DIVIDEND POLICY AND OWNERSHIP CONCENTRATION: AN EMPIRICAL ANALYSIS OF THE NON-FINANCIAL SECTOR OF PAKISTAN

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ABSTRACT

A concentrated ownership structure is likely to raise the agency problem between large and minority shareholders. This situation allows dividends to work as a tool to fix agency problems. The underlying objective of this study is to check the relationship of ownership concentration with dividend payouts based on the agency theory. The study used data from 56 non-financial firms listed at the Pakistan Stock Exchange (PSX) for nine years from FY2011 to FY2019. The dependent variable is the dividend payout ratio, while ownership concentration as proxied by institutional shareholders and foreign shareholders is the independent variable. Profitability ratio, liquidity ratio, and firm size are the control variables. The Hausman test suggested using the fixed-effect model with Driscoll-Kraay standard error. The findings confirm a positive association between ownership concentration and dividend payout. Institutional and foreign shareholders also posit a strong positive association with the dividend payout ratio. Ownership concentration was found to be significantly affecting Pakistan's non-financial sector regardless of the identity of the concentrated owner. This means that concentration contributes positively to dividend policy to mitigate agency problems. Despite this positive association, it also favors the assumption that large shareholders can influence management, and the impact could be vice versa. It is recommended that businesses with concentrated ownership structures should leverage dividends strategically to address agency problems.

INTRODUCTION

Adam Smith, in 1776, doubted a firm's efficiency owing to the separation of its managerial affairs from its owners. He opined that the vigilance level of managers cannot be at par with that of the firm owners. Working on this issue, Berle and Means (1932) hypothesized that the dispersed ownership structure was an inefficient form that had transformed the active role of owners into the passive. Later, Jensen and Meckling (1976) supported both economists and developed a theory of a firm's ownership structure, later known as the agency theory. They posed that the shareholders with dispersed ownership structures lack incentives to monitor the managers' actions benefiting their own interests. In an agency relationship, the owners (principals) hire managers (agents) to act in the best interest of the formers. Now, any collision between the interests of both parties creates an agency problem in this relationship (Nyberg et al., 2010). Further, this agency problem in case of a concentrated ownership structure is likely to arise between the large and minority shareholders (Gonzalez et al., 2016). Now, dividend payout can act as a disciplinary device to fix the agency problem. Ownership concentration draws more attention regarding its impact on dividends than diverse ownership because of the large shareholders' activism. Activism is the increased

engagement and dominance of large owners over management (Ryan & Schneider, 2002). Dividends are one of the most crucial decisions for management and are likely to be influenced by large shareholders. Managers are always argued to be monitored, no matter how hard they try to act in shareholders' favor (Shleifer & Vishny, 1986). This monitoring is done by large shareholders because the concentration of shares allows large shareholders to hold a strong and influencing position in a corporation (Zingales & Luigi, 1994). To recover the cost incurred on this monitoring and to reduce discretionary cash at the disposal of management, the large shareholders demand higher dividend payouts (Arora & Srivastava, 2021). However, concentration allows large shareholders to dominate managerial policies and align their interests with management, enabling them to extract benefits at the cost of minority shareholders (Aluchna et al., 2019). Consequently, they are reluctant to share the profit of the firm with the minority shareholders (Harada & Nguyen, 2011; Obaidat, 2018). Minority shareholders are at risk of exploitation either by management or large shareholders of the firm. Dividend payouts can solve agency problems, whether they exist between principal and agent or between majority and minority shareholders in a concentrated ownership structure.

Dividend Policy is one of the most controversial, unsolved puzzles and debated topics discussed in corporate finance (Brealey et al., 2008; Batool & Javid, 2014; Al-Najjar & Kilincarslan, 2019). There is a clear consensus among researchers on multiple factors that can determine dividend payouts, such as ownership concentration, that emerged in several studies conducted in different economies (Harada & Nguyen, 2011; Setiawan et al., 2016; Anh & Tuan, 2019). Further, different types of owners, subject to their identity, influence dividend policy differently. The owner's identity refers to the category they possess, such as an individual, an institution, or a foreign investor (Maury & Pajuste, 2002). Hence, apart from mere ownership concentration, the effect of individual ownership categories like institutional and foreign shareholders on dividend payout also needs to be investigated. The effect of ownership concentration on dividend policy largely remained unexamined in Pakistan. This paper intends to examine the effect of ownership concentration on the dividend policy of non-financial companies in Pakistan. It also examines the impact of institutional and foreign shareholders on dividend policy. This is because some researchers pointed out that different shareholders vary in their choice and size of investment, activism, and expected return on the stock (Su, Xu, &Phan 2008; Isakov & Weisskop 2015). Like other emerging economies, the ownership structure in the Pakistani corporate sector is also concentrated (Javid & Iqbal, 2008; Ehsan et al., 2013). This paper is a contribution to the existing literature on the relationship between concentration and dividend policy as the authors found not much empirical work done in the context of Pakistan.

REVIEW OF THE RELATED LITERATURE

Some researchers argue ownership concentration is the only option restricting managerial expropriation in a low investor-protection environment, which can limit the management perquisites through increased dividend payouts (Cronqvist & Nilsson, 2003; Chen et al., 2008). Jensen and Meckling (1976) also recognized the role of ownership structure in designing dividend policy. Ramli (2010) observed that firms with a concentrated ownership structure are more likely to pay higher dividends since large shareholders influence such policies. Anh and Tuan (2019), examining the relationship between ownership structures and dividend policy of companies traded on both the Hanoi and HoChi Minh stock exchanges, found concentrated ownership strongly influencing positively the dividends decision. Due to the positive association between dividends and ownership concentration, dividend payout helps in resolving the conflict among large and minority shareholders (De-Cesari, 2012). Kulathunga and Azeez (2016) found higher ownership concentration positively influenced dividends for the firms listed on the Columbo Stock Exchange because such concentrated firms were forced to pay higher dividends to reduce agency costs. Aligning the interests of management with the shareholders would yield higher dividend payouts (Harada & Nguyen, 2011). This alignment implies the nonexistence of agency problems as the large shareholders anticipate more earnings going to be invested in profitable projects and consequently lower dividend

payouts. However, a negative link due to a weak legal environment can stimulate large shareholders to expropriate minority shareholders, leading to agency issues among the principals (Ting et al., 2017). Aluchna et al. (2019) similarly observed lower dividend payouts due to the higher ownership concentration in firms listed on the Warsaw Stock Exchange.

Institutional investors, being corporate insiders, have financial information about the entity and get an opportunity to monitor its management actively. Therefore, firms with high institutional ownership are least exposed to the agency problem (Jensen & Meckling, 1976). These institutional investors find monitoring much more costly, demand higher dividends, and thus disgorge cash from management and eliminate the risk of agency cost (Farinha, 2003). Indian institutional investors have been found to prefer dividend-induced monitoring because of their inability to monitor and solve agency conflicts (Manos, 2003). Firms with more institutional owners tend to pay higher dividends, even if they do not actively exercise monitoring (Crane et al., 2016). Pakistani firms having more institutional shareholding have also been found to pay higher dividends (Ullah et al., 2012). However, Kulathunga and Aziz (2016), while studying Sri Lankan firms, observed that firms are no longer required to pay dividends when institutional investors actively monitor corporate affairs. In Bangladesh, Huda and Abdullah (2014) also found institutional ownership resulted in lower dividend payouts. Al-Qahtani and Ajina (2017) observed that the code of corporate governance in Saudi Arabia requires institutional investors' active participation to improve governance and disclosure practices. This efficient supervision ensuring optimal use of resources negatively yields low dividend payouts. These investors favor reinvestment rather than distributing net income in the form of dividends.

Despite having global investment exposure by foreign investors, the non-availability of authentic information and their inability to monitor management motivates them to use dividend policy as a monitoring substitute (Manos, 2003). They presume a positive association between foreign ownership and dividend policy. Pakistani banks having foreign ownership in their ownership structure have been observed to pay higher dividends (Ali et al., 2018). For Turkish firms, a reduction in cash dividends was observed due to high foreign shareholding (Sakinc & Gungor, 2015). Research in Taiwan (Lin & Shiu, 2003) and China (Lam et al., 2012) present the same results. However, investors in industrialized countries prefer investing in long-term stocks with growth potential over dividend payouts for capital gain (Glen et al., 1995).

Dividends are generally distributed to the shareholders when profitability increases, but investment opportunities are limited (Truong & Heaney, 2007). This shows a significant positive correlation between profitability and dividend payouts. Profit-making firms pay higher dividends to signal their stable financial performance (Bhattacharya, 1979). Nadeem et al. (2018) confirm that high-profit-earning Pakistani banks pay a higher number of dividends. Tabassum et al. (2013) also found profitability largely associated with high cash dividends from FY2007 to FY2011 for Pakistani non-financial PSX-listed firms. However, the case of non-financial Polish firms suggests a significantly negative association between profitability and dividend payouts (Jozwiak, 2015). Rather, these firms were found using their profits as a source of capital. This negative association implies plowing back profits into the business because either external financing option is costly or limited (Vivian, 2006).

Dividend payouts are largely subject to the liquidity available with the firms. This means greater availability of cash with firms to pay dividends to their shareholders. Firms should be liquid enough to pay dividends and be solvent simultaneously to cover their short-term obligation. Liquidity can also positively influence dividend payouts in the context of the agency problem (Hu et al., 2020). Highly liquid firms are more likely to pay dividends than firms facing a liquidity crunch (Dhamija & Arora, 2019). Saeed et al. (2014) found a positive association of liquidity with dividend payouts in the Pakistani financial sector. This behavior has also been evidenced in the pharmaceutical sector of Pakistan (Khan & Ahmad, 2017). However, a firm may not pay dividends because of deficient liquidity despite generating high profits through its operations

(Labhane & Mahakud, 2016). Contrary to the discussion, a significant negative impact of liquidity has been observed on the dividend payouts of Indonesian companies (Ahmad & Wardani, 2014)**.**

Large firms are believed to be more resourceful, diversified, and thus least vulnerable to bankruptcy (Titman & Wessels, 1988). Their operating cash flows are stable, and they face fewer constraints in capital markets. Such flexibilities encourage large firms to pay higher dividends (Kulathunga & Aziz, 2016). For Pakistani firms, Rafique (2012) observed a positive influence of firm size on dividend payouts. However, Shah et al. (2011) observed a positive but statistically insignificant association of firm size with dividend payouts. Afza and Mirza (2011) found an insignificantly negative association between firm size and dividend payouts. This negative association is based on an argument that large firms have more liabilities and debt-servicing expenditures. Therefore, they preserve free cash flows to evade any future financial insecurity (Bushra & Mirza, 2015).

We believe that the factors discussed earlier can significantly impact the dividend policy of Pakistani corporate firms. Considering these factors, we can draw the following hypotheses to test:

H_0: Ownership concentration, institutional shareholding, foreign shareholding, profitability, liquidity, and firm size jointly impact the dividend policy of PXS-listed Pakistani firms.

METHODOLOGY

Sample Firms and Data Sources

The target population for this explanatory study includes all the non-financial firms listed on the Pakistan Stock Exchange (PSX). However, this quantitative study uses a sample of 56 non-financial firms from the major sectors with a period of 9 years from FY2011 to FY2019.

The study does not consider data for FY2020 and FY2021 due to a higher probability of outliers owing to the outbreak of COVID-19. The sectors include cement, automobile assemblers, chemical engineering, food, pharmaceuticals, power generation, textile, oil & gas marketing companies, and fertilizer. The study considers only the firms with the availability of data on the shareholding pattern and cash dividend payouts throughout the sample period. This study uses OLS regression modeling to test the hypotheses on secondary data of the sample firms. The firm-specific accounting data has been collected from published annual audited financial statements of the sample firms. Following Ahmad et al. (2016), more firm-specific variables have been included to investigate the hypothesis since such variables significantly affect a firm's financial performance.

Variables of the Study and Measurement

This study uses dividend policy as a dependent variable. Following Afza and Mirza (2011), It measure dividend policy as the dividend payout ratio, which is computed by dividing dividend per share by earnings per share. The study considers ownership concentration (OC), institutional shareholding (INST), and foreign shareholding (FORE) as independent variables. OC is a measure of the extent to which a firm's ownership is condensed in the hands of single and few investors (Pursey et al., 2009). Hirschman Herfindahl Index (HHI) is used to measure the degree of concentration (Hirschman, 1945). This study computes HHI using the following equation;

$$HI = \sum_{i=1}^{N} EF_i^2$$

It sums the squares of the portion of equity shares owned by each shareholder (Cespedes et al., 2010). In this model, HHI symbolizes the Hirschman Herfindahl Index, *N* represents the number of shareholders, EF_i denotes the fraction of equity held by a shareholder "*i*", where *i*= 1,2, 3...N. A lower HHI value denotes low concentration and vice versa. Institutional shareholder involves financial institution, insurance companies, pension, and mutual funds; the study uses the percentage of equity owned by institutions following Kouki and Guizani (2009). Foreign shareholding refers to both foreign companies and foreign individual non-

resident investors. It is measured as the percentage of shares held by foreign investors. Following the literature (Demsetz & Villalonga, 2001; Ullah et al., 2012; Rashid & Nadeem, 2014), the study also includes some control variables such as profitability (PRO), liquidity (LIQ), and firm size (FS). The study determines profitability as ROE computed by dividing net income by owners' equity (Hamid et al., 2016). Liquidity is the acid test ratio computed as dividing current assets less stock over current liabilities (Epaphra & Nyantori, 2018). The study measures firm size as logarithms of total sales (Mossadak et al., 2016).

Model Specification

We run the following models to determine the relationship between independent and dependent variables:

$$DPO_{it} = \alpha_0 + \beta_1 OC_{it} + \beta_2 INST_{it} + \beta_3 FORE_{it} + \beta_4 PRO_{it} + \beta_5 LIQ_{it} + \beta_6 SIZE_{it} + \varepsilon_{it} \qquad (1)$$
$$DPO_{it} = \alpha_0 + \beta_1 OC_{it} + \beta_2 INST_{it} + \beta_3 FORE_{it} + \beta_4 PRO_{it} + \beta_5 LIQ_{it} + \beta_6 SIZE_{it} + v_{it} \qquad (2)$$
$$DPO_{it} = \alpha_0 + \beta_1 OC_{it} + \beta_2 INST_{it} + \beta_3 FORE_{it} + \beta_4 PRO_{it} + \beta_5 LIQ_{it} + \beta_6 SIZE_{it} + \mu_{it} + v_{it} \qquad (3)$$

Equation 1 specifies OLS specification, presuming the nonexistence of heterogeneity across the entities. Equation 2 presents the fixed-effect model able to control heterogeneity among entities in the intercept parameter α denoting the entity-specific fixed effects. This α_i signifies ignorance about all of the other systematic factors that predict explained variables except for explanatory variables, in the Equation 3, heterogeneity across firms is factored in the GLS random effect as a random component. Where it implies individual-specific error or between-entity error, and it indicates usual regression error or within-entity error. In the above models, β, i, and t represent group-specific slopes, 56 firms, and 9 years, respectively.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 below provides the descriptive statistics of the data under study. As per the findings, the mean value of DPO is found to be 0.426, which means that, on average, 42.6% of the earnings are being given as dividends to shareholders, with a standard deviation of 2.245. Since the dividend amount is always positive, the data is positively skewed. The OC as measured by HHI is found to be 0.263 while the mean value of Institutional ownership is 0.126, which posits that only 12.6% of the institutional investment is in the dividend-paying companies. The same is the case with foreign investment, where this percentage is only 8.6%.

Table 1. Descriptive statistics.

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
DPO	611	.426	2.245	-53.51	9.7	.06	1.66	-22.624	547.439
OC	581	.263	.266	0	3.54	.01	.89	4.329	45.684
INST	581	.126	.994	0	23.72	0	.4	23.111	547.459
FORE	590	.086	.465	0	8.37	0	.83	14.385	236.626
PRO	612	.57	6.291	-.97	155.75	-.05	1.92	24.59	607.099
LIQ	612	.02	.067	0	.76	0	.43	6.876	54.903
SIZE	612	16.148	1.533	11.7	23.12	12.85	20.43	0.297	3.839

Model Selection Criteria

We run the F-test, the Breusch-Pagan LM test, and the Hausman test to select the best model to estimate for panel data analysis. The results are given in Table 2. To select between pooled or fixed estimations, the F-test that all $u_i=0$: F(55, 441)=10.63, Prob> F = 0.0000 indicates that the significant individual effects are present, and thus the fixed effect is preferred. For the pooled OLS or random effect regression, the Breusch-Pagan LM test is done. The null hypothesis in the LM test is that variances across entities are zero, $\chi^2 = 344.20$, Prob> F = 0.0000, and thus favors the random effect estimation. Now, to choose between fixed and random models, we run the Hausman test. Given that the Hausman test produces a p-value of 0.0000, which

means the modifications among estimators are systematic at the 5% significant level, we choose the fixed effect model.

Table 2. Finding of model selection tools.

Models	Tests	Results	
Pooled vs Fixed	M) test 2F that all ui=0$^\alpha$	F test (55,441) =10.63	Prob>chic2 =0.000
Pooled vs random	Breusch and Pagan Lagrangian multiplier) testb	Chic bar 2(01) =344.20	Prob>chic2 =0.000
Fixed vs random	Hausman Test	Chic 2(6) = 107.46	Prob>chic2 =0.000

Pre-estimation Tools

We computed the variance inflation factor (VIF) shown in Table 4 to detect the presence of multicollinearity among independent variables. The explanatory variable VIF value is less than 1.67, confirming no issue of multicollinearity. We run Modified Wald's test for testing group-wise heteroskedasticity in the fixed effect regression model as given in Table 3. The χ^2 value of 10545.49, significant at 0.05, rejects the null hypothesis of homoskedasticity as given in Table 3. Wooldridge test was used to check autocorrelation in the panel data is unable to discard the null hypothesis, i.e., no serial correlation, and confirms the presence of the first-order autocorrelation in data with an F-value of 7.302 significant at 0.05 as given in table 3. Pesaran's (2004) spatial autocorrelation test is done to check if the data have cross-sectional dependence or contemporaneous correlation. The Cross-sectional independence value of 4.601 significant at 0.05 estimating with fixed effects shows cross-sectionally dependent regression residuals as given in Table 3. According to Hoechle (2007), a fixed-effect regression model with Driscoll and Kraay's (1998) standard errors has been used to solve the issues of cross-sectional dependence and heteroskedasticity specification in panel data.

Table 3. Pre-Estimation tests.

Wald test	
H_0: sigma (i) ^2 =Sigma^2for all i	
Chic2 (56) =	10545.49
Prob>chic2=	0.000
Wooldridge test for autocorrelation in panel data	
H_0: no first-order autocorrelation	
F (1,55) =	7.302
Prob>F =	0.0091
Pesaran's Test	
H_0: Residuals are not correlated.	
Cross-sectional independence =	4.601
Prob =	0.0000

Regression Estimation and Analysis

The OLS model equation (1), the fixed-effect model equation (2), and the random effect model equation (3) have been used. The results of a regression performed plus the refinements of the fixed-effect model, i.e., the Driscoll-Kraay fixed-effect model, are given in Table 4.

Table 4. Regression results and diagnostic test.

Variables	OLS Estimation	Fixed Effect Estimation	Random Effect Estimation	Driscoll-Kraay Estimation	VIF
OC	0.30697***	0.23619*	0.28541**	0.23619***	0.89082
	(0.471)	(1.08)	(2.95)	(2.82)	
INST	0.88757***	0.59749**	0.67113***	0.59749***	0.88573
	(5.61)	(2.59)	(3.41)	(3.05)	
FORE	0.54241**	0.01583*	0.02119*	0.01583*	0.98409
	(2.01)	(0.76)	(1.11)	(2.46)	
PRO	0.29126***	-0.18126***	-0.07588*	-0.18126***	0.89926
	(5.53)	(-3.47)	(-1.50)	(-3.61)	
LIQ	0.37861**	0.19188*	0.22448*	0.19188***	0.95917
	(1.96)	(1.00)	(1.21)	(3.66)	
SIZE	-0.00401*	0.01219*	0.01306*	0.12189*	0.90299
	(-0.44)	(0.60)	(0.92)	(0.98)	
C	0.29756**	0.23234*	0.16940*	0.23234*	-----
	(2.05)	(0.70)	(0.72)	(1.09)	
F-stat/	15.65***	3.67***	23.37***	374.44***	-----
(Wald χ^2)	F (6,496)	F (6,441)	Wald χ^2(6)	F (6,55)	
R^2	0.1586	0.0475	0.0372	0.1586	-----
Prob > χ^2	0.0000	0.014	0.007	0.0000	-----

Note: n = 503, *P < 0.10; **P < 0.05; and ***P < 0.01.

Table 4 represents the results of the panel data regression analysis summarized for all the explanatory variables. At first, we run simple OLS ordinary least squares, fixed-effect, and random-effect models. The significance values of all the models are OLS (prob> F= 0.000), fixed effect (prob > F= 0.014), and Random effect (prob>chic2= 0.007). The value of the F-test ensures that all the regression models are significant and fit well with data to examine the impact of explanatory variables on dividend payouts. The first column presents OLS model results; the t-value is given in brackets under each independent variable coefficient value. The coefficient value of variables simply tells us how much the response variable changes for one unit of change in the independent/predictable variable. The concentration coefficient (0.30697), together with a significant p-value (0.000) suggests a 30% positive change in DPO when concentration increased by one unit. The coefficient of institutional ownership (0.8875679) and foreign ownership (0.542409), along with a significant p-value (0.000), (0.045), recommend that there are 88% and 54% favorable change in DPO due to one-unit change in institutional and foreign shareholding, respectively. Similarly, profitability (0.2912567) and liquidity (0.3786125) showed positive relations and caused 29% and 37% change with a change in independent variables, whereas the p-value of these two control variables is also acceptable. Firm size with a coefficient (-0.0040697) showed a negative 0.40% change in DPO with a one-unit increase in a predictable variable and insignificant dividend payouts since the p-value (0.659) is far greater than the accepted value. The higher the t-value, the more reliable the coefficient and two-tail p-value showing the statistically significant relations between independent and dependent variables. It is considered that if there is heterogeneity among the entities, OLS would not be the right specification to be used, either; a fixed/random effects model should be estimated. The second column displays the result of the fixed-effect model in which all independent variables other than profitability positively related to DPO and coefficient suggesting 23%, 59%, and 1.5% change in DPO, respectively. The p-value of foreign shareholders (0.446), liquidity (0.319), and firm size (0.549) suggest their positive but insignificant relations. Profitability with a coefficient (-0.1812597) suggests a negative 18% change in DPO with a one-unit increase in profitability, but significantly related to dividend payouts, as the p-value (0.001) is less than (0.05), which means a

variable has a significant negative influence on a dependent variable. The third column displays the results of the random effect model, the coefficient of all independent variable concentration (0.2854071), institutional (0.6711323), foreign (0.0211896), liquidity (0.2244796), and firm size (0.0130643) other than profitability positively related to DPO. In contrast, profitability with a negative coefficient (-0.0758792), higher than the accepted p-value (0.134), is negatively and insignificantly related to dividend payouts. The p-value of foreign shareholders (0.268), liquidity (0.228), and firm size (0.356) suggest their positive but insignificant relations. Hausman specification test supported the fixed-effect model. Owing to the existence of cross-sectional dependence, the Driscoll and Kraay standard error has been used for estimation. This model shown in column four has appears to be the best model fit for the analysis. The results of Driscoll and Kraay's standard errors portray that all independent variables display a positive and significant relationship with the dependent variable. The R^2 value is 0.1586, which indicates independent variables caused by almost 16% variations in the dividend payouts ratio. Ownership concentration, which is the key independent variable of the current study, has a positive relationship with the dependent variable dividend payout with the value of a coefficient of 0.23618. That is statistically significant at a 1% significance level as the p (0.007) value is less than 0.01. This means that the more concentrated ownership will be, the higher the dividend it will pay. This positive relation supports our hypothesis and is consistent with previous research findings (Abdullah et al., 2011; Easterbrook, 1984; Anh & Tuan, 2019; Setiawan et al., 2016; Arora & Srivastava, 2021). Similarly, the p-value of foreign shareholders (0.0158319), liquidity (0.1918778), and firm size (0.121889) suggest their positive but significant relations. This association supports the study's hypothesis and is consistent with (Azzam, 2010; Reyna, 2015; Sindhu et al., 2016). The foreign ownership positive correlation concludes that higher foreign ownership ensures higher dividends to eliminate the chances of agency issues by disgorging free cash from managers (Ullah et al. 2012).

CONCLUSION AND RECOMMENDATIONS

The findings of the study posit that there is a positive significant relationship between ownership concentration and dividend policy. The research attained its objectives of finding out the answers to three questions. The questions intend to explain if there is any relationship between dividend payout and ownership concentration, institutional & foreign shareholders through panel data regression analysis. The longitudinal data requires selection from among pooled, fixed, or random-effect models, as the pooling model ignores unobserved heterogeneity, whereas the other two approaches account for unobserved heterogeneity. Further, the Hausman specification test is carried out to choose between random and fixed-effect models. The p-value is smaller than 0.05, which favors the fixed-effect model. More tests are run to check the presence of multicollinearity, heteroskedasticity, and autocorrelation. Pesaran's Test of Cross-Sectional Independence and Wald's test for group-wise heteroskedasticity findings reveal both issues are present in the data. To sort out the problem of both serial & spatial auto-correlation and cross-sectional dependence, the fixed-effect model with Driscoll and Kraay standard error has been used for estimation. Other than profitability, all variables show a positive impact on dividends. The findings are consistent with prior studies and partly support the hypothesis. The result suggests OC is significantly impacting Pakistan's non-financial sector regardless of the identity of the concentrated owner, meaning that concentration contributes positively to dividend policy, or its presence may lead to the use of dividend payout to mitigate agency problems. Despite the positive link, it also favors the assumption that large shareholders can influence management, and the impact could be vice versa. So, investing in concentrated firms requires more vigilance by the small investors. Further, individuals and minority shareholders need to hire a competent board of directors. It also requires a professional attitude on the part of management when making decisions so that individuals or minority shareholders may not bear the cost of large shareholders' benefits. Similarly, the positive association between institutional and foreign shareholders indicates they tend to use dividend-induced monitoring of management. The control variables, liquidity, and firm size have a positive impact on dividends. However, the size of the firm is insignificant. However, the negative

association with profitability is a rare case. It suggests that increasing profit leads firms to seek investment opportunities and lowers the dividend. The increase in net income will cause a decrease in the dividend payout ratio in the firms used in the study. To understand more about the dividend policies of Pakistani firms, one should also consider these firms' ownership structures in terms of public, state-owned, and private-owned entities. Research in the future is also encouraged to see how Pakistani firms change their dividend policies in response to the regulatory requirements as to ownership structure and mandatory dividend payments. Future researchers can also consider stock dividends. Further, future research may examine this ownership concentration-dividend policy relationship by extending the sample size of firms.

This current study does not claim a complete depiction of ownership structures and agency problems in Pakistan. Its findings cannot be generalized as the sample size is not large enough and based on purposive sampling. The ownership concentration-dividend policy relationship was analyzed only of the firms paying cash dividends across the sample period continuously. Further, the firms paying a higher dividend for more than five years were also not considered for getting more accurate results from panel data regression. The study did not focus on the degree of concentration and how concentrated the firms are. Also, the period is not a time series; rather, it covers only one business cycle.

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