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Dividend Policy and Role of Corporate Governance in Manufacturing Sector of Pakistan

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ABSTRACT

This study examines the relationship between internal mechanisms and external mechanisms of corporate governance and dividend policy for 100 manufacturing firms listed on Karachi Stock Exchange over the period 2003 to 2011. The dividend stability model is used and the results indicate that firms follow a smooth dividend policy but are not considering the long term target dividend payout to fix their dividend policy. The positive relationship between dividend yield and corporate governance structures i.e. board composition, ownership structure, audit quality, shareholder rights etc. indicate that firms implementing corporate governance strategies pay higher dividends. The results suggest that firms earn and grow more they are capable of paying dividends. The results reveal that as economic conditions deteriorate and Pakistani firms reduce their dividend payments. As the inflation increases the nominal value of product also increases and dividend payments tend to be higher. The findings show that when firm specific factors as well as business or economic conditions factors are added along with corporate governance mechanisms in the dividend stability model the impact of corporate governance remains the same. It is concluded that good governance has strong influence on dividend policy of listed manufacturing companies listed at KSE.

Keywords: Dividend Policy, Corporate Governance, Dividend Stability Model

1. INTRODUCTION

Dividend policy has been a source of controversy despite of the many years' empirical and theoretical research. Black (1976) said "the harder we look at the dividend policy, the more it seems like a puzzle, with pieces that just don't fit together." A strong dividend policy requires several considerations such as whether to pay cash dividends or not, how much amount should be distributed as cash dividends and what should be the frequency of these payments. The purpose of dividend payment is to benefit the basic equity provider of a firm, because, no dividend payments would eventually reduce the value of shares, therefore, to maintain their market value firms need to make these payments.

Pakistani market is relatively interesting market to study the pattern of dividends because, it has especially been found that Pakistani firms are likely to pay stable dividends in periods of high growth. But, they do not make dividend payment as much as they should and can. The reason could be that cost of funds is high in our market. So, managers rely on internal finances rather than the external financing e.g. issuance of right shares etc. because this issuance can affect their pattern of shareholding, so for financing needs they reinvest their earnings instead of paying them in firm of dividend. This is the reason that only 35 percent of Pakistani firms pay dividends, not necessarily on regular basis [Cheema, *et al*. (2003)].

The notion of corporate governance assumes a constant tension between principal (shareholder) and agent (management), known as the principal-agent conflict [Berle and Means (1932) and Jensen and Meckling (1976)]. All the major finance issues revolve around these two main concepts and almost all the researchers believe that dividends play a role as a tool because they help avoid asset/capital structures and agency problems that give managers wide discretion to make value-reducing investments and dividends play a role in reducing the free cash flow available to managers (agency and free cash flow problem).

There is a vast literature carrying the relationship between dividend policy or dividend payout and corporate governance. Empirical evidence suggests that the countries with stronger corporate governance mechanisms are better in response where outside investors or small shareholders are concerned. In Pakistan, it is observed that dividend payments are highly correlated with the governance issues [Maher (2005)]. However, the extent to which the corporate governance laws effect dividend stability policy of a firm is unresolved. This motivates to study the dividend stability model with corporate governance mechanism in Pakistan. In addition the role of firm specific, business condition

specific variables in dividend stability is needed to be explored. The industrial differences are important as because the practice of corporate governance is different among different industries so does their dividend policy is also different.

The present study contributes to existing literature by examining the impact of corporate governance on dividend stability of Pakistani manufacturing firms listed in Karachi Stock Exchange (KSE). The study aims to find whether the corporate governance rules and regulations both internal and external have influence on dividend stability when they are considered with firms' characteristics and business conditions of the economy. Finally to check robustness all firm specific, economy wide variables are included in addition to corporate governance variables in the Lintner (1956) stability model.

In Pakistan with traditionally weaker policy of dividend payments, the primary methods to solve agency problems are the legal protection of minority shareholders, the use of board as supervisor of senior management, and an active market for corporate control. In dissimilarity to developed markets, Pakistani corporate governance is described by lesser reliance on capital market and outside investors and a stronger reliance on large inside investors (reliance on equity) and financial institutions to achieve the level of desired capital investment and hence in turn achieving the efficiency this is why firms hesitate to make dividend payments because management tries to make a major or full share of retained earnings in the business. In this case the small or outside shareholders are always at risk of facing expropriation by the management in the form of wealth transfer to major shareholders.

The main focus of this study is to examine the relationship between corporate governance and dividend policy. More specifically the study tries to examine the impact of corporate governance along with firm specific variables on dividend policy. The study also attempts to identify the relationship between corporate governance and dividend policy by including economic variables. Finally to check robustness all firm specific, economic variables are included in addition to corporate governance variables in the sample of KSE firms.

The study is organised as follow. Section 2 provides a review of theoretical and empirical literature on the dividends policy in and corporate governance in developed and developing markets. Section 3 explains methodological framework, variable description, and data collection sources. The empirical results are discussed in Section 4 and last section concludes the study.

2. LITERATURE REVIEW

Given that the influential work of Modigliani and Miller (MM) (1965), assuming that dividends are irrelevant under perfect market conditions, researchers investigated dividends decision made by firms when imperfection

comes in real world. Among these all, many of the studies focus on the influential factors of dividend policy and its determinants. In Pakistan however, only a few studies have been done to find out the influential corporate governance factors of dividend policy.

2.1. Theoretical Review on Corporate Governance and Dividend Payout Policy

Before MM theory, many researchers believed that with no market imperfections, more the firm pays dividend, more its value increases. According to MM model (1958) under the perfect market assumption the capital structure is irrelevant for the financing decision of the firm, therefore, internal and external financing are perfect substitutes and dividend are irrelevant on the value of the firm.

Signalling theory, presented by Leland and Pyle (1977) says that the managers have greater access to the insider information of companies and they may share this information to the shareholders through an appropriate dividend policy e.g. constant or increasing dividend convey a positive signal about the firm or it may be the other way round. This theory is based on information asymmetry i.e. managers may indulge in insider trading and many not exhibit the true picture of company by the means of earning management. This theory suggests that if firm is running smoothly, this indicates that firm has sufficient resources. So, management can make dividend payments to signal that the firm is performing well and has the capacity to distribute its wealth. Similarly dividend non-payments can float a bad signal about the corporation's long run earnings and also about the quality of managers in the market [Lintner (1956)] because managers themselves believe that a consistent dividend payment by any firm reflects as a premium to the firm by market and dividend cuts are interpreted as negative signals [Brave, *et al.* (2005)]. Any uninformed increase or decrease in dividends can cause an abnormal shock in stock price.

Free cash flow theory states that as the managers have access to firm's assets, after making all the payments and necessary investments if firm still has left some extra cash they can invest this extra cash in other projects. This extra investment also sends a positive signal regarding the firm's performance. But, sometimes mangers also may invest in negative NPV projects which send bad signals in the market. *Free cash flow hypothesis* expects a positive abnormal returns if the firm starts paying dividend instead of over investing. Rent extracting hypothesis postulates that majority shareholders exploit the payments of minority shareholders. They suggest that firm with lower investment opportunities should increase their dividends to reduce the free cash flow.

Much of the research in corporate governance and dividend policy is derived through Agency theory, initially presented by Jensen and Meckling (1976). The agency problem arises when goal of principal and agent are not

same i.e. when the control and ownership are separate and the information is not symmetric between both parties. This separation of control and information asymmetry causes agency problem which is mainly because the agents have inner or private information which they deliberately keep away from principals who are assumed to be risk averse [Wienclaw (2009)]. The theory suggests that a principal hand over tasks to the agent and it is expected that agent will perform the task which would be value maximising for the firm rather than one single party. When the agent tries to maximise his/her own interests then the agency problem comes up. Agency problem between principal and agent can also arise when the management decides to take-up new projects. In this case the conflict can be of this type: debt holders or managers try to take up only safe projects that can make sure that least payment is equal to the value of debt. Whereas, shareholders prefer risky projects because risky projects have returns higher than safe projects. Both parties try to shift the risk to the other parties. Therefore, Agency cost theory (1970) motivates the need of strong corporate governance which deals with the main conflict (agency costs due to information asymmetry) between shareholders and the management and between shareholders and creditors. Corporate governance mechanisms help reducing such agency problems. The firms that implement better corporate governance practices are found to be relatively more profitable, more valuable and are able to pay more dividends to their shareholders [Brown and Caylor (2004)].

The fiduciary theory/model of corporate governance states that the principal party gives the trusted person or trusted party the control of principal party's property or assets. The trusted person or fiduciary has least interest in the property or assets and uses his/her control to maximise the wealth of the principal party. The principal party is the "shareholders" who are the true owner of the company and fiduciary is the management of the firm. But, it is observed that fiduciary are not solely interested in the benefit of shareholders but usually in their own [Grossman and Hart (1980); Easterbook (1984); Jenesen (1986)]. They all conclude that dividends play a role as a right to shareholders by not allowing all the 'free cash flow' to the managers. In other words, they suggest that is this way dividends play a role as 'regulation' for the right of shareholders Because, In the presence of regulations, managers are less likely to cut the benefits of their own choice from the firm.

2.2. Empirical Literature on Corporate Governance and Its Impact on Dividend Policy

The first and foremost model developed for dividend policy is presented by John Lintner in 1955. Lintner (1956), in order to present some more generally important results of the study of dividend policy, he has done field investigation and found that management tries to reflect the increase of earnings in their payouts and the most important determinants of dividend are previous payout ratio and net earnings.

Mayers and Lambrecht (2010) present a combined theory of dividend, debt, and investment and find that to stop the intervention of outside share holders, mangers payout in form of dividends just enough that it will keep the shareholders away from any thought of intervention. They show that dividend payout increases with the increase in investor's protection. Allen and Micaely (2003), Leary and Micaely (2008) find that dividend policy is better explained by agency theory than by the signalling theory because agency theory includes managers' perspective also in setting the target payout and future dividends also whereas signalling theory only signals about the future payments. Titman & Wessels (1988) propose that a firm with more collateral have a lower proportion of agency problems between shareholders and bondholders. The higher the collateral, lower the restrictions on firms' dividend policy, so, a higher dividend payment. Farinha (2002) finds that liquidity needs of insider owners are the reason of positive relationship between dividend payout and insider ownership.

Al-Malkawi (2007), reports that the relationship of company's age is significantly positive with dividend payouts and this relationship is non-linear. Jiraporn and Ning (2006) find their results in line with the substitution hypothesis of La Porta, *et al*. (2000) that the firms which have more regulated and restrictive governance are more likely to pay dividends than those firms where governance is not very much regulated or restricted. Collins, Sexana and Wansley (1996) present the view that that the firm's payout ratio is negatively related to its past and expected future growth of earnings, its level of systematic risk, and its insider holdings whereas payout levels are positively related to the number of shareholders. Kahwar (2003) finds that there is positive impact of growth opportunities available to the firm on dividends.

Mitton (2004) shows that the firms with higher corporate governance ratings have higher dividend payout. Regarding the investors' response to dividend level and the dividend policy of firms, Fuller and Goldstein (2003) argue that dividend paying stocks are always preferred over non-dividend paying stocks by investors and that the dividend paying stocks exhibit higher returns, especially in down markets. A negative relation between growth and payout is observed in the countries where shareholders are well protected [La Porta, *et al.* (2000)]. Mitton (2001) finds that firms with stronger corporate governance show a strong negative relation between growth and dividend payouts. Firms where corporate governance is strong, investors are more protected and such firms are more profitable than the firms with low corporate governance. Rogers (2008) suggests the evidence that the companies who adopt better applications of corporate governance have better performance and collect more benefits in the economic growth cycle than those who don't adopt them.

Mansourinia, *et al.* (2013) finds that there is no significant relation between dividend policy and CEO duality in listed companies of Tehran Stock Exchange. Agency problem argues that the major role of board is to reduce the

possible deviation of interest between the principal and agent, to minimise agency cost and protect stockholder investment [Eisenhardt (1989)]. It is cited by Al-Shabibi and Ramesh (2011) that corporate governance factors do affect the dividend policy but board independence is one of the important factors which drive firms to pay dividends. They further argue that some of the firm characteristics have also influenced the dividend policy decision among the non-financial UK firms. Similarly, Good governance by the board of directors is also found to be highly important for the quality of financial reporting, which in turn affects the investor confidence [Levitt (1998)]. Good corporate governance is empirically found to be highly beneficial against the earning management techniques, frauds, or error [Beasley (1996); McMullen (1996)]. According to Core, *et al.* (1999), the foremost responsibility of administration and performance lies with its directors and CEO. Al-Kuwari (2009), argues that the firms in which the government owns a proportion of the shares, pay higher dividends compared to the firms owned completely by the private sector. Mahmoudi, *et al.* (2011) finds that transparency has significant relation with the size of the firm but an insignificant one with the leverage. Kang and Horwitz find that this relationship no matter positive or negative, weak or strong depends upon the levels of ownership and it varies in different financial settings. Finally, as large number of dual class firms is family owned, they follow lower payout policy due to inter-generational transfer of wealth and resources of the company.

2.3. Review of Dividend Policy, Corporate Governance, and Economic Condition

Like firm specific factors and corporate governance mechanisms, economic conditions also have their influence on dividend decision making of firms. Pakistani economy is suffering from poor conditions since last decade due to factors like energy crisis, unstable economic conditions, and other socio political factors. This all resulted in a sluggish GDP growth and the difference between the actual and expected GDP is growing every year. If better governance and reforms are adopted, then Pakistan can generate a greater bounce in its economy than other emerging markets in South Asia [Burki (2012)].

Hasan and Rehman (2012), in their quest of finding any relationship between sectoral economic growth, corporate governance, and dividend policy find that all these factors have significant impact on economic growth. Regarding corporate governance practices, they find that board independence has significant impact on company's growth and dividend policy has a positive impact on the growth of companies as well as economy. Arun (2005), finds that good corporate governance in financial institutions turns out to be good for economic conditions too. Dargota (2006) presents the role of dividends as a monitoring mechanism and states that in this way

dividends work in development of capital markets. So, dividend policy serves as a device for capital market development thus contribution to overall economic growth.

2.4. Review of Dividend Policy and Corporate Governance Practices in Pakistan

It is a matter of interest that in a country like Pakistan where investor protection is somehow not that strong and companies only pay dividends voluntarily, how can a company attract external shareholders? Or more specifically are there some firm specific and economy wide factors that may affect the dividend decisions in Pakistan?

Pakistani firms are operated under the rules of British origin, so, it may be expected that Pakistani firms respond as the British firms but results may differ because of the nature and practices of Pakistani corporations. Therefore, while adopting the strategies of developed economies in the transition economies much more attention and care is needed because if corporate governance practices do not work according to the requirement and expectations. The poor corporate governance practices and monitoring can lead the management to look for its own interests rather than the whole corporation's [Fama and Jensen (1983)].

Javid and Ahmed (2011), find that in order to make dividend decision firms keep into account the past dividends, profits and depreciation. They show that the Lintner model fits the data well in case of manufacturing sector of Pakistan. However, Sajid, *et al.* (2012) have found that in Pakistan 72 percent of the banks pay dividends and growth, profitability and size have a positive correlation with dividend payout and dividend yield. Irfan (2010) finds that any change in firm's dividend policy significantly impacts the share price, i.e. share price is highly volatile if dividend measure (dividend yield and dividend payout ratio) changes. This relationship remains the same even after controlling the firm's asset growth or leverage etc.

Mehar (2005) finds that Pakistani firms are reluctant to pay dividend but the minority shareholders are still inclined to buys shares. This is because of tax benefit. Ahmed and Javid (2009), support the hypothesis that Pakistani listed non-financial firms rely on both the change in dividends and change in net earnings which clearly demonstrate that the firms rely on both current earnings per share and past dividend per share to set their dividend payments. They argue that their study clearly shows that dividend tends to be more sensitive to current earnings than prior dividends. In addition, they prove that the ownership concentration and market liquidity have the positive impact on dividend payout policy and market capitalisation and size of the firms have the negative impact on dividend payout policy which clearly shows that the firms prefer to invest in their assets rather than pay dividends to its shareholders.

According to Shah, Wasim, and Hasnain (2011), large investors play an effective role in monitoring the management than small or individual investors because large or institutional investors have incentive and capabilities to collect information related to their investment. Afzal, *et al*. (2009) finds that the companies having large boards not only decide to pay regular dividend but also pay a high amount of dividend. Board independence has not shown any significant impact on payout ratio. Empirically it has been found that dividend payments are no less important than payment of cost of debt. However, in Pakistan dividend payout ratio is less than the other emerging economies because firms decide to pay dividends after payment of taxes and in Pakistan dividend payments are dependent on external financing, which is not the case in other economies. Therefore, it can be said that in Pakistan dividend payment decisions are taken when they are in favour of managers rather than the shareholders [Meher (2005)]. Awan (2012) finds that companies having independent directors in their board will show greater performance and in order to get greater performance, companies need to have independent directors in their board.

Iqbal and Javid (2004) document a positive relationship between corporate governance practices and performance of a corporation because low production and bad management observations cannot be sheltered with transparent disclosures and transparency standards. Another phenomenon attached with corporate governance practices in Pakistan like economies is CEO duality. According to Fama and Jensen (1983) the controlling management should be separated from the decision management. In case of Pakistan Nazir, *et al.* (2012) conduct a case study for Pakistan in which they attempt to check the CEO duality on capital structure and find that CEO duality is insignificant for capital structure in case of Pakistan i.e. CEO duality has nothing to do with debt or equity financing. Iqbal (2013) finds that in Pakistan the firms where CEO holds dual position the chance of dividend payments increases.

In light of above mentioned literature, it is clear that the Lintner's model of dividend is the best model for dividend modelling, stability, and influential factors [Benartzi, Michaely, and Thaler (1997)].

3. METHODOLOGY AND DATA

3.1. Model Specification

3.1.1. *Lintner Partial Adjustment Model*

Lintner (1956) suggests that corporate dividend behaviour is actually a partial adjustment model. In any given year *t*, firm *i* will adjust only partially in response to the earnings to the target dividend level. Consequently, the following model is obtained:

$$D_{it} - D_{it-1} = a_i + c_i(D_{it}^* - D_{it-1}) + e_{it}$$

Where a_i is a constant; b_i is the speed of adjustment coefficient which lies between 0 and 1; $D_{i,t} - D_{i,t-1}$ is the difference between current and previous dividends, $(D_{i,t}^* - D_{i,t-1})$ is the difference between target payout and previous dividend payments or it can be said as desired difference in the dividend payments. if $a_i = 0$ and $c_i = 1$, the actual changes in dividend payment match with the desired changes. On the other hand if $c_i = 0$ it means that no changes in dividends for desired level are assumed. The hypothesis that firms steadily adjust dividends in response to variation in earnings means that a positive constant coefficient a_i represents the management unwillingness to decrease dividends. After some adjustments the following empirically testable equation is obtained:

$$D_{it} = a_i + b_i E_{it} + d_i D_{it-1} + e_{it} \qquad \dots \qquad \dots \qquad \dots \qquad \dots \qquad (1)$$

Where $r_i = b_i/c_i$ is target payout ratio, $d_i = 1 - c_i$, c_i being speed of adjustment coefficient dividend yield is used as dependent variable.

3.1.2. *Extended Lintner Model with Corporate Governance*

This model is further extended in the form of following regression equations

$$D_{it} = a_i + b_i E_{it} + d_i D_{it-1} + \sum_{it} g i C G_{it} + e_{it} \qquad \dots \qquad \dots \qquad (2)$$

Where $\sum_{it} C G_{it}$ is the vector of corporate governance both internal and external mechanisms.

3.1.3. *Lintner Model with Firm Specific and Corporate Governance Determinants*

$$D_{it} = a_i + b_i E_{it} + d_i D_{it-1} + \sum_{it} g i C G_{it} + \sum_{it} f i F S_{it} + e_{it} \qquad \dots \qquad (3)$$

Where $\sum_{it} F S_{it}$ is the vector of firm specific factors and

3.1.4. Lintner Model with Economic Conditions and Corporate Governance

$$D_{it} = a_i + b_i E_{it} + d_i D_{it-1} + \sum_{it} g i C G_{it} + \sum_{it} h i B C_{it} + e_{it} \qquad \dots \qquad (4)$$

$\sum_t B S_t$ are vector of business condition that are used in this study and can affect dividend payout policy of Pakistani listed firms at KSE. Further,

$$D_{it} = a_i + b_i E_{it} + d_i D_{it-1} + \sum_{it} g i C G_{it} + \sum_{it} f i F S_{it} + \sum_t h i B C_t + e_{it} \quad (5)$$

Lintner model provides three important conditions: (1) dividend stability, (2) Set a suitable target payout ratio, (3) If possible, firms should avoid dividend cuts.

3.2. Estimation Technique

In this study as the analysis is based on dynamic panel, so, the instrument based technique is best option and generalised method of moment is used in this analysis. The lag explanatory and dependent variables are used as instruments. In order to test whether the firm specific, internal and external governance affects, and economic conditions exist the hypothesis that the constant terms are all equal by estimating the GMM common effect models, GMM fixed effect models and the GMM random effects models. Hausman test is performed to choose the most appropriate model, as suggested by Hausman (1978). This test statistic is asymptotically distributed as chi-square under:

H_0: correlation between stochastic error term and explanatory variables is zero.

If so, then REM is preferred over FEM.

We use the GMM as suggested by Arellano and Bond (1991) and latter modified by Blundell and Bond (1998). GMM is used because of its two properties. First, it allows for past level of variables to affect their current level. Second, the lagged dependent variable is most likely to be correlated with the firm specific, governance, as well as economic condition variables which may be inconsistent while using the OLS estimation techniques. The consistency of GMM technique depends upon the strength of added instruments. So, Sargan test is used to check the validity of instruments by analysing the sample analog of moment conditions [Sargan (1958); Hansen (1982)]. The first difference remove the firm specific effects and instruments set includes the levels and lags of dependent and exogenous variables. In difference-GMM estimates lag variables are weak instruments [Blundell and Bond (1998)], therefore efficiency can be increased by adding the original equation in the level to the system, if the first difference of the explanatory variables are uncorrelated with original effects. Lagged dependent and exogenous variables can be used as instrument variables.

3.3. Sample and Data

The data used in this study is obtained from three major sources i.e. Karachi Stock Exchange (KSE), Securities and Exchange Commission of Pakistan (SECP), and State Bank of Pakistan (SBP) covering the period of 2003 to 2011.

KSE is one of the biggest and most liquid stock exchanges in Pakistan. It has been declared as one of the best performing stock exchanges in Pakistan (Business week, 2002). SECP was established in enactment of the Securities and Exchanges Commission of Pakistan Act, 1997. Annual reports of companies are obtained from SECP. Data on companies is taken from the balance sheet analysis (BSA) published by State Bank of Pakistan. The data is obtained for 100 listed firms at Karachi Stock Exchange for 9 years (2003-2011), which is sufficiently enough to smooth out the variable fluctuations [Rozeff (1982)].

4. EMPIRICAL RESULTS

The empirical validity of different models is examined in this study by using data of 100 non financial firms listed in Karachi stock exchange for the period of 2003 to 2011. The analysis begins by the summary statistics of the data.

4.1. Summary Statistics of Data

The descriptive statistics of all the variables has been performed from the period of 2003 to 2011 on the sample of 100 non financial manufacturing firms of Pakistan listed at KSE. Appendix Table A1 provides summary statistics of dividend yield, profitability, liquidity, investment opportunities, earning, leverage, share price ownership concentration, board independence, board size and of GDP gap and inflation for the period 2003 to 2011. In order to test the problem of multicollinearity, the correlation coefficients between the explanatory variables have been examined. The results of the correlation coefficients are presented in Appendix Table A2. It is found that most of the coefficients measuring correlation between the explanatory variables are found to be less, therefore, the problem of multicollinearity doesn't exist.

4.2. Results of Regression Analysis

The empirical analysis of this study is divided into four parts. The analysis begins by testing the Lintner model to assess the dividend stability behaviour of non-financial firms listed in KSE. In the second part Lintner model is extended by firm specific factors that influence the dividend policy of firms in a dynamic dividend model, third part shows impact of economic conditions on dividend policy in a dynamic dividend model. Since the main focus is to examine the impact of internal and external corporate governance mechanisms in a dynamic dividend model, therefore all models are tested by including the governance variables. For robustness test in fourth part all variables are combined in one model. Finally the industrial differences are also estimated in Lintner model with firm specific economy specific and governance specific variables. All models are estimated with common effect model. Fixed effect model and random effect model. The common effect model is compared with fixed effect model by F test and result (p value less than 0.05) supports that fixed effect model is preferable in all the models. Then latter random effect model is estimated and Hausman test p value is greater than 0.05 supporting that Random effect model is preferable.[1] As the models are dynamic panel, therefore to deal with endogeniety, generalised methods of moment technique of estimation is adopted. The lag explanatory variables are used as instrument and the Sargan J test is applied to test the validity of the instruments.

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[1]For comparison the results of all three models common, fixed and random model are presented.

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4.2.1. *Results of the Stability of Dividends*

For the examination of dividend stability Lintner (1956) model is estimated. The result of random effect model suggests that both lag dividend and earning has positive effect on dividends. The target payout ratio and speed of adjustment is 16.4 percent and 61 percent in random effect model. Comparing the results it is clear that the coefficients of lagged dividends and net earnings have signs as expected i.e. positive and are significant. The speed of adjustment lies within the range of 59 percent to 68 percent. The slight difference in the results is due to different estimation technique has yielded slightly different results Probability value for Hausman test is greater than 0.05 also suggests that error terms are uncorrelated with explanatory variables. On the other hand, Sargan test p-value supports the instruments are valid and the use of GMM techniques for dynamic dividend model. Other different result is the implicit target payout ratio because in the partial adjustment model, the target payout ratio varies from 14.7 or 15 percent to 20 percent and significantly lower than the observed target payout ratio from data which is 34 percent [Cheema, *et al*. (2003)]. This sensitive difference between the payout ratios (observed and implicit) tells us that Pakistani listed firms at KSE are not considering the long term target dividend payout to fix their dividend policy. These results are also in line with Cheema, *et al*. (2003) and Ahmad and Javid (2010).

Table 1

Results of Lintner Dividend Stability Model

Regressors	CEM	FEM	REM
Dy_{t-1}	0.41***	0.32***	0.39***
	(4.63)	(3.39)	(6.94)
Eat_t	0.12**	0.11***	0.10***
	(2.2)	(2.52)	(3.09)
Constant	0.001	0.011	0.003
	(0.43)	(1.02)	(0.25)
Adjusted R-squared	0.37	0.37	0.38
F Test (P-value)		0.00	
[1]Hausman Test (P-value)			0.09
[2]Sargen Test (P-value)	0.09	0.11	0.10
DW Statistic	1.98	2.02	1.99
The Speed of Adjustment	59%	68%	61%
The Target Payout Ratio	20.3%	14.7%	16.4%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms. [2]it is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

4.2.2. *Results of Stability Model with Corporate Governance Mechanisms*

This model includes internal governance variables in the Lintner model and Hausman test supports Random effect model best fits the data. The result of random effect model suggests that both lag dividend and earning has positive effect on dividends. CEO duality also has positive relation with the dependent variable dividend yield because Pakistani firms are about 59 percent family owned [Cheema, *et al.* (2003)], therefore CEO are also the part of family and their dual role strengthen management and work in favour of majority shareholders. Other supporting findings are from the studies of Davis, *et al.* (1997), Anjum, *et al.* (2011), however, the findings of Gill and Obradovich (2011) and Fama and Jensen (1983) do not support our findings.

Table 2

Evidence on Internal Governance Mechanisms on Dividends Policy

Regressors	CEM	FEM	REM
Dy(-1)	0.46***	0.43	0.50***
	(7.03)	(0.07)	(2.58)
Earnings	0.23***	0.20***	0.25*
	(3.16)	(3.74)	(1.81)
CEO Duality	0.025*	0.018***	0.028***
	(1.82)	(2.20)	(4.44)
Board Independence	0.012***	0.01***	0.024***
	(2.71)	(2.16)	(4.77)
Board size	–0.054***	–0.017**	–0.016***
	(–3.10)	(–2.50)	(–5.19)
Ownship	0.028*	0.028***	0.023***
	(1.89)	(2.46)	(2.35)
Transparency	–0.019***	0.045***	–0.044***
	(2.77)	(2.47)	(4.84)
Adjusted R-squared	0.39	0.38	0.39
F Test (P-value)		0.00	
[1]Hausman Test (P-value)			0.12
[2]Sargen Test (P-value)	0.05	0.06	0.13
DW Statistic	1.96	1.87	1.92
The Speed of Adjustment	53%	57%	50%
The Target Payout Ratio	43%	35%	50%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] it is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

Board independence shows a positive but insignificant relation with dividend yield in all the three above mentioned estimation techniques. This result suggests that since Pakistani firms are family owned and there are very few independent nominees present in the board, so, they do not affect the board decisions. These results are confirmed by the findings of [Mansorina, *et al.* (2013); Chen, *et al.* (2011); Gill and Obradovich (2005); Hermalin (2005); Rashid, Zoya, Lodh, and Rudkin (2010); Shah, *et al.* (2011)]. Board size has a negative and significant relation with dividend yield indicating that as the board size increases than more than then the sufficient number of board of directors in board, it creates a negative impact on consensus of the management on dividend distribution decisions of firms. Negative result also suggests   that as the board size increases, the dividend payments decrease because larger boards may create free rider problem. These findings are in line with those of [Setayesh and Embrahimi (2010)] but are contradictory with the findings of [Manosorina, *et al.* (2013); Chen, *et al.* (2011) and Bopkin (2011)].

Ownership measured by number of block holders) shows a positive and significant relation with dividend yield in all three models. These results of ownership justify the hypothesis that dividend payment is used as a device to reduce agency costs in the Karachi Stock Exchange. These results are is in line with Travlos, *et al.* (2001) showing that in Cyprus that firms attempt to overpass the information asymmetry gap with investors and to reduce potential exploitation of smaller shareholders through their carefully devised dividend policy. Positive relationship of ownership means that as the number of block holders' increases, the need to pay dividend increases. These results are supported by the findings of Rozeff (1989), Kumar (2009), Khan (2006) and Al-Malkawi (2007) but are in contradiction with Sheliefer and Vishney (1986), Li and Hang (2007, Kouki and Gouzani (2009), Kumar (2003), Shah, *et al.* (2011) and Javid and Iqbal (2010). Positive relation between dividends and ownership suggests that ownership can be a tool to reduce the free cash flow problem.

Transparency shows a negative and significant relation with dividend yield indicating that in Pakistan listed manufacturing companies cut their dividend payments if they increase the measures of transparency and disclosure. This is because firms feel that they are transparent enough and do not need a signal for outside investors. These results are confirmed by the findings of Bossen, *et al.* (2009) and are opposite to the findings of Collet and Harasky (2005) and Goncharov, *et al.* (2006). Negative results claim that management of More transparent firms presume that after the fair transparency and disclosure, they do not need any further signals to float in market.

In this model the speed of 53 percent, 57 percent, and 59 percent respectively with the target payout ratios of 43 percent, 35 percent, and 50 percent, from CEM, FEM, and REM respectively. Speed of adjustment doesn't deviates on a larger scale in this model indicating that there is very little model

misspecification present. The deviation in speed of target payout ratio coefficients (from 35 percent to 50 percent) rejects the hypothesis of stability of dividend payments in case of Pakistani listed non-financial companies.

Table 3

Evidence on Internal Governance Mechanisms on Dividends Policy

Regressors	CEM	FEM	REM
Dyt-1	0.55***	0.52***	0.59***
	(7.15)	(2.10)	(4.53)
Earning	0.21***	0.32	0.25***
	(2.58)	(1.20)	(2.28)
Shareholder Rights	–0.005**	–0.70	–0.039***
	(–1.85)	(–1.32)	(–2.83)
Audit Quality	0.018*	0.61*	0.018***
	(1.84)	(1.87)	(2.11)
Adjusted R-squared	0.36	0.36	0.0.36
F Test (P-value)		0.00	
[1]Hausman Test (P-value)			0.23
[2]Sargen Test (P-value)	0.05	0.07	0.25
DW Statistic	1.98	1.87	1.90
The Speed of Adjustment	45%	48%	41%
The Target Payout Ratio	46%	62%	61%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively, [1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

The result of random effect model suggests that both lag dividend and earning has positive effect on dividends. In this model, with external governance variables, Lintner's hypothesis of positive impact of lagged dividends on current dividends is accepted. These results are supported by the findings of Gordon (1963), Baker and Wrugler (2004) and Baker, *et al.* (2007) but are different from the findings of Reddy (2006). In this model, net earnings show a positive and significant impact on dependent variable dividend yield. These results of GMM are in line with the findings of Kostyuk (2006), Lintner (1956), and Ettredge (1992), Priestley and Garrett (2000), Adaoglu (2000), Bhattacharya (2003), Wilson, *et al.* (2006), Amidu and Abor (2006) and Belans, *et al.* (2007) and are contradicted with the findings of Bhat and Pandey (2007), Kapoor and Anil (2008) and Jeong (2008).

Audit quality shows a positive and significant relation with the dividend yield indicating that audit quality is positively influential tool for dividend yield of manufacturing firms in Pakistan. Moreover this positive relation means that better audit quality ensures the need of better and transparent audit reporting which restricts management not to "waste" free cash by investing in negative or low NPV projects, and no expropriating shareholders, and making sure the payments of dividends to its shareholders. This positive and significant relation leads to accept out hull hypothesis regarding audit quality. These results are in line with Abbott, *et al.* (2000), Adeyemi, Fagbem (2010) and Carcello and Neal (2000).

Table 4

Internal and External Governance Mechanisms and Dividends Policy

Regressors	CEM	FEM	REM
Dy(-1)	0.44***	0.43	0.47***
	(3.41)	(1.86)	(2.87)
Earnings	0.22***	0.21***	0.22*
	(3.09)	(3.22)	(1.89)
CEO Duality	0.02**	0.02***	0.02***
	(1.90)	(2.47)	(3.44)
Board Independence	0.02***	0.01***	0.02***
	(2.56)	(2.44)	(3.22)
Board size	–0.05***	–0.01**	–0.01***
	(–2.32)	(–2.64)	(–4.44)
Ownship	0.03*	0.03***	0.02***
	(1.89)	(2.56)	(2.37)
Transparency	–0.02***	0.05***	–0.04***
	(2.61)	(2.47)	(4.84)
Shareholder Rights	–0.05**	–0.70*	–0.04***
	(–1.85)	(–1.82)	(–2.66)
Audit Quality	0.02*	0.55*	0.02***
	(1.84)	(1.87)	(2.73)
Adjusted R-squared	0.40	0.39	0.40
F Test (P-value)		0.00	
[1]Hausman Test (P-value)			0.14
[2]Sargen test (P-value)	0.05	0.06	0.13
DW Statistic	1.96	1.87	1.92
The Speed of Adjustment	53%	57%	50%
The Target Payout Ratio	43%	35%	50%
Firms	100	100	100
observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

The shareholder rights show a negative and significant relation with dividend yield. Negative relation allows accepting the null hypothesis and translates in the substitution of shareholder rights with dividend yield in case of Pakistani manufacturing listed firms. This means that if higher rights are given to shareholders, it will decrease the dividend yield of firms. These results are supported by Lpoez, Sheilfer, La Porta, and Vishney (2000) and Jiraporn (2006) and are opposite to the findings of Gompers, Ishii, and Metric (2003).

The target payout ratio and speed of adjustment in this model are 61 percent and 41 percent in REM, 62 percent and 48 percent in FEM, and 46 percent and 45 percent in CEM. Speed of adjustment in this model takes the values of (45 percent, 48 percent, and 41 percent) with target payout ratio as (46 percent, 62 percent, and 61 percent) in CEM, FEM, and REM respectively again indicating that there may be no or negligible model misspecification present but rejecting the Lintenr's hypothesis of stable dividend payments in Pakistani manufacturing sector due to deviation in target payout ratio.

For robustness check when the internal and external governance mechanisms are combined, the results remain the same. This means that corporate governance is affecting the divided policy when included with Lintner model.

4.2.3. *Results of Dividend Stability Model with Firm Specific and Corporate Governance*

The second part of regression analysis relates to those firm specific factors that influence the dividend policy of Pakistani non-manufacturing firms listed in KSE. For examination of firm specific factors the study uses following explanatory variables: Lagged dividend yield and net earnings as stability measures used by Lintner (1956) and Fama and Babiak (1968). Other factors are market capitalisation (MC) as measure of firm's size, Tobin's Q as measure of firm's investment opportunities, current ratio (CUR) as measure of firm's liquidity position, return on asset (ROA) as measure of firm's profitability, debt-equity ratio (DE) as measure of firm's leverage position and sales growth (growth) as measure of firm's growth.

This model incorporates firm specific determinants suggested by empirical literature in the Lintner model. The result of random effect model suggests that both lag dividend and earning has positive effect on dividends. The evidence of current dividend yield dependence on its previous lag is supported by the findings of Belans, *et al.* (2007), Gordon (1963), Baker and Wrugler (2004) and Baker, *et al.* (2007) but is contradicted from the findings of Reddy (2006). Net earnings show the positive relationship with the dividend yield explains that the firms with stable earning or positive earnings are capable to pay more dividends. The evidence of significance of earnings in formulation of dividend policy is supported by Kim and Ettredge (1992), Priestley and

Table 5

Evidence on Firm Specific Determinants of Dividends Policy

Regressors	CEM	FEM	REM
DY_{t-1}	0.24***	0.27*	0.24***
	(3.26)	(1.68)	(2.76)
EAT	0.1*	0.09***	0.04***
	(1.85)	(2.22)	(2.94)
Profitability	0.026***	0.034***	0.045*
	(3.98)	(2.99)	(1.89)
Leverage	–0.06***	–0.0015	–0.094***
	(–2.16)	(–0.16)	(–2.14)
Liquidity	–0.08	–0.049*	–0.004***
	(–1.01)	(–1.84)	(–2.20)
Growth	0.068***	0.01*	0.04***
	(2.54)	(1.79)	(2.94)
Share Price	–0.013	–0.032	–0.037
	(–0.59)	(–0.34)	(–1.13)
Size	0.015*	0.017***	0.013***
	(1.84)	(2.74)	(3.24)
Investment opportunities	0.062**	0.089***	0.024***
	(2.08)	(2.56)	(2.47)
Adjusted R-squared	0.40	0.40	0.41
F Test (p value		0.00	
Hausman test (P-value)			0.20
Sargen test (P-value)	0.05	0.23	0.18
DW statistic	1.37	1.94	2.002
The speed of adjustment	76%	73%	74%
The target payout ratio	13.2%	12.3%	5.4%
Firms	100	100	100
observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

Garrett (2000), Adaoglu (2000), Bhattacharya (2003), Wilson, *et al.* (2006), Amidu and Abor (2006) and Belans, *et al.* (2007) but is contradictory with the findings of Bhat and Pandey (2007) , Kapoor and Anil (2008) and Jeong (2008).

The size of firm captured by market capitalisation shows the positive and significant relationship with the dividend yield by using all the estimation techniques mentioned above suggesting that large sized firms pay more

dividends. This evidence is confirmed by the findings of Belans, *et al.* (2007), Jeong (2008). Profitability (ROA) shows a positive relation with dividend yield in all models which means that acceptance of the hypothesis that profitability positively effects dividend policy of firms. The firms with high profitability are capable of paying more dividends because dividend payments rely more on cash flows than the earnings or profitability [Alli, *et al*. (1993)]. Aivazian, Booth and Clearly (2003) show that profitability plays a significant role in determining dividend policy. As these firms earn more they are expected to distribute more in form of dividends. Amidu, *et al*. (2006) find a positive relation of dividends with firms' profitability.

The sales growth shows the positive and significant relationship at with dividend yield in three models. This leads to accept the null hypothesis that growth has positive relation with dividend policy and this evidence is also supported by the findings of Naceure, *et al.* (2006), Belans, *et al.* (2007), Jeong (2008) but are opposite to those of D'Souza (1999), Amidu and Abor (2006) Higgins (1981), Rozeff (1984) and Lloyed, *et al*. (1984). Leverage shows negative relationship with dividend yield in all models. These results explain that the firms with high level of leverage or debt financing are often short of free cash, and it's evident from literature that dividend payments are done from the liquid assets of firms. So, high levered firms are short of liquid assets this is why they are non-dividend paying firms. Our evidence is supported by the finds of Grossman and Hart (1982), Jensen (1986), Stulz (1990), Meckling (1970) and Jensen (1986).

Share price shows a negative and insignificant relationship with dividend yield because as the share price increases, firms' share price does not affect their dividend payments. These results are supported by the findings of existing studies e.g. Harkavy (1956), Forbes (1980), Puckett (1964) etc. Investment (Tobin's Q) shows a positive and significant relation with dividend yield. This empirical evidence is supported by the theory that firm with more investment opportunities have more excess to free cash and this is why they are capable of making more dividend payments. These results are supported by the findings of Jiraporn (2006) but are contradictory with Yuortoglu and Gugler (2002). Investment opportunities captured by Tobin's q has a negative and significant relation with dividend policy. Negative relation suggests that as firms (managers) expect that there are more projects which have positive NPV and are profitable for firm, they cut the dividend payments and investing in new projects and retaining the earnings and investing in the new projects. These results are supported by Gugler and Yurtoglu (2002 and are in opposition of the findings by Kowalewski (2007) and Talavera, *et al.* (2007).

The target payout ratio and speed of adjustment are 5.4 percent and 74 percent in random effect model, 12.3 percent and 74 percent in fixed effect model, and 13.2 percent and 76 percent in common effect model. Sargan test p-value supports that the instruments are valid and the use of GMM techniques for dynamic dividend model.

Table 6

Impact of Corporate Governance and Firm Factors on Dividend Policy

Regressors	GMM CEM	GMM FEM	GMM REM
DY_{t-1}	0.25***	0.29*	0.25***
	(7.12)	(1.68)	(7.42)
EAT	0.11**	0.09**	0.16**
	(1.95)	(2.22)	(2.94)
Profitability	0.0069*	0.013**	0.0069**
	(1.66)	(1.99)	(2.79)
Leverage	−0.09*	−0.032***	−0.094**
	(1.87)	(−4.53)	(−2.14)
Liquidity	−0.06**	−0.019*	−0.064**
	(−2.01)	(−1.84)	(−2.38)
Growth	1.28**	2.27*	1.29**
	(2.54)	(1.8)	(2.94)
Stock Price	−0.015*	−0.074*	−0.015**
	(−1.69)	(−1.64)	(−2.13)
Size	0.015*	0.068*	0.013**
	(1.64)	(1.74)	(2.24)
Investment	0.062**	0.089**	0.054**
	(2.08)	(2.56)	(2.47)
Audit Quality	0.02**	0.035*	0.018*
	(1.99)	(1.82)	(1.63)
Shareholder Rights	−0.046*	−0.083*	−0.046*
	(−1.84)	(−1.88)	(−1.81)
Ownership	0.019*	0.02*	0.019*
	(1.86)	(1.64)	(1.73)
Transparency	−0.015**	−0.096**	−0.015*
	(−2.66)	(1.97)	(−1.89)
Board Independence	0.0073	0.021	0.07
	(0.49)	(0.83)	(0.51)
Board Size	−0.042**	−0.03**	−0.042**
	(−2.52)	(−2.33)	(−2.63)
CEO Duality	0.028*	−0.021**	0.03*
	(1.68)	(2.23)	(1.69)
Adjusted R-squared	0.41	0.41	0.42
F Test (P-value)		0.00	
Hausman test (P-value)			0.10
Sargen Test (P-value)	0.061	0.073	0.18
DW Statistic	1.98	1.9	1.97
The Speed of Adjustment	75%	71%	75%
The Target Payout Ratio	14.6%	12.3%	21.4%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi[2] under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi[2] under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

The study has performed a robustness test to ensure our results are not subjective to sample selection or earnings dividend smoothing behaviour. Results are summarised in Table 6 for impact of corporate governance on firm specific factor. The results that are obtained are again similar and suggest that corporate governance mechanisms have same impact of firms' dividend paying and dividend smoothening behaviour even after taking account of firm attributes.

4.2.4. *Results of Dividend Stability Model with Economic Conditions*

The result of random effect model suggests that both lag dividend and earning has positive effect on dividends. In the Table 6, lagged dividend yield exhibits a significant positive relation with dividend yield. Positive relation means the current dividend yield is positively dependent on past dividend yield and level of past dividends determine the level of present dividends. So these results leads to accept the Lintner's positive dependence of current dividends on past dividend. These results are further supported by the findings of Gordon (1963), Baker and Wrugler (2004) and Baker, *et al.* (2007) but are different from the findings of Reddy (2006). Net earnings show a positive impact on dependent variable dividend yield showing that no matter what the economic conditions are prevailing in the economy; higher net earnings translate into higher dividends. Results of earnings in this model are in line with the findings of Kostyuk (2006), Lintner (1956), and Ettredge (1992), Priestley and Garrett (2000), Adaoglu (2000), Bhattacharya (2003), Wilson, *et al.* (2006), Amidu and Abor (2006) and Belans, *et al.* (2007) and are contradicted with the findings of Bhat and Pandey (2007), Kapoor and Anil (2008) and Jeong (2008).

Table 7

Evidence on Dividend Stability Model with Economic Conditions

Regressors	CEM	FEM	REM
Dy_{t-1}	0.44*	0.58***	0.43***
	(1.83)	(2.24)	(3.40)
EAT	0.11	0.14*	0.15*
	(1.16)	(1.85)	(−1.82)
GDP_G	−0.032*	−0.015*	−0.02***
	(−1.84)	(−1.92)	(−2.22)
Inflation	0.016*	0.02*	0.039***
	(1.85)	(1.86)	(2.43)
Adjusted R-squared	0.43	0.44	0.44
F Test (P-value)		0.00	
[2]Hausman Test (P-value)			0.24
[3]Sargen Test (P-value)	0.055	0.051	0.66
DW Statistic	2.16	1.75	1.33
The Speed of Adjustment	56%	42%	57%
The Target Payout Ratio	20%	33%	26%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

GDP gap (GDP_G) shows a negative and significant relation with dividend yield indicating that the deviation of actual GAP from the target or expected GDP so, negative sign of GDP gap means that as the difference between target GDP (expected GDP) and actual GDP increases i.e. economic condition deteriorates, firms earn less so they cut their dividend payments. So, this accepts the null hypothesis and these results are supported by the findings of Wang, Manry and Wandler (2011), Zarnowitz (1985) and Mascarenhas and Aaker (1989). Inflation shows a positive and significant relation with dividend yield suggests that due to rise in price level nominal value of firms' earnings increases which results in higher level of dividends. This result is favoured by the findings of Feldstein (1983) and Basse and Reddemann (2011).

The target payout ratio and speed of adjustment in this model are found to be as 26 percent and 57 percent in REM, 23 percent and 42 percent in FEM, and 20 percent and 56 percent in CMM.

Table 8

Impact of Corporate Governance and Firm Factors on Dividend Policy

Regressors	Regressors	GMM CEM	GMM FEM
Dy_{t-1}	0.38***	0.32**	0.37***
	(3.17)	(2.24)	(7.82)
EAT	0.11*	0.14*	0.15*
	(1.76)	(1.65)	(1.62)
GDP_G	–0.086**	–0.025**	–0.086***
	(–2.6)	(–2.27)	(–6.42)
Inflation	0.016**	0.049**	0.016***
	(2.67)	(2.41)	(6.59)
Audit Quality	0.041*	0.018*	0.05**
	(1.81)	(1.67)	(2.01)
Shareholder Rights	–0.085**	–0.033**	–0.085**
	(–1.94)	(–2.02)	(–2.33)
Ownership	0.034*	0.086*	0.034*
	(1.67)	(1.76)	(1.65)
Transparency	–0.05*	–0.052*	–0.035*
	(–1.66)	(–1.78)	(–1.63)
Board Independence	0.035	0.035	0.035
	(0.72)	(1.009)	(1.06)
Board Size	–0.034*	–0.059**	–0.02**
	(–1.64)	(–2.15)	(–1.93)
CEO duality	0.022*	0.075**	0.035**
	(1.77)	(2.15)	(1.98)
Adjusted R-squared	0.40	0.41	0.41
F Test (P-value)		0.00	
[2]Hausman Test (P-value)			0.31
[3]Sargen Test (P-value)	0.055	0.051	0.66
DW Statistic	2.16	1.75	1.33
The Speed of Adjustment	62%	68%	63%
The Target Payout Ratio	17.7%	20.6%	23.8%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi[2] under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi[2] under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

The results reported in Table 6 indicates that corporate governance variables have same effect after including the economic conditions.

Table 9

Dividend Stability Model with all Determinants

Regressors	CEM	FEM	REM
Dy_{t-1}	0.48	0.45	0.49***
	(0.74)	(1.13)	(3.9)
Earnings	0.23*	0.25*	0.30*
	(1.84)	(1.87)	(1.93)
Size	0.09*	0.069***	0.089***
	(1.83)	(2.17)	(3.84)
Profitability	0.03*	0.02***	0.027***
	(1.84)	(2.09)	(4.39)
Liquidity	0.05**	0.06**	0.05***
	(1.89)	(1.90)	(3.51)
Growth	–0.02*	0.03***	0.02***
	(–1.92)	(–2.79)	(–3.82)
Investment Opportunities	–0.02**	–0.05*	–0.03***
	(–1.96)	(–1.86)	(–3.56)
Share Price	–0.02	–0.07	–0.02
	(–0.15)	(–0.63)	(–0.77)
CEO Duality	0.04**	0.02**	0.04***
	(1.94)	(1.92)	(2.82)
Transparency	–0.02*	–0.04*	–0.02*
	(–1.89)	(–1.82)	(1.82)
Ownership	–0.03*	0.03**	–0.02***
	(1.82)	(1.88)	(2.21)
Board Independence	0.06*	0.04**	0.07***
	(1.72)	(1.89)	(3.79)
Board Size	–0.05	–0.04	–0.05
	(–0.09)	(–0.93)	(–0.43)
Audit Quality	0.06***	0.04***	0.06***
	(1.9)	(2.12)	(2.50)
Shareholders Rights	–0.05***	–0.02***	–0.05**
	(–2.49)	(–2.29)	(–2.60)
Inflation	0.01*	0.03**	0.01***
	(1.87)	(1.93)	(4.60)
Gdp Gap	–0.06*	–0.01*	–0.07***
	(–1.87)	(–1.85)	(–4.59)
Constant	0.136	0.04*	0.13***
	(0.86)	(1.83)	(4.54)
Adjusted R-squared	0.42	0.42	0.43
F Test (P-value)		0.00	
[1]Hausman Test (P-value)			0.22
[2]Sargen Test (P-value)	0.9	0.055	0.897
DW Statistic	2.02	2.05	2.02
The Speed of Adjustment	52%	55%	51%
The Target Payout Ratio	41%	45.4%	58%
Firms	100	100	100
Observations	900	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

4.2.5. *Results of Dividend Stability Model with All Determinants*

This study performed a robustness test to ensure our results are not subjective to sample selection or earnings dividend smoothing behaviour. Results are presented in Table 11 for impact of corporate governance, firm specific factors and on economic conditions on dividend yield. The results we obtain are again similar for economic conditions and suggest that corporate governance mechanisms have same impact of firms' dividend paying and dividend smoothening behaviour.

The regression results for dynamic dividend model with firm specific, governance and economic determinants as a complete model. The results of dynamic random effects are considered, all coefficients except those associated with board size and share price have a significant impact on dividend yield in Pakistani firms.

To sum up the dividend decision of the firms depends on firm characteristics, internal and external governance mechanism and business conditions. Corporate governance has the same positive effect on the dividend decisions of the firms when it is taken separately and combined with firm specific determinants and business conditions. Therefore, the above model better explains the dividend policy of the firm both with high R^2 and dividend smoothness

4.2.6. *Results of Dividend Stability Model with Industry Effects*

This study further checks the industry specific effect of dividend policy i.e. does the pattern of dividend yield and its stability differs among different industries or do all the manufacturing industries of Pakistan follow the same pattern of dividend yield. For this purpose, the study includes industry dummies into the basic Lintner's dividend stability model keeping the textile industry as the base industry and then testing for whether the other industries behave differently than the textile industry in their pattern of dividend yield. Other than textile, in the analysis add dummies for sugar, food, paper and board, pharmaceuticals, auto, energy, transport and telecommunication, engineering, oil and gas producers, cement and chemicals sectors. The results show that lagged dividend is still positive and significant showing that in all the industries previous dividend payments factors play positive role in determining the current dividend yield. However net earnings in this model are still positive but insignificant indicating that all manufacturing industries do not rely upon their net earnings while making the decisions of dividend payment. In random effect model most of the industries dummies have shown positive and significant effect on dividends which shows that most of the industries behave significantly positively in impacting the dividends than textile industry in their dividend yield. The industries which do not exhibit significant results behave not differently from the dividend paying behaviour of textile industry. Furthermore,

the industries (dummies) which yield negative are expected to pay fewer dividends than those of textile industry. The study finds speed of adjustment as 33 percent and target payout ratio as 30 percent in this model which is around the expected payout of 34 percent.

Table 10

Dividend Dynamic Model with Industrial Dummies

Regressors	CEM	REM
Dy_{t-1}	0.26***	0.652***
	(7.39)	(5.83)
Earnings	0.12**	–0.24***
	(2.33)	(4.19)
Sugar	–0.033*	0.15***
	(1.68)	(5.39)
Paper and Board	0.099	–0.1***
	(0.36)	(5.45)
Pharmaceuticals	0.018	0.05***
	(0.72)	(5.33)
Food	–0.0005	0.17***
	(0.72)	(5.37)
Automobiles	–0.00012	0.03***
	(0.44)	(5.36)
Oil and Gas	–0.00047*	0.01**
	(1.62)	(2.27)
Engineering	0.00012	–0.07***
	(0.39)	(5.36)
Chemicals	–0.043	–0.03***
	(1.37)	(4.16)
Transport and TC	–0.056*	0.06***
	(1.62)	(2.23)
Cement	0.085**	–0.03*
	(1.95)	(1.623)
Energy	0.033	0.036
	(0.96)	(0.59)
Constant	0.045*	–0.02***
	(1.84)	(5.83)
Adjusted R-squared	0.46	0.46
Hausman Test (P-value)		
[2]Sargen Test (P-value)		0.15
DW Statistic	2.08	1.98
The Speed of Adjustment	74%	45%
The Target Payout Ratio	16%	53%
Firms	100	100
Observations	900	900

Notes: Numbers in parentheses are asymptotic t-statistic ***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

Table 11

Dividend Model with All Determinants and Industrial Dummy

Regressors	CEM	REM
Dy_{t-1}	0.67**	0.67***
	(1.64)	(5.9)
Earnings	0.09***	0.10***
	(2.28)	(2.07)
Growth	0.027*	0.021*
	(1.83)	(1.87)
Size	0.03***	0.03***
	(2.67)	(2.76)
Leverage	–1.24**	–1.25**
	(2.33)	(2.42)
Profitability	0.76*	0.76*
	(1.80)	(1.86)
Share Price	–0.45	–0.47
	(1.29)	(1.34)
Investment Opportunities	0.08***	0.024***
	(2.59)	(2.60)
Liquidity	0.86***	0.75***
	(3.1)	(2.97)
Ownership	–0.017*	–0.016*
	(1.82)	(–1.84)
Transparency	–0.01***	–0.011***
	(0.42)	(0.44)
CEO	0.02*	0.025**
	(1.86)	(1.95)
BI	–0.02	–0.09
	(–0.63)	(–0.65)
BS	–0.045**	–0.04**
	(2.64)	(2.76)
SR	–0.035***	–0.035***
	(–2.23)	(–2.76)
Audit Quality	0.02***	0.023***
	(2.18)	(2.21)
GDP gap	–0.014*	–1.39**
	(–1.74)	(–1.95)
Inflation	0.014*	0.14*
	(1.85)	(1.87)
D1	–0.0257	–0.025**
	(0.69)	(2.52)
D2	–0.0088	–0.009**
	(0.62)	(2.25)
D3	0.004	0.004
	(0.33)	(1.18)

Continued—

Table—(*Continued*)

D4	0.027	0.027**
	(0.62)	(2.26)
D5	0.0013	0.0013
	(0.15)	(0.54)
D6	0.038	0.038
	(0.25)	(0.91)
D7	–0.02	–0.019***
	(1.06)	(3.87)
D8	–0.014	–0.014**
	(0.71)	(2.56)
D9	0.0054	0.0054
	(0.38)	(1.38)
Constant	0.005	0.005
	(0.41)	(1.48)
	0.47	0.47
Hausman Test (P-value)		0.21
[2]Sargen Test (P-value)	0.4	0.39
DW Statistic	1.8	1.98
The Speed of Adjustment	34%	34%
The Target Payout Ratio	27%	30%
Firms	100	100
Observations	900	900

Notes: Numbers in parentheses are asymptotic t-statistic***, **,* indicates statistical significance at 1 percent, 5 percent and 10 percent respectively,[1] it is asymptotically distributed as chi^2 under the null hypothesis that the explanatory variables are un-correlated with the error terms.[2] It is a test of over identifying restrictions and is asymptotically distributed as chi^2 under the null hypothesis that used instruments are valid and the instruments are not correlated with the error terms.

The results further confirm that corporate governance variables have the same effect on the dividend yield as in the model without industrial dummies. This confirms that good corporate governance practices can improve the dividend payments by the firms. Corporate governance mechanisms are considered to have significant implications for the growth prospects of an economy. Good corporate governance practices are regarded as important in reducing risk for investors, attracting investment capital, reducing the misalignment of resources and most importantly improving the dividend policy of manufacturing sector of Pakistan.

5. CONCLUSION AND IMPLICATIONS

There is a vast variety of literature on dividend policy and many theories have been presented by the researchers on the very topic such as agency theory, signalling theory, and free cash flow theories etc., but still, after decades of research "dividend puzzle" is unsolved.

The recent empirical literature discusses corporate governance and its impact on dividend policy which leads to the central argument of the current

study. The sample in this study consists of 100 listed non financial firms of Pakistan for the sectors of textile, sugar, paper and board, food, pharmaceuticals, automobiles and parts, energy, cement, chemicals, transport and telecommunication, engineering and energy for the period of 2003 to 2011. This study tries to find that do the listed non financial firms of Karachi Stock Exchange follow a stable dividend policy? How does the corporate governance affect dividend policy of firm, both internal as well as external mechanism? What are the firm specific factors that influence the dividend policy of Pakistani listed firms? And finally, how do the economic conditions effect dividend policy of Pakistani listed non financial firms?

The study concerns mainly with the internal and external corporate governance mechanisms, and its impact on the dividend stability. The results of study show that manufacturing firms listed on Karachi stock exchange follow smooth pattern to pay their dividends. However, as the dividend payouts are voluntary therefore only few firms pay dividend. The securities and exchange commission of Pakistan (SECP) has recently revised code of Corporate Governance and some steps to ensure investor protection are taken; therefore it is expected that as soon as the revised Code of Corporate Governance is implemented by the companies, their dividend payout would likely be increased.

In fist part of this study examines the Lintner's (1956) dynamic dividend model by using the panel data regression techniques. Then corporate governance variables are added to Lintner model. The results of this model show that Pakistani listed non-financial firms rely more on their past dividends to fix their dividend payments. Therefore, the dividend payments of Pakistani listed firms are more sensitive towards their lagged dividends. The fluctuations in the net earnings reflect in the level of dividends, high earnings firms distribute higher dividends and vice a versa. These results suggest a model with a cross-section random effect best fits the data and GMM is used to estimate the model as it deals with endogenity present due to lag dividends on the right hand side.

The results suggest that companies only pay a small proportion of their earnings as dividends (suggest by the target payout ratio) but since managers are reluctant to make dividend changes, the speed of smoothening the difference between the target dividend payout ratio and last year's dividend or the speed of adjustment is lower in the case of Pakistani listed manufacturing firms at KSE. There is little variation in speed of adjustment, therefore it is concluded that listed non-financial firms of Pakistan face little fluctuating speed of adjustment in the sample period but as the target payout ratios varies, one can say that these firms do not or observe a very little dividend smoothening pattern. This pattern of dividends and dividend adjustment is consistent with other emerging countries. Furthermore, difference between lowest and highest payout ratio in this model is very high further confirming the dividend instability of Pakistani listed non-financial firms.

In the second part firm specific variables are included in Lintner model along with corporate governance variables. The results indicate that among the firm specific factors dividend payout is positively associated with lagged dividend payout, net earnings, sales growth, profitability, and investment opportunities and negatively associated with share price and leverage. These results suggest that pro-growth policies will lead to the expansion of the firms, which means more profitability, large size and increased earnings increase and as a result firm chose to pay more dividend. Whereas, low debt polices also translate in higher dividend payments.

In the third part business condition variables are augmented in the Lintner model in addition to corporate governance variables. According to these findings the economic or business conditions significantly affect the dividend policy of firms. GDP gap has a negative whereas inflation has a positive effect on dividend payments. To check the industry specific effect of dividend policy the study includes industry dummies in the model. Textile sector is selected as the base category and result indicate that all other industries exhibit the results that their dividend yield and dividend payout policies are different from that of textile industry.

The study suggests that the Corporate Governance mechanism have significant effect on the dividend policy in Pakistan, because it resolves agency costs. Results indicate that CEO duality, Board independence, and audit quality are positively associated with dividend payments (dividend yield), and board size, ownership structure, transparency and disclosure, and shareholder rights are negatively associated with dividend yield, which indicates that in the countries like Pakistan with poor investor protection only those firms tend to pay dividend which have a stronger independent board with strong external auditing system. When firms have concentrated ownership it results in lower dividend payments because large investors would not give attention towards the rights of minority investors. So, a stronger Code of Corporate Governance is required which would direct firms towards shareholder protection and hence a higher dividend payment.

It is important to mention here that the Code of Corporate Governance 2002 and revised code of 2013 issued by Securities Exchange Commission of Pakistan do not considering dividends in detail. It is voluntary but with promotion of the minority shareholder rights, better audit quality and more transparency it is expected that more firms will pay dividends.

APPENDIX

Table A1

Descriptive Statistics

Variables	Mean	Median	St. dev
DY	0.001347	0.0006	0.0019
Earnings	4.8	5.04	1.46
LEVERAGE	4.3	4.7	1.45
SP	202	118	203
SIZE	9.3	9.2	0.89
PROFITABILITY	4.5	4.6	1.2
LIQUIDITY	4.9	4.8	0.6
GROWTH	1.6	1.58	3.6
GDP GAP	–2164	1379	5567
Inflation	9.9	9	4.2
Investment Opportunities	0.06	0.02	0.12

Table A2

Correlation between Firm Specific Variables and Dividend Yield

	DY	Ear	Size	Prof	Lev	Liq	Inv	Gro	SP
DY	1								
Ear	0.12*	1							
Size	0.16***	0.61	1						
Prof	0.11***	0.11	0.31	1					
Lev.	–0.02***	0.17	0.2	0.15	1				
Liq.	0.05	0.18	0.2	0.01	–0.25	1			
Inv.	0.06**	–0.07	–0.11	–0.10	–0.01	0.2	1		
Grow	0.007	–0.06	0.09	0.05	0.05	–0.04	–0.06	1	
SP	-0.04*	–0.05	0.03	–0.11	–0.17	–0.03	0.23	–0.01	1

Correlation between Corporate Governance Variables and Dividend yield

	Dy	Own	BS	BI	SR	CEO	AQ	Trans
DY	1							
Own	–0.046	1						
BS	0.048	0.188	1					
BI	–0.11	–0.013	0.06	1				
SR	–0.037	0.05	0.2	–0.16	1			
CEO	0.002	–0.03	0.21	0.43	0.057	1		
AQ	–0.147	0.017	0.20	–0.29	0.09	–0.09	1	

Correlation between Economy Wide Variables and Dividend Yield

	DY	GAP	INFLATION
DY	1		
GAP	–0.018	1	
INFLATION	0.008	0.6	1

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