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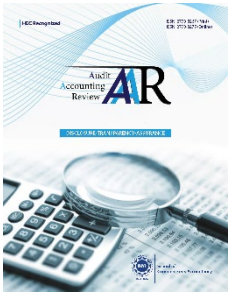

Title: **Cash Flows, Earnings, and Dividend Payout Nexus in Pakistan: A Case Study of KSE-100 Index**

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Cash Flows, Earnings, and Dividend Payout Nexus in Pakistan: A Case Study of KSE-100 Index

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Abstract

The nexus between cash flows, earnings, and dividend payout in Pakistan holds paramount importance for investors. It enables them to assess the financial health and stability of companies listed on the Karachi Stock Exchange-100 (KSE-100) Index, make informed investment decisions, and manage risks effectively. Therefore, the current study discusses the importance of dividends in corporate finance and the factors that affect the dividend payouts, particularly in the context of Pakistani listed companies in the Pakistan Stock Exchange (PSX). The contradictory nature of dividends has made it a fundamental issue of corporate finance, which has been studied in relation to a firm's investment and financing decisions as prime variables. This study has found that earnings per share and free cash flow affect the level of dividends in the surveyed companies, with earnings per share having a positive but insignificant impact on the dividend per share. Profitability has a positive effect on dividend payout; however, there is no significant effect of earnings per share on the dividend. The findings enhance the current body of literature by providing insights into the determinants of dividend payout among the Pakistani listed companies. Furthermore, these findings are valuable for investors decision-makers, and policy makers, which make informed investment decisions. The study also identified problems for management and investors and other researchers who are conducting different studies to assess firm behaviour regarding payout decisions with possible solutions and future implications.

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***Keywords*:** dividend payout decisions, free cash flows, profitability, Pakistan Stock Exchange (PSX)

Introduction

The two most crucial financial decisions a finance manager must make are related to the investments and financing of a firm, which frequently make headlines in the financial texts. The acquisition of real assets is included in the investment decision, while the optimal use of sources of funds to acquire these assets falls in financing decisions. To increase or at the very least to maintain the value of the company's stock, this choice affects how corporate earnings are distributed or retained. The ultimate objective of the finance manager is to ensure that with every corporate decision , the company gets one step closer to achieve its target of wealth maximization of shareholders (Bancel et al., 2009). Consequently, when deciding about the retention or distribution rates of profit, the finance manager must take into account the potential impact of his or her decision on the company's share value as well as the future investment needs of the company.

A firm's reputation with investors is enhanced when a higher-than-optimal dividend is given, but this also lowers the retention rate, or plow back rate of profit, making it more likely that the company would not be able to meet its future investment needs. Then, a typical high distribution rate is not only challenging to maintain over time but also puts strain on the company's reserves, causing the share price to decline. A low-profit distribution rate, on the other hand, may suggest financial mismanagement and a precarious financial condition, which could harm the company's reputation in the market and make it more difficult to get cash from the capital market.

That is the reason why the dividend decision of a firm has been one of the fundamental issues of corporate finance, which has always been studied as concerning firm’s investment and financing decisions. In the last few decades, this subject has been studied comprehensively, yet it remained one of the most debatable issues in the field of finance. This importance of the topic, namely dividends in finance, for researchers, is due to its contradictory nature. Academics have been looking for the missing parts of the dividend puzzle for more than 50 years (Baker, 2009).

For investors, a key component of financial research is how cash flows, earnings, and dividend payout relate to one another. The Karachi Stock

Exchange-100 (KSE-100) Index is used in Pakistan as a standard to measure the performance of the stock market. Investors who want to make wise selections must comprehend the interplay between cash flows, earnings, and dividend payout among companies included on the KSE-100 Index (Ahmed & Javid, 2009).

The inflows and outflows of cash within a business are represented by cash flow, which reveal the business's capacity to produce and manage cash. A company's financial health is strongly supported by positive cash flows, which enable reinvestment, dividend payments, and debt reduction. Negative cash flows, on the other hand, maybe a sign of impending liquidity problems and financial instability. Earnings are a crucial sign of a company's performance, which are frequently quantified through profitability measures like earnings per share (EPS). Higher earnings demonstrate the business's capacity to make money from its main businesses. As earnings have an impact on stock prices and, ultimately, the return on their investments, investors pay close attention to these factors. The fraction of a company's earnings that is paid out as dividends to its shareholders is referred to as the dividend payout. Dividends, a type of return on investment for shareholders, can be an enticing quality for investors looking for income. A company's stability, prosperity, and dedication to shareholder value can be indicated by a continuous and increasing dividend payout (Hashmi & Gulzar, 2022).

For investors in Pakistan, particularly those who have positions in the KSE-100 Index, the relationship between cash flows, earnings, and dividend payout is crucial. Firstly, financial analysis is used by investors to guide their judgments. Understanding the relationship between a company's cash flows, earnings, and dividend payout offers perceptions of its financial stability, the potential for growth, and capacity to produce returns for shareholders. Secondly, cash flows, earnings, and dividend payout trends can all be used to gauge an investment's financial risk. Financial health is indicated by consistent positive cash flows, expanding earnings, and regular dividend payouts, which lower the risk of investment loss. Thirdly, companies having a track record of reliable dividend payouts are frequently preferred by investors seeking consistent returns on their investments. Investors can identify businesses with a consistent dividend policy and assess the sustainability of dividend payments by looking at the relationship between cash flows, earnings, and dividend payout. Lastly, earnings and

cash flows are important factors in determining the value of a company's stock. To determine a company's intrinsic worth, investors use a variety of valuation methods that take cash flows and earnings into account. Stock prices can be impacted by the dividend payout ratio as well since businesses with greater payout ratios may draw income-seeking investors. Moreover, the performance of the Pakistani stock market is measured against the KSE-100 Index as a whole. Investors can gain knowledge about the state of the market and market trends by examining the cash flows, earnings, and dividend payout patterns of the companies included in the index. This knowledge helps them to decide and pick their investment strategy. Investors must therefore grasp the relationship between cash flows, earnings, and dividend payout in Pakistan, particularly within the KSE-100 Index. Investors can successfully assess their financial well-being, manage risk, produce income, value equities, and assess market performance with the help of this knowledge. Investors can make knowledgeable investing choices that are in line with their financial objectives by taking these considerations into account (Rasheed et al., 2022).

The current the study is further sub-categorized in the following sections. Section 2 provides a comprehensive literature review. Section 3 discusses the methodology deployed in the current study. Section 4 provides a detailed analysis and discussions of the results, while section 5 concludes the current research paper along with policy implications for the investors.

Literature Review

The current study is purely concerned with dividends; therefore, it is necessary to take into account relevant measures regarding dividends to obtain the accuracy of the results. There are two types of measures mostly used in corporate finance such as, dividend yield and dividend payout ratio. Reliable measurements have been obtained by these both methods, but they have used different ways to measure dividend payment. The dividend payout ratio deals with the percentage of earnings of the firm, which is distributed to shareholders (Penman & Yehuda, 2009). On the other hand, dividend yield deals with the stock price, which is why external factors affect the dividend yield (Warren et al., 2011).

Furthermore, many researchers have discussed the differences between dividend yield and dividend payout ratio and found that these two terms have some advantages and some disadvantages, which may affect the

outcomes of various studies (Fama & French, 1988; Friend & Puckett, 1964; Lamont, 1998; McManus et al., 2004). Although these terms have the same numerator in their formulae, they describe different aspects. It is revealed from previous studies that dividend payout ratio and dividend yield are quite different; therefore, it is necessary to select the most appropriate term to obtain accurate results. In particular, it was emphasized on the importance of the dividend payout ratio by McManus et al. (2004) who argued that it has more influence in explaining returns. The dividend payout ratio, according to McManus et al. (2004), has a signaling impact that is more useful than the dividend yields because it takes into account external factors as well. In contrast, Fama and Fench (1988) argued that the ability of dividend yield to predict stock return is higher, therefore it gives more concise information. Additionally, they also argued that a change in stock price results in a change in the dividend yield, which also deals with market factors; therefore, the measurement is out of the firm's control (Steven & Jose, 1992). Hence, it is quite difficult to describe measurement, which could effectively explain dividends in a good manner because both have different aspects of dividends. Therefore, while conducting research, the selection of measurement depends on the selected factors of the firm and the research purpose.

A list of factors has been found from existing literature as the necessary determinants of dividend payout, which include leverage, ownership structure, and profitability. Many researches have presented legendry work based on empirical data to investigate the effects of these factors on dividend payouts. The scope of the current study is not to cover a vast literature, though it is possible; however, some key empirical pieces of evidence regarding the relationship between cash flow and payouts are found in the following discussion because describing the factors influencing dividend policy may require too much empirical evidence and theoretical arguments. Therefore, it was suggested by many researchers that no individual factor could explain a company's dividend policy; rather a company's dividend policy is only determined jointly by some country and firm-specific factors (Al-Malkawi, 2007).

Furthermore, it was observed that different companies working in different countries have implemented different dividend policies based on countries' economic, legal, cultural, and institutional scenarios (Glen et al., 1995; Michel & Shaket 1986; Travlos et al., 2001). Management's

decisions to pay dividends got different responses to these factors in different countries. Notably, only a small number of stockholders control the company's business and ownership, which is primarily concentrated in South Asian nations. Therefore, the managers should examine the dividend policy within the cultural and legal framework of the region or a country to formulate policy for small and large stakeholders.

Miller and Modigliani (1961) conducted a study on dividend policy and argued that a firm's value can be increased by higher dividends. This argument was specifically based on the "bird-in-hand" argument. Graham and Dodd (1934) suggested "for a corporation's existence, paying dividends is the sole purpose", for them the firms must sell their shares at higher prices if they are paying higher dividends (Frankfurter & Wood, 2002).

Lintner (1956) argued that when the management believes that the earnings have risen permanently then the dividends are increased by the firm, which means that management perceived that earnings' distribution shifted rightward due to increase in dividends. However, M&M suggested dividends were irrelevant later. It was also argued by M&M that the distribution of a firm's income does not matter; rather the firm's investment decisions and its earning power determine its value. Additionally, they argued that the share's current price of the firm and total return to shareholders is not affected by the firm's dividend payout policy.

Furthermore, Jensen and Meckling (1976) raised the issue of agency cost and argued that funds are curtailed by the cash dividend, which is controlled by the managers, this phenomenon enforces the managers to generate funds from the external market, hence, these ought to be carefully examined by industry professionals. The obligation of the owner to manage the expenditure and investment quality would reduce by decreasing the free cash flow, thus agency problems would also reduce simultaneously. In this scenario, a negative effect was generated regarding the ability of the firm to pay higher dividends by reduced cash flow. The excess cash flow left over after funding all positive NPV projects, which the management may use inefficiently, is what causes the agency problem. Similarly, Berle and Means (1932) argued that unutilized free cash, which is available to the managers' results in interest conflict between shareholders and management.

To investigate the impact of predicted cash flow volatility in deciding the dividend policy of 75 REIT firms, Bradley et al. (1998) conducted research from 1985-1992. Their empirical findings stated that Low dividends are paid by a firm having higher expected volatility of cash flow than those firms having low cash flow volatility. Size, diversification level, and leverage were used as control variables in their study.

Moreover, Miller and Rock (1985) suggested that information about current market earnings could be revealed by the dividend decision through uses and sources of funds identity. Additionally, Marcus et al. (1996) reported that if changes happen in past and current earnings then dividends would also change. Furthermore, they also stated, "We are expecting that managers should take into account their prospects when setting the costs". However, Fama and French (2002) pointed out that dividend is paid by fewer firms and that payments of cash dividends are terminated due to strongly negative earnings. After 1978, dividend-paying firms declined in percentage sharply. A percentage of 52.8% of dividends were paid by the non-financial non-utility firms, which were publicly traded in 1973. Similarly, in 1978 66.5% of payers in proportion were recorded. After this, it declined sharply and only 20.8% of firms were recorded who paid dividends in 1999. However, Farsio et al. (2004) indicated that future earnings are not predicted completely by dividends. They considered four cases into account to assess the influence of earnings on dividends and found an insignificant relationship between future earnings and dividends in the long-run.

A study by Papadopoulos and Charalambidis (2007) used a sample of 72 companies, which were listed on the Athens Stock Exchange between 1995-2002 to examine the effects of particular corporate characteristics on dividend distribution. They divided these firms into retail and industrial firms and then observed that there was not a big statistical difference in dividend payout among them. They concluded that the most important determinant of dividend payout is cash flow and there is a positive connection between cash flow and earnings proportion distributed as dividends. Although, the relationship between leverage, liquidity, size, profitability, and capital structure remained undetermined.

Similarly, Gill et al. (2010) conducted a study in the United States to investigate the determinants of the dividend payout ratio. In their study, the findings of Kapoor and Anil (2008) for the manufacturing and service firms

of America, which were extended. The same variables were chosen in the study, namely market to book value, sale growth, tax, profitability, and cash flow. Out of 500 financial reports a sample of 266 populations were adopted. According to the findings of their study, manufacturing firms' dividend payout ratio is the function of the market-to-book value ratio, profit margin, and tax.

Furthermore, Liu et al. (2007) conducted a study to examine whether equity valuations can be better explained by accounting earnings or operating cash flows. It was found that value could be better measured by earnings forecasts in almost all cases. Further support is provided in the recent work about the abiding relationship between dividends and earnings. Moreover, a strong relationship between expected returns (inclusive of dividends) and earnings was found (Bali et al., 2008).

Reddy (2006) conducted a study with the underpinning theories such as, signaling theory and trade-off theory. In this study, the dividend behaviour of Indian companies, determinants, and movements was examined, to investigate the behaviour of companies, which were listed on the Bombay Stock Exchange. It was also concluded in the study that it was obvious from the stock traded on the Bombay Stock Exchange and New York Stock Exchange that dividend-paying companies declined in percentage from 60.5% in 1990-32.1% in 2001, which means a few companies were paying dividends. Although, dividend-paying firms are generating more profits, have better growth, and are large. Additionally, a signal towards lagged and current earnings was shown by the dividend change but not toward future earnings performance.

Moreover, Farrelly et al. (1986) studied 318 firms listed on the New York Stock Exchange. According to their findings, the picture of past dividends and expected future earnings were the main determinants of dividend payments. Likewise, Pruitt and Gitman (1991) asked financial managers of the 1000 largest firms in the US and concluded that dividend payment is significantly affected by determinants such as, precedent and present-year earnings. Baker and Powell (2012) surveyed some firms listed on the New York Stock Exchange and concluded that these firms were industry-explicit and the main element of dividend payout was the predicted level of future income.

Anil and Kapoor (2008) investigated the Indian IT industry to look into the factors that affect the dividend payout ratio. They conducted this study during the phase of both the boom and recession of the Indian information technology sector from 2000-2006. It was observed that the dividend payout ratio has two basic notable determinants, namely liquidity and beta. Ahmed and Javid (2009) conducted a study to examine the dividend payout in Pakistan. They discovered that dividend payments are set by Pakistani companies based on historical dividends and present earnings after analyzing 320 companies, which were listed on the Karachi Stock Exchange between 2001-2006. Their estimated findings showed that higher dividends are paid by the profitable firms because of cash flows contributed through earning stability and profitability.

However, developed economies primarily focused on the widest possible cross-country analysis of the factors influencing dividend policy. Although some emerging economies are also considered in some studies like India and Jordan, limited evidence has been found from South Asian economies like Pakistan, Bangladesh, and Sri Lanka. Therefore, an attempt has been made to fill this gap by conducting a study in this South Asian country. It is expected that the results would provide insight into the trends and dynamics of dividend policy.

Balios (2016) found out that Greek firms had a long-run constant dividend payout policy. Reportedly, Afza and Mirza (2011) measured two determinants of dividend policy such as cash flow and ownership structure of dividend policy. It was concluded in their study that those firms pay high dividends whose shares are mostly kept by individuals and managers. In contrast, those firms pay fewer dividends whose shares are less kept by the individuals and managers. Moreover, it was also argued in their research that those firms are likely to pay high dividends whose operating cash flows are higher. However, in Pakistan, cash flow sensitivity is less considered.

A study by Perretti et al. (2013) sought to identify the factors, which influence the dividend policy of companies that issue American depository receipts (ADRs). The results indicated profitability, which among other factors was a major determining factor of dividend payout. Highly profitable firms were observed to pay dividends more often than those firms that did not enjoy high profitability. This study, however, focused on macro-economic conditions together with firm-specific factors, while the current study only investigated firm-specific factors.

Musiega et al. (2013) carried out a study to identify the factors that influence the dividend distribution policy of nonfinancial enterprises listed on the Nairobi Securities Exchange (NSE). The study found a strong correlation between dividend payout and firm growth and profitability. Bhayani (2008) examined the influence of earnings on the dividend policy of listed companies in India. Anil and Kapoor (2008) further explored many factors including profitability regarding dividend payout. Al-Malkawi (2007) studied the dividend policy and found that profitability, size, and age of the firm are the main determinants of dividend policy from 1989-2000 in Jordan.

Notably, the work by Rasheed et al. (2022) identified accounting characteristics that strongly predict stock performance at Pakistan Stock Exchange (PSX). The study used panel data, which was taken from the KSE-100 index's nonfinancial enterprises' financial statements for the period 2005-2020. To examine the influence on expected stock returns, a pooled regression model with a fixed effect for fundamental factors and a random effect for anomalous variables was used. The results of the regression study showed that basic accounting factors had a substantial influence on projecting expected return, return yield, and return growth. Although expected return and yield were significantly predicted by the results for anomaly variables, significant earnings growth prediction is not possible. A thorough examination of dividend payouts in the banking industry, with a focus on cash flow and earnings approaches, was provided by Abbas et al. (2023). Using the Ordinary Least Squares (OLS) approach, the study investigated and assessed the factors that affect dividend payouts. 50 manufacturing businesses listed on the Pakistan Stock Exchange between 2017 and 2021 were queried for data for this analysis using their audited financial reports. The findings showed a link between profitability and dividend payments, with companies showing higher dividend payouts when they forecasted high profitability growth. Despite the fact that profitability had a favorable effect on dividend distribution, the study did not identify a meaningful relationship between earnings per share and dividend per share.

Methodology

The data was collected for nine consecutive years (2011-2019) regarding variables of the research from various financial reports of the firms. This study aims to test determinants of dividend payouts of the banking sector,

with an aim to collect the numeric data that determines the characteristics of the selected firms. Noticeably, the collected data had two types of dimensions, namely cross-sections data and time series data. The determinant variables of dividend payouts are then tested and analyzed by multiple OLS regression methods. A sample size of 50 firms, which were listed on the Pakistan Stock Exchange (PSX) between 2011-2019 have had their audited financial records, which were used to determine the variables. As discussed earlier, while talking about dividends, it is perceived as cash dividends by most people, which means cash payments to shareholders. However, apart from the cash dividend, there is another type of dividend payment to shareholders, which can be said to be a stock dividend. Due to a continuous increase in the number of outstanding shares in this situation, the company's assets stayed the same, stock splited, and stock dividends were somewhat comparable (Keown et al., 2007).

The population of the study comprised all the listed companies on Karachi Stock Exchange (KSE). There are 800 companies listed in total; however, 212 symbols are securities rather than entities, our population covered the remaining 588 publicly traded companies.

Table 1

Firms and their Selection

Number of Listed Firms (in Total)		800
Minus Future Contracts	162	
Minus Stock Index Future Contracts	09	
Minus Bonds	41	
		(212)
Total Companies Listed		588
(Financial Firms + non-financial Firms)		(178 plus 410)
(Manufacturing Firms + Services Firms)		(403 plus 185)

This study includes nine variables: one dependent, two independent, five control variables, and one dummy variable. Dividend per share was considered the dependent variable being the focal point of the discussion, while earning per share and cash flow per share were the two selected independent variables. Total Assets, Debt Ratio, Market Book Value Ratio, and Current Liquidity Measure are the four control variables. Table 2 lists the variable and its measurements.

Table 2
Measurement of Variables

Variables	Measurement
Dependent Variable	
Dividend per share (DPS)	(Annual basis)
Independent Variables	
Earnings-per-share (EPSH)	net income/weighted average of common shares outstanding for the year
Cash flow per share (CFPSH)	net income plus depreciation plus net working capital/weighted average of common shares outstanding
Control Variables	
Total Assets (TA)	Rs Million
Debt Ratio (DEBT)	Total liabilities/ total assets
Market-to-book value ratio (MB)	Average price per share/book value per share
Current liquidity (TL)	Total current assets / total current liabilities

The information was gathered from the Karachi Stock Exchange website, annual reports of the chosen businesses, and balance sheet analyses of KSE publically listed businesses for the years 2007-2019. In terms of particular model fit criteria, a linear mixed effects model was employed in this study. The amount of measurements for each business might vary and the measurements do not necessarily need to be obtained at the same set of measurement occasions, hence, this type of model can accommodate intrinsically unbalanced longitudinal data. Additionally, the outcomes of our investigation were strengthened using the Akaike information criteria. Furthermore, two equations were used to conduct the analysis, which are as follows:

$$DPS_{it} = \beta 1 EPS_{it} + \beta 2 CFS_{it} + \beta 3 TA_{it} + \beta 4 TL_{it} + \beta 5 DEBT_{it} + \beta 6 MB_{it} + \mu_{it} \quad (1)$$

$$DPS_{it} = \beta 1 EPS_{it} + \beta 2 CFS_{it} + \beta 3 TA_{it} + \beta 4 TL_{it} + \beta 5 DEBT_{it} + \beta 6 MB_{it} + \mu_{it} \quad (2)$$

- There is a significant positive relationship between Earning per share and Dividend per share.
- There is a significant relationship between Cash flow per share and Dividend per share.
- Both earnings per share and cash flow per share influence dividend payout.
- For Pakistani companies, cash flow per share is the strongest indicator of dividend payout.

Analysis and Discussions

The current study is used to assess the impact of cash flow per share (CFS) and Earnings per share (EPS) on dividend per share. Although, some control variables were present during this analysis, namely Debt ratio, Current liquidity, Total assets, and Market book value ratio. Several techniques were statistically applied one by one to check the relationship among variables and then a conclusion was being drawn from it. First, characteristics of profitability were measured by descriptive statistics. After that, pair-wise correlation was used to test the correlation among variables. Moreover, in this study a panel regression technique with Fixed Effects models, POLS, and Random Effects is used. Furthermore, a Hausman test is also applied to choose among these techniques to apply to the data.

Descriptive Statistics

Descriptive statistics are used to explain the characteristics of data. Data are compared by using this technique through other statistical techniques, namely median, range, mean, mode, and standard deviation.

Table 3

Summary Statistics of Key Variables

Variable	Mean	*SD*	Min	Median	Max
DPS	4.193	2.749	1.11	3.41	11.22
EPS	0.902	0.887	0	0.49	2.64
CFS	9.863	10.32	-7.89	7.08	35
TA	0.952	0.926	0	0.60	3.38
DEBT	2.145	2.445	-1.127	1.51	7.09
MB	10.27	8.294	3.49	7.34	37.11
CL	0.363	0.237	0.11	0.27	0.88
FAGE	4.461	0.955	2.69	4.57	5.86

The mean of EPS is 0.95 and a median of 0.60 exceeding the sample period even though there is more inconsistency, especially in the upper half of the distribution where required funds are less than the stable funds, which are currently accessible. Additionally, DPS has a mean value of 4.19 and a standard deviation of 2.75, whereas NIM has a mean value of 4.19 and a standard deviation of 2.74. DPS also has a mean value of 9.86 and a standard deviation of 10.32.

Correlation Coefficients

The results revealed that there is a positive relationship between CFS, EPS, and DPS, which is significant at 5%. Moreover, the value of the coefficient in Table 4 is 0.0139, which states that DPS is affected by 0.0139 with one unit change in CFS and EPS. Secondly, the relationship among variables is positive, which is shown by the significance of the relation between DPS and CFS. Furthermore, a positive and highly significant relationship at 5% has been found between DPS and EPS.

Table 4

Correlation Matrix

Variable	DPS	EPS	CFS	TA	DEBT	MB	CL	FAGE
DPS	1							
EPS	0.0061*	1						
CFS	0.0134*	0.8078*	1					
TA	0.0139*	0.0203	0.0033	1				
DEBT	0.0202*	0.3403*	0.0037	0.0136	1			
MB	0.0376*	0.1714*	0.1466*	0.0054	0.1739*	1		
CL	0.0176*	0.0411	0.0428	0.0607	0.0103	0.005	1	
FAGE	0.0472*	0.3779*	0.2415*	0.0129	0.5692*	0.1305*	0.0175	1

Table 5

Breusch and Pagan Lagrangian Multiplier Test for Random Effects

DPS[IDB,t] = Xb + u[IDB] + e[IDB,t]		
ROE	0.0316756	0.0010033
e	0.0008349	0.0288946
u	0.000131	0.011445
Test: Var(u) = 0		
chibar2(01) = 78.22		
Prob > chibar2 = 0.0000		

This is used to choose between pooled OLS and random effect model regression. The above table shows that one should choose a random effect model for the data analysis.

The Hausman test specification is applied to distinguish between fixed effect and random effect model. Additionally, it qualifies the random effect model as the chi-square value in the model is insignificant. Therefore, random effects model is recommended to conduct the empirical study.

Table 6

Model 1 of Dependent Variable DPS

Variables	Coefficients		(b-B)	Sqrt (diag (V_b-V_B))
	(*b*)	(*B*)		
	FE	RE	Difference	*S.E.*
DPS	-0.1269356	-0.2222766	0.095341	0.0654056
EPS	-0.0879523	-0.0971532	0.0092009	0.0794119
CFS	-0.4093996	-0.3773267	-0.0320729	0.123129
TA	0.0052086	0.0819784	-0.0767698	0.0848189
DEBT	-0.3169392	-0.1970049	-0.1199343	0.1605165
MB	-0.0033368	-0.0148696	0.0115328	0.014839
CL	-0.3169392	-0.1970049	-0.1199343	0.1605165
FAGE	0.093996	-0.3773267	-0.0320729	0.123129

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 3.84

Prob>chi2 = 0.6988

(V_b-V_B is not positive definite)

Even if there are significant values and a relationship between the variables, this empirical research also used regression analysis to see how independent variables affect the dependent variables in the form of valuation models. Thereby, utilizing the Hausman test to analyze the data, one of the panel regression strategies were applied to the data collection. According to the Hausman test, the model's P-value is less than 0.05, directing the researcher to apply a fixed effects model.

With the aid of supporting variables such as organization-specific determinants made up of the total assets, debt to equity ratio, market to book ratio, and current liquidity, the researcher sought to investigate the effect of EPS on the DPS of PSE-listed firms. Firstly, regression was performed on the population data to see whether Earning Per Share (EPS) affects the organizational profitability or not. The PSE-listed firms' results were found to be unimportant. According to the analysis of regression, Dividend Per Share (DPS) and Earnings Per Share (EPS) had a small but positive relationship. Secondly, the Dividend Per Share (DPS) is positively and significantly impacted by cash flow per share.

Table 6
DPS Model

Variables	DPS
EPS	0.171
	(0.28)
CFS	0.175*
	(0.0909)
TA	0.135**
	(0.0559)
DEBT	1.184*
	(0.641)
MB	001**
	(000)
CL	0.519***
	(0.125)
FIRM AGE	0.719***
	(0.25)
R-squared	0.648
Constant	16.12*
	(3.29)
Observations	1,244

Note. Robust standard errors in parentheses
*** $p<0.01$. ** $p<0.05$. * $p<0.1$.

Dividend Per Share (DPS) and Earnings Per Share (EPS) are independent variables, whereas market-to-book ratio, debt ratio, current liquidity, and total assets are organization-specific variables. The dependent variable is DPS. A robust test is performed because heteroscedasticity may result in an inconsequential coefficient in the model, which causes type I and type II errors. The first number of each variable is the coefficient, while the second value in the brackets represents the standard error. The standard error is the distance between the sample mean and the actual mean. Additionally, R-square evaluates how well the model fits in terms of goodness of fit. Regarding models 1, 2, and 3, the R-square values are 0.019, 0.148, and 0.343, respectively. Due to the small data the researcher only included TA in the current selected model.

The results concluded from current study's analysis elaborated that free cash flow and earnings per share have some effects on the dividend level, specifically in those Pakistani companies, which are listed on Pakistan Stock Exchange (PSX). The results of the current study were in line with the study of Ahmed and Javid (2009), who conducted a study in the Pakistani context and revealed a conclusion that firms having stable earnings and larger free cash flows would be more likely to pay and can afford to pay high dividends.

Particularly, the study discovered that the dividend per share was positively but negligibly influenced by earnings per share. In other words, it was found that as the profitability of under-surveyed enterprises declines, the paid dividends likewise suffer. Similarly, the study's findings indicated that when companies forecast significant profitability growth, they demonstrate this to their investors by paying big dividends. However, the findings showed that earnings per share had no discernible impact on the dividend. This is true even though dividend payout was positively impacted by profitability. These results are in opposition to those of Abor and Bokpin (2010), who found that dividend payments are significantly influenced by both current and prior-year profitability. The results also differed from those of Baker and Weigand (2015), who found that the level of earnings both now and in the future would be a determining key factor for dividend payout. However, the study's findings concurred with those of Bulan and Hull (2013), who found that a company's potential to pay dividends is not strongly reflected in its present earnings. Additionally, it has been observed that dividends rise in tandem with rising earnings and vice versa. Although,

some companies attempted to pay dividends to keep safe their market goodwill, such as Microsoft a firm whose irrelevance in earning management is seen (Michaely & Roberts, 2006).

Additionally, cash flow per share was found to be an important factor that affects the dividend per share in the Karachi stock exchange (KSE) listed companies. Cash flow per share positively regresses the dividend per share. Moreover, the impact of cash flow per share was found to be significant on the dividend per share. These results, which supported the dividend payout models have predicted the actual outcomes. This demonstrates that the organization's cash flow is crucial in calculating dividend payouts. It makes sense that one of the key elements in determining the dividend is cash flow. In contrast, those firms pay fewer dividends whose shares are less kept by the individuals and managers. Results of the present study are consistent with Ahmed and Javid (2009) who concluded that dividend payout has a significant determinant i.e., profitability. But, Afza and Mirza (2011) have concluded that in the Pakistani context, dividend payout has a limited effect on free cash flow.

Conclusion

The current study was based on Karachi Stock Exchange (KSE), Pakistan. The findings indicated that earnings per share and cash flow per share determined the dividend per share. Thus, the study contributed to the existing literature by understanding the factors, which determine the dividend of Pakistan Stock Exchange-listed firms in the Pakistani context. The findings are helpful for investors and decision-makers in investing decisions as they can analyze the factors, which determine the dividend. Moreover, it was also argued in their research that those firms are likely to pay high dividends whose operating cash flows are higher.

This study has investigated the problems of management, investors, and researchers who are conducting different studies to assess the firm's behaviour regarding payout decisions. Additionally, this study is helpful for all financial and non-financial sectors of Pakistan because this study addressed a healthy Pakistani sector to address the major impacts of profitability and FCF on dividend payout, which are briefly addressed in the current study.

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