings of previous research, the agency problem has been categorized into type one (between managers and owners) and type two (between major and minor shareholders). Conversely, Jiraporn and Ning (2006) found a negative association between firms dividend policies and their corporate governance by following the Substitution model. John and Knyazeva (2006) elaborated that better-governed firms pay lower dividends because such firms have fewer chances for expropriations. Harford et al. (2008) have also concluded that, in the USA, weakly governed firms pay higher dividends for the sake of repute-building. Lin and Hua (2012) investigated the influence of firms dividend policies on corporate governance in Taiwan; their study also supports the Substitution model and concludes that weakly governed firms pay higher dividends, particularly when they have more opportunities to invest La Porta et al. (1998). These studies have produced mixed results. The reason could be that they have not considered the role of financial constraints in exploring the relationship between a firm's dividend policy and its respective corporate governance. Therefore, the present study has bridged this gap by introducing external financing constraints in the relationship between a firm's dividend policy and corporate governance. Jiraporn and Ning (2006) explored administrative advantages and the substitute hypothesis following La Porta et al. (2000), using data from the USA. The study has confirmed the presence of the Substitution model, which opposed the findings of La Porta et al. (2000), which also used data from the USA. While La Porta et al. (2000) built up a cross-country reference; other scholars have applied their models to single-country settings by studying the relationship between national-level investor protections with firm-level corporate governance practices Bebczuk (2005).

The current study investigated the impact of corporate governance on dividend policies by explicitly considering the role that financial constraints play in firms' dividend payment decisions (Ibrahim (2005). It is an imperative concern for researchers to properly gauge firm-level corporate governance practices. In the existing literature, firm-level corporate governance has been measured either by a single firm-level characteristic or by constituting a multidimensional index that covers different dimensions of corporate governance mechanisms. However, most scholars have raised questions on the authenticity of single corporate governance proxies. In this study, a broad multidimensional index has been constituted which is specially designed with the corporate regulatory framework of Pakistan in mind. The index is unique in several ways, including the fact that it is free from the error of subjectivity, biases in sample selection, and inappropriate weighting criteria. The dividend policy of a firm varies with the level of corporate governance in a country; in countries where corporate governance practices are closely observed, firms pay higher dividends, and vice versa.

Although the empirical literature regarding the relationship between dividend policy and corporate governance was inconclusive, most of the existing studies have been done in the USA, the UK, and Canada, countries which are characterized by strong legal systems and low ownership concentration, and where the majority of the firms exhibit similar levels of corporate governance. However, few studies have been done in environments that are predominantly characterized by weak legal systems, high ownership concentration, and wide gaps between owners and managers Jiraporn et al. (2011). Therefore, this study has attempted to contribute to the existing literature by investigating the case of a developing country (i.e., Pakistan). Therefore, the study has investigated the impact of corporate governance on dividend policies in the presence of financial constraints in Pakistan. Because of the underdevelopment of the financial sector and the weak corporate regulatory framework, there is information asymmetry between parties. Consequently, firms have to face financial constraints and agency problems together.

Pakistan is a developing country in terms of its financial sector and corporate legal regulatory framework. It is ranked low in the country and firm's level of investor protection (Mitton, 2004). Weak legal support suppresses shareholders' voices and fuels agency problems. Entrenched managers take the support of the weak legal system and remain less intent towards disbursements, and hoard more cash inside Ullah et al. (2012), Francis et al. (2012). During the last few years, corporate regulatory authorities have made extensive reforms for the development of the financial sector in Pakistan. Resultantly, the liquidity and depth in the financial markets have improved a lot. Business ventures are still complaining about the scarcity of the resources offered be external financial institutions and markets (Ahmed & Hamid, 2011). In recent times, different regulators in the corporate environment have made changes to improve their efficiency; hence, the study of the impact of these interventions is relevant. Previously, corporate regulatory institutions took some inspiring steps to improve the standards of corporate governance locally, particularly, at the firm level Shehr and Javid (2014). The SECP has instigated the framework of corporate governance practices and bound all listed companies to operate in compliance with the best practices of corporate governance and to exercise the powers granted by sub-section (4) of section 34 of the Securities and Exchange Ordinance, 1969. In an encouraging step in the endeavor to improve corporate governance, a separate and autonomous institution, the PICG was founded in 2004. This institution principally amid of developing a podium for improving the firmlevel governance practices in Pakistan. Secondly, firms' ownership in Pakistan persists with a high level of concentration and the frequent use of dual-class shares. This not only generates a conflict of interest between internal and external shareholders but also enhances the expropriations of minority shareholders by controlling members.

The corporate vigilance and shareholders' rights protections are very feeble in Pakistan and only allow holders who have shareholdings greater than 20% shareholdings to pursue courts for dividend right infringements, while minority shareholders, who are the real victims, can only complain to the SECP (Afza & Anwar, 2012; Afzal & Sehrish, 2011). Thirdly, the formal financing

sector is not adequate to manage the growing needs of firms; just 10% of financing needs are capped by it. Most of the time, growth opportunities are waived off by firms due to the unavailability of attractive financing terms (Ahmed & Hamid, 2011). So, keeping the weak corporate regulatory environment, low shareholders' rights and protections, and the underdevelopment of the financial sector in mind, the present study aims to investigate the role of corporate governance and financing in forming corporate dividend policies of firms operating in Pakistan.

However, most scholars have constraints raised questions on the authenticity of a single corporate governance proxy. In this study, a broad multidimensional index has been constituted which is specially designed with the corporate regulatory framework of Pakistan in mind. The index is unique in several ways, including the fact that it is free from the error of subjectivity, biases in sample selection, and inappropriate weighting criteria. The dividend policy of a firm varies with the level of corporate governance in a country; in countries where corporate governance practices are closely observed, firms pay higher dividends, and vice versa. A realm of research started after the above-mentioned events, and researchers have been keen to learn whether governance practices affect firm value Sohail et al. (2007). They have been especially inclined to learn of the extent to which firm-level governance practices affect firms' financial decisions. Most prominently, La Porta et al. (2000) have studied the relationship between dividend policies and corporate governance in different countries across the globe. Their research concluded that governance practices significantly affect firms' distribution policies.

Following the study of La Porta et al. (2000), many scholars have focused on the direct relationship between corporate governance and firms' dividend policies. However, the results are largely inconclusive. Even within the same country, La Porta et al. (2000) have found evidence to support the Outcome model while other researchers have drawn contrary conclusions (Harford et al., 2008; Jiraporn & Ning, 2006; John & Knyazeva, 2006). Rozeff (1982) has pointed out the pros and cons of dividend payments. On the one hand, it can help to reduce the effects of the agency problem that result from information asymmetry, but on the other hand, frequent dividend payments can also create surges in a firm's financing costs. This study has, thus, bridged this gap by introducing external financing constraints to the relationship between corporate governance and dividend policies.

Therefore, this study has attempted to contribute to the existing literature by investigating the case of a developing country (i.e., Pakistan).It is an imperative concern for researchers to properly gauge firm-level corporate governance practices. In the existing literature, firm-level corporate governance has been measured either by a single firm-level characteristic or by constituting a multidimensional index that covers different dimensions of corporate governance mechanisms. In this study, a broad multidimensional index has been constituted which is specially designed with the corporate regulatory framework of Pakistan in mind. The index is unique in several ways, including the fact that it is free from the error of subjectivity, biases in sample selection, and inappropriate weighting criteria. The dividend policy of a firm varies with the level of corporate governance in a country; in countries where corporate governance practices are closely observed, firms pay higher dividends, and vice versa. In order to access the varying effects of financial constraints on dividend policies in different corporate governance regimes, the present study has made use of the ESM model of Hu and Schiantarelli (1998) for calculating the quality of corporate governance and for ultimately classifying firms into two groups (i.e., strongly governed and weakly governed) based on stochastic threshold parameters.

#### 2. Literature review

#### 2.1. Corporate governance and dividend payout policy

The agency theory treats shareholders as the principles and managers as the agents. The principles act as owners and managers act as operational executives of the corporation (Awwad & Hamdan, 2018). The theory postulates the relationship between principle and agent and addresses

the issue between the aforesaid parties. The agents also act as insiders due to the execution nature of the job. The theory rewards these insiders for formulating investment strategies that can safeguard investors' interests along with their own concerns without bothering to concede at the expense of the investors (Jensen, 1986). The application of the insiders' definition also varies from country to country. The principles and insiders are different in the countries such as in UK, USA, and Canada where firms have diverse ownership structures. The principles appoint the directors to control the companies through a democratic form of the selection process. These shareholders use their voting right and select the management of their own choice. Contrarily, the firms are mostly family-owned in developing countries where insiders hold majority shareholdings. This generates a type-two agency problem (Salah & Jarboui, 2021; Wei et al., 2011).

The origin of the legal system presents another dimension of this agency theory challenges. There are two types of countries according to legal origin namely; common and civil countries. The supremacy of law is stronger in countries practicing common law as compared to the countries following civil law jurisprudence. The latter advocates for transparent and widespread justice. Consequently, civil law jurisprudence provides active corporate vigilance and safeguards investors legally. Resultantly, the firms have better governance standards in civil law origin as compared to the firms operating in common law origin. The firms experience ownership concentrations, director interlocking and pyramidal ownership in common law countries. It gives managerial control to the few individuals who are not selected through proper scrutiny. The controlling shareholders and founding families mostly control the selection of management (Silanes & La Porta, 1999).

The family-owned firms are also growing all over the world. They are equally popular in both developed and developing countries. These firms embrace special features of control rights and pose different dimensions of agency problems. These include ineffective management by major shareholders, controlling position in decision-making by family members, and exploitation of minority shareholders (Jensen, 1986; Salah & Jarboui, 2021; Vishny & Shleifer, 1997). The financial impropriation of insiders keeps dividend disbursements at lower levels (Faccio et al., 2002). The dominant form of ownership structure in East Asia is family-owned businesses where family members are active players in corporate decisions. Most of the time, they want to keep funds inside the business and that is why they pay low dividends (Wei et al., 2011). However, in European region firms, they have a comparatively dispersed ownership structure and higher dividend payments than in the Asian region.

Managers may use the free cash flows of the company for their own ends instead of value maximization for shareholders. Hence, shareholders do not want to retain their money with the managers and prefer to dispose of it as dividends to them (Jensen, 1986, ; Lee et al., 2014). As Brailsford and Yeoh (2004) suggested, in a company with high free cash flows and operating in a low growth environment, the controlling managers prefer to pursue investment rather than to dispose of free cash flows in the form of dividend payments. Managers may pursue those projects which enhance their personal interests more than the overall shareholders' wealth. According to Chang et al. (2011), insiders in a company which has high free cash flows along with low growth potential try to invest money in those projects which may accumulate personal finance and rewards for the managers even at the cost of the external shareholders. Hence, the amount of free cash flows in a company defines the probability of agency problems between insiders and outsiders. Dividend payments generally reduce the level of free cash flows in a company. By paying dividends, insiders would not be able to get extra benefits from corporate resources because cash flow depletion reduces the corporate assets under their control.

Shareholders also perceive present dividends like "a bird in the hand is worth two in a bush" that may be stopped from flying away. Alternatively, paying more cash as dividends reduces the free cash flows and exposes a firm to the need to go into the capital market for fund raising and thus, provides external investors to have control over the insiders (Easterbrook, 1984). Under an effective legal system or strong shareholders' rights protection, shareholders can force the managers of

a company to disgorge cash flows as dividends. Particularly, in a company that is exercising strong corporate governance practices, shareholders can effectively force management to pay them their dividends (La Porta et al., 2000).

There are a number of ways by which these shareholders can protect their rights like using voting powers to select directors of their own choice, by transecting their shares with hostile raiders, and by suing a company for the infringements of their rights. Investors feel more secure in a country where the investors' protection is strong and that makes it difficult for insiders to snub the voice of outsiders, which means that the greater the investors enjoy legal protection, the more dividends they can extract from the company (Unlu & Brockman, 2009). A company with agency problems pays higher dividends when it has good corporate governance. Because, efficient corporate governance performs an important part in dividend payment decisions which not only suppresses agency problems but also provides a solid platform for shareholders to force the company for paying dividends (Adjaoud & Ben-Amar, 2010; La Porta et al., 2000).

H1: A company with strong corporate governance pays higher dividends.

#### 2.2. Moderating role of financial constraints, and dividend policy

An investment decision is one of the most important decisions that a firm ever makes. Mostly, scholars have focused on evaluating the effectiveness of investment decisions in their research because external and internal financing are no longer mutual substitutes, particularly in the existence of capital market imperfections (Agca & Mozumda, 2008). Therefore, a firm's investment decision completely links with the financing decision because the mode of financing influences its cost and ultimately affects the investment that a firm can make. So, a firm is considered as being financially constrained when its investment spending depends on the availability of internal financing (Kadapakkam et al., 1998). Bird in hand theory: Shareholders also perceive present dividend like "a bird in hand" that may be stopped from flying away. Alternatively, paying more cash as a dividend reduces the free cash flows and exposes a firm to going into the capital market for fundraising and thus providing external investors to have control over insiders (Easterbrook, 1984).

In the existing literature, there is an extensive debate among scholars concerning how the cost of internal financing differs from the cost of external financing. There are two streams of studies that have identified the probable causes of difference: in the former one, the scholars have argued that the existence of taxation, transaction and bankruptcy costs are the factors that may create differences in costs of internal and external financing, while other scholars have justified this difference by the existence of information asymmetry among outsiders and insiders. Information asymmetry induces external financing frictions for a firm and most of the time a firm has to forego attractive investment opportunities due to the unavailability of funds. Mostly, the managers of financially constrained firms retain funds instead of distributing these to shareholders, for the reason that external financing is more costly than internal funds (Myers & Majluf, 1984). In particular, in developing countries where capital and financial markets are underdeveloped, they are unable to cope with the growing needs of corporate ventures. External financial frictions ultimately create financial constraints for firms. The investment spending of firms function with the availability of funds. Due to information asymmetry between insiders and external fund providers, firms have to face underinvestment problems.

When external financing is expensive, then the internal funds investment outlays will be sensitive to liquidity, cash flows, and financial slack. As Fazzari et al. (1988) suggested, cash flows and investments are more sensitive for a firm that is facing external financial constraints. Hoshi et al. (1991) have further extended the model and conducted a study on Japanese manufacturing firms by differentiating into group and non-group firms. The group firms have a soft

relationship with banks and have easy availability of financing from banks. In these firms, investment cash flow sensitivity is low as compared to non-group firms. According to Whited (1992), a firm's capability to avail of external financing determines its investment policy. Financial constraints faced by a firm distort its efficient allocation of funds towards its investment policy and ultimately disturb firm value. There are a number of factors that intensify external financing constraints for a firm like information asymmetry, agency problems, capital market imperfections, etc. The existence of agency problems linked with managerial control forces external funds providers to charge a higher rate of return as compensation for monitoring the cost (Hussain & Akbar, 2022). This constrains the managers' ease to external funds and compels them to depend extensively on comparatively cheap internal funds (Stulz, 1990). Furthermore, managers may accumulate cash to increase their control and pursue their interests at the cost of the external shareholders, thus, they are also in a position to capitalize on investment opportunities as these arise without feeling the need to wait for external financing. In the existing literature, scholars have endorsed the association between cash flow sensitivity and investment with the cost of retained earnings and external financing, with two alternate narratives of the discrepancy. As Myers and Majluf (1984) envisaged that the prevalence of information asymmetry among managers and external investors usually, creates potential financial constraints for a company because the investors may charge a premium for the information problem. The inflated cost of external funds squeezes a firm's ability to make effective investments and leads to an underinvestment problem. On the other hand, managers also consider that internal funds are cheaper than external funds so, they try to spend internal funds so lavishly which creates an overinvestment problem for the firm.

The cost of external financing is linked with the level of asymmetry because investors feel insecure while providing funds, and if the legal system of a country ensures the protection of their rights, ultimately, they require a low cost for their funds. As Rajan and Zingales (1998) have found, firms that rely heavily on external financing attain substantial growth if they are operating in a country where the investors' protection is strong. Whereas, Love (2003) suggested that a firm legal environment reduces investment cash flow sensitivity because firms will have easy availability to external financing. Financial developments and investors' protection soften up the financial frictions for firms operating in a country (Khurana et al., 2006). Hence, the company's ability to raise external financing with attractive terms depends on the investor's confidence in the company (Xu et al., 2009). Therefore, strong corporate governance can suppress agency problems by monitoring from the shareholders' monitoring and the company can retain cash to avoid costly external financing by squeezing dividends.

Overall, the level of corporate governance affects a firm's optimal dividend policy (La Porta et al., 2000). The degree of influence depends upon the intensity of the financial constraints and the agency problem simultaneously faced by a firm. Dividend disbursement has dual outcomes for a firm. On the one hand, paying more cash as dividends reduces the chances of management expropriations of the free cash flows (Easterbrook, 1984). Conversely, disgorging more cash as dividends forces the firm to depend on external financing for future projects (Myers & Majluf, 1984). Therefore, a firm decides its dividend policy by considering both financing constraints and agency problems, simultaneously, particularly in a country where the financial markets are underdeveloped and severe information asymmetry exists between a firm's managers and external funds providers. The level of corporate governance varies from country to country. Principally, significant differences exist in the corporate governance practices of common and civil law countries (La Porta et al., 2002). Additionally, with respect to corporate governance practices, developing countries are ranked lower as compared with developed countries (Kalcheva & Lins, 2007).

In a good corporate governance regime, if dividend payout decreases the agency problem, the firm will increase the dividend payouts provided that the firm does not have to face external financing constraints (Adjaoud & Ben-Amar, 2010; Mitton, 2004). On the other hand, if the dividend

Figure 1. Conceptual Framework.



payouts increase the cost of external financing more than the decrease in the agency problems, the firms will decrease the dividend payments in strong corporate governance regimes (Myers & Majluf, 1984; Xu et al., 2009). Financial frictions have impacts on firms' value creations by not letting them play liberally. The level of external financing constraints brings about the firm's investment and distribution decisions; the higher the level of constraints, the lower the amount of investments and distributions in Pakistan (Haque et al., 2014; Mohsin, 2014). As the local firms are found to be hesitant in dividend payments, it could be due to exacerbating agency problems coupled with the prevalence of financial frictions. The research hypotheses of the study have been summarized in Figure 1:

**H2:** A company with strong corporate governance and external financing constraints pays less dividends.

#### 3. Methodology

The sample of the current study is derived from the listed firms on the Karachi Stock Exchange (KSE). Different filters have been applied to derive sample firms from the population. Firstly, the firm should have been listed during the entire period of interest (from 2004 to 2012) in the KSE, because dividend policies of companies vary among listed and unlisted firms (Pindado et al., 2011). Secondly, a company should have declared dividends for more than four years during this study period because it is a requirement for companies to declare dividends once in five years. Therefore, in a period of eight years, two dividend declarations are compulsory, so the benchmark for sample selection has been set at four years. Thirdly, firms belonging to the financial and utilities sectors have not been considered because these industries follow different accounting and legal provisions (Lin & Hua, 2012; Wei et al., 2011). Fourthly, firms with either missing corporate governance or financial data have been excluded from the sample. After applying the aforementioned filtering criteria, 139 firms have been selected and reported in Appendix A.<sup>1</sup> The period from which data was aathered starts in 2004 (the corporate governance code was introduced in Pakistan one year prior, and its effects started to emerge a year later) and ends in 2012 (the code of corporate governance was amended in this year). Different sources have been explored in the collection of data for the study, most prominently the State Bank of Pakistan (SBP), SECP, KSE, and websites of relevant companies.

#### 3.1. External financing constraints

A central question in corporate finance is how financial frictions affect firms' abilities to finance their projects. In the empirical literature, scholars have suggested several potential reasons why external fund providers' abrasion may be considered a financial constraint. Information asymmetry simply widens the gap between the cost of financial slack and external financing. To assess the effects of external financial constraints on corporate decision-making, external financial constraints must be defined. The level of external financial friction experienced by a firm is not directly observable. Therefore, in the empirical research, the level of financial constraints faced by a firm has been measured using either multidimensional indices (e.g., KP Index and WW Index) or by using shorting methods based on firms' characteristics. Each of the aforementioned methods is based on empirical or procedural assumptions. As such, their use is suitable in particular environments but might not be appropriate in a global context. Furthermore, both indices rely heavily on endogenous financial alternatives which may not have linear relationships with financial constraints (Bell et al., 2012; Hadlock & Pierce, 2010).

The variables that appropriately categorize a firm as either financially constrained or unconstrained are the firm's size and its age. Firm size and age consistently and accurately predict different states of business with respect to financing needs (Farre-Mensa & Ljungqvist, 2013; Hadlock & Pierce, 2010; Murillo et al., 2009; Silva & Carreira, 2012). A business can enhance its borrowing power by acquiring more assets, as this increases creditors' willingness to finance the firm. Therefore, firms with many tangible assets can easily receive financing from creditors. Particularly, in economies that are bank-dependent and where other sources of credit creation are weak, firms have to maintain a healthy amount of assets to be used as collateral (Patha et al., 2014). Banking sector development plays an important role in forming asset mixes for ventures. A low level of banking sector development means that firms must heavily rely on secure borrowing through the use of solid collateral (Davydova & Sokolov, 2014). A firm's borrowing capacity also depends on what level of assets can be offered as a guarantee against a loan. Hence, there are three measures for external financing constraints: age, size, and asset tangibility. These measures of external financing constraints are described in Appendix B.

#### 3.2. Corporate governance

The dividend policy varies with the level of corporate governance in a region. For example, firms in a country with a strong corporate governance mechanism tend to release higher dividend payouts than firms in a country with a weak corporate governance mechanism Omran (2004). A systematic pattern may enable dividend payout ratios to differ among firms within a single country based on the relevant governance quality (La Porta et al., 2002; Lin & Hua, 2012). The firm's quality of corporate governance is not directly observable. Therefore, scholars have developed different proxies to measure corporate governance quality, such as single observable firms' characteristics or multidimensional dimensional indices. In most of the studies, scholars have tried to measure the effect of a firm's corporate governance on their decision-making practices by using single attributes such as board composition, ownership structure, compensation regimes, etc (Afza & Hammad, 2011; Chen et al., 2010; Kinkki, 2008). However, one can argue that a single variable cannot measure corporate governance guality effectively since the guality of governance is based on multiple factors (Bebchuck & Hamdan, 2009; Bhagat et al., 2008). Moreover, a multifactor index that has been developed in a single country reflects a better measurement than cross-country indices because it closely covers the rules, practices, and procedures of that country (Khanna et al., 2008). There are three different ways to construct a corporate governance index: through a commercial services provider, the surveyed-based method, and the extracted method. Every method has its own merits and demerits. The survey-based methods may elicit an inappropriate response rate from companies. Proxy-advising institutions like the CLSA, Governance Metrics International (GMI), and Deminor Institutional Shareholder Services (DISS) usually cover big renowned companies from the sample country, which may lead to selection bias and make the inferences questionable. Additionally, the weighting criteria of rating agencies may be influenced by the subjectivity of analysts (Zheka, 2006); the academic indexes created by research scholars on the bases of their self-managed databases are equally weighted indexes in which each provision is measured on a binary scale. Therefore, these indexes are less subjective than proxy agency indexes (Bozec & Bozec, 2012).

The problem of subjectivity normally arises, however, due to prejudiced weighting criteria, though equal weighting criteria could soften the problem (Chang et al., 2011; Jiang et al., 2008). In order to gauge the vigor of firms' levels of corporate governance, a broad multifactor index (i.e., board of directors, ownership, transparency and disclosure, and committees) has been used in Pakistan and has covered various dimensions that deal with policies, structures, and procedures that may form good corporate governance practices. All the information has been derived from the companies' annual reports. All the factors are measured via binary criteria. Corporate governance scores were calculated by summing up all the points. The minimum a firm could score was 0

points, and the maximum was 25 points.<sup>2</sup> In self-constructed indexes, researchers have the leverage to select relevant governance provisions that may fully comply with the legal and economic environment of that country. Javed and Iqbal (2006, 2007, 2008, 2010) have developed a corporate governance index known as G-Score 22; I have modified it slightly and converted it into G-Score 25 for the present study. The modified index includes relevant changes considering recent developments in academic and practical endeavors. There are four sub-groups of the index. The detail of corporate governance index is provided in Appendix B.

#### 3.3. Estimations

In modern finance, particularly in corporate governance literature, ordinary least square (OLS) regression is one of the most commonly used statistical techniques in the investigation of the relationship between dependent and independent variables (Adjaoud & Ben-Amar, 2010; Gompers et al., 2003; Jiraporn & Ning, 2006). In this study, the same technique has been used to investigate the impact of corporate governance on the dividend-paying behavior of firms listed on the KSE. For better statistical estimations, certain diagnostic tests (e.g., the 1-sample Kolmogorov-Smirnov test to confirm the normality of response variables, an *F*-test to determine the goodness of fit of a model, and tolerance and variance inflation factors to check the multicollinearity between predictors, etc.) must be applied. The study also aims to investigate the impact of corporate governance on dividend policy by explicitly considering the role of financial constraints in dividend payment decisions. Dividend payments generate two types of effects. First, they raise a firm's dependency on external financing by disgorging cash flows in favor of shareholders. Secondly, they reduce the chances that management will expropriate the firm's resources by reducing cash flows in their procession.

Three different proxies of external financial constraints have been developed, viz., firm age, size and assets tangibility. These variables are then scaled based on binary coding, and new dummy variables (e.g., age dummy (DAGE), size dummy (DSIZE) and tangibility dummy (DTANG)) are generated. The regression equations for these variables are as follows:

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DAGE + \varepsilon_{it}$$
(1)

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DSIZE + \varepsilon_{it}$$
(2)

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DTANG + \varepsilon_{it}$$
(3)

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DAGE + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 PROFT_{it} + \varepsilon_{it}$$
(4)

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DSIZE + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 PROFT_{it} + \varepsilon_{it}$$
(5)

$$DIV_{it} = a_0 + \beta_1 CGI_{it} + \beta_2 CGI_{it} * DTANG + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \beta_5 PROFT_{it} + \varepsilon_{it}$$
(6)

Whereas:

- *DIV<sub>it</sub>* = Fours measures of dividend policy including Cash dividend scaled by, Earnings, Assets, Sales and Equity for firm i at time t;
- CGI<sub>it</sub> = CGI is a multifactor corporate governance index covering 25 CG provisions for firm i at time t;

 $DAGE_{it}$  = Value 1, if the age of firm is less than sample median otherwise 0 for firm i at time t;  $DSIZE_{it}$  = Value 1, if the total assets of firm are less than sample median otherwise 0 for firm i at time t;

DTANG<sub>it</sub> = Value 1 if the tangible assets of firm are less than sample median otherwise 0 for firm i at time t;

LEV<sub>it</sub> = Total Debt/total assets for firm i at time t;

 $GROWTH_{it}$  = Market to Book value ratio for firm i at time t;

 $PROFT_{it}$  = Earnings/book value of equity for firm i at time t;  $a_0$  = Intercept for firm i at time t;

 $\varepsilon_{it} = \text{Residual}$ 

#### 4. Results

Table 1 of the said session presents a summary of the descriptive statistics of Pakistani firms listed on the KSE between 2004 and 2012. There are four different proxies of dividend policies which are developed in light of the existing literature. The mean value obtained for dividend payout ratio indicates that firms in Pakistan distribute relatively small portions of their income as dividends and retain foremost of their income for investment needs. The higher mean value of leverage implies that local firms are heavily indebted. Ahmed and Javid (2008) and Batool and Javid (2014) have confirmed that Pakistani firms are highly leveraged. In a country where the cost of financing remains in a surge phase, highly indebted firms utilize most of their income for interest payments that ultimately squeeze the size of dividends. However, the volatility in macroeconomic perspective affects the financial performance of corporate sectors in terms of their profitability. Pakistan is facing economic turmoil from last decade and as a result corporate distribution policy has redefined its myth. In most of the existing local studies, the scholars have confirmed that the profitability of a firm is an important determinant of dividend policy (Afza & Mirza, 2010; Afzal & Sehrish, 2011). De Angelo and De Angelo (2006) proposed that income is an indispensable factor in dividend payment decisions and that more profitable firms pay higher dividends.

The statistics for the standard deviation and mean value of return on equity (ROE) explain that the earnings of sample companies are not stable or certain. Consequently, the dividend policies of companies remain shaky. During the last few years, corporate regulatory institutions have developed governing laws, but their ineffective implementation hash indeed their effective utilization. Initially, in 2003, corporate governance rules were introduced to remove impurities in corporate culture such as ownership concentration, director interlocking, pyramid ownership, proxy directorship, etc. However, while the laws have only softened these impurities, the problem persists, and there are still plenty of problems to come.

A broad multifactor corporate governance index has been developed to gauge the extent of firm-level corporate governance quality. The mean value of the CGI index indicates that the quality of corporate governance is not very strong in Pakistan. Javed and Iqbal (2008) and Malik (2012) have also suggested this. The results of the corporate governance index's sub-groups also reflect the feeble governance practices exhibited by local firms.

The results of the univariate analysis reported in Table 2 also reveal that financially constrained firms are less profitable than unconstrained firms. The average ROE of constrained firms is 13% and is 17% for unconstrained firms. In the existing literature, it has been established that profit-ability is an important determinant of a firm's dividend policy (Adjaoud & Ben-Amar, 2010; Ahmed & Javid, 2008; Swicki, 2009). Higher profitability also leads to the generation of higher returns for shareholders in the form of dividend payments. Normally, earning creates financial slack and reduces the need for external funds. Higher financing costs and the under-utilization of resources cause constrained firms to remain inefficient in their generation of healthy profitability (Adelegan & Ariyo, 2008). Therefore, in Pakistan, higher financing costs and lower operating efficiency also reduce the profitability of financially constrained firms.

Information asymmetry between insiders and external fund providers affects the cost of external funds. In the presence of external financing constraints, firms have to retain cash in order to finance investment opportunities by avoiding costly external financing (Agca & Mozumda, 2008). In such a case, firm-level corporate governance works to reduce information asymmetry between parties. Corporate governance is principally especially important in emerging countries with underdeveloped financial markets where firms have few financing options (Francis et al., 2012). In Pakistan, companies exhibit good corporate governance when they have access to external funds with attractive terms. The management of a company ensures investors' safety by assuring investors that the company is good at following corporate governance practices and that it will acknowledge investors' rights in the future. Nevertheless, the adoption of fair corporate governance standards not only improves the functioning of a company but also enhances investors' confidence (Daud et al., 2015).

The second objective of the study is to investigate the impact of corporate governance on dividend policies by explicitly considering the role of external financial constraints in dividend payment decisions. This is the main contribution of the study because researchers have focused on the direct association between a firm's dividend policy and corporate governance in most of the existing literature. However, the payment of dividends poses two types of effects for a firm. First, it reduces the agency problem by converting funds to dividend payments. Second, it enhances dependency on external financing (Chen & Wang, 2012; Myers & Majluf, 1984; Weisbach & Stephens, 1998; Zwiebel, 1996). In that case, a firm has to make a tradeoff between agency costs and external financing costs when deciding its dividend policy.

A G-25 integrated index has been developed to observe firms' levels of corporate governance practices, whereas the extent of external financing constraints faced by a firm has been measured via three different proxies, viz. firm age, firm size, and assets tangibility. Hence, there are three measures for external financing constraints. Three dummy variables have been created against each financial constraint proxy; these are denoted as a value of 1 if a firm is facing financing constraints and is otherwise denoted as 0<sup>3</sup>. Generally, 1 represents the presence of financial constraints is probable that a firm will face external financing constraints in the future. A value of 0, conversely, implies the absence of financing constraints, meaning that a firm has a low probability of facing financial friction in the future. Generally, younger and smaller firms are less well-known by external investors; moreover, such firms do not possess an adequate level of resources to achieve efficient internal control and transparency. In this case, outside investors feel insecure and will probably charge a premium as part of their cost for financing. This pattern makes external financing unattractive for small and young firms (Davydova & Sokolov, 2014; Deshmukh, 2005Learya & Robert, 2010).

As per the existing literature, three dummy variables have been created for each proxy of financial constraint. A firm is said to be financially constrained if it is young, small, and holds few tangible assets. However, there is a need to caution against the interoperation of the coefficient of the interaction term between corporate governance and financing constraints. Because the natures of the aforementioned variables differ, the corporate governance index is a continuous variable, whereas financing constraints represent a binary state. Tables 3–9 report the results of how corporate governance affects dividend policies in the presence of external financing constraints. Equations 7 to 12 have been estimated to investigate the moderating role of financing constraints in the relationship between the firm's dividend policy and corporate governance. In the first stage, only the corporate governance index and its interaction term with financial constraints have been used to investigate how the presence of financing constraints modifies the impact of corporate governance on dividend policies. In the second stage, control variables are also included to reduce variable bias.

The results of the study confirm that the presence of financing constraints modifies the relationship between a firm's corporate governance and its respective dividend policy. It implies that when a firm in Pakistan seems to face external financing constraints, it tries to reduce its dividend disbursements. However, all measures of financing constraints have changed the impact of corporate governance on dividend policies, while firm age and size have produced significant results. This is consistent with the existing literature in which researchers have envisaged that firm size and age consistently and accurately predict different states of business with respect to financing needs (Farre-Mensa & Ljungqvist, 2013; Hadlock & Pierce, 2010; Murillo et al., 2009).

External financing constraints prove that a firm reduces the amount of dividends it pays when confronted with external financing frictions. At present, it is a matter of considerable attention because Pakistani firms prefer to remain in a condition of facing external financing fiction. Normally, inefficient fund allocation, capital market imperfections, and a high level of information asymmetry generate financing frictions for firms, particularly those operating in developing countries (Love, 2003; Wurgler, 2000). Pakistan is a developing country with respect to the liquidity, depth, and functionality of her financial markets. Corporate ventures rigorously complain about the suitability and availability of external financing.

#### 4.1. Panel data estimation

The data of the study contains both time series and cross-sectional properties. There is heterogeneity among firms. Additionally, it is also assumed that the intercepts and coefficients are not the same all over. However, panel data estimation allows for heterogeneity or individuality among firms by having their own intercept value. Moreover, the aforementioned estimation also covers the properties of time-invariant intercepts. In fact, it is a matter of unobserved individual heterogeneity with respect to explanatory variables; either it is zero or non-zero. The results of the panel data estimations are presented in Table 5. The insignificance of the Hausman test confirms that the random effect model is appropriate. The model assumes that the unobserved individual effect is uncorrelated with the other covariates. The results of the panel data estimations confirm that the presence of financing constraints modifies the relationship between firms' corporate governance and their respective dividend policies. This implies that when a firm in Pakistan seems to face external financing constraints, it tries to reduce its dividend disbursements. All measures of financing constraints have changed the impact of corporate governance on dividend policies, but firm age and size have produced significant results.

Table 1. Descri	ptive Statistics	(Complete Samj	ole)		
Variables	N	Minimum	Maximum	Mean	Std. Deviation
DIV/EARNINGS	1231	-289.107	661.910	39.08618	77.105031
DIV/SALES	1231	0.000	108.906	3.67525	8.276876
DIV/ASSETS	1231	0.000	196.427	4.17778	9.876600
DIV/EQUITY	1231	0.000	254.059	8.29385	16.353728
LEVERAGE	1231	3.072	87.328	51.88827	18.758542
MBV	1231	0.036	14.626	1.49233	1.544765
ROE	1231	-378.509	308.796	15.59133	32.772358
CGI	1231	5	22	12.12	3.464
BOD	1231	2	9	4.03	1.330
OWN	1231	0	5	2.31	1.696
TDI	1231	2	8	5.46	1.297
COMS	1231	0	2	0.32	0.530
TOTAL ASSETS	1231	15900	338321073	11009897	2.746

DIV/EARNINGS (%) is dividend divided by earnings. DIV/ASSETS (%) is a dividend divided by total assets. DIV/EQUITY (%) is dividend divided by equity. DIV/SALES (%) is dividend divided by sales. MBV is market to book value ratio. LEVERAGE is total debt divided by total assets asset. ROE (%) is earnings divided by equity. TOTAL ASSETS is the book value of total assets in thousands. CGI is a score of multifactor Corporate Governance Index and BOD is the board of directors score, OWN stands for ownership score, TDI is Transparency & Disclosure Index score and COMS denotes the committees score as the sub-groups of the main index.

Table 2. De	scriptive statistics with re	spect to financ	ial constrai	ints					
	96	Je		Siz	ze		Ta	ngibility	
Variables	Unconstrained Firms (n-613)	Constrained Firms (n- 618)	t-test (P-value)	Unconstrained Firms ( <i>n</i> -613)	Constrained Firms (n-618)	t-test (P-value)	Unconstrained Firms (n-613)	Constrained Firms (n-618)	t-test (P-value)
DIV/ EARNINGS	46.27109	31.95940	.000	47.17543	31.26829	.000	45.93819	32.61303	.000
DIV/SALES	4.84870	2.51129	.000	5.25783	2.14575	.000	4.90901	2.50971	.000
DIV/ASSETS	5.53001	2.83650	.000	5.57764	2.82489	.000	5.31210	3.10619	.058*
DIV/EQUITY	10.46997	6.13533	.000	10.83570	5.83727	.000	10.34747	6.35378	.023**
LEVERAGE	50.58555	53.18046	.012***	51.04283	52.70535	0.155	52.36874	51.43436	.534
MBV	1.36396	1.61967	.000	1.46703	1.51679	.000	1.52673	1.54984	.536
ROE	18.68719	12.52052	.000	18.98455	12.31194	.000	17.92843	13.38345	.054**
TOTAL ASSETS	15822683.02	6236050.05	.***000	20968030.97	1385822.50	***000.	20591168.28	1958396.51	***000.
CGI	13.08	11.18	.000	13.28	11.01	.000	12.85	11.43	.000
BOD	4.22	3.84	.000	4.30	3.76	.000	4.20	3.86	.000
TDI	2.71	1.91	.000	2.74	1.89	.000	2.54	2.09	.000
COMS	5.70	5.23	.000	5.83	5.12	.000	5.74	5.21	.000
DIV/EARNINGS market to boo multifactor Ca	5 (%) is dividend divided by earnir is value ratio. LEVERAGE is total runte Governance Index and RC	debt divided by to Dis Board of direct	) is a dividend tal asset. ROE	divided by total assets. DIV/EQU (%) is earnings divided by equit N stands for ownershin score TT	JITY (%) is dividend ty. TOTAL ASSETS i M is Transporency J	l divided by eq is the book val 6 Disclosura In	uity. DIV/SALES (%) is div lue of total assets in the otex score and COMS der	vidend divided by s pusands. CGI is a	sales. MBV is score of the

DIV/EARNINGS (%) is dividend divided by earnings. DIV/ASSETS (%) is a dividend divided by total assets. DIV/EQUITY (%) is dividend divided by equity. DIV/SALES (%) is dividend divided by earling.
market to book value ratio. LEVERAGE is total debt divided by total asset. ROE (%) is earnings divided by equity. TOTAL ASSETS is the book value of total assets in thousands. CGI is a score of the
multifactor Corporate Governance Index and BOD is Board of directors score, OWN stands for ownership score, TDI is Transparency & Disclosure Index score and COMS denotes the Committees score as
the sub-groups of main index. DSIZE is a dummy variable a firm financial constraint if total assets are below the sample median or zero otherwise. DAGE is a dummy variable a firm is financially
constraint if age is below sample median or zero otherwise. DTANG is a dummy variable a firm is financially constraint if tangible assets are below sample median or zero otherwise. * significance at
.10%**.05% & *** .001% respectively.

I able 5. Co	rporute yo	vernance, ri	וומוורומו כסו	וארומווורא מוומ	aiviaeita p	טווכא								
Variables	Div/E	Equity	Div/E	Equity	Div/E	quity	Div	/Equity		Div/Equity		Div/	Equity	
Intercept	0.919	22.609**	1.205	22.994***	0.927	22.405	0.208	7.93	0 ***	.357	13.383***			
CGI	0.352	13.201***	0.216	8.287**	0.349	13.010***								
CGI*DAGE	-0.052	-1.952**	-0.041	-1.695*										
CGI*SIZE					-0.05	-2.173**	-0.073	-2.9	51**					
CGI*TANG									)-	0.041	-1.590	1.2	219 23	.078***
LEVERAGE			-0.046	-1.870*			-0.049	-1.96	53***			0.2	218 8.	368***
MBV			-0.252	-9.631*			-0.259	38.6-	32***			-0.	090	2.456**
ROE			0.254	10.037***			0.251	9.95	8***			.0-	051 -0	2.065**
Adjusted R2	0.1	128	0	272	0.1	29	0	0.275		0.127			0.274	
<b>F-Statistics</b>	91.2	89***	92.7	.86***	91.81		64	.391***		90.484	**:		93.655***	
	Div/Ea	ırnings	Div/Ec	arnings	Div/Ea	rnings	Div/	Earnings		Div/Earni	sbu	ā	iv/Earnings	
Intercept	5.744	256.35***	5.854	187.511***	5.749	252.294	*** 5.8	367 1	83.667***	5.744	261.734***	5.864	186.50	***
CGI	0.197	7.046***	0.138	4.674***	0.194	6.883**	*:	31	4.410***	0.201	7.189***	0.139	4.724	***
CGI*DAGE	-0.039	-1.386	-0.036	-1.292										
CGI*SIZE					-0.053	-1.872*	064		-2.276**					
CGI*TANG										-0.050	-1.789*	-0.066	-2.38	7**
LEVERAGE			-0.089	-3.159**			091		-3.231**			-0.094	-3.34	7**
MBV			-0.108	-3.640***			114	-3.8.	36***			-0.114	-3.845	***
ROE			0.057	2.001**			.055	1.9	28*			0.055	1.929	*(
Adjusted R2	0.0	040	0.0	063	0.0	41		.066		0.0	41		0.067	
<b>F-Statistics</b>	26.6	01***	17.6	.77***	27.42	5***	-	18.429***		27.26	57***		18.539***	
DIV/EARNINGS divided by equ variable a firm or zero otherw	(%) is divider lity. CGI is mu is financially ise. * significo	nd divided by e- ultifactor corpo constraint if to ance at .10%,**	arnings. DIV/E irate governar stal assets are *.05% & ***.00	QUITY (%) is divice Index. DAGE below sample n 10.000 sample n 11% respectively	idend divided is a dummy v nedian or zero	by equity. MBV variable of a firr otherwise. DTA	is market to b m is financial NNG is a dumi	oook value ro Iy constraint my variable (	ltio. LEVERAGE : if age is less a firm is finan	: (%) is total c than sample cially constrai	lebt divided by median or zei nt if tangible c	total asset: ro otherwise issets are bu	s ROE (%) is e. DSIZE is a elow sample	earnings dummy : median

The interaction term coefficients confirm that the existence of financial constraints affects dividend policies in Pakistan. The inverse relationship among dividend policies, interaction terms of corporate governance, and external financing constraints proves that a firm reduces the amount of dividends it pays when it is confronted by external financing frictions. In the former case, substantial cash gives financial flexibility to a firm, which is an especially valuable resource when the external capital market is underdeveloped. As far as the results of control variables are concerned, there is a positive relationship among a firm's dividend policy and its size entails that large, mature firms exercise good governance practices and have better access to external funds; as a result, they offer higher dividends to their shareholders (Adjaoud & Ben-Amar, 2010; Batool & Javid, 2014; Iqbal, 2013).

Normally, large firms become efficient in resource utilization so that they can easily achieve an economy of scale and generate higher returns than small firms. Therefore, higher returns lead to higher dividend disbursements. There is a significant inverse relationship between leverage and all four measures of dividend policy in Pakistan. Higher leverage increases the financial risk faced by firms and discourages further disbursements, thus boosting financial distress. The negative coefficients of growth opportunities with all dividend payouts indicate that, in Pakistan, firms try to finance investment opportunities via internal funds because local financial markets are underdeveloped and insufficient to cope with the growing needs of firms. The robustness of the results has also been confirmed by applying panel regression and clustering of error terms with different parameters, such as firm and years, respectively. The results of the aforementioned estimations are in compliance with the outcomes derived in existing studies.

#### 5. Conclusion

Effective supervision and monitoring can reduce managerial opportunism and thereby lessen the informational gap between internal managers and external investors. Information asymmetry generates various issues for a firm, such as the agency problem by which managers pursue their own interests at the cost of the firm's shareholders. Normally, a firm manages the issues of the agency problem and external financing constraints by omitting or reducing dividend payments. The current study intends to investigate the impact of corporate governance on dividend policy by explicitly considering the role of external financing constraints faced by firms on a sample of 139 firms listed in the KSE. The period from which data was gathered starts in 2004 and ends in 2012. The findings of the present study suggest that effective corporate governance makes a significant contribution to defining the dividend policies of firms operating in Pakistan. Firms pay higher dividends when they exhibit strong corporate governance practices.

Additionally, the availability of external financing is an important determinant of dividend payment decisions. In most of the existing studies, researchers have focused on the direct relationship between firms' dividend policies and their corporate governance. However, they have not considered the role of external financing constraints in dividend-payment decisions even though a firm decides its optimal dividend policy by simultaneously considering both the costs of external financing and the agency problem. The results of the present study confirm that when a company is confronted with the agency problem and financial constraints simultaneously, managers prefer to avoid costly external financing over reducing the agency problem. They do this by reducing the size of dividend payments and accumulating funds to finance investment opportunities. Normally, managers try to avoid external financing due because the cost of external financing is higher than internal financing and because external financing involves the firm's monitoring by investors. Based on its findings, the present study proposes certain recommendations.

Pakistan is a developing country, and in the last few years, her economy has grown at a fine pace. The corporate sector always corresponds to the growth of a country's economy. In order to explore investment opportunities, firms require external financial assistance. Generally, the formal financing sector (e.g., the banking system) and platforms of money and capital markets are approached. Due to a number of functional, legal, infrastructural, and political issues, the financial sector of Pakistan is unable to efficiently fulfill the ever-growing needs of firms. Consequently,

I able 4. Lor	חטומוב אטעי	בווומוורבי וווומ			מרוות המוולא							
Variables	Div/#	ssets	Div/#	Assets	Div/A	ssets	Div//	Assets	Div/A	Assets	Div/9	ales
Intercept	0.938	73.580	1.120	71.452***	0.937	72.102***	1.126	70.168***	0.932	74.474	1.122	71.037***
CGI	0.367	13.846***	0.204	8.242***	0.367	13.743***	0.198	7.960***	0.371	14.002***	0.205	8.327***
CGI*DAGE	-0.052	-1.96**	-0.041	-1.780*								
CGI*SIZE					-0.035	-1.289	-0.057	-2.431**				
CGI*TANG									-0.012	468	-0.050	$-1.681^{*}$
LEVERAGE			-0.274	-11.659***			-0.276	$-11.742^{***}$			-0.278	-11.80***
MBV			-0.237	-9.585***			-0.243	-9.776***			-0.242	-9.746***
ROE			0.228	9.501***			0.226	9.439***			0.227	9.455***
Adjusted R2	0.1	[39	0	346	0.1	(37	0	348	0.1	136	0.3	47
<b>F-Statistics</b>	100.1	161***	131.4	+28***	98.9(	05***	132.2	268***	98.0	***69	131.8	97***
	Div/.	Sales	Div	Sales	Div/S	Sales	Div/.	Sales	Div/	Sales	Div/9	ales
Intercept	0.569	-5.053***	1.230	8.885***	1.230	8.885***	1.398	9.958***	-0.577	-5.238***	1.337	9.646***
CGI	0.343	12.825***	0.194	7.772***	0.335	12.499***	0.178	7.171***	0.349	13.062***	0.195	7.896***
CG1*DAGE	-0.061	-2.277**	-0.053	-2.263**								
CGI*SIZE					-0.103	-3.857***	-0.129	$-5.531^{***}$				
CGI*TANG									-0.071	-2.647**	-0.116	-4.988***
LEVERAGE			-0.362	$-15.222^{***}$			-0.366	$-15.537^{***}$			-0.371	-15.696***
MBV			-0.196	-7.859***			-0.209	-8.410***			-0.208	-8.337***
ROE			0.148	6.134***			0.143	5.981***			0.144	6.010***
Adjusted R2	0.1	123	:0	333	0.1	130	.0	347	0.1	124	0.3	44
<b>F-Statistics</b>	87.3	****	123.8	326***	92.8:	15***	131.4	462***	88.3	42***	129.7	50***
DIV/ASSETS (%)	is the dividen	d divided by the	book value of t	total assets. DIV/5	SALES (%) is div	vidend divided by	r sales. MBV is	market to book v	alue ratio. LEV	/ERAGE (%) is tot	al debt divided	by total asset.

Table 5. Corpor	ate governai	nce financial	constraints	and dividen	d policy (Pa	inel regress	ion)					
	(1)	(2)	(3)	(†)	(2)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
	DIV/	DIV/	DIV/	DIV/	DIV	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/
VARIABLES	SALES	EARNING	ASSETS	EQUITY	SALES	ASSETS	EARNING	EQUITY	SALES	ASSETS	EARNING	EQUITY
CGI	0.0545***	0.00804***	8.45e-05	0.0187***	0.0525***	0.000125	0.00745***	0.0199***	0.0583***	0.000116	0.00845***	0.0200***
	(0.0134)	(0.00274)	(0.000219)	(0.00632)	(0.0138)	(0.000708)	(0.00243)	(0.00629)	(0.0133)	(0.000708)	(0.00233)	(0.00629)
CGI*DSIZE	-0.0199***	-0.00197*	-0.000203**	-0.00591**								
	(0.00638)	(0.00115)	(8.77e-05)	(0.00290)								
CGI*DAGE					-0.172**	-0.000208	-0.0281*	-0.00241				
					(0.0872)	(0.000303)	(0.0158)	(0.00314)				
CGI*DTANG									-0.0169***	-7.05e-05	-0.00178	-0.00215
									(0.00640)	(0.000275)	(0.00120)	(0.00294)
LEVERAGE	-0.0170***	-0.000817*	-0.000125*	-0.000968	-0.016***	-0.000119	-0.000768*	-0.000913	-0.0171***	-0.000124	-0.000840**	-0.000972
	(0.00213)	(0.000422)	(6.54e-05)	(0.000979)	(0.00215)	(9.41e-05)	(0.000400)	(0.000982)	(0.00213)	(9.38e-05)	(0.000398)	(0.000980)
MBV	-0.134***	-0.0140***	-0.000304*	-0.0581***	-0.127***	-0.000257	-0.0135***	-0.0558***	$-0.131^{***}$	-0.000219	-0.0139***	-0.0562***
	(0.0224)	(0.00370)	(0.000159)	(0.0101)	(0.0224)	(0.000899)	(0.00451)	(0.0100)	(0.0224)	(0.000901)	(0.00451)	(0.0101)
ROE	0.00151**	3.58e-05	-4.19e-05	0.000850***	0.00160**	-4.08e-05*	3.74e-05	0.000884***	0.00162**	-4.08e-05*	4.71e-05	0.000888***
	(0.000643)	(7.29e-05)	(8.42e-05)	(0.000284)	(0.000643)	(2.33e-05)	(0.000137)	(0.000284)	(0.000642)	(2.33e-05)	(0.000137)	(0.000284)
Constant	1.160***	5.858***	1.016***	1.317***	1.123***	1.015***	5.865***	1.275***	1.103***	1.015***	5.853***	1.278***
	(0.223)	(0.0359)	(0.00972)	(0.104)	(0.230)	(0.0122)	(0.0420)	(0.102)	(0.221)	(0.0122)	(0.0403)	(0.103)
Standard errors in p	arentheses.											

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Table 6. Corpor	ate governd	ance financi	ial constrain	ts and divide	nd policy	Drop firm	dummy, stan	dard errors	clustered	by time)		
	(1)	(2)	(3)	(†)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
	DIV	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/
VARIABLES	EQUITY	SALES	EARNING	ASSETS	EQUITY	SALES	EARNING	ASSETS	EQUITY	SALES	EARNING	EARNING
CGI	0.857***	0.0632***	0.00840***	0.00276***	0.903***	0.0685***	0.00887***	0.00300***	0.901***	0.0683***	0.00882***	0.00294***
	(0.0507)	(0.00702)	(0.00128)	(0.000292)	(0.0442)	(0.00714)	(0.00134)	(0.000248)	(0.0434)	(0.00679)	(0.00128)	(0.000235)
CGI*DSIZE	-0.227***	-0.0251***	-0.00233**	-0.00121***								
	(0.0825)	(0.00419)	(0.000962)	(0.000227)								
CGI*DTANG					-0.253***	-0.0223***	-0.00232***	-0.00152***				
					(0.0810)	(0.00328)	(0.000595)	(0.000195)				
CGI*DAGE									-0.117	-0.00988*	-0.00127**	$-0.00118^{***}$
									(0.0858)	(0.00593)	(0.000574)	(0.000179)
LEVERAGE	0.0158	-0.0216***	-0.0010***	-0.000596***	0.0115	-0.0220***	-0.00104***	-0.00624***	0.0182	-0.0214***	-0.00097***	-0.00058***
	(0.0297)	(0.00137)	(0.000151)	(7.86e-05)	(0.0291)	(0.00135)	(0.000155)	(7.11e-05)	(0.0281)	(0.00137)	(0.000149)	(7.28e-05)
MBV	-2.188***	-0.178***	-0.0166***	-0.000695	-2.201***	-0.177***	-0.0167***	-0.000820	$-2.112^{***}$	-0.170***	-0.0159***	-0.000268
	(0.382)	(0.0138)	(0.00294)	(0.000771)	(0.395)	(0.0140)	(0.00297)	(0.000777)	(0.383)	(0.0140)	(0.00288)	(0.000727)
EPS	0.0678***	0.00168***	4.56e-05	-4.45e-05	0.0688***	0.0185***	5.90e-05	-4.01e-05	0.069***	0.0018***	5.89e-05	-4.47e-05
	(0.0140)	(0.000417)	(3.43e-05)	(2.97e-05)	(0.0142)	(0.000442)	(3.82e-05)	(3.07e-05)	(0.0142)	(0.000405)	(3.60e-05)	(2.89e-05)
Constant	0.391	1.378***	5.868***	1.014***	0.272	1.317***	5.865***	1.015***	-1.018	1.201***	5.855***	$1.011^{***}$
	(2.480)	(0.0765)	(0.0238)	(0.0104)	(2.195)	(0.0717)	(0.0227)	(0.00869)	(2.155)	(0.0575)	(0.0221)	(0.00876)
R-squared	0.1492	0.3009	0.0665	0.0395	0.1515	0.299	0.0671	0.0439	0.1446	0.2888	0.0638	0.0395
Standard errors in p	arentheses.											
***p < 0.01, **p < 0.1	05, * <i>p &lt;</i> 0.1											

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(12)	DIV/	EARNING	0.00294***	(0.000235)					-0.00118***	(0.000179)	-0.00058***	(7.28e-05)	-0 000768

Table 7. Corpord	ate governar	ace financial	constraints	and dividen	d policy (Dr	op time dun	nmy, standa	rd errors clu	istered by fi	<b>.</b>		
	(1)	(2)	(3)	(†)	(2)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
VAPTARI FS	DIV/ FOULTTV	DIV/ SALES	DIV/ FARNING	DIV/ ASSETS		DIV/ SALES	DIV/ FARNING	DIV/ ASSETS	DIV/ FOLITTV	DIV/ SALES	DIV/ FARNING	DIV/ Assets
CGI	0.0187**	0.0545***	0.00804***	8.45e-05	0.0200**	0.0583***	0.00845***	0.000116	0.0199**	0.0525***	0.00745***	0.000125
	(0.00815)	(0.0166)	(0.00274)	(0.000534)	(0.00821)	(0.0168)	(0.00280)	(0.00052)	(0.00827)	(0.0169)	(0.00280)	(0.000525)
CGI*DSIZE	-0.00591*	-0.0199***	-0.00197*	-0.000203								
	(0.00356)	(0.00746)	(0.00115)	(0.000165)								Ì
CGI*DTANG					-0.00215	-0.0169**	-0.00178	-7.05e-05				
					(0.00384)	(0.00732)	(0.00115)	(6.56e-05)				
CGI*DAGE									-0.00241	-0.172*	-0.0281*	-0.000208
LEVERAGE	-0.000968	-0.0170***	-0.000817*	-0.000125	-0.000972	-0.0171***						
-0.000840**	-0.000124	-0.000913	-0.016***	-0.000768*	-0.000119							
	(0.00127)	(0.00264)	(0.000422)	(9.42e-05)	(0.00127)	(0.00265)	(0.000426)	(9.40e-05)	(0.00128)	(0.00264)	(0.000428)	(9.00e-05)
MBV	-0.0581***	-0.134***	-0.0140***	-0.000304	-0.0562***	-0.131***	-0.0139***	-0.000219	-0.0558***	-0.127***	-0.0135***	-0.000257
	(0.0102)	(0.0256)	(0.00370)	(0.000275)	(0.0101)	(0.0259)	(0.00371)	(0.00027)	(0.00993)	(0.0255)	(0.00366)	(0.000265)
EPS	0.000850	0.00151*	3.58e-05	-4.19e-05	0.000888*	0.00162*	4.71e-05	-4.08e-05	0.000884	0.00160*	3.74e-05	-4.08e-05
	(0.000522)	(0.000833)	(7.29e-05)	(4.40e-05)	(0.000539)	(0.000882)	(7.30e-05)	(4.28e-05)	(0.000539)	(0.00088)	(7.21e-05)	(4.29e-05)
Constant	1.317***	1.160***	5.858***	1.016***	1.278***	1.103***	5.853***	1.015***	1.275***	1.123***	5.865***	1.015***
	(0.132)	(0.282)	(0.0359)	(0.0118)	(0.130)	(0.277)	(0.0364)	(0.0107)	(0.130)	(0.275)	(0.0381)	(0.0111)
R-squared	0.2017	0.3006	0.0663	0.0237	0.2986	0.0667	0.0209	0.2006	0.2006	0.2893	0.0629	0.0245
Robust standard err	ors in parenthe	ses.										
***n < 0.01 **n < 0.0	5 *n < 0 1											

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Table 8. Corport	ate governa	nce financia	l constraint.	s and divide	nd policy(D	rop time &	tirm Dumm	ies, standard	a errors clu	stered by ti	me)	
	(1)	(2)	(3)	(†)	(2)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
	DIVI	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/
VARIABLES	SALES	EQUITY	EARNING	ASSETS	SALES	EQUITY	EARNING	ASSETS	SALES	EQUITY	EARNING	ASSETS
CGI	0.0632***	0.0319***	0.00832***	0.00276***	0.0685***	0.0331***	0.00880***	0.00300***	0.0634***	0.0330***	0.00876***	0.0330***
	(0.00702)	(0.00391)	(0.00131)	(0.000292)	(0.00714)	(0.00426)	(0.00136)	(0.000248)	(0.00688)	(0.00401)	(0.00131)	(0.00401)
CGI*DSIZE	-0.0251***	-0.00548**	-0.00231**	-0.00121***								
	(0.00419)	(0.00228)	(0.000953)	(0.000227)								
CGI*DTANG					-0.0223***	-0.00394	-0.0021***	-0.00152***				
					(0.00328)	(0.00214)	(0.000594)	(0.000195)				
CGI*DAGE									-0.156**	-0.00246	-0.00126*	-0.00246
									(0.0642)	(0.00273)	(0.000573)	(0.00273)
LEVERAGE	-0.0216***	-0.000956	-0.0010***	-0.00059***	-0.0220***	-0.00100	-0.0010***	-0.00624***	-0.0213***	-0.000897	-0.00097***	-0.000897
	(0.00137)	(0.000679)	(0.000151)	(7.86e-05)	(0.00135)	(0.000679)	(0.000155)	(7.11e-05)	(0.00138)	(0.000644)	(0.000149)	(0.000644)
MBV	-0.178***	-0.0966***	-0.0168***	-0.000695	-0.177***	-0.0962***	-0.0168***	-0.000820	-0.170***	-0.0948***	-0.0160***	-0.0948***
	(0.0138)	(0.0128)	(0.00304)	(0.000771)	(0.0140)	(0.0130)	(0.00304)	(0.000777)	(0.0142)	(0.0130)	(0.00295)	(0.0130)
ROE	0.00168***	0.00160***	4.64e-05	-4.45e-05	0.00185***	0.00164***	5.94e-05	-4.01e-05	0.00185***	0.00164***	6.00e-05	0.00164***
	(0.000417)	(0.000399)	(3.41e-05)	(2.97e-05)	(0.000442)	(0.000411)	(3.79e-05)	(3.07e-05)	(0.000405)	(0.000403)	(3.58e-05)	(0.000403)
Constant	1.378***	$1.191^{***}$	5.869***	1.014***	1.317***	1.170***	5.866***	1.015***	1.279***	1.154***	5.855***	1.154***
	(0.0765)	(0.0582)	(0.0243)	(0.0104)	(0.0717)	(0.0607)	(0.0231)	(0.00869)	(0.0680)	(0.0540)	(0.0225)	(0.0540)
R-squared	0.301	0.204	0.067	07070	0.299	0.203	0.067	0.044	0.290	0.201	0.064	0.201
Robust standard err	ors in parenthe	ses.										
$***_{D} < 0.01$ . $**_{D} < 0.0$	$0.25 \times p < 0.1$											

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Table 9. Corpord	Ite governa	nce financid	al constraint	s and divid	end policy	(Drop time	& firm Dum	mies, stand	ard errors	clustered by	firm)	
	(1)	(2)	(3)	(†)	(2)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/	DIV/
VARIABLES	SALES	EQUITY	EARNING	ASSETS	SALES	EQUITY	EARNING	ASSETS	SALES	EQUITY	EARNING	ASSETS
CGI	0.0574***	0.0289***	0.00789***	0.00269	0.0628***	0.0302***	0.00837***	0.00293	0.0574***	0.0300***	0.00831***	0.00285
	(0.0169)	(0.00829)	(0.00264)	(0.00275)	(0.0172)	(0.00839)	(0.00275)	(0.00294)	(0.0173)	(0.00844)	(0.00276)	(0.00289)
CGI*DSIZE	-0.0248***	-0.00577	-0.00224*	-0.00117								
	(0.00814)	(0.00396)	(0.00119)	(0.00102)								
CGI*DTANG					-0.0216***	-0.00374	-0.00225*	-0.00150				
					(0.00816)	(0.00410)	(0.00129)	(0.00131)				
CGI*DAGE									-0.158*	-0.00309	-0.00124	-0.00115
									(0.0923)	(0.00404)	(0.00122)	(0.00101)
LEVERAGE	-0.0219***	-0.00125	$-0.00101^{**}$	-0.000586	-0.0223***	-0.00130	-0.00104**	-0.000614	-0.0216***	-0.00120	-0.000985**	-0.000574
	(0.00282)	(0.00145)	(0.000477)	(0.000510)	(0.00288)	(0.00145)	(0.000484)	(0.000532)	(0.00287)	(0.00145)	(0.000479)	(0.000501)
MBV	-0.155***	-0.0818***	-0.0153***	-0.000664	-0.154***	-0.0811***	-0.0154***	-0.000802	-0.146***	-0.0797***	-0.0145***	-0.000238
	(0.0295)	(0.0168)	(0.00350)	(0.000770)	(0.0309)	(0.0171)	(0.00352)	(0.000893)	(0.0289)	(0.0165)	(0.00347)	(0.000618)
ROE	0.00555***	0.00339***	0.000354**	1.86e-05	0.00559***	0.00341***	0.000354**	1.55e-05	0.00570***	0.00342***	0.000368**	2.23e-05
	(0.00147)	(0.000872)	(0.000172)	(3.87e-05)	(0.00149)	(0.000877)	(0.000173)	(4.01e-05)	(0.00152)	(0.000879)	(0.000175)	(3.80e-05)
Constant	1.370***	1.198***	5.868***	1.013***	1.308***	1.173***	5.864***	1.014***	1.278***	1.163***	5.854 ***	1.010***
	(0.270)	(0.136)	(0.0351)	(0.0114)	(0.266)	(0.133)	(0.0355)	(0.0119)	(0.284)	(0.133)	(0.0359)	(0.00976)
R-squared	0.318	0.228	0.069	0.039	0.316	0.226	0.070	0.044	0.308	0.225	0.067	0.039
Robust standard erro	ors in parenthe	sses.										
***n < 0.01. **n < 0.0	5 *n < 0.1											
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firms have to face external financing constraints. In order to reduce the effects of financial frictions, firms manipulate their distribution policy, and this move ultimately hinders the valuecreation process. There is a need to revisit our plans of financial sector liberalization because the sector is not adequately serving all its stakeholders. Owing to several procedural and methodological issues, the scope of the study remains confined to a nine-year window (i.e., 2004–2012) and is relevant only to non-financial listed companies that make regular dividend payments.

#### Author details

M. Azeem<sup>1</sup> Nisar Ahmad<sup>2</sup>

E-mail: nisar@hcc.edu.pk ORCID ID: http://orcid.org/0000-0002-8495-4543

Safyan Majid<sup>3</sup>

Jamshaid Ur Rehman<sup>4</sup>

Bilal Nafees<sup>5</sup>

- <sup>1</sup> Department of Management Sciences, University of Central Punjab, Lahore, Pakistan.
- <sup>2</sup> Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.
- <sup>3</sup> Department of Commerce & Finance, Government College University, Lahore, Pakistan.
- <sup>4</sup> Department of Economics, Government College University, Lahore, Pakistan.
- <sup>5</sup> Division of Management and Administrative Sciences, UE Business School, University of Education, Lahore, Pakistan.

#### **Disclosure statement**

No potential conflict of interest was reported by the author(s).

#### **Citation information**

Cite this article as: Corporate governance, financial constraints, and dividend policy: Evidence from Pakistan, M. Azeem, Nisar Ahmad, Safyan Majid, Jamshaid Ur Rehman & Bilal Nafees, *Cogent Economics & Finance* (2023), 11: 2243709.

#### Notes

- 1. The list of these variables annexed in appendix-B.
- At here external funds means debt and equity also, because in a situation of information asymmetry external funds providers adjust the cost of funds according to the level of uncertainty.

#### Correction

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

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## Appendices

## **Appendix-A: Names of Companies**

Sr. No.	Names	Sr. No.	Names
1	Abbot Laboratories.	71	Mehran Sugar Mills Ltd.
2	Adam Sugar Mills Ltd.	72	Mirpurkhas Sugar Mills Ltd.
3	Al- Abbas Sugar Mills Ltd.	73	Mitchell's Fruit Farms Ltd.
4	Al-Ghazi Tractors Ltd.	74	Murree Brewery Ltd.
5	Al-Abid Silk Mills Ltd.	75	N. P. Spinning Mills Ltd.
6	Allawasaya Textile Ltd.	76	Nagina Cotton Mills
7	Al-Noor Sugar Mills Ltd.	77	National Refinery Ltd.
8	Artistic Dynim Mills Ltd.	78	Nestle Pakistan Ltd.
9	Atlas Battery Ltd.	79	Nishat Chunian Ltd.
10	Atlas Honda Ltd.	80	Nishat Mills Ltd.
11	Attock Cement Ltd.	81	Noon Sugar Mills Ltd.
12	Attock Petroleum Ltd.	82	OGDCL Ltd.
13	Attock Refinery Ltd.	83	Packages Pakistan Ltd.
14	Baluchistan Wheels Ltd.	84	Pak Data-Com Ltd.
15	Bata Pakistan Ltd.	85	Pak Suzuki Ltd.
16	Berger Paints Pakistan Ltd.	86	Pakistan Cables Ltd.
17	Bhanero Textile Ltd.	87	Pakistan Gum & Chemicals Ltd.
19	Biafo Pakistan Ltd.	88	Pakistan Inter-Container Ltd.
20	Blessed Textile Ltd.	89	Pakistan National Shipping Ltd.
21	BOC Pakistan Ltd.	90	Pakistan Oilfield Ltd.
22	Cherat Cement Ltd.	91	Pakistan Paper Products Ltd.
23	Cherat Packaging Ltd.	92	Pakistan Petroleum Ltd.
24	Clariant Pakistan Ltd.	93	Pakistan Telecommunication Ltd.
25	Clover Pakistan Ltd.	94	Pakistan Tobacco Company Ltd.
26	Colgate—Palmolive Ltd.	95	Philip Morris Pakistan Ltd.
27	Crescent Steel & Allied Products Ltd.	96	Premium Textile Ltd.
28	D.G Khan Cement Ltd.	97	Prosperity Waving Ltd.
29	DadexEternit Ltd.	98	Punjab Oil Mills Ltd.
30	Dawood Hercules Corporation Ltd.	99	Quality Textile Mills Ltd.
31	DawoodLawrencepur Ltd.	100	Quetta Textile Mills Ltd.
32	Din Textile Mills Ltd.	101	Rafhan Maize Ltd.

(Continued)

Sr. No.	Names	Sr. No.	Names
33	Dyne Pakistan Ltd.	102	Reliance Cotton Mills Ltd.
34	Ellcot Spinning Mills Ltd.	103	Resham Textile Industries Ltd.
35	Engro Chemical Pakistan Ltd.	104	Rupali Polyester Ltd.
36	Exide Pakistan Ltd.	105	Saif Textile Mills Ltd.
37	Faisal Spinning Mills Ltd.	106	Salfi Textile Mills Ltd.
38	Faran Sugar Mills Ltd.	107	Sana Industries Ltd.
39	Fauji Fertilizer Bin Qasim Ltd.	108	Sapphire Fibers Ltd.
40	Fauji Fertilizer Company Ltd.	109	Sapphire Textile Ltd.
41	Fazal Cloth Mills Ltd.	110	Sazgar Engineering Ltd.
42	Feroze1888 Mills Ltd.	111	Sddiqsons Tin Plats Ltd.
42	Ferozsons Laboratories Ltd.	112	Security Paper Ltd.
43	Gadoon Textile Mills Ltd.	113	Serearl Pakistan Ltd.
44	Gatron (Industries) Ltd.	114	Service Industries Ltd.
45	Ghani Glass Ltd.	115	Shadab Textile Mills Ltd.
46	GlaxoSmithKline Pakistan Ltd.	116	Shahmurad Sugar Mills Ltd.
47	Good-luck Industries Ltd.	117	Shams Textile Mills Ltd.
48	Grays of Cambridge (Pakistan) Ltd.	118	Shataj Sugar Mills Ltd.
49	Habib Sugar Mills Ltd.	119	Shataj Textile Mills Ltd.
50	High-noon Laboratories Ltd.	120	Sheezan Pakistan Ltd.
51	Hino-Pak Motors Ltd.	121	Shell Pakistan Ltd.
52	Hira Textile Mills Ltd.	122	Shield Pakistan Ltd.
53	Huffaz Seamless Pipe Industries Ltd.	123	Shifa Int- Hospital Ltd.
54	Ibrahim Fibres Ltd.	124	Siemens Pakistan Ltd.
55	ICI Pakistan Ltd.	125	Sitara Chemical Industries Ltd.
56	Indus Dyeing & Manufacturing Ltd.	126	Snofi-Aventic Pakistan
57	Indus Motor Company Ltd.	127	Sunrays Textile Ltd.
58	Ishaq Textile Mills Ltd.	128	Suraj Cotton Mills Ltd.
59	Island Textile Mills Ltd.	129	Tariq Glass Ltd.
60	Ismail Industries Ltd.	130	Tata Textile Ltd.
61	Etehad Chemicals Ltd.	131	Thal Ltd. (Industries Corporation)

(Continued)

(Continued)			
Sr. No.	Names	Sr. No.	Names
62	JDW Sugar Mills Ltd.	132	The General Tires Ltd.
63	Karam Ceramics Ltd.	133	Treet Corporation Ltd.
64	KSB Pumps Ltd.	134	Tri-Pak Ltd.
65	Leiner- Pak -Gelatin Ltd.	135	Unilever Foods Pakistan Ltd.
66	Lucky Cement Ltd.	136	Unilever Pakistan Ltd.
67	Maqbool Textile Mills Ltd.	137	Wah Noble Chemicals Ltd.
68	Mari Gas Company Ltd.	138	Wyth Pakistan Ltd.
69	Masood Textile Mills Ltd.	139	Zulfiquar Industries Ltd.
70	Mehmood Textile Ltd.		

## Appendix-B: List of Variables

Panel A: Dividend P	Policy
Div/Equity	Dividend divided by Equity
Div/Earnings	Dividend divided by Earnings
Div/Sales	Dividend divided by Sales
Div/Assets	Dividend divided by Total Assets
Panel B: Financial C	Constraints
DAGE	Dummy variable with the value of one if firm age is less than median or zero generally
DSIZE	Dummy variable with the value of one if total assets are less than median or zero generally
DTANG	Dummy variable with the value of one if tangible assets are less than the median or zero generally
Panel C: Corporate	Governance
Board of Directors	
1	Board Size (number of directors) no less than 6 not more than 15
2	CEO duality
3	Executive directors are not more than of 75% as proportion of total directors
4	Attended at least 75% of meetings by all directors
5	Description about directors' educations
6	At least single independent director in board
7	Job description of all board members
8	Board diversity with respect to gender
9	Board diversity with respect to nationality

(Continued)

Panel C: Corporate	Governance
Ownership	
10	Directors' ownership procession as block holdings
11	Either CEO own shares or not
12	Existence of outsiders' block holdings
13	Existence of Family's block holding
14	CEO or Chairman is Block Holder
Transparency & Dis	closures
15	Does the corporation properly disclose how much it paid to its auditor for consulting and other work
16	Does the corporation disclose biographies of board members
17	Remuneration disclosure of executive staff members' and board of directors
18	Internal audit committee disclosure
19	Audit committee comprises exclusively of independent directors
20	A company follows formal policy of auditor rotation
21	All directors remain present in 75% of meetings organized by audit committee
22	Either the auditor is from big six or not
Committees	
23	Compensation committee existence
24	Compensation committee should be free from directors interlocking
25	Nomination committee existence
Panel D: Control Va	riables
LEVERAGE	Total Debt divided by Total assets
ROE	Earnings divided by equity
MBV	Market to Book value ratio