

Using Cash Flow and Earnings to Determine Dividend Payout: Case of KSE-100 Index Companies (Pakistan)

 Albassami Ahmad¹

 *Anas A. Salameh²

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Abstract

The inherent duality of the subject matter, which is referred to as dividends in finance, is the reason why scholars find it to be so important. Over this, the decision about a company's dividends has long been considered one of the most important aspects of corporate finance, and it has traditionally been investigated in connection to a company's investment and financing choices. Even though much research has been conducted on this topic over the last several decades, it continues to be one of the most contentious issues in the world of finance. In addition, if the value of the business is impacted by dividends, then it is crucial to know that shareholders of the firm are fully informed of the factors that influence the dividend payouts. This is because dividends may alter the value of the company. As a result, a significant amount of study has been carried out to analyze the factors that have an impact on dividend payouts. As a consequence, it was determined with the backing of the findings of this research study that earnings per share, as well as free cash flow, impact the number of dividends in Pakistani firms that are listed on the Pakistan stock market. The determinant variables of dividend payouts are then tested and analyzed by multiple OLS (Ordinary Least Squares) Regression methods. 50 companies that were listed on Pakistan Stock Exchange during the 5 years i.e. 2011 to 2016, the data about variables is taken from their audit financial reports. For analysis, the SPSS program is used. To be more explicit, the results of the study show that when high profitability growth is projected by the firms, they show that to their investors through paying high dividends. However, the results established no significant effect of earnings per share on the dividend. This is even though profitability had a positive effect on dividend payout. While Cash flow per share has a positive and significant impact on the dividend per share. The results provide investors and decision-makers with useful information for making investment choices, as it enables them

¹University Putra Malaysia
e-mail: albassami9500@gmail.com

²Prince Sattam Bin Abdulaziz University, Saudia Arabia
e-mail: Corresponding Author: salameh@psau.edu.sa



to analyze the factors that affect the dividend. Also addressed in this study are challenges faced by management, investors, and other researchers who are working on various studies to evaluate the behavior of firms in regards to payment choices.

Keywords: Dividend payout decisions, Profitability, Earning per share, Pakistan Stock Exchange, Pakistani Context, Free Cash Flow

1 Introduction

The judgments about investments and financing are the two most essential financial decisions that a finance manager is tasked with making, and they have been featured prominently in the headlines of financial literature for a very long time. The choice to purchase real property is considered part of the investment decision, while the decision of how best to finance the purchase of real property is considered part of the financing decision. Nevertheless, at the point in time when a profit is really made, a third option must be made. This choice concerns whether the corporation will distribute or keep the earnings it has earned, with the intention of maximizing or, at the very least, keeping the share value of the company stable. The finance manager's ultimate goal is to ensure that with every corporate decision made, the company gets one step closer to achieving its target of wealth maximization for shareholders. When making a decision about the retention or distribution rates of profit, the finance manager must consider the possible impact of his or her decision on the company's share value as well as the future investment needs of the company ([Baker & Weigand, 2015](#)).

In the most recent few decades, the topic of dividend has been the subject of much research. Even after all this time, it continued to be one of the most contentious issues in the area of finance. Due to the obvious contradictory character of dividends and the enormous role they play in the world of finance, it has become one of the most debatable subjects among scholars. Researchers in the past have covered a wide range of topics pertaining to dividends. Some of these topics include perspectives on dividends, the effects of dividend payments on the value of a company, the dynamics and determinants of dividend policy, and the movement of dividends across different markets.

Several reasons exist in the literature why companies pay or fail to pay dividends. Still the problem area is to figure out “dividend puzzle” i.e. why dividends capture the attention of investors and why do companies pay dividend ([Abor & Bokpin, 2009](#)). One of the important issues that affect firm's investment and financial decisions is dividend payout policy. Moreover, dividend payout policy is critical to understand and the influential factors of dividend payout policy are more complex for other areas like acquisition & mergers, asset pricing, capital budgeting and capital structure. Usually it is observed that firm's size, profit level, agency costs, risk, corporate governance and taxation affect the dividend decisions of firm ([Baker & Wurgler, 2012](#)).

Although, one of the major decisions faced by management is dividend policy, and it is called as the puzzle in corporate finance ([Abor & Bokpin, 2010](#)). Further, shareholders think it necessary to remain up-to-date about factors that affect dividend payment, by this they can make awaked decisions to invest. A consensus has been developed among researchers that there dividends are not explained by only one factor. [Rehman \(2011\)](#) argued that dividend policy is not driven by any single goal. Various empirical works by [Yarram \(2015\)](#) have established different factors influencing dividend payout in different organizations. In this research, the issue addressed in depth is the relationship between cash flow, earnings and dividend payout. And how is the dividend policy affected by aforementioned two variables.

The primary purpose of this investigation is to evaluate and contrast the relative significance of operational cash flow and profits in the process of dividend prediction. The standard hypothesis, which states that earnings are a better forecast of dividends, will be refuted by this investigation,

which claims that cash flow per share is a superior predictor and analyses the topic by stating that this is the case. As a result, in addition to the fact that the majority of the existing body of research suggests that there is a significant connection between profits and dividends, the purpose of this study is to determine whether or not there is an even greater connection between cash flow and dividends. In addition, the purpose of this research is to determine whether or not cash flow per share is the factor that is most significant in determining the dividends that are paid out by publicly listed companies in Pakistan.

2 Literature Review

2.1 Theoretical Background

[Miller and Modigliani \(1961\)](#) claimed that dividend policy is unimportant to shareholders, that stockholder wealth would remain constant in a world with ideal market conditions, and that any expansion in the existing distribution would be funded by actually priced stock sales. The fundamental assumption was that management would pay out the whole amount in each and every term. The following are some of the other assumptions: To begin, the market is a perfect capital market, which indicates that there were no taxes on transaction costs, a single buyer and seller did not impact pricing, and everyone had unrestricted access to information. Second, investors are shrewd people, and the value of the securities was determined by discounting the amount of money that would be received by the investor in the future. Third, managers serve as agents for the company's shareholders, and there was complete clarity on the investment strategy of the company.

[Gordon \(1963\)](#) established the Bird in Hand theory, which highlighted that owing to uncertainty in the business environment, investors prefer higher income above the potential for capital gain. This is due to the fact that potential capital gain involves risk since it pertains to the future. [Connelly et al. \(2011\)](#) comes to the further conclusion that shareholders would rather have a continuous stream of little profits than a single significant benefit such as a capital gain. As a consequence of this, investors are prepared to pay a greater price for a company that pays dividends. [Frankfurter \(1999\)](#) also indicates that shareholders appreciate dividend payment because it prevents them from eating their own money. This is one of the primary reasons why shareholders favour dividend payout.

According to the idea of signalling, the distribution of dividends will send information to shareholders and investors about the state of the company's finances. Therefore, large dividend payouts are an indication that a company will have substantial cash flows in the future. Over this, more dividend payments will ultimately result in a greater market value for the company ([Bhattacharya, 1979](#)). According to H. K. [Baker et al. \(2001\)](#), businesses have a tendency to raise their dividend payments when their management are under the impression that their company will continue to see rising profits. This suggests that a bigger dividend distribution is a sign that earnings can be maintained over a longer period of time and is thus indicative of sustainability. In the same vein, cutting dividend payments suggests bad future prospects and will likely result in a decline in the price of the company's shares. As a consequence of the hidden expenses that are involved, dividends are a valid signalling method that should be used. In this study, the link between a variety of different factors, such as the profit of the business, and the dividend payout ratio of the corporation is investigated. Similarly, the relevance of the link between the dividend payout ratio and the earnings of the company is analysed and explored in this research. In a similar manner, cash flow is another element that affects the dividend paid by the corporation.

2.2 Empirical Studies

The dividend payout ratio is a much researched topic in the field of finance, but the exact factors that contribute to it are still a mystery. The choice on the dividend payout ratio should take into account the legal and financial factors involved. The dividend paid out of a company's profits is a

representation of the company's current financial state, as well as its historical trend and its expectations for the future. The capacity of management to effectively use the company's financial resources and its ability to generate profits is reflected in the dividend. The dividend payout ratio provides a quick snapshot of a company's earning capabilities and may be used to make informed business decisions. The historical history of the dividend payout ratio may serve as a representation of investor interest and faith in a company's profitability.

[Lintner \(1956\)](#) recommends that companies establish goal payout ratios and lag the adjustment of dividends to profitability. [Miller and Modigliani's \(1961\)](#) research demonstrates that in a well-functioning capital market, dividend policy is irrelevant. [Lintner \(1956\)](#) established a model that derives an expression that ties dividends to profits and investments by using a firm's cash flow constraint and its optimum debt equity ratio as inputs. This model was published in the year 1972. According to the model that Higgin developed, the optimal payout is a function of the residual dividend policy combined with the minimization of the sum of the costs of "excessive current assets" and the costs of external equity financing. In other words, the optimal payout minimizes the total cost of both of these factors. The payment of dividends is affected by a variety of factors, including the need for funds for investment objectives and obligations related to debt financing. According to the findings of the research conducted by [Cai \(2010\)](#), the impact of conservatism on dividend distribution is more detrimental in circumstances when there is a greater possibility for agency conflicts between managers and shareholders. Companies that have a high ratio of retained profits to total equity or total assets are more likely to pay dividends to their shareholders. The company's ability to generate free cash flows has beneficial implications. These corporations have a history of paying out significant dividends. The relationship between cash flows and dividend distribution has been shown to be favourable. A rise in free cash flows has a beneficial effect on dividend payouts ([Thanatawee, 2011](#)).

[Al-Fasfus \(2020\)](#) stated that leverage, free cash flow and viability are significantly affects the dividend payout ratio for the Jordanian banks. There is an intensification of stock liquidity, which is the principal component of a firm's dividend. Also, the lower cash flow volatility is associated with higher dividend level ([Trong & Nguyen, 2020](#)). [Rochmah and Ardianto \(2020\)](#) examined the relationship among cash flow, dividend premium, and dividend payout ratio in Indonesian manufacturing companies. They observed that free cash flow and dividend premium positively associated with the dividend payout ratio, but cash flow fluctuations adversely affect dividend payment. Furthermore, they stated that companies with a stable cash flow also have a better dividend policy.

[Papadopoulos and Charalambidis \(2007\)](#) explored the influence that a firm's particular qualities have on its dividend distribution using a sample of 72 businesses that were listed on the Athens Stock Exchange between the years 1995 and 2002. After dividing the sample into industrial and retail companies, the researchers discovered that there was no statistically significant difference in the dividend payment between the two types of businesses. They concluded, on the basis of the findings, that cash flow is the single most significant factor in determining dividend payouts and has a positive correlation with the percentage of profits dispersed as dividends. Despite this, the connection between scale, capital structure, leverage, profitability, and liquidity were not able to be established. More recently, [Hussain and Usman \(2013\)](#) conducted research in Pakistan to determine the factors that influence dividend payment. According to the findings of an investigation on 320 businesses that were traded on the Karachi Stock Exchange between the years 2001 and 2006, it was discovered that Pakistani corporations base their dividend payments mostly on both their current earnings and their historical dividends. The projected findings demonstrated that profitability, along with consistent earnings, contributes to cash flows. As a consequence, successful companies have the potential to pay higher dividends.

[Fairchild \(2010\)](#) illustrates that management communication to investors regarding the reasons for the dividend drop, reinforced by the reputation impacts of managerial communication, and may be able to offset this difficulty. Within the scope of his research, he examined the dividend policy from the perspective of both the free cash flow hypothesis and the signalling theory. He stated that the payment of dividends sends a good signal to investors, but the reduction of dividends sends a negative signal to investors. In addition to this, he said that the payment of dividends is a signal of future profits and a method of reducing problems with free cash flow. The findings of his research indicate that there is an inverse connection between free cash and dividends.

3 Methodology

This research aims to test determinants of dividend payouts of banking sector, with such aim there was a need to collect the numeric data which show the characteristics of firms. Then the collected data have two types of dimensions i.e. cross sections and time series. The determinant variables of dividend payouts are then tested and analyzed by multiple OLS (Ordinary Least Squares) Regression method. 50 companies which were listed in Pakistan Stock Exchange during the 5 year period i.e. 2011 to 2016, the data about variables is taken from their audit financial reports. In the present study, nineteen version of SPSS package is used for the purpose of analysis. This package is quite suitable for data analysis and provides wide number of forecasting tools and sophisticated regression analysis on Windows based computers. Many statistical analysis and data management tasks are performed on SPSS package. It allows the investigator to analyze quantitative input data in different ways like factor analysis and paired-different test. Through this statistical package a statistical relation from data could be developed and then future data values could be forecasted through this relation. There are many areas where SPSS package is used deliberately like macroeconomic forecasting, data analysis & evaluation, sales forecasting, financial analysis, simulation, and cost analysis. Therefore, in the present study the author is confident to use SPSS package to analyze the quantitative data in order to obtain the accurate results of the research. The population under consideration includes all of the firms that are traded on the Karachi Stock Exchange. There is a total of 800 firms listed; however 212 of those symbols represent securities rather than actual companies. As a result, researcher considers the remaining 588 public listed companies to be the population for this research. This study includes nine variables: one dependent, two independent, five control variables and one dummy variable. Dividend per share is considered as the dependent variable being the focal point of the discussion, while earning per share and cash flow per share are the two independent variables. The four control variables are Total Assets, Debt ratio, Market to book value ratio, and Current liquidity measure. The Akaike information criteria is used here as well in order to bolster the reliability of the findings of this research. Furthermore, two equations used for analysis are as under;

Equation 1

$$[\text{Dividend payout Policy}]_{it} = [\beta_1 \text{EPS}]_{it} + [\beta_2 \text{CFS}]_{it} + [\beta_3 \text{TA}]_{it} + [\beta_4 \text{TL}]_{it} + [\beta_5 \text{DEBT}]_{it} + [\beta_6 \text{MB}]_{it} + \mu_{it}$$

Equation 2

$$[\text{DPS}]_{it} = [\beta_1 \text{EPS}]_{it} + [\beta_2 \text{CFS}]_{it} + [\beta_3 \text{TA}]_{it} + [\beta_4 \text{TL}]_{it} + [\beta_5 \text{DEBT}]_{it} + [\beta_6 \text{MB}]_{it} + \mu_{it}$$

3.1 Hypothesis

- 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 Earning per share and Cash flow per share affect dividend payout.

- Cash flow per share is the best predictor for dividend payout in case Pakistani companies.

4 Data Analysis

4.1 Descriptive Analysis

Var	M	SD	Min	25%	Med	75%	Max
DPS	4.19	2.74	1.11	2.03	3.41	5.67	11.2
EPS	0.90	0.88	0	0.18	0.49	1.52	2.6
CFS	9.86	10.3	-7.8	3.36	7.08	15.8	35
TA	0.95	0.92	0	0.31	0.60	1.30	3.3
DEBT	2.14	2.44	-1.1	0.42	1.51	3.36	7.09
MB	10.27	8.29	3.49	5.01	7.34	11.8	37.1
CL	0.36	0.23	0.11	0.16	0.27	0.48	0.88
FIRM	4.42	0.95	2.69	3.65	4.57	5.32	5.86

EPS has a mean of 0.95 and a median of 0.60, both of which are higher than the sample period, even though there is more inconsistency in the upper half of the distribution, where the required funds are less than the stable funds that are available. The average value of DPS is 4.19, and the standard deviation is 2.75. The average value of DPS is 9.86, and the standard deviation is 10.32. The average value of NIM is 4.19, and the standard deviation is 2.74. All values are standardized based on how they are spread out.

4.2 Correlation Analysis

Var	DPS	EPS	CFS	TA	DEBT	MB	CL	F.AGE
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	
F.AGE	0.0472*	0.3779*	0.2415*	0.0129	0.5692*	0.1305*	0.0175	1

Relationship among variables is tested by pair-wise correlation. The overall purpose of the correlation coefficient is to explain the change that occurs in the dependent variable as a result of changes in the independent variable. If the correlation among variables is denoted by 1, it states that there is a perfect correlation among variables. On the other hand, if the correlation is denoted by a negative sing, it states that the correlation is significantly negative among variables. The results revealed that there is positive relationship between CFS, EPS, and DPS, which is significant at 5%. Moreover, the value of co-efficient in table 4.2 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 showed by significance of relation between DPS and CFS. Further, a positive and highly significant relationship at 5% has been found between DPS and EPS.

4.3 Regression Analysis

This empirical study has also carried out the regression analysis in order to examine the influence of independent factors on dependent variables in the form of valuation models. This is done despite the presence of significant values and a link between the variables. When doing our data analysis, we made use of one of the panel regression methods, namely the Hausman test. In light of the fact that the P-value of the model is lower than 0.05, the Hausman test directs us to make use of the fixed effects model.

The purpose of this study was for the researcher to determine whether or not EPS has an effect on the DPS of PSE listed firms by using supporting factors such as organization-specific determinants

(Total assets, debt to equity ratio, market to book ratio, current liquidity). We begin by doing a regression analysis on the data of the population in order to determine whether or not the earnings per share (EPS) impact has an effect on the profitability of the company. In the PSE-listed firms, it was determined that the findings were not statistically significant. According to the findings of the regression study, Earnings per Share (EPS) has an effect that is positive but negligible on Dividends per Share (DPS). Second, the dividend per share is affected favorably and significantly by the cash flow per share (DPS).

(Model DPS)	
VARIABLES	DPS
EPS	0.171 0.28
CFS	0.175* 0.0909
TA	0.135** 0.0559
DEBT	1.184* 0.641
MB	0.00** 0.00
CL	0.519*** 0.125
FIRM AGE	0.719*** 0.25
R-squared	0.648
Constant	16.12*
Observations	1,244

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The dependent variable is the dividend per share (DPS), whereas the independent variables include the earnings per share (EPS) and organization-specific factors such as the market to book ratio, debt ratio, current liquidity, and total assets. Since the existence of heteroscedasticity might result in an insignificant co-efficient in the model, which can then cause type I and type II errors, a robust test is used in the research that is conducted on regression models. The first value of each variable is used to represent the coefficient, while the second value of each variable, enclosed in brackets, is used to represent the standard error. The term "standard error" refers to a measurement that is taken between the sample mean and the actual mean. In addition, the value of R square is used to evaluate how well the model fits the data. The numbers that are included in parentheses represent the robust standard error. The symbols *, **, and *** indicate that the coefficient is significant at the levels of 10%, 5%, and 1%, respectively.

5 Discussion & Conclusion

From the results of the analysis of present study, it is concluded that free cash flow and earnings per share have some effects over dividend level, specifically in those Pakistani companies which are listed on Pakistan Stock Exchange. The results of the present study are in line with the study of Attiya and Hafeez (2009), they conducted a study in Pakistani context and revealed a conclusion that the firms having stable earnings and larger free cash flows would more likely to pay and can afford to pay high dividends.

More specifically, the study has found that earning per share has positive but insignificant impact on the dividend per share. In other words, it is also observed that when the profitability of under survey firms suffers then it directly affects the dividends payable. Similarly, the results of the study

show that when high profitability growth is projected by the firms, they show that to their investors through paying high dividends. However, the results established no significant effect of earning per share on the dividend per share. This is despite the fact that profitability had a positive effect on dividend payout. These findings are contrary to findings by [Abor and Bokpin \(2010\)](#) who noted that current and past years' profits are significant factors in influencing dividend payments. Similarly, the findings contrast findings by [Baker et al. \(2015\)](#) who established that a major determinant of dividend payment was the current and the anticipated level of earnings. The study findings however agreed with results by Bulan and Hull (2013) that noted that current earnings do not significantly reflect the firm's ability to pay dividends. It is also seen that when earning increases then dividend also increases and vice versa would be the case. In addition, two determinants of dividend policy were measured by [Afza and Mirza \(2011\)](#) i.e. cash flow and ownership structure. It was concluded in their study that those firms pay high dividends whose mostly shares are kept by individuals and managers. In contrast, those firms pay less 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. In Pakistan cash flow sensitivity is less taken into account. Although, there are some companies who tried to pay dividends in order to keep safe their market goodwill in market such as Microsoft in such firm's irrelevance of earning management is seen ([Michaely & Roberts, 2006](#)).

Additionally, cash flow per share was found to be important factor which affect the dividend per share in the Karachi stock exchange listed companies. Cash flow per share positively regress the dividend per share. Moreover, the impact of cash flow per share was found to be significant on the dividend per share. These results have been observed which confirms the estimated results from dividend payout model. This proves that cash flow of the organization plays an important role in determining dividend payouts. Intuitively, cash flow is one of the most important factor to determine the dividend. In addition, two determinants of dividend policy were measured by [Afza and Mirza \(2011\)](#) i.e. cash flow and ownership structure. It was concluded in their study that those firms pay high dividends whose mostly shares are kept by individuals and managers. In contrast, those firms pay less 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. But in Pakistan cash flow sensitivity is less taken into account.

The study contributes in the literature by understanding the factors which determine the dividend of Pakistan Stock Exchange listed firms in the Pakistani context. The findings are helpful for the investors and decision makers in investing decisions as they can analyze the factors which determine the dividend. Moreover, problems of management and investors and other researchers who are conducting different studies to assess the firm behavior about payout decisions are presented in the present study. The present study is quite helpful for the students who are working on dividend payout. In addition, this study is helpful for all financial and non-financial sectors of Pakistan because a healthy sector of Pakistan is described and taken into account in this study; also the major impacts of profitability and FCF on dividend payout are discussed in the present study.

The study only considered one dimensions of the profitability i.e. earnings per share. The future studies should find the impact of other indicators of profitability on the dividend per share. Similarly, the study considered the cash flow in general. The future studies should differentiate among various types of cash flow i.e. operating cash flow, investing cash flow and financing cash flow. In the same way, the study only focused on the Karachi stock exchange listed companies. Additionally, findings are limited to the Pakistani context only; further sites are required in other countries in order to generalize the findings in other countries.

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