

# Firm Level Determinants and Dividend Policy in Pakistan

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**Abstract:** Dividend policy is a challenge in the field of corporate finance. This paper finds out the important factors of dividend policy of Pakistani listed firms. The current paper aims to examine the impact of firm specific factors of dividend policy in Pakistan. The factors examine in this study are profitability, free cash flow, firm size, liquidity, financial leverage, investment opportunities and corporate tax. The data are collected from annual reports and Pakistan Stock Exchange. To accomplish the objective, financial data from 2000 to 2017 are collected and analyzed to examine the impact of firm level determinants on dividend payout. This paper used pooled ordinary least squares model and fixed effect model. The findings reveal that firm specific factors have significant influence on dividend policy in Pakistan. The profitability of firm and corporate tax has positive influence, whereas firm size and investment opportunities have negative impact on dividend payout. The implication of current research is useful for board of directors and managers to decide the appropriate dividend policy for firm. This study is also helpful for investors about investment decision. This research is a contribution to the existing body of knowledge about the determinants that influence dividend policy of Pakistani listed firms. Future researcher should use the same phenomenon in different emerging economies using the different approach to reduce the dividend puzzle in the field of corporate finance.

**Index Terms:** Dividend Payout; Firms Specific; Dividend Puzzle

## I. INTRODUCTION

Dividend policy and determinants of dividend policy remains a much-studied topic in the field of corporate finance literature. Even though many similarities exist amongst the several verdicts involving dividend policy factors. The differences in empirical findings emerges not only because of contextual differences between developed and emerging economies but also because of research methodologies used to identify the significant factors of dividend policy. Past studies found that it is a common question that arises why firms pay dividends? This question is focus of research since long time and after a dividend puzzle it becomes a burning topic as a question for further discussion. [1] and [2] provides evidence to reduce the agency conflict, firms should use dividend payout policy. The findings reveal that if companies

will not pay dividends, the managers will use firm resources for their personal benefits. [1] found that firms can reduce the control of managers over the resources by paying dividends. Influential study of [3] referred dividend policy as a dividend puzzle, "The harder we look at the dividend picture the more it seems like a puzzle, with pieces that just don't fit together". [4] discussed about the top ten problems in advance corporate finance which are unresolved, dividend policy is one of among those problems.

It is a consensus that there is no single explanation of the dividend policy about theories and determinants. Some studies debated the factors of dividend policy in recent times are [5], [6], and [7]. Earlier research focused mostly on developed markets, while the limited evidences are found on the factors of dividend policy in emerging countries [8, 9]. Consequently, the controversial findings of earlier studies on dividend policy exert influence on researchers to examine the important factors of dividend policy in Pakistan. Hence, this paper aims to investigate the significant determinants that effect the dividend policy of Pakistani non-financial listed firms and identify the importance of significant factors on the dividend policy of Pakistani listed firms.

Pakistan Stock Exchange (KSE) listed firms have complete authority to decide dividend policy except that Section 241 of Companies Act of 2017. This section obliges them to pay dividend out of their profits. Furthermore, no specific procedures have been formulated by Security and Exchange Commission of Pakistan (SECP) or any other legal institution for the business sector that stipulates the dividend payout policy. In addition, the tax system in Pakistan is totally different as compared to developed countries. Thus, there is a prospect of differences in the tax system that may affect the dividend payout in Pakistan. Since, adverse tax management of dividend income is a more thoughtful issue in Pakistan than developed countries such as United States. Therefore, this study focuses on the dividend policy of the non-financial firms of Pakistan to fill this gap in the literature to investigate the influence of firm specific determinants on dividend policy. This study might be helped the current and potential shareholders in decision making for their investment. The intent of the study is to examine the significant factors of dividend policy of Pakistani listed firms.

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II. LITERATURE REVIEW

Previous findings have presented explanations through theories for dividend payout based dividend policy determinants [10-12]. [12] emphasize on this argument that one theory or an aspect is unlikely to describe the dividend policy. [1] and [13] claimed that theory bird in the hand explains that shareholders desire to receive dividend on capital gains. They reasoned that the dividend payout is not as much of risky as the capital gain. Consequently, prosperity of dividend paying firm grows if dividend payout is increased. [14] proposed the irrelevance theory of dividend which explains that dividend policy had no effect on value of that firm and investors wealth. Thus, it was considered as irrelevant in perfect market. It had remained a thought that the costs of dividend payment reduce their wealth with the tax effect. Consequently, shareholders desire to receive capital gain to dividend pay out, that is supported by tax preference theory. [15] Dividend payout is altered not only by the internal factors of firm i.e. profitability, investment opportunity and liquidity but influence also by the external factors like growth and tax rate. These external factors show a substantial role in dividend policy. [16] found that dividend policy is determined by profitability, investment opportunities and financial leverage. Large size and profitable firms' payout more dividend. [17] explored that profitability of firm, business tax and free cash flow are positive related to dividend policy. Investment opportunities have negative relationship with dividend policy.

[18] elucidates that market liquidity and ownership concentration have positive relation with dividend policy while financial leverage and investment opportunities have negative relationship with dividend policy. The dividend policy has also influenced by market capitalization and firm size which reveal that companies choose to invest in assets afore dividend payment to investors. [19] elaborated the determinants of dividend policy which shows that the liquidity and beta as a substantial determinant of the dividend policy. Alternatively, free cash flow, tax, growth in sales and investment opportunities does not influence dividend policy. [20] demonstrate the influence of cash flow, growth opportunities, size, government ownership, financial leverage, growth rate, profitability and business risk on dividend policy. They found that the empirical findings reveal government ownership, size and profitability are positive affecting dividend policy. Despite the fact, financial

leverage negatively affected dividend policy. It also shows that the firms payout dividend to mitigate the agency conflict and to sustain firms repute, since that a limited protection for outside investors. To keep the status firm dividend decision making is highly depends on firm profitability, which shows that the firm believes to alter the dividend policy regularly should not follow the long-term dividend policy.

[21] explore the elementary determinants of dividend policy i.e. ownership structure, financial leverage, firm liquidity, growth, and profitability of firm. The research found that the financial leverage and liquidity of firm are the significant determinants of dividend policy. [22] investigates the factors affecting dividend policy of firms and results reveal that profitability has positive associated to dividend policy. However, the reverse association found among beta, price earnings ratio, and financial leverage. Firm size and retained earning do not have effect on dividend policy. [23] analysed the dividend policy in Pakistan and determined that cash flow and profitability have been positive related to dividend policy. However, the separate ownership, firm size, sensitivity of cash flow, and financial leverage have been found negative associated to dividend policy. The study examined that managerial ownership, individual ownership, cash flow, and firm size are significant determining factors of dividend policy. However, profitability and financial leverage do not play a significant role in determining dividend policy of firms.

[24] illustrates the factors of dividend payout of Sri Lanka companies. They found that investment opportunities, past dividends, profitability and dividend premium are important determining factors of dividend payout. The research study also uncovered that investment opportunities are negative associated to dividend policy. Conversely, profitability, past dividends and dividend premium are negative associated to dividend payout. Furthermore, [25] found that profitability, past dividends, investor preferences and investment opportunities are significant determinates of dividend policy and all are positive associated to dividend policy. Grounded on extensive literature, this research study anticipates that profitability, free cash flow, firm size, financial leverage, liquidity, investment opportunities and corporate tax has an impact on dividend payout of non-financial Pakistani listed firms. Table 1 displays the summary of selected past studies literature.

Table 1 Summary of Selected Past Studies on Firm Specific Variables and Dividend Policy

Author	Period/Annual	Region/ Country	Methods	Results
Dewasiri et al [24]	2010-2016	Sri Lanka	Binary Logistic Regression and Fixed Effect Panel Regression	Past dividends, dividend premium, profitability, and investment opportunities, show significant impact on dividend policy
Baker et al [25]	2010-2016	Sri Lanka	Triangulation Approach	Past dividends, investor preferences, investment opportunities and profitability show extensive impact on dividend policy

Author	Period/Annual	Region/Country	Methods	Results
Singla and Samanta [26]	2011-2016	India	Panel Fixed and Random Effect Regression	Profitability, life cycle, firm size, and cash flow are significant.
Hudiwijono et al [27]	2010-2016	Indonesia	Multiple Regression Analysis	Profitability, financial leverage, liquidity, firm size, free cash flow, growth of firm, and business risk are substantial factors
Gangill and Nathani [28]	2007-2016	India	Multiple Regression Analysis	Profitability and growth opportunities are significant
Yusof and Ismail [29]	2006-2010	Malaysia	Pooled OLS, Fixed and Random Effect Panel Regression	Earnings, firm debt, firm size, investment opportunities and large shareholders are significant.
Arko et al [30]	1997-2007	Sub-Saharan Africa	Generalized Least Squares and Probit Model.	Profitability, leverage, investment opportunities, taxation, risk and institutional shareholding are influential.
Abor and Bopkin [31]	1990-2006	34 emerging countries	Fixed Effects Panel Model	Profitability, stock market capitalization and investment opportunities are significant.
Ahmed and Javid [18]	2001-2006	Pakistan	Panel Regression	Net earnings, market liquidity, ownership concentration, investment opportunities, market capitalization, leverage, and size of the firms are significant.
Al-Malkawi [32]	1989-2000	Jordan	Tobit Model	Size, age, and profitability are significant.
Amidu and Abor [17]	1998-2003	Ghana	OLS Model	Profitability, growth in sales, cash flow, and investment opportunities are significant.

Source: Authors' compilation

### III. METHODOLOGY

This research paper investigates the determinants of dividend payout in Pakistan. Thus, to get better understanding of dividend payout in Pakistan, this research study investigates the dividend payout of non-financial listed firms on PSX during the period from 2000-2017. This research employs sample period from 2000-2017, which is selected due to various reasons specifically in 2000 strict and prevalent guidelines formulated by SECP to protect investors. In addition, sample period from 2000 to 2017 is characterized by a significant economic and social changes which inevitably have an influence on dividend policy. Hence, the research used census sampling that is very flexible and generates results which represents the whole population. This research excludes the financial firms because of its unlike behavior as compare to non-financial firms. The study includes firms which are listed on Pakistan Stock Exchange and dividend paying as well. The research focused on secondary data, which was extracted from various reliable sources i.e. State Bank of Pakistan, Pakistan Stock Exchange, and annual reports.

This research study employs the panel data techniques regarding the nature of the data. According to [33], panel data technique provides more variability and degree of freedom that reduces the collinearity problems amongst independent variables. Furthermore, panel data have the ability to capture the special effects that are not obvious in

cross-section or time series data [34]. The dataset comprises in this study are the ones that distribute dividend includes 134 firms. The study used unbalanced dataset to capture the accuracy of results. Moreover, the firms which have minimum data availability time period, is included in the unbalanced panel.

Table 2 Variables Proxy and Data Sources

Variable	Proxy	Source of Data
DY	Dividend Per Share/ Share Price	SBP, PSX, and Annual Reports
PROF	Net Income/Total Equity	SBP, PSX, and Annual Reports
FCF	Operating Cash Flow/Total Asset	SBP, PSX, and Annual Reports
SIZE	Log Value of Total Assets	SBP, PSX, and Annual Reports
LIQR	Current Assets/Current Liabilities	SBP, PSX, and Annual Reports
LEVR	Total Debt/Total Equity	SBP, PSX, and Annual Reports





Variable	Proxy	Source of Data
MTBR	Market Value Per Share/Book Value Per Share	SBP, PSX, and Annual Reports
TAX	Corporate Tax/Income Before Tax	SBP, PSX, and Annual Reports

Note: DY represents dividend yield, PROF represents profitability, FCF represents free cash flow, SIZE represents size of the firm, LIQR shows liquidity, LEVR shows the financial leverage, MTBR shows investment opportunities and TAX represents corporate tax, SBP shows state bank of Pakistan, PSX represent Pakistan stock exchange.

Models are estimated by using pooled ordinary least squares (pooled OLS) regressions and fixed effect to explain the significant factors of dividend policy across non-financial Pakistani listed firms. Regression models employed in current research are estimated by using Gretl statistical package. Dividend policy factors are observed using dividend yield as a dependent variable. In current research, for selection of most suitable technique, the study used LM test. The verdicts of LM test is significant and rejects the null hypothesis, which reveal that results of pooled OLS regression is rejected. In addition, for selection of appropriate panel model, the study used the Hausman test in which the p value is < 0.05, T null hypothesis of the suitability of random effect model is rejected. Hence, the current research proceeds with the fixed effect for the analysis.

The research elucidates the factors of dividend policy based on pooled OLS regression and fixed effect analysis. Thus, equation 3.1 offers the anticipated relationship between firm specific factors and dividend yield based on pooled OLS regression.

$$DY_{it} = \alpha + \beta_1(PROF)_{it} + \beta_2(FCF)_{it} + \beta_3(SIZE)_{it} + \beta_4(LIQR)_{it} + \beta_5(LEVR)_{it} + \beta_6(MTBR)_{it} + \beta_7(TAX)_{it} + \epsilon_{it} \tag{3.1}$$

Where,  $DY_{it}$  is firm dividend yield of firm  $i$  in time  $t$ ,  $\alpha$  is the intercept of the equation, with firm level determinants are (PROF) profitability, (FCF) free cash flow, (SIZE) size, (LIQR) liquidity, (LEVR) financial leverage, (MTBR) investment opportunities, (TAX) corporate tax and  $\epsilon_{it}$  shows the error term. Furthermore Equation (3.2) shows the following expression;

$$DY_{it} = \alpha + \beta_1(PROF)_{it} + \beta_2(FCF)_{it} + \beta_3(SIZE)_{it} + \beta_4(LIQR)_{it} + \beta_5(LEVR)_{it} + \beta_6(MTBR)_{it} + \beta_7(TAX)_{it} + \mu_i + \epsilon_{it} \tag{3.2}$$

Where,  $DY_{it}$  is firm dividend yield of firm  $i$  in time  $t$ ,  $\alpha$  is the intercept of the equation, with firm level determinants are (PROF) profitability, (FCF) free cash flow, (SIZE) size, (LIQR) liquidity, (LEVR) financial leverage, (MTBR) investment opportunities, and (TAX) corporate tax. The firm fixed effects  $\mu_i$  control for cross sectional differences in the firm characteristics and  $\epsilon_{it}$  shows the error term.

IV. RESULT AND DISCUSSION

The study examines the preliminary analysis, such as, screening of data and diagnostic summary i.e. collinearity, normality and heteroscedasticity. Panel regression models are estimated by using pooled ordinary least squares regression and fixed effect model.

Table 3 Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
DY	6.64	7.81	0.00	114.70
PROF	0.09	1.57	-47.51	9.88
FCF	0.18	0.27	-1.52	1.88
SIZE	15.22	1.56	9.83	19.73
LIQR	1.88	4.74	0.10	138.50
LEVR	0.45	1.04	-8.50	33.28
MTBR	2.17	6.77	-38.49	198.50
TAX	0.40	8.22	-50.94	333.90

Table 3 summarized the descriptive summary of all variables. Mean of dividend yield is 6.64 with maximum 114.7 and minimum of zero and standard deviation is 7.81. Profitability mean is 0.09 with standard deviation 1.57, minimum -47.5 and maximum 9.88. Free cash flow ranges from minimum -1.52 to maximum 1.88 with mean value 0.18 and standard deviation 0.27. Firm size mean is 15.22 with standard deviation 1.56, maximum 19.73 and minimum 9.83. Liquidity shows mean value 1.88 with standard deviation 4.74, minimum 0.10 and maximum 138.50. Financial leverage reveals mean value of 0.45 with minimum -8.50, maximum 33.28 and standard deviation 1.04. Investment opportunities ranging from -38.49 to 198.50 with mean values 2.17 and standard deviation 6.77. Corporate tax mean is 0.40 with standard deviation 8.22, minimum -50.94 and maximum 333.90. The standard deviation show that each variable is deviated from its mean value.

Analysis of correlation matrix in table 4 and variance inflation factor (VIF) in table 5 show that the data are free from multi-collinearity. As panel data suffer from the issue of heteroskedasticity thus, the robust estimation confirms that data set are free from issue of heteroskedasticity [29]. Hence, to mitigate the autocorrelation and heteroskedasticity in panel, robust estimates are used [26]. To diminish the abnormality of data set, this research took natural logarithm of variables.

Table 4 Correlation Matrix

	DY	PROF	FCF	SIZE	LIQR	LEV	MTB	TAX
DY	1.000							
PROF	0.046	1.000						
FCF	-0.031	0.241	1.000					
SIZE	-0.086	0.007	-0.140	1.000				
LIQR	0.057	0.158	-0.015	-0.073	1.000			
LEV	0.024	-0.181	-0.101	0.050	-0.492	1.000		
MTB	-0.246	0.476	0.206	0.144	0.006	-0.112	1.000	
TAX	0.035	-0.072	-0.010	-0.041	-0.121	-0.082	0.154	1.000

Note: Table displays the correlation among the variables. DY, dividend yield; PROF, profitability; FCF, free cash flow; SIZE, firm size; LIQR, liquidity; LEVR, financial leverage; MTBR, investment opportunities; TAX, corporate tax

Table 5 Variance Inflation Factor

PROF	FCF	SIZE	LIQR	LEVR	MTBR	TAX
1.433	1.119	1.081	1.712	1.784	1.401	1.079

Table 6 show that models are significant at 1% level in explaining the dividend policy. Profitability, firm size, investment opportunities, and corporate tax are significant determinants of dividend policy based on fixed effect model. None of the other variables reached significance. In table 6 findings of the research are in detail and F-value statistics of models show the model fitness and significance.

Table 6 Determinants of Dividend Policy

Variables	Pooled OLS	Fixed Effect
Const	2.063(0.000)***	4.031(0.000)***
PROF	0.150(0.013)**	0.137(0.000)***
FCF	0.004(0.886)	-0.011(0.670)
SIZE	-0.015(0.653)	-0.134(0.001)** *
LIQR	0.089(0.442)	0.053(0.593)
LEVR	0.007(0.841)	0.009(0.756)
MTBR	-0.252(0.000)** *	-0.404(0.000)** *
TAX	-0.021(0.696)	0.078(0.051)*
F-Stat	5.475	15.954
P-value	0.000***	0.000***

Note: The significance level as follow, \*\*\* significant at the 1% level, \*\* significant at the 5% level, and \* significant at the 10% level.

This research explores the significant factors of dividend policy in Pakistan. The study analyzed the results of research objectives. Based on the objective, the study examines the determinants of dividend policy. Profitability is positive significant factor of dividend policy of non-financial Pakistani listed firms. The finding is consistent with the earlier studies [24-26]. Findings of profitability supports signaling theory [35, 36] that when firms are more profitable, it will pay more dividend to investors. Firm size is negative related to dividend policy which reveal that large firms desire to pay a lesser amount of dividend, which is consistent with the results of [18]. Findings are followed by life cycle theory, that demonstrates that companies have more opportunities which are in need of more funds for developments. Thus it pays a lesser amount of dividend to investors [18, 37]. The results show that firms with more investment opportunities pay a smaller amount of dividend in Pakistan for the reason that firms having more investment opportunities are willing to hold their earnings to invest in projects, as an alternative of paying dividend to investors. The results of the research confirm the agency cost and free cash flow theory of dividend policy. Corporate tax displays a positive relationship to dividend policy, which shows that companies with higher tax rates are paying more dividends. Findings of the research corroborates the findings of [17, 38] that also found positive relationship among corporate tax and dividend policy.

## V. CONCLUSION

This research aims to investigate that the firm level determinants have significant impact on dividend policy in

Pakistan. This study is beneficial for investors, managers and researchers. The study shows that the shareholders are concerned to get more dividend and consider profitability, firm size, investment opportunities and corporate tax before investing in the specific firm. Managers of the firm should also focus on all those factors which are influencing the dividend policy before formulating dividend policy. Future academicians and researchers should use propensity to pay dividend and dividend payment at the same time when examining the significant determinants of dividend policy in other countries to contribute for a consensus on dividend puzzle.

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