Journal of Business & Economics
Vol. 10, No. 2, 2018, pp. 25-57

Can Institutional Isomorphism Explain Corporate Dividend Policies in Pakistan?

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Abstract:

This study contributes to the literature by adding behavioral finance dimension to dividend payment decisions. In this study, we inquire into whether institutional isomorphism (the intra-industry mimicry effects) can explain corporate dividend policies in Pakistan. Specifically, we test two hypotheses: first, we try to know whether the likelihood of a firm paying dividend increases with the percentage of firms paying dividend in the industry to which the firm belongs. Second, we investigate whether the payout ratio of a focal firm is influenced by average industry payout ratio and intra-industry dividend similarity index. The first hypotheses is tested using logistic regressions while the second hypothesis is tested with ordinary least square regressions and generalized method of moments (GMM) regressions. We use a sample of 398 firms listed at the Pakistan Stock Exchange (PSX) over a time period of 17 years for our investigation. The results show a significantly positive association between the probability of the focal firm to pay dividends with the percentage of other firms in the industry that payout dividend. Results of the second hypothesis testing show that payout ratio of a focal firm is positively in association with the average industry payout ratio and intra-industry dividend similarity index, among a full set of control variables. These results imply that similarity tendencies exist between firms and that institutional isomorphism plays a substantial role in demonstrating and interpreting the observed dividend payout ratios in Pakistani listed firms. Our results are robust to several sensitivity tests.

***Keywords**: Dividends, Institutional Theory, Isomorphism, Pakistan*

1. Introduction

While it is widely acknowledged that distribution of industries or their classification is linked to dividend payouts of firms, the theoretical justifications of why it is so have not reached a clear consensus. For example, Micheal (1979) argues that firms within a given industry are more likely to face similar investment opportunities and assuming that investment and dividend decisions are dependent, it is likely that their dividend payouts closely conform to the industry averages. However, if there are no systematic differences in valuation of new debt or equity in different industries, then it is likely that the dividend payout policy followed by a firm does not conform to its industry. Most recently the institutional theory provides a deeper insight of the behavioral aspects of dividend policy. It has its basis from the organizational theory where social structures are given more importance. It treats the

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social structures which include schemes, rules, norms, and routines in such a way that they become legitimate and are accepted as dependable guidelines or instructions for social behavior (Scott, 2004). Our focus in this study is mainly on institutional theory and more on new institutionalism.

Institutional theory can be further branched into two preeminent trends; Old institutionalism and new institutionalism. Our focus is mainly on the new institutionalism. It looks for cognitive and cultural explanations and interpretations of organizational and social phenomena. Scott (1995), Meyer and Rowan (1977), DiMaggio and Powell (1983) are of the opinion that in order to exist and survive, institutions must match to the rules and value systems which are generally widespread in the environment because institutional isomorphism, both in case of structures and procedures, will get the organization authority or legitimacy (Dacin, 1997; Deephouse, 1996; Suchman, 1995).

DiMaggio and Powell (1983) have linked replication tendencies with the idea of isomorphism. They studied institutional isomorphism and classified them into three different categories: normative, coercive and mimetic. Driving force for coercive isomorphism is its relationship tied up with external authority and dependency in terms of resources. Normative isomorphism is classically correlated to the professionalization of a specific field, which can be achieved in two ways. The first way to achieve normative isomorphism is through trainings while the second way is through repeated connections, exchanges and relations with professionals and professional bodies and associations. The third class, mimetic isomorphism is considered as a response or reaction to deal with ambiguity or vagueness; at times when there is no clear direction for taking any action or step is not available, organizations try to mimic appropriate others which are of the same age or social status as them. These different forms of isomorphism force organizations to stick to institutional norms and practices.

Dividends are long discussed but still an optimal dividend policy is yet to be found that matches with the empirical evidence. An extensive amount of research has been carried out considering various factors; the dividend puzzle is yet to be resolved. Although literature on behavioral explanations of dividends exists but that targets mostly the investor‟s behavior or sentiments and their reactions to different events; however, very little work has been done that analyzes the dividend payout

behavior of the firms considering the institutional view. Our main interest in this research is the behavioral explanations of dividend payout on the basis of institutional view. This is a relatively new area and definitely requires further deep insight. The theory of institutional isomorphism has been tested in case of few developed economies, but the area is still untouched in case of underdeveloped and developing economies, especially the Asian countries.

In line with the international research on dividend and dividend payout policies, numerous research work has been conducted in Pakistan as well. Studies have tried to explore dividend policy from a whole lot of angles such as agency perspectives (Abdullah, Shah, & Khan, 2012); managerial views (Khan, Burton, & Power, 2011); signaling effects (Khan, Burton, & Power, 2013); stock price volatility (Nishat & Irfan, 2001); Khawaja, Bhutto, Butt, & Anwar 2012); sector specific studies on dividend determinants (e.g., Usman, Imran, & Nishat, 2013; Younis & Javid, 2014; and Zameer, Rasul, Iqbal, & Arshad, 2013); cash flow basis (Mirza & Afza, 2014; Khan, Kaleem, & Nazeer, 2013); insiders‟ role and ownership structure (Ehsan, Tabassum, Akram, & Nasir, 2013); earning management (Shah, Yuan & Zafar 2010); and general determinants (Ahmed & Javid, 2009; Islam, Aamir, Ahmad, & Saeed, 2012), to name a few. Despite this wealth of knowledge, evidence related to behavioral aspects of dividend policy is still scanty in Pakistan. Furthermore, no evidence is found on institutional isomorphism with regard to corporate dividend payout policies in Pakistan.

The aim of the study is to test whether institutional isomorphism theory can explain dividend payouts ratios among listed firms of Pakistan. Specifically, we try to know whether dividend payout ratio of a given firm conforms to the average dividend payout ratio of the specific industry to which it belongs. Second, we try to know whether the tendency that a firm will pay dividend gets enhanced with the percentage of firms paying dividend in the industry to which the firm belongs. Our paper contributes to the literature by adding behavioral explanations for the phenomenon of corporate dividend payments using institutional isomorphism view. We expect that imitation tendencies are more likely in a developing country such as Pakistan. This is because regulatory framework and its implementation are expected to be weak in developing countries. This leaves more space for searching an optimal dividend policy. In order to reduce search costs and avoid coercive pressures from

counterparts, firms in developing countries are expected to follow mimetic isomorphism (Rivera, 2004).

This paper adopts the following scheme. Section 1 introduces the paper. Section 2 gives details of the related literature and discusses evidence associated to dividends in Pakistan and the hypotheses derived therein. Section 3 discusses the choice of statistical model, sampling technique, methodology, and motivation for the selection and definitions of selected variables. Section 4 shares the results and discussions along with sensitivity analysis. Section 5 concludes the paper.

2. Literature Review

2.1 Dividends and Institutional Isomorphism

Dividend theories and models such as bird in the hand theory, signaling theory, tax preference theory, agency theory, residual dividend model, clientele effects model, and few others have largely been the focus of researchers to explain observed corporate dividend payouts. Still dividend decisions are considered a puzzle (Black 1976). Researchers have labeled this area as among one of the "ten unresolved problems in finance" (Brealy & Myers, 1991) and "one of the most judgmental decisions a manager must make" (Brigham & Gapenski, 1991). Frankfurter & Wood (2002) observed that discrepancies in results across studies might be attributed to analysis method adopted, sample period selected, and/or frequency of the data. Although underlying principles for chalking out a clear-cut dividend policy are not yet formulated but investors do give a lot of importance to dividends (Clark, Soutar, & Murphy, 2004; Dong, Robinson, & Veld, 2005). Rationale behind the dividend payout policy remains unclear, several studies are of the opinion that the puzzling nature of the dividend payout policy might be due to the reason that important factors like behavioral and socio-economic factors are not given their due importance in exploring the dividend policy. The most recent explanations for observed dividend behavior comes from the behavioral tendencies in dividend payment. Since focus of this study is mainly on the behavioral aspects, the literature review in this section will generally focus on this aspect and will focus more specifically to the degree to which institutional isomorphism plays role in dividend decisions.

Prior researches in this field have documented significant industry influences on dividend payout behaviors. Literature provides evidence that firms belonging to the

same industry try to follow actions related to dividend payout of other firms while deciding their own payout ratios (Michel, 1979; Dempsey et al., 1993; Baker, 1988). Deriving intuition from the basis of institutional theory, DiMaggio and Powell (1983), Scott (1995) and Oliver (1991) are of the opinion that firms attempt to insert their payout policies in a bigger social reference skeleton. Firms try to protect themselves under the umbrella of industry norms and try not to deviate from the prevailing industry practices which act like industry recipes. There exists institutional pressure for conformity which makes certain decisions to be credible, appropriate or legitimate (Spender 1989). The institutional theory provides us the basis for studying the dividend behaviors and attitudes of firms at an industry level.

Since there doesn't exist any optimal dividend policy which could be best for all firms (Horne, 1989), in such a case the institutional conformity makes sense where firms try to imitate each other under social pressures. Furthermore, no authoritative guidance is available for firms to follow while setting dividend policies, so they are only left with the choice of following each other. In such a case, the action taken by a firm is considered as reasonable and appropriate when they conform to the actions of other firms belonging to the same industry. In the words of Cialdini (1993, p. 95);

"We view a behavior as correct in a given situation to the degree to which we see others performing it."

Frankfurter and Wood (2002), Shiller (1990), and Miller (1986)) are of the opinion that ignoring behavioral and socio-economic factors in the current financial models would severely limit the application of these models to corporate activities and policy determination. Strategies that have proved good and effective for individual organizations may not prove to be correct, effective or legitimate for others to follow. However, if a large number of organizations follow a specific strategy and they become a sort of normatively endorsed, it increases the likelihood of their acceptability and adoption (DiMaggio & Powell, 1983). This provided a new insight into the field of institutional theory and provided a base for institutional isomorphism. DiMaggio and

Powell, (1983) proposed three distinctive categories related to institutional isomorphic changes; coercive, mimetic, and normative isomorphism. Coercive isomorphism may arise because of political effects, influences, and the difficulty of legality or legitimacy. Mimetic isomorphism is the result of typical responses to

uncertainty and ambiguity while normative isomorphism results from professionalization which means a collective struggle of the people who belong to the same profession or occupation to define the circumstances and ways to perform their work.

As per findings of Cyert and March (1963), institutional isomorphism is considered more efficient and a normal response in cases of uncertainty. When the effectiveness and efficiency of alternative structures and practices is not certain, then to economize on the search costs firms try to follow the practices of relevant others and avoid the cost of experimentation. Scott (1995) is also of the opinion that higher the normative portion of the institutional template, the more it has the potential to be selected as a legitimating device and the chances of legitimacy threats and intrusive questioning becomes very low.

Another mechanism that helps understand the phenomenon of imitation or mimicking is the level of diffusion to which the industry practices are followed. This phenomenon may be called as voluntary or intentional diffusion. It is among key mechanisms through which pressures exerted through institutions show existence and presence as well as the amount of pressure they exert. It relates to the level to which industry practices have previously been diffused or spread voluntarily into the institutional filed, serving as a proof of conformity practices or tendencies. Organizations tend to follow the practices of other firms that are used by a large sum of other firms. More is the total of firms adopting it, more it tends to behave as a legitimating device and more it exerts pressure on the other firms to follow or adopt it.

Prior researches count prevalence of a phenomenon as a proxy of institutional isomorphism. These studies note that when the increased number of organizations follow one another, it increases the probability that other firms will follow the crowd (Palmer, Jennings, & Zhou, 1993; Knoke, 1982; Fligstein, 1985).

Given that firms imitate each other, a question arises that which firms will be imitated more by other firms i.e. is there any influencing factor in any specific firm that it would be followed by others or is there any underlying industry effect governing this phenomenon. The answer to this question might be that firms try to imitate the most relevant others among the population of their reference because their conduct is most relevant and have a significant effect on them. This

significance is because they belong to the same industry and a decision taken by a single firm within the industry, especially the payout decision, can have deep impacts on other firms because this will be hitting the industry norms. In accordance with the previous researches, firms anchor their comparability decisions with their primary industry (Porac, Thomas, Wilson, Paton, & Kanfer, 1995; Porac, Wade, & Pollock, 1999). They were of the opinion that firm‟s management will be more familiar and much more knowledgeable about the industry practices to which they belong i.e. their primary industry.

Furthermore, after having a closer look at the literature, one can find evidences of industry effects on dividend payout ratios. Marsh and Merton (1987) studied dividend payout behavior among the US firms and found that firms go after industry practices when making choices about their target payout ratio. Considerable amount of other studies also searched for the existence of this type of industry effects. Rozef (1982b) and Dempsy, Laber, and Rozeff (1993), after controlling for firm-specific variables, found the presence of an industry effect. Similarly, Moh‟d, Perry, and Rimbey (1995) followed the ANOVA methodology and found compelling variances in dividend payout ratios of firms belonging to various industries. Different responses to dividend policy decisions were also reported by Baker, Veit, and Powell (2001), Baker, Dutta, and Saadi (2008) when they analyzed responses of managers belonging to financial and non-financial firms. In short, we can say that sufficient evidence exists in the literature about industry influence on dividend policy decisions.

Frankfurter and Wood (2002) are of the view that there is a systematic connection amid the dividend payout policy and industry type because the actions of competitive firms influence managers. Several surveys have been conducted which support this argument. Baker and Powell (2000) found that around 45% of the respondents they contacted gave moderate to high importance to the factor that a given firm conforms to the industry dividend practices. Similarly, Brava et al. (2005) reported that 38.3 percent of the interviewed CFO‟s of firms that paid dividends gave a high weightage to the factor „dividend policies followed by competitors or other companies present in the industry‟ in devising their own dividend policy. Similarly, 31 percent of the firms which were not paying any dividend at all also gave high importance to the factor of following the relevant others in the industry in deciding

about their future dividend decisions. One of the executives included in the survey that was conducted by Brave et al. (2005) responded that his firm, if wanted to change its dividend policy, would wait for their competitors to take any decision regarding the change. These findings reflect the mimicry behavior followed by firms.

2.2 Research on Dividends in Pakistan

Corporate dividend policy has appealed a huge amount of research studies in Pakistan. Much of the current literature on dividend policy in Pakistan pays particular attention to the firm-specific determinants of dividend payout ratio. However, the role of behavioral explanations of corporate dividend policy, especially institutional isomorphism, is surprisingly neglected. Together, these studies indicate that factors such as free cash flows (Mirza & Afza 2014; Younis & Javid, 2014), collateral capacity (Younis & Javid, 2014), return on assets (Younis & Javid, 2014; Abdullah et al., 2011; Khan et al., 2013), firm size (Abdullah et al., 2011), sales growth, EPS growth, liquidity, ownership concentration (Abdullah et al., 2011), and institutional ownership (Abdullah et al., 2011) have a positive association with dividend payout ratios while factors such as agency costs (Abdullah et al., 2011; Khan, Kaleem, & Nazir, 2013), leverage, insider ownership (Abdullah et al., 2011) and individual ownership (Abdullah et al., 2011) have a negative association with dividend payout ratios of companies in Pakistan. Evidence based on interviews with those charged with decisions in practices suggests that firms in Pakistan are not much different than firms in the USA and other developed countries when setting their dividend policies (Khan, Burton, & Power, 2011). However, several peculiar aspects of dividend decisions were identified in Pakistan. For example, Khan et al. (2011) found that interviewed managers do not consider past dividends when deciding current dividend levels and do not show reluctance to announce dividend cuts. Further, interviewees suggested that they consider only current earnings and liquidity when deciding dividend payout level. It is important to note that results reported in Khan et al. (2011) are based on only 23 interviews.

2.3 Hypotheses

In view of the literature review, the following hypotheses are formulated for empirical testing.

H_1: As the number of firms that pay dividends increases in an industry, it exerts pressure on the other firms in that industry to pay dividends. Thus, the probability

that a focal firm will pay dividend increases with the percentage of other firms in the industry paying dividends.

H_2: Among dividend paying firms belonging to the same industry, a focal firm will conform to the industry practices in dividend payout.

3. Research Methodology

3.1. Sampling

The longitudinal data analysis in this specific study spans over a 17-year period i-e from the year 1996 onwards to document the intra-industry dividend conformity among PSX listed firms. All the companies listed on the PSX are divided into 35 different sectors including the financial sector. Our sample comprises of all companies listed on the PSX after removing financially distressed firms, financial firms, and firms owned by the Government of Pakistan. The above criteria reduced our final sample to 398 firms from 28 sectors with total firm-year observations of 6766. In order to handle outliers, we winsorized variables at 1st percentile and 99th percentile.

The financial data is gathered from the State Bank of Pakistan‟s publication "*Balance Sheet Analysis of Joint Stock Companies Listed on the Pakistan Stock Exchange*". This book contains six years data of balance sheet and income statements of non-financial firms. A total of 17 years of data is used starting from 1996. This book is published every year and a new year is included in the analyses while the previous year is removed from the analysis and reporting. e.g if the book is published having years from 2004 -2009 so the next year‟s book will contain years from 2005 to 2010.

3.2 Statistical Models

We used the panel data framework for testing our hypotheses. Use of panel data gives us several benefits over time series data or simple cross-sectional data. It allows us to take into account the unnoticed heterogeneity and gives us larger number of data points which results in additional degrees of freedom and lesser collinearity among the explanatory variables.

Our analysis consists of two models which includes several well-known determinants of dividend payout decision of a firm. The first model is logistic

regression for testing hypothesis H_1. The second model uses panel data regression models and generalized methods of moments (GMM) for testing H_2. System GMM is useful when the dependent variable also appears as the lagged independent variable in the model. Bond (2002) presents the arguments that the individual effects are usually stochastic and as a result they are frequently correlated with the lagged independent variable. The OLS estimates of coefficients are inconsistent in such cases. The OLS results for the lagged dependent variable are upward biased. The reason behind this upward bias is the correlation among the lagged dependent variable and the error term. Another solution for such type of problem is to take the first difference of the equation but still there is a problem of correlation between the differenced error term and the lagged independent variable. To cover up for this issue, Arrelano & Bond (1991) suggested method of GMM where instruments are not correlated with the error term but are only correlated with the lagged dependent variable. In the GMM method, two options are available: the difference GMM and system GMM. The difference GMM has extensive small finite sample bias. However, system GMM estimates parameters of partial adjustment models with good precision even in the case of persistent series. In all regressions (related to H_2) the analysis includes industry proxies or intra-industry conformity variables. Any industry fixed effects are naturally accounted for by these proxies. For this reasons, the study does not include other fixed effects control variables in the panel data regressions.

3.2.1 Model Specification

In line with the hypotheses, the following model is used for testing the first hypothesis:

$$Pr_{it} = \alpha_0 + \alpha_1 DDUM_{it-1} + \alpha_2 PC_{it-1} + \alpha_3 SIZE_{it} + \alpha_4 DISP_{it} + \alpha_5 FCF_{it} + \alpha_6 DEBT_{it} + \alpha_7 RE_{it} + \alpha_8 MROA3Y_{it} + \alpha_9 LS_{it} + \alpha_{10} GRTH_{it} + \alpha_{11} MB_{it} + \alpha_{12} CX_{it} + \alpha_{13} CV4Y_{it} + \alpha_{14} YEAR_t + E_{it} \quad \text{[Equation 1]}$$

Where, Pr_{it} the probability of the focal firm i at time t to pay dividend and is estimated by logistic regression. DDUM is a dummy variable and is coded one for a dividend paying firm and zero for non-dividend paying firms. PC is the percentage of firms in the specific industry that opted to pay dividends (excluding the specific firm under focus). SIZE is a proxy for size of firm, calculated as natural log of assets. DISP represents dispersion of ownership, calculated as a log of total number of

shareholders. FCF represent free cash flows (sum of earnings before income and taxes and depreciation plus the change in net fixed assets from prior year to current year plus the depreciation deflated by total amount of assets). DEBT shows the amount of total debt divided by assets. RE shows earnings which are retained divided by total assets. MROA3Y shows average returns on asset over the prior two-year periods. LS is a dummy which we code one if negative return on asset is reported and a zero for positive return on asset. GRTH is the average of the last three years percentage change in sales. MB represents the ratio of market-to-book. CX shows capital expenditures as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets. CV4Y is coefficient of variation of ROA calculated in a rolling window of last 4 years. YEAR represents year-specific variables (dummy). "i" and "t" stand for firms and years, respectively.

For testing the second hypothesis the following model is estimated. The equation is estimated with OLS and system GMM regressions.

$$DPO_{it} = \alpha_0 + \alpha_1 DPO_{it-1} + \alpha_2 InduDPO_{it-1} + \alpha_3 SIZE_{it} + \alpha_4 DISP_{it} + \alpha_5 FCF_{it} + \alpha_6 DEBT_{it} + \alpha_7 RE_{it} + \alpha_8 MROA3Y_{it} + \alpha_9 GROWTH_{it} + \alpha_{10} MB_{it} + \alpha_{11} CX_{it} + \alpha_{12} CV4Y_{it} + \alpha_{13} SIMIL_{it-1} + \alpha_{14} YEAR_t + E_{it} \quad \text{[Equation 2]}$$

Where, InduDPO shows average dividend payout for firms belonging to specific industry (where the firm under focus is excluded). DPO represents the dividend payout ratio. SIMIL denotes intra-industry dividend payout similarity (where the firm under focus is excluded). The variable SIMIL is calculated as SIMIL = 1/((abs(DPO- InduDPO))/ SDx), DPO is dividend divided by net income, InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t; SDx is the industry standard deviation without focal firm. i and t stand for firm i at time t.

In the following paragraphs, we provide justification for inclusion of the variables in Equation 1 and 2.

3.3 Justification of the Variables

3.3.1 Percentage Of Firms Paying Dividends

This variable is our primary focus in Equation 1 to test hypothesis 1. We have included this variable in Equation 1 to see how an increasing number of firms paying dividends affects the probability of a focal firm to pay dividend. We expect its

coefficient to be positive and statistically significant. PC is calculated as the percentage of firms belonging to the same industry that pays dividend excluding the focal firm.

3.3.2 Lagged Dependent Variable

Lintner (1956) and Baker, Powell and Veit (2002) provide conclusive evidence that current dividend levels are determined by past dividends and current earnings. They suggest that the effect of inertia can prevail for a longer time in dividend policies. In order to study dividend policies and especially the behavioral perspectives, inclusion of lagged dependent variable is essential.

3.3.3 Size of the Firm

Agency theory is considered a significant factor in devising dividend policies. Many studies have used the proxy of firm size for transaction and agency costs (Moh‟d et al., 1995; Alli, Khan, & Ramirez, 1993; Lloyd, Jahera, & Page, 1985; Holder, Langrehr, & Hexter, 1998) Few other evidences suggested that agency costs increases as firm gets larger Jenson and Meckling (1976) and transaction costs linked with issuance of shares decreases as the firm size increases (Smith, 1977). For these reasons, we have included the variable SIZE to capture these effects. This variable is calculated by taking natural logarithm of assets.

3.3.4 Number of Common Shareholders

As the ownership gets more and more dispersed, the number of shareholders increases and the incentive for each shareholder to monitor the CEO or the CFO decreases accordingly which results in increase in the agency costs. To control for this agency cost, paying cash dividends is one of the solutions. Paying cash dividends reduces the amount of available free cash flows under the authority of managers and they frequently need to refer to capital markets to meet their financing needs. The capital markets impose a control mechanism on the firms through monitoring of the firms‟ activities (Rozeff, 1982a; Easterbook, 1984). In view of the agency theory, several proxies have been included in the analysis. The first of these proxies is the variable DISP that represents dispersion of ownership, and calculated as a log of total number of shareholders. This variable is a substitute for ownership dispersion because if the number of shareholders increases this shows that more people are holding shares of the specific firm reflecting dispersion in ownership.

3.3.5 Free Cash Flows

Another variable added in accordance to the agency theory is the free cash flows (FCF). Jensen (1986) defines FCF as the ones which are in the surplus of funds necessary for all positive NPV projects. Firms which have more options for growth tend to have lower levels of FCF and vice versa. Thus for firms with higher degrees of free available cash flows, there are higher chances that the incumbent managers will misuse these funds in their own favor. Firms which have a higher level of free available cash flow might use dividends to reduce these agency costs and sub optimal utilization of funds. FCF is calculated by taking the sum of earnings before income and taxes and depreciation plus the change in net fixed assets with the prior year plus the depreciation deflated by total assets.

3.3.6 Debt

The variable Debt is introduced in order to capture the monitoring role of debt on managers and the decisions they take in the presence of debt (Jensen & Meckling, 1976). Debt covenants imposed by the creditors always have an impact on the manager‟s decisions and it naturally impacts their decision to pay dividends or not. De Angelo and De Angelo (1990) found that about more than fifty percent of their selected sample had covenants binding in the years they decreased their dividend payout which shows significant impact of debt covenants on the dividend payout. It is calculated as the ratio of total liabilities divided by total assets, denoted by DEBT.

3.3.7 Industry Concentration

Shliefer (1985) proposed the theory of yardstick competition which argues that intense competition in the product market mitigates information asymmetry problems as well as reduces monitoring costs as shareholders would be in a position to easily benchmark a given firm‟s performance with close competitors. Grullon and Michaely (2007) linked this idea to dividends. They believe that under the pressure of competition, managers pay out cash that is in excess of positive NPV projects. The level of industry concentration can be used as the measure of competition in the industry. To measure industry concentration, we include Harfindahl index which is calculated as the sum of squared market shares. The market shares are calculated as the ratio of total sales of a given firm scaled by sales of the industry. The Harfindahl index is represented by the symbol CONC.

3.3.8 Retained Earnings

The life cycle theory of a firm suggests that as a firm passes through different stages of its life, it faces less growth opportunities and finds itself with more retained earnings. DeAngelo, DeAngelo, and Stulz (2006) found that more profitable firms who have retained profits in past for future use are inclined to pay more dividends i-e mature and established firms pay more dividends. We calculate RE as retained earnings divided by total assets.

3.3.9 Return on Assets

Signaling theory states that dividends is a mechanism to provide signals to the participants of the market about future profitability of the firm (Benartzi, Michaely, & Thaler, 1997; DeAngelo, DeAngelo, & Skinner, 2000). By paying dividends the firm provides positive signals to the market about their current successful operations and future profitability. So a positive association is likely to exist between dividends and profitability. In our model, we have calculated return on assets (ROA) as EBIT divided by total assets. We use three years rolling average of ROA (MROA3Y) to capture temporal effects related to change in return on assets.

3.3.10 Losses

Another important variable that can affect dividend payout is loss incurred by a firm. DeAngelo, DeAngelo, and Skinner (1992) found evidence that loss can affect dividend paying capacity of firms where more than fifty percent of the firms in their sample cut their dividends in the year they made the loss. To capture this important effect, a dummy variable by the symbol LS is included which is encoded one if a firm reports a negative net income and zero otherwise in a given year.

3.3.11 Past and Future Firm Growth

Growing firms need to keep money for exploiting potential investment opportunities (Rozeff, 1982a). It implies that growing firms are less likely to pay out dividends and as a result a negative coefficient is expected of the growth variable in dividend regression. We include three different proxies to measure growth for robustness checks i.e. GRTH, CX and MB. GRTH is calculated by taking the average of the last three years percentage change in sales. Capital expenditure (CX) is calculated as the sum of depreciation of the current year and change in net fixed

assets from the prior year divided by the total assets. MB is calculated as dividing the share price of a firm at year‟s end by the book value of share.

3.3.12 Coefficient of Variation

Riskier firms have to bear a higher cost of transaction related to new issues of securities when they try to raise funds from capital markets (Holder et al., 1998). Farinha (2003) is of the opinion that firm‟s dividend policy can be affected by the level of risk to which it is exposed. She links risk to dividend policy in a dynamic way by saying that firms at high risk, due to increased level of variability in earnings and funding requirements, will definitely have to refer to external financing which increases the level of business risk for the firm to which it is exposed. To capture this impact, coefficient of variation (CV4Y) has been included in dividend regressions. Its value is calculated as the co-efficient of variations in returns on assets over a rolling window of four years.

3.3.13 Dummy Variable

DDUM is a dummy variable introduced into the model which takes on the value of 1 for dividend paying firms and 0 if the firm doesn‟t pay any dividend. This variable is included in order to capture the impact for those firms which pay dividends and excluding those which do not.

4. Data Analysis

This section presents and discusses the descriptive statistics, correlations matrix and results of the regression analysis. All tables in this paper were created the ASDOC package, written by Shah (2018) for Stata.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Variance	Skewness	Kurtosis
DPO	5843	0.14	0.30	0.00	3.00	0.09	4.59	34.60
InduDPO	2489	0.28	0.17	0.00	1.24	0.03	0.76	4.80
PC	5931	0.42	0.17	0.00	0.96	0.03	0.19	0.19
SIZE	6000	6.93	1.63	0.33	12.75	2.66	0.29	3.67
DISP	6066	7.15	1.17	3.09	10.95	1.37	-0.01	3.94
DEBT	6000	0.64	0.28	0.00	2.95	0.07	0.84	0.84
RE	6000	0.13	0.34	-0.99	3.39	0.11	-0.22	7.31
MROA3Y	5150	0.21	0.50	-0.45	12.02	0.25	6.49	90.41
GRTH	4668	0.18	0.41	-0.86	3.00	0.16	4.45	29.99
CX	5618	0.06	0.14	-1.00	1.00	0.02	-0.15	21.39
CV4Y	5529	1.50	2.09	0.00	9.00	4.38	2.45	8.28
CONC	6270	0.16	0.21	0.00	1.00	0.04	2.26	8.25
SIMIL	2294	2.07	2.43	0.00	23.96	5.93	5.21	40.87
MB	2693	1.11	3.31	-30.00	30.00	10.96	1.87	49.02

4.1 Results of the Logistic Regressions

Table 3 presents results of the logistic regressions to test H_1. We have estimated three regressions where we have excluded correlated variables one by one. In the first regression under the column heading (1), the variables MB and FCF are excluded. In the second regression, variables GRTH and FCF are excluded, while in the third regression variables ROA and MB are excluded. Statistical significance at 1%, 5%, and 10% levels are shown by ***, **, and *, respectively. Standard errors are shown in parentheses below the coefficients of respective variables.

Table 2: Correlation Among Variables

	DPO	InduDPO	PC	SIZE	DISP	DEBT	RE	MROA3Y	GRTH	CX	CV4Y	CONC	SIMIL
DPO	1												
InduDPO	0.09	1											
PC	-0.02	-0.38	1										
SIZE	-0.05	-0.02	0.20	1									
DISP	0.01	0.08	0.20	0.58	1								
DEBT	0.00	0.00	-0.11	0.11	-0.08	1							
RE	-0.08	0.03	0.06	0.10	0.10	-0.77	1						
MROA3Y	-0.10	-0.05	0.21	0.06	0.11	-0.37	0.42	1					
GRTH	-0.08	-0.10	0.06	0.00	0.00	0.08	-0.13	0.06	1				
CX	-0.04	0.12	-0.16	0.00	0.00	0.01	0.00	-0.03	0.10	1			
CV4Y	0.14	-0.11	-0.01	-0.10	0.00	0.18	-0.24	-0.29	-0.04	-0.12	1		
CONC	0.04	0.09	0.32	0.16	0.25	-0.19	0.14	0.14	-0.03	-0.06	-0.14	1	
SIMIL	-0.03	-0.14	0.30	-0.02	0.06	-0.06	0.05	0.14	0.00	0.00	0.03	0.06	1
MB	0.10	0.09	0.01	0.11	0.06	0.05	-0.02	0.30	0.00	0.02	-0.14	0.11	0.11

The variable *PC* has a positive and statistically significant coefficient in all the three regressions. This suggests that the probability that a given firm will pay dividend in the current year increases with the lagged percentage of other participant firms in the industry that paid dividends. This finding supports our hypothesis (H_1). The lagged *PC* term was included in the regression with the assumption that firms might be imitating others in the industry with a time lag. For this purpose, we allowed a one year gap for firms to imitate others in the industry. We have also tested two and three years lags with the *PC* variable; however, the results were insignificant.

Among the control variables, majority of them are in accordance with our expectations and prior literature. We can see that the lagged dependent variable (*DDUM*) has a significant and positive coefficient in all the three regressions. It shows that the firms do consider their previous year‟s dividend decisions. This evidence is in contrast to the interview-based findings reported in Khan et al. (2011). As mentioned earlier, Khan et al. (2011) findings might be biased because of the significantly small sample size (i.e., they interviewed only 23 managers). In line with the agency theory explanation, size of a firm (*SIZE*) has a significant positive relationship in all the three regressions. Ownership dispersion has a negative significant coefficient in the first two regressions while negative insignificant coefficient in the third regression. One explanation for this might be the existence of strong family and group firms in Pakistan where owner-mangers try to seek private rents and avoid paying dividends. As the number of shareholders increase and the ownership becomes more dispersed, small retail shareholders lose the incentive and power to force insider-controlled firms to pay dividends. In fact, Abdullah et al. (2011) tested this hypothesis and found strong evidence that only those firms pay dividends in Pakistan which have powerful external shareholders. For the rest of two agency variables the debt ratio (*DEBT*) and the free cash flows (*FCF*) have insignificant relationship is our sample.

To capture the life cycle effects, a proxy of retained earnings (*RE*) was used. In line with the expectations, it has significant positive coefficients in all the three regressions. This finding shows that life cycle of a firm does have a significant contribution in deciding about the dividend policy of a firm in Pakistan. Return on assets (*ROA*) has a positive significant coefficient. Our proxy of average return on

assets over a period of three years (*MROA3Y)* has significant positive relationship in two of the regressions which supports the signaling theory and findings of Benartzi et al. (1997) and DeAngelo et al. (1992). Another signaling proxy is loss (*LS)* for which a significant negative coefficient is expected as per the arguments of the signaling theory. Our findings are exactly in line with the theory in all the three regressions.

We have used three proxies to represent the growth opportunities of a firm, namely *GRTH*, *CX* and *MB*. Our findings show insignificant results for *GRTH* and *CX* in all three regressions except a negative significant coefficient for *CX* at 10% level in a regression where *MB* was excluded in the regression. A positive significant coefficient for *MB* is found which reflects that firms with expansion opportunities tend to pay more dividends in Pakistani context. One explanation for this deviation from the expected coefficient is that majority of firms in Pakistan are in family ownership and they tend to pay lower or no dividends. Firms that pay dividends, they are priced high by investors, resulting in higher market value relative to book value per share.

The risk proxy (*CV4Y*) i-e the coefficient of variation in return, is expected to have a negative coefficient that is in line with the transaction cost hypothesis (Rozeff 1982). Our findings show that a significant negative relationship exists between risk level of a firm and the probability that the firm pays dividend. The industry concentration proxy (*CONC*), measured through Herfindahl index is not statistically significant. This finding suggests that industry concentration does not have any impact on the decision for payment or non-payment of dividend by the firm. Although Grullon and Michaely (2007) do relate dividend payout and industry concentration, however, our results do not conform to their findings.

4.2 Results from Dividend Payout Regressions

For testing $H_{2,}$ we estimated Equation 2. The regression results are shown in Table 4. In Table 4, we report results of four regression models by including stepwise variables which had high collinearity with other variables or were proxies for the same concept. For example, firm size (*SIZE*) had a high collinearity with number of common shareholders (*DISP*). Retained earnings (*RE*) had high collinearity with debt (*DEBT*). And both *GRTH* and *MB* are proxies for growth opportunities of firm and hence cannot be included in one regression.

Table 3: Logistic Regression Results

	(1)	(2)	(3)
VARIABLES	X_*MB*	X_*GRTH*	X_*ROA*
L.*DDUM*	1.79***	1.67***	1.82***
	(0.09)	(0.12)	(0.09)
L.*PC*	3.10***	2.75***	3.01***
	(0.26)	(0.32)	(0.25)
SIZE	0.17***	0.27***	0.14***
	(0.03)	(0.05)	(0.03)
DISP	-0.08*	-0.18***	-0.06
	(0.04)	(0.06)	(0.04)
DEBT	-0.46	0.05	-0.26
	(0.28)	(0.44)	(0.28)
RE	1.85***	1.56***	1.83***
	(0.27)	(0.40)	(0.26)
ROA3y	0.30**	1.83***	
	(0.13)	(0.45)	
LS	-2.41***	-1.81***	-2.41***
	(0.15)	(0.20)	(0.15)
GRTH	-0.04		-0.07
	(0.11)		(0.11)
CX	-0.62*	-0.14	-0.51
	(0.32)	(0.39)	(0.34)
CV4Y	-0.12***	-0.09***	-0.13***
	(0.02)	(0.03)	(0.02)
CONC	-0.35	-0.33	-0.33
	(0.23)	(0.31)	(0.23)
MB		0.08***	
		(0.02)	
FCF			-0.07
			(0.10)
Constant	-2.40***	-2.98***	-2.33***
	(0.37)	(0.54)	(0.36)
Observations	4,264	2,152	4,307

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01.This table represents results from predicting Equation 1; X in the header represents the excluded variables in the regression, The dependent variable represents the focal firm″s probability to pay a dividend (Pr); *DDUM* is a variable (dummy) which is encoded one for dividend paying firms in the previous year and zero for non-dividend paying firms; PC is the percentage of other players belonging to the same industry who had paid dividends in the previous year (where the firm under focus is excluded); *SIZE* is assets taken as a natural log; *DISP* represents dispersion of ownership, calculated as a log of total number of shareholders; *FCF* represents free cash flow, defined as sum of earnings before income and taxes and depreciation plus the change in net fixed assets with the prior year plus the depreciation deflated by total assets; *DEBT* is defined as total debt (long-term debt + short-term debt deflated by total assets; *RE* is defined as retained earnings divided

by total assets ; *MROA3Y* is returns on assets averaged over a period of two years defined as return on assets averaged over a period of two years; LS is a variable (dummy) which we code one if negative return on asset is reported and a zero for positive return on asset; *GRTH* is average of the last three years percentage change in sales; *MB* is the market-to-book ratio calculated as dividing the share price of the firm at year end by the book value of share; *CX* represents the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CV4Y* is coefficient of variation of *ROA* calculated in a rolling window of last 4 years; *CONC* is the Harfindahl index which is calculated as the sum of squared market shares of each firm in a given industry.

Results reported in Table 4 show that a significant positive relationship exists between dividend payout and the lagged industry average dividend payout. The lagged average industry payout ratio is statistically significant at 1% level in all regressions. It shows that firms follow industry practices in deciding dividend payout ratios. This finding supports our hypothesis (H_2) that firms‟ dividend payout ratios conform to average industry payout ratio.

Among the control variables, the coefficient of *SIZE* is significantly positively related to dividend payout, which is in line with the argument that larger firms tend to pay more dividends due to lower agency costs or information asymmetry. The variable *DEBT* has a negative significant relationship with dividend payout ratio which again is in conformity with our expectations. The results supports the argument that a firm with more debt tends to pay less dividends due to debt convents and limited cash flows that are left after paying principal and interests (Jensen & Meckling, 1976; DeAngelo & DeAngelo, 1990). Results also show that dividend payout increases with dispersion of common shareholders (*DISP*).

Retained earnings (*RE*) show positive significant relationship with payout ratio. This finding is in accordance with the literature. It indicates that life cycle theory does play a role in explaining observed dividend ratio. The past growth of a firm (proxied by *GRTH* and *CX*) shows negative and statistically significant relationship with dividend payout. This finding is in line with our expectations. However, when we measure growth opportunities with the ratio of market-to-book ratio (*MB*), then we find a significant positive relationship with dividend payout ratio, which is against the expectations. The coefficient of variation of return is negatively associated with payout ratio which implies that riskier firms pay less dividends. This finding supports the theory that riskier firms face greater transaction costs due to which they do not prefer to pay dividends so that the retained earnings are used as source of financing. The proxy to capture the industry concentration effect on

dividend payout shows a positive significant coefficient which shows that if an industry is highly concentrated then the focal firm pays more dividend. This means that the forces of competition do affect the dividend payout ratios of firms in case of Pakistan.

Table4: Results of the Dividend Payout Regression

Variables	(1) Only main variable	(2) Full set of variables excluding DISP	(3) Full set of variables replacing SIZE with DISP	(4) Full set of variables replacing GRTH with MB	(5) Full set of variables replacing DEBT with RE
L.InduDPO	11.87***	6.97***	6.61***	4.24***	7.90***
	(1.37)	(1.25)	(1.23)	(1.58)	(1.29)
MROA3Y		1.12***	1.06***	4.30***	1.03***
		(0.11)	(0.11)	(0.37)	(0.12)
SIZE		0.05***		0.01	0.01
		(0.01)		(0.02)	(0.01)
DEBT		-1.96***	-1.93***	-1.41***	
		(0.13)	(0.13)	(0.21)	
MB				0.09***	
				(0.01)	
CX		-1.02***	-0.93***	-0.95***	-1.03***
		(0.25)	(0.25)	(0.32)	(0.26)
CV4Y		-0.19***	-0.19***	-0.12***	-0.22***
		(0.02)	(0.02)	(0.03)	(0.02)
CONC		0.49***	0.32**	0.84***	0.77***
		(0.15)	(0.15)	(0.21)	(0.15)
GRTH		0.14	0.14		0.11
		(0.11)	(0.11)		(0.11)
DISP			0.15***		
			(0.02)		
RE					1.31***
					(0.13)
Constant	-4.03***	-3.36***	-4.05***	-4.05***	-4.60***
	(0.14)	(0.20)	(0.22)	(0.27)	(0.21)
Observations	1,480	1,480	1,480	683	1,48
R-squared	0.07	0.31	0.33	0.47	0.26

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01. This table represents results from predicting Equation 2; the dependent variable here in this case is dividend payout ratio (*DPO*) ; *DPO* is dividend divided by net income, *InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t L.InduDPO* is the one year lagged value *InduDPO*; *SIZE* is assets taken as a natural log; *DISP* represents dispersion of ownership, calculated as a log of total number of shareholders; *FCF* stands for free cash flow, defined as sum of earnings before income and taxes and depreciation plus the change in net fixed assets with the prior year plus the depreciation deflated by total assets; *DEBT* is defined as the total debt and is calculated as the sum of long-term debt and short-term debt deflated by total assets; *RE* is defined as retained earnings deflated by total assets ; *MROA3Y* is defined as average returns on assets calculated in rolling window of last three years ; *GRTH* is average of last three years percentage change in sales; *MB* is the market-to-book ratio calculated as dividing the share price of the firm at year end by the book value of share; *CX* is the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CV4Y* is coefficient of variation of *ROA* calculated in a rolling window of last 4 years.; *CONC* is Harfindahl index which is calculated as sum of squared market shares of each firm in a given industry.

4.3 Results of the Dividend Similarity Index Regressions

In order to test H_2 from a different perspective, we replace average industry dividend payout with dividend similarity index (*SIMIL*). *SIMIL* denotes intra-industry dividend payout similarity (where the firm under focus is excluded). The variable *SIMIL* is calculated as *SIMIL* = 1/((abs(*DPO*- *InduDPO*))/ *SDx*) where *DPO* is dividend payout, *InduDPO* is the average dividend payout within the industry excluding the focal firm, and *SDx* is the industry standard deviation without focal firm. *SIMIL* measures how a given firm‟s dividend payout is similar or dissimilar with the industry average dividend per unit of standard deviation of industry dividend payout. We have reported results of these regression in Table 5.

In Table 5, we have reported results of two regressions. In the first regression, dividend payout is regressed on similarity index (*SIMIL*) along with the other variables. In the second regression, dividend payout is regressed on the lagged value of similarity index (*L.SIMIL*) and other control variables. Table 5 shows that similarity index is significantly positively related with dividend payout which shows that dividend payout ratio of a focal firm conforms to the intra-industry dividend similarity. In other words, if other firms in the industry have high dividend payout similarity among themselves, it is highly likely that a given firm will set dividend payout ratio that is close to industry‟s payout ratio. This finding further lends support to our hypothesis (H_2). Thus, evidence reported in Table 4 and 5 suggests that institutional isomorphism plays a significant role in dividend decisions of firms in Pakistan. Results reported in Column (2) of Table 5 shows that lagged similarity index (*L.SIMIL*) is positive but insignificant. This suggests that firms pay little attention to previous year‟s similarity in dividend payout ratios of other firms in the industry. Coefficients of other control variables in Table 5 maintain their signs and statistical significances as reported in Table 4.

4.4 Results of the GMM Regressions

In this section, we discuss results from the GMM regressions. The output of system GMM is shown in Table 6. The first column shows the names of the variables. Second and the third columns show results of two regressions: first regression uses similarity index (*SIMIL*) while the second regression uses *L.InduDPO* to capture imitation tendencies of firms in dividend decisions. Both the regressions show that the lagged dependent variable (i.e., *L.DPO*) is positive and

statistically significant. The results show a positive significant coefficient for lagged dividend payout (*L.DPO*) and similarity index (*SIMIL*). These results are in line with the regressions results reported in the previous sections.

Table 5: Results of the Similarity Index Regressions

Variables	(1) SIMIL	(2) lagged SIMIL
SIMIL	0.02***	
	(0.00)	
SIZE	0.03*	0.05***
	(0.01)	(0.01)
DEBT	-2.25***	-2.84***
	(0.22)	(0.26)
RE	-1.84***	-2.47***
	(0.21)	(0.26)
GRTH	-0.31**	-0.32*
	(0.14)	(0.17)
CX	0.18	-0.23
	(0.27)	(0.30)
CV4Y	0.02	0.09**
	(0.02)	(0.03)
CONC	0.41**	0.54***
	(0.18)	(0.19)
L.SIMIL		0.00
		(0.00)
MB		
Constant	0.02	0.44**
	(0.18)	(0.22)
Observations	1,641	1,295
R-squared	0.07	0.10

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01.This table represents results from estimating Equation 2; Dividend payout ratio (DPO) is the dependent variable; *SIMIL* is intra-industry dividend payout similarity (where the firm under focus is excluded) calculated as *SIMIL* = 1/((abs(*DPO- InduDPO*))/ *SDx*), *DPO* is dividend divided by net income, *InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t*. SDx is the industry standard deviation without focal firm; *SIZE* is calculated by taking the natural logarithm of assets; *DEBT* is defined as total debt calculated as the sum of long-term and short-term debt divided by total assets; *RE* is defined as retained earnings deflated by total assets; *GRTH* is average of the last three years percentage change in sales; *MB* is the market-to-book ratio calculated as dividing the share price of the firm at year end by the value of share(book value); *CX* represents the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CV4Y* is coefficient of variation of ROA calculated in a rolling window of last 4 years; *CONC* is the Harfindahl index which is calculated as the sum of squared market shares of each firm in a given industry.

The variable *MROA3Y* is positive and significant in both the regression. It shows that firms with higher persistent earnings in the last three years pay more dividends. *SIZE*, *GRTH* and *CX* have an insignificant coefficient. The firm risk proxy has an insignificant coefficient when regressed with similarity index (*SIMIL*) while a negative significant coefficient when regressed with *L.InduDPO*. Similar results for industry concentration proxy, that is *CONC*, are obtained i-e insignificant results when regressed with *SIMIL* and positive significant results when regressed with *L*.InduDPO.

Table 6: GMM Regressions

	(1)	(2)
Variables	*SIM*	*L.InduDPO*
L.DPO	0.6484***	3.2323*
	(0.0832)	(1.6536)
SIMIL	0.0345*	
	(0.0188)	
L.InduDPO		9.0748***
		(2.3851)
ROA3y	0.2287**	0.4873***
	(0.1139)	(0.1657)
SIZE	0.0198	0.0180
	(0.0419)	(0.0512)
DEBT	-1.0986***	-1.2750***
	(0.3823)	(0.3976)
GRTH	0.0382	-0.1133
	(0.1198)	(0.1338)
CX	-0.8408	-0.8853
	(0.6276)	(0.5522)
CV4Y	-0.0540	-0.1744***
	(0.0364)	(0.0395)
CONC	0.1105	0.8858**
	(0.4127)	(0.3670)
Constant	-0.9667***	-3.7794***
	(0.3678)	(0.4414)
Observations	1,456	1,601
Number of firms	232	237

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01. This table represents results from predicting Equation 2; Dividend payout ratio (DPO) is the dependent variable ; *SIMIL* is intra-industry dividend payout similarity (focal firm is excluded) calculated as *SIMIL* = 1/((abs(DPO- *InduDPO*))/ SDx) where *DPO* is dividend divided by net income, *InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t* and SDx is the industry standard deviation without focal firm; DPO is the dependent variable

which is further delayed(lagged) by one year deflated by total assets; *SIZE* is the natural logarithm of assets; *DISP* represents dispersion of ownership, calculated as a log of total number of shareholders; *DEBT* is representing the total debt and calculated as the sum of long-term and short-term debt deflated by total assets; *RE* is defined as retained earnings deflated by total assets ; *MROA3Y* is defined as average return on assets over a period of three years; ; *GRTH* is average of the last three years percentage change in sales; *MB* is the market-to-book ratio calculated as is calculated as dividing the share price of the firm at year end by the book value of share; *CX* represents the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CV4Y* is coefficient of variation of *ROA* calculated in a rolling window of last 4 years; *CONC* is the Harfindahl index which is calculated as the sum of squared market shares of each firm in a given industry; *SIMIL* is intra-industry similarity in dividend payout.

Table 7: Regressions Results for the Period 1996 to 2004

Variables	(1) Only main variable	(2) Full set of variables excluding DISP	(3) Full set of variables replacing SIZE with DISP	(4) Full set of variables replacing GRTH with MB	(5) Full set of variables replacing DEBT with RE
L.InduDPO	12.66***	5.26***	5.36***	-2.02	6.74***
	(1.85)	(1.84)	(1.81)	(4.68)	(1.91)
MROA3Y		0.71***	0.66***	3.76***	0.57***
		(0.11)	(0.11)	(1.24)	(0.12)
SIZE		0.05**		0.02	0.00
		(0.02)		(0.06)	(0.02)
DEBT		-2.09***	-2.03***	-1.71***	
		(0.17)	(0.17)	(0.61)	
MB				0.20***	
				(0.06)	
CX		-1.11***	-1.05***	-2.36**	-1.20***
		(0.35)	(0.34)	(0.97)	(0.36)
CV4Y		-0.18***	-0.18***	0.26	-0.20***
		(0.03)	(0.03)	(0.33)	(0.03)
CONC		0.45**	0.25	0.91	0.70***
		(0.19)	(0.19)	(0.58)	(0.20)
GRTH		0.15	0.15		0.14
		(0.12)	(0.12)		(0.13)
DISP			0.14***		
			(0.02)		
RE					1.35***
					(0.16)
Constant	-3.99***	-3.27***	-3.96***	-3.87***	-4.58***
	(0.13)	(0.23)	(0.26)	(0.64)	(0.23)
Observations	852	852	852	95	852
R-squared	0.07	0.30	0.32	0.54	0.25

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01. This table represents results from predicting Equation 2; the dependent variable here in this case is dividend payout ratio (*DPO*); *DPO* is dividend divided by net income, *InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t; L.InduDPO* is the one year lagged value *InduDPO*; *SIZE* is assets taken as a natural log; *DISP* is the common shareholders taken as a natural logarithm ; *FCF* stands for free cash flow, defined as sum of earnings before income and taxes and depreciation plus the change in net fixed assets with the prior year plus the depreciation deflated by total assets; *DEBT* is defined as the total debt and is calculated as the sum of long-term debt and short-term debt deflated by total assets; *RE* is defined as retained earnings deflated by total assets ; *MROA3Y* is defined as average returns on assets calculated in rolling window of last three years ; *GRTH* is average of the last three years percentage change in sales; *MB* is the market-to-book ratio calculated as dividing the share price of the firm at year end by the book value of share; *CX* is the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CV4Y* is coefficient of variation of ROA calculated in a rolling window of last 4 years; *CONC* is the Harfindahl index which is calculated as the sum of squared market shares of each firm in a given industry.

Table 8: Regressions Results for the Period 2005 to 2012

Variables	(1) Only main variable	(2) Full set of variables excluding DISP	(3) Full set of variables replacing SIZE with DISP	(4) Full set of variables replacing GRTH with MB	(5) Full set of variables replacing DEBT with RE
L.InduDPO	11.16***	6.76***	6.28***	4.81***	6.88***
	(2.06)	(1.63)	(1.61)	(1.72)	(1.66)
MROA3Y		5.18***	5.08***	4.31***	5.45***
		(0.37)	(0.36)	(0.40)	(0.37)
SIZE		0.02		0.01	0.00
		(0.02)		(0.02)	(0.02)
DEBT		-1.01***	-1.04***	-1.36***	
		(0.21)	(0.20)	(0.22)	
GRTH		0.15	0.17		0.09
		(0.22)	(0.22)		(0.22)
CX		-0.73**	-0.65*	-0.80**	-0.69**
		(0.34)	(0.34)	(0.34)	(0.35)
CV4Y		-0.14***	-0.14***	-0.12***	-0.16***
		(0.03)	(0.03)	(0.04)	(0.03)
CONC		0.89***	0.72***	0.87***	1.09***
		(0.23)	(0.23)	(0.23)	(0.23)
DISP			0.13***		
			(0.03)		
MB				0.08***	
RE					0.47**
					(0.21)
Constant	-4.00***	-4.37***	-5.11***	-4.29***	-4.94***
	(0.16)	(0.27)	(0.31)	(0.29)	(0.28)
Observations	628	628	628	588	628
R-squared	0.05	0.43	0.45	0.47	0.42

The standard errors are shown in parentheses. The * shows p-value <0.1, ** shows p-value< 0.05 and *** shows p-value< 0.01. This table represents results from predicting Equation 2; the dependent variable here in this case is dividend payout ratio (*DPO*); *DPO* is dividend divided by net income, *InduDPO shows mean dividend payout ratio of industry j at time t, excluding firm i at time t*; L.*InduDPO* is the one year lagged value *InduDPO*; *SIZE* is assets taken as a natural log; *DISP* is the common shareholders taken as a natural logarithm ; *FCF* stands for free cash flow, defined as sum of earnings before income and taxes and depreciation plus the change in net fixed assets with the prior year plus the depreciation deflated by total assets; *DEBT* is defined as the total debt and is calculated as the sum of long-term debt and short-term debt deflated by total assets; *RE* is defined as retained earnings deflated by total assets ; *MROA3Y* is defined as average returns on assets calculated in rolling window of last three years ; *GRTH* is average of the last three years percentage change in sales; *MB* is the market-to-book ratio calculated as dividing the share price of the firm at year end by the book value of share; *CX* is the capital expenditures and calculated as the sum of depreciation of the current year and change in net fixed assets with the prior year divided by the total assets; *CONC* is the Harfindahl index which is calculated as the sum of squared market shares of each firm in a given industry.

5. Conclusion and Recommendations

In this study, we use several measures of imitation tendencies of firms to follow industry in making their dividend payout policies. Specifically, we tested two hypotheses in this study. First, we tested the hypothesis that as the number of firms that pay dividends increases in an industry, it exerts pressure on the other firms in that industry to pay dividends as well. Second, we tested that among dividend paying

firms belonging to same industry, a focal firm will try to match itself with the industry practices in dividend payout. Consistent with H_1, the results show that the percentage of firms in a given industry that paid dividends in the previous year is directly related to the chances that a given firm will declare dividends in the present year. Secondly, in line with our hypothesis 2, we find evidence that greater conformity in dividends pay out in a specific industry in previous year is directly associated with the payout ratio of the focal firm.

5.1 Implications

These findings are in line with the institutional isomorphism view which states that increasing number of firms following a specific practice create pressures on the other firms to follow the same practice. We can conclude that institutional isomorphism helps us in understanding the phenomenon of dividends and dividends payout policies in Pakistan.

Overall, the results imply that firms‟ behavior at the industry level can be used to predict the dividend payout behavior at the firm level. This can be helpful to investors in setting their expectation about future dividends of a firm. Similarly, the finding of this study can guide those managers who are not sure about a clear path in setting their dividend policies. These managers can set their dividend policies in line with the average dividend payout of the industry to which their firms belong.

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