

DETERMINANTS OF DIVIDEND PAYOUT IN BANKING SECTOR: A CASE STUDY OF PAKISTAN

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Abstract

This paper relates to determinants of dividend payout for banking sector listed on PSX. The dividend is an important element that shows the performance of the company and growth during the year. This research shows the empirical findings where twenty commercial banks have been taken into account during the period of January, 2006 to December, 2025 i.e. twenty years yearly data. There are six independent variables have to be considered like as financial leverage, investment ratio, liquidity, profitability, capital to assets ratio and size of the bank whereas dividend per share is a dependent variable. The econometric model has been used where the fixed and random effect results have been drawn and as per the Hausman test and fixed effect model is selected. The findings of the results indicate that all of the variables have significant influence on dividend payout except investment ratio as the high amount of retained earnings balance gives adverse effect on dividend payout and proved by signaling theory.

Keywords: Pakistan Stock Exchange; Commercial Banks; Dividend Payout

1. INTRODUCTION

1.1. Background of the Study

Dividend policy contains several standard procedures which are maintained by every company. Dividend payment should be declared with the consent of higher level of management and it is approved by the shareholders in an annual general meeting (AGM). Dividend payout policy has several assertions namely: financial leverage, investments, liquidity, profitability, capital assets ratio, size, unappropriated retained earnings balance and etc. Dividend payout policy does not only describe to pay dividend on yearly basis but to regularly monitor the dividend payment for several years rather vigilantly. Furthermore, the importance of dividend policy is acknowledged from the classical and contemporary researchers and all of them realized that dividend policy factor can be inevitable from the stock market. DeAngelo et al., (2004) raised their arguments in favor of dividend policy and pointed out that US economy has just recently concentrated her dividend policy for paying to her shareholders in terms of returns on their investments which are, now, being observed by a large number of corporate companies. Therefore, many empirical studies have shown variations in dividend payment by means of time, company, country and a kind of dividend.

Dividend payout is considered to be the most essential element for both corporate sector and individual investors. The investors seek for their dividend returns for making their investments on shares from the companies either on quarterly basis, half yearly or yearly basis and thereafter decide to hold the equities or selling the securities and get exit from that equity. It is generally true that well established and well-organized companies relatively give higher returns to its stakeholders than small public companies. The process in which the profit is distributed by means of dividend to the shareholders called dividend payout. Besides this, the object of the corporate world is to maximize the shareholders wealth through retained profit (Nadeem et al, 2018 & Panday, 2005).

There was a theory of life cycle for dividend policy that includes some elements of Jensen (1986) that described the agency cost theory which was further extended by Fama and French (2001). This theory builds the concept that the firm pays less amount of dividend in the early years of formation as the funds are generated internally and it takes years when its investment opportunities are lessor than capital enhancement. So to avoid any litigation issue from the shareholders side; the firm's pay higher amount of dividend and keep minimal balance of free cash flow.

Azhagaiah & Priya (2008) endorsed the decisions by the management being taken place for short term and long-term investments for shareholders wealth but the long-term investments can genuinely show the profit

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and growth of the company. Dividend policy is such an important element for company's perspective for making dividend payment and as a result it impacts on the shareholders returns for their investments (Baker et al, 2001). Higher dividend amount paying company is having fewer amounts for its capital projects because of disbursement of the free cash flow. Financing decisions of the company are based on determinants of dividend policy (Baker & Powell, 1999 & Nadeem et al, 2018).

Determinants of dividend policy are related to several assumptions by the researchers and they take different variables for their studies and sometimes proxy for their variables for their empirical findings but most of common variables are: earning per share (EPS), dividend of prior year, operating leverage rate, financial leverage, growth rate, government taxation policy, retained earnings accumulation, capital to assets ratio and etc. Apart from this, there are a series of researchers who have difference in opinion like as dividend payout increases the wealth of shareholders (Gordon, 1963; Lintner, 1956; some indicated that it decreases the wealth of the investors (Litzenberger and Ramaswamy, 1979); some do have the consensus that dividend payment has no impact on shareholders wealth Miller and Modigliani (1961). Hence, professional practitioners have given their consent that corporate's policy for making dividend payment, indeed, does have an impact on shareholders' wealth and jump in share prices.

From the perspective of Pakistani stock market listed companies have variations to pay dividend, some companies pay dividend at a very low rate; some of them are unenthusiastic to declare dividend; and rest of the companies announces dividend while considering the dividend of prior years, profitability, liquidity position and the credibility of the share over the stock market for that particular company. Determinants of dividend policy in Pakistan are an old concept and plenty number of researchers in Pakistan have worked on this area whether financial or non-financial sectors like as Nishat and Irfan, 2001; Kanwar, 2002; Kaleem and Salahuddin, 2006; Naeem and Nasir, 2007; Ahmed and Javaid, 2009; and so on.

Empirical work has been done for Pakistan stock Exchange (PSX) and several variables and methodologies have been considered by researchers. Findings have drawn the volatile outcomes and some variables are significant in one study then insignificant in other study. Researchers try to collect the data of dividend payout for different sectors and presenting the results as per the global standard and new variables are engaged that show somewhat a real picture of listed companies of PSX.

1.1. Purpose of The Study

The aim of this research paper is to investigate the empirical findings of dividend payout policy particularly in Pakistani stock market and for this, twenty listed commercial banks have been taken into account in order to identify whether dividend policy factors are the most significant elements for the commercial banks to pay dividend to its members in order to increase the wealth of the shareholders with least amount of risk in PSX market. This study describes the banking sector of Pakistan and shows the elements of dividend payout ratio and how it attracts the stakeholders for making their investments on PSX. Pakistan is a growing economy country so the investors look for companies' returns and what are companies' policies for declaration of dividend.

1.2. Objectives of the Study

The objective of this paper is as follows:

- i. To identify whether the financial leverage has an influence on dividend payout by the banking sector listed on PSX.
- ii. To find out how much investment ratio has caused the dividend payout by the banking sector on PSX market.
- iii. To check whether each commercial bank liquidity has the positive relationship on dividend payout.
- iv. To determine the earnings per share (EPS) has a positive and significant impact on dividend payout on banking sector.
- v. To signify capital to assets ratio (CAR) affects the dividend payout on listed commercial banks.
- vi. To investigate whether size (log of total assets) have a significant influence on dividend payout on listed banking sector.

1.3. Significance of The Study

This study primarily shows the results of banking sector and its determinants of dividend payout to the stakeholders but this study will also assist to the potential shareholders for their future investments. After studying of this paper, shareholders, investors, mutual fund entities, students and researchers will take into account the results findings for their future implications.

1.4. Research Questions

- RQ₁: What are the outcomes of financial leverage on dividend payout for commercial banks listed on PSX?
RQ₂: What is the effect of investment ratio on dividend payout for commercial banks listed on PSX?
RQ₃: What is the impact of liquidity on dividend payout for commercial banks listed on PSX?
RQ₄: How much influence profitability has on dividend payout for commercial banks listed on PSX?
RQ₅: How capital to assets ratio signifies on dividend payout for commercial banks listed on PSX?
RQ₆: What is the magnitude of log of total assets on dividend payout for commercial banks listed on PSX?

2. LITERATURE REVIEW

There are several researchers who describe the determinants of dividend policy in different ways but there is no concrete definition for this research topic and most of them define and elaborate dividend policy in a different way with the help of different variables. Miller & Modigliani (M&M) (1961) considered to be the founders of dividend policy and explained empirically that dividend payout has no impact on the market value of the share. Gordon (1963) did have the consent that dividend payout increases the wealth of the company. Similarly, Glen et al. (1995) found that the higher amount of dividend ultimately leads to enhance the share price of the company. According to Droughty (2000) embarked upon the dividend classification in two broaden ways like as cash dividend and bonus shares which are given to existing shareholders for their returns on their stock market securities.

Determinants of dividend payout covers several complexities which are unresolved till date and still true picture is missing (Brealey & Myers; 2005). Since, M&M (1961) introduced “theory of irrelevance” that was supported by various researchers such as Black and Scholes, (1961) Kaleem and Salahuddin, (2006) and so on. But different authors opposed to dividend irrelevance theory; they were claiming about how the dividend was reduced just because of taxation and transaction cost which will eventually curtail free float of cash flow (Litzenberger and Ramaswamy, 1979, 1982; Woolridge and Ghosh, 1985; Soter et al., 1996 and Bell and Jenkinson, 2002).

Dividend payout performs the function of resistance against agency problem for the firm and shareholders are quite satisfied with the price of the share and their investments have been increased because of enhancement in the price level (Dybvig and Zender, 1991; Easterbook, 1984). Agency problem can be reduced up to some extent even if the company pays dividend in the years of sustaining losses to the members of the company and in this concern the lenders may take a position to monitor the liquidity shortfall for the company. Jensen (1986) also focused on the agency problem can be overcome if the management of the company pays dividend to its shareholders though the company has the other options to utilize this money in productive way.

Nadeem et al (2018) and Pruitt and Gitman (1991) insisted that dividend payment is an outcome of current and future profits. Furthermore, dividend payment in banking sector is based on several factors like as earning per share, liquidity of cash position and retained earnings balance availability (Farah, 2011). Marfo-Yiadom and Agyei (2011) studied on Ghana stock exchange and empirically found that dividend policy is the combination of several variables such as growth, earnings per share of each banking company and collateral capacity that have a direct impact on dividend payout to its shareholders. According to Kania & Bacon (2005) elaborated their findings on dividend payout where they did describe growth, profitability, liquidity and expansion of the business are the major indicators for making dividend declaration.

Fama & French (2001) related their studies on dividend payout where growth, size of the firm leverage is the most significant element for the company in order to validate their dividend policy decisions. Lintner (1956) pointed out the dividend payout is majorly influenced by earnings per share. Lee (2009) has somewhat the same consensus like others have for profit and dividend declaration for Korean banking sector. Mohamed *et al.* (2012) studied on Malaysian stock market where 200 sample companies have been opted for the period of 2003-2005. Their empirical results showed that earning per share and returns on equity are the major indicators for the profitability of the company either takes individual variable or jointly.

Deshmukh et al. (2013) related his study about dividend payments and borrowing cost; the company with higher amount of borrowings will, in return, provide the least amount of dividend to its shareholders. Another research showed that dividend payout has a positive relationship with size whilst negative relationship with leverage.

Ahmed & Javid (2009) studied on Karachi stock exchange (former name of PSX) and found that volatility of the share has a major indicator for paying dividend by the commercial bank. Similarly, Imran (2011) empirically checked the Linter model in Pakistani stock market and exclusively investigated the result of transaction cost in order to validate the hypothesis. Imran et al. (2013) and Nadeem et al (2018) extended their work and considered the banking sector of Karachi stock exchange and drew the results on the basis of different variables like as prior year dividend, cash flow position, profitability on dividend payout where all of them performs the positive relationship except liquidity. Hence, it is generally concluded that higher amount of earnings of a particular corporate industry will probably provide the higher amount of returns to its shareholders.

3. THEORETICAL FRAMEWORK FOR DIVIDEND POLICY

There are enormous range of authors who presented the theory of dividend policy in their own school of thought. Some of different approaches for dividend policy are as under:

3.1. Residual Policy

This policy deals with the dividend payment occurs after leaving the amount of investments in positive net present values (NPV) from the earnings of the company is considered as residual amount. The managers of the company do believe that retention of the money expands the growth of the business and very small amount is given to shareholders as dividend.

3.2. Constant Payout Residual Dividend Policy

This policy is used by the company for paying the fixed rate of dividend to its shareholders. The company pays the constant rate of dividend even in the year of higher profitability but the dividend shrinks as the company reduces its earnings and even nothing is distributed to the shareholders when the firm sustains losses. Hence, this kind of dividend policy is hardly applied in the corporate world.

3.3. Dividend Irrelevance Theory

This theory is applicable under capital market where the symmetric information is captured by every shareholder as it is also assumed that no bankruptcy, no taxes and transaction cost, cognitive approach by the investors and possibilities of opportunities. According to Merton Miller and Franco Modigliani (1961) pointed out that dividend payout is irrelevant as it does not relate to a firm's market share value and what should be the cost of capital for acquiring from general public not to be considered. Therefore, it is insignificant for the company's point of view whether to distribute cash as dividend or retain cash for productive purposes. This dividend irrelevance theory anticipates that firm's value can be determined through present and future cash flows and not to be identified by cash payment disbursement.

3.4. Bird in Hand Theory

Firstly, this theory was found by Gordon (1959) who emphasized the deferred payment of dividend can be minimized only by making payment of dividend. In addition, this theory was extended by Walter and Gordon (1963) who clearly indicate that firm's value is increased when the dividend payment was taken place regularly and investors show their keen interests to have cash dividend rather than capital gain. The "bird" as per this theory refers to cash dividend payment. The firm which pays the dividend on consistently basis is having more worth in the capital market and as well as profitability of that firm does perform the important role for its value of shares over the market than those firms which do not have regular dividend payments.

3.5. Dividend Signaling and Information Asymmetry Theory

Dividend signaling is an indicator for judging the value of the shares on the market and reduction in the dividend payment decreases the value of the shares signaling the adverse position of the company. This theory was formed in 1961; managers, top rank position and insiders have symmetric information and they predict about the future company's earnings because of direct access with the company's secret information as compared to those who have asymmetry information cannot take the rightly decision because of limitations from their side.

3.6. Tax Preference Theory

This theory describes about two kinds of taxes such as capital gain tax and tax deducted at source at the time of receiving the dividend either on interim or final dividend. The investors have the opinion that capital gain tax rate is relatively lower than withholding tax rate. So the investors are not interested to wait for dividend payment by the company but they would rather buy shares in order to get capital gain and it should be occurred at the time of sales proceeds of the shares. Hence, shareholders preference for tax saving is capital gain tax and not cash dividend declaration and payment by the company due to high rates of taxes.

3.7. Free Cash Flow Theory / Agency Theory

This theory explained the agency problem where there is a broadly division of two sides like as principal and agent. Principal draws the meaning of shareholders whereas agent describes as managers of the company. Managers are the legal representative of the said company and the shareholders entrust them and investing their savings for expected returns. But the agency problem arises when the directors opt to invest cash flow projects of the investors in a negative present value (NPV) projects and there is also an assumption that this cash flow is being used inappropriately. Investors monitor the progress of the directors and bear the cost for controlling malpractice from the agents' side in terms of external audit and cash dividend distribution is the symbol which restricts the managers up to some extent not to do embezzlement from the shareholders' funds

3.8. Share Repurchase Theory

Vermaelen, T. (1981) introduced this theory and explained shares repurchase is a point where the company buys back its own shares from the general public for two reasons either not to have profitable projects or surplus amount excess of the required balance should be returned to the shareholders by the management. Jensen also endorses that share repurchase reduces the capital structure of the company and debt is considered to be a prominent part which leads to enhancement of debt to equity ratio. Hence, there may be a chance of bankruptcy of the company just because of borrowing cost on debt.

3.9. Clientele Effect

This theory was introduced by Kalay in 1982 for dividend yield purposes and shareholders decide to hold the shares or sell on the basis of withholding tax rate on the dividend yield rate. If the dividend yields stock contains the high-income tax brackets then investors hold low amount of stock and high amount of stock on low income tax yield. This theory is called clientele effect.

4. EMPIRICAL LITERATURE

Rozeff (1982) empirically investigated different independent variables named as agency cost; number of common shares outstanding, growth and beta are the major elements to have a significant impact on dividend

payout ratio. Regression analysis and co-efficient of correlation empirically tested and results were found to be significant so far the dividend payout is as concerned. There was also a research on real estate investment trust (REIT) where the dividend payout and dividend yield were performed a key role for investors point of view Ghosh and Sirmans (2006).

Amidu and Abor (2006) studied on Ghana stock exchange (GSE) and found that the dividend payout had a positive relationship with cash flow, profitability and taxes but adverse relationship with sales growth, risk, institutional holdings and market to book value. Edward et al. (2011) related their studies on Ghana with respect to determinants of dividend policy on banking sector. They empirically found that profitability, collateral policy, debt and dividend change have a positive significant impact but growth has the adverse effect on dividend payout. Kanwal et al., (2008) focused on dividend payout in Indian stock market especially for information technology sector and concluded that return on equity has a major role for shareholders investments and dividend payout strategy by management for IT sector.

He et al., (2009) studied on Chinese stock market for the period of 2003 to 2007 and concluded that all the companies should determine the determinants of dividend policy and most of the factors are dependent on organizational structure. They emphasized the profitability, high financial leverage and proper utilizations of funds generate the greater chance of higher amount of dividend.

Folorunso et al., (2012) investigated the result of Nigerian stock market and banking sector was opted for their empirical findings. The determinants of adverse results for dividend payout are debt to equity ratio, low growth expansion, enhancement of retained earnings balance and maintaining the loss provision on loan.

Kanwer (2002) proved his results on Karachi stock exchange (KSE) and the collection of the data starts from 1992 to 1998. Size of the bank performs insignificant role for dividend payout and has given the consent that it's not necessary that higher profit earning firm sometimes does not provide the higher amount of dividend to its shareholders. Hussain et al., (2012) expressed their empirical results on fifty five listed firms at KSE for determining the relationship between stock prices and dividend payout ratio. The results indicated that stock prices have an adverse effect on retention ratio but positive effect on earnings per share, return on equity and profit after tax.

Imran (2011) investigated the engineering sector of KSE and concluded the determinants of dividend payout named as earning per share, liquidity, size, growth of the company and profitability have a significant positive impact but cash flow liquidity has a negative effect on the company's dividend policy.

Fakhra et al., (2013) found their empirical results on KSE-100 index where financial and non-financial companies were taken into account and the data source ranged from 2007-2009. They showed that profitability, earning per share, size of the company have the positive effect on dividend policy except growth opportunities of the company which makes reduce the dividend payout. Similarly, Arif et al., (2013) related their studies on non-financial sector of KSE and that research study was based on each sector wise analysis for the period of 2005 to 2010. Firstly, the empirical results were checked on overall sectors of KSE-non financial firms and showed no significant change in the overall sectors. Later on, results were evaluated on each sector wise and variables like as profitability, tax, size and investment opportunities have a significant impact on dividend payout while consistency of making dividend payment is missing in Pakistani KSE market.

5. DATA AND METHODOLOGY

This paper is related to quantitative in nature and the data is extracted from the secondary source and archival strategy is used because for finance research. The approach is deductive as the existing theories have already been constructed and the results will be evaluated on the basis of framed hypothesis which will be further verified through either to reject the assumptions or fail to reject. Besides this, the relevant research is described about the financial sector of each company particularly banking sector listed on PSX. The non-financial firms have been, indeed, omitted because the nature of business of the stated sectors is entirely different for its nature of business than financial firms. The core object is to identify the determinants of dividend payout which really assists especially the banking sector.

The commercial banks secondary data have been extracted from the period of January, 2006 to December, 2025.i.e. twenty years annually data for PSX listed companies from Thompson Reuter's software as the yearly financial reports are published by every bank. The population of this study is limited to banking sector and twenty banks information have been gathered being considered as population sample. The main purpose for this paper is to identify the determinants of dividend payout which are exclusively necessary for banking sector and this kind of research work was also performed earlier by different researchers like as Al-Najjar et al. (2009); Deshmukh (2003) and Nadeem et al, (2018) respectively.

There are six independent variables such as earning per share (EPS), capital to assets ratio, investment ratio, liquidity ratio, size of the bank-- total assets of the bank as proxy-- and financial leverage whereas dividend per share for the current year is considered to be a dependent variable.

$$DPS_{it} = \beta_0 + \beta_1 FL_{it} + \beta_2 IR_{it} + \beta_3 LIQ_{it} + \beta_4 EPS_{it} + \beta_5 CAR_{it} + \beta_6 LTA_{it} + \mu$$

5.1. Hypotheses Testing

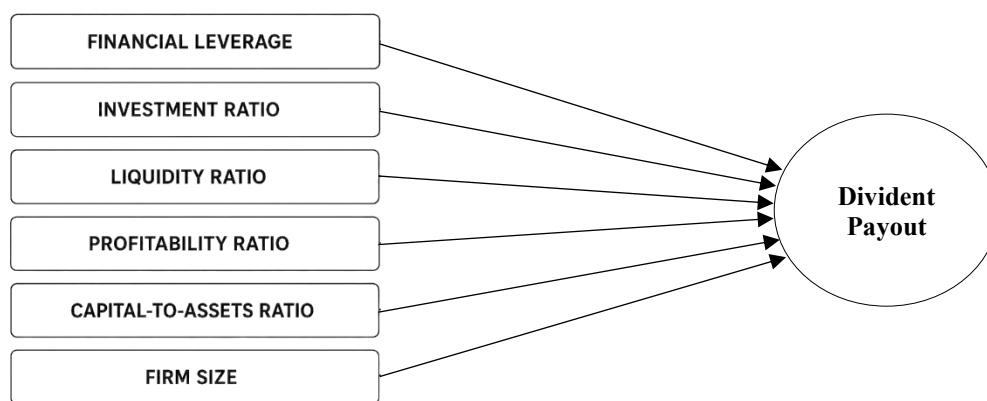
Hypotheses assumptions are based on objective of the study, problem statement and research questions. The following hypotheses are being presented as an alternative which are as under:

- H₁: Financial leverage is a significant indicator for dividend payment at PSX banking sector.
H₂: Investment ratio has a major and negative influence on dividend payment at PSX banking sector .
H₃: Liquidity has a negative impact on divined payout at PSX market.
H₄: Profitability has a major and positive influence on dividend payment at PSX banking sector.
H₅: Capital to assets ratio has a major and positive influence on dividend payment at PSX banking sector.
H₆: Size for every bank has a significant indicator for making dividend payment at PSX Banking sector.

5.2. Conceptual Framework

Conceptual framework is maintained after considering the theoretical framework and some important variables have been taken into account.

Figure 5.1: Conceptual framework



The choice of these independent variables to explain change in dependent variables has been made in the light of empirical literature on determinants of dividend payout is as follows.

Table 5.1: Sources of Variables

Independent Variable	Supporting Studies
Financial Leverage	Jensen et al. (1992); Agrawal and Jayaraman (1994); Faccio et al. (2001); Gugler and Yurtoglu (2003); Al-Malkawi (2005)
Investment Ratio	Ahmed and Javid (2008)
Liquidity Ratio	Folorunso (2012); Amidu and Abor (2006)
Profitability Ratio	Fakhra et al. (2013); Fama and French (2001); Han et al. (1999)
Firm Size	Eriotis (2005); Holder et al. (1998); Mollah (2002)

6. DATA ANALYSIS AND FINDINGS

This section describes the empirical results findings of determinants of dividend payout for banking sector of PSX. The independent variables for this study are as financial leverage, investment ratio, liquidity, profitability, capital to assets ratio and size whereas dividend per share is a dependent variable.

6.1. Descriptive Statistics

Descriptive statistics shows the results of selected samples where the results are drawn on quantitative basis and it is further divided into two main parts like as measure of central tendency and dispersion.

Table 6.1: Descriptive Statistics

Variable	Observation	Mean	SD	Minimum	Maximum
DPS	240	2.053	3.512	0	16
FLR	240	12.126	7.339	.854	62.472
IR	240	.017	.053	-.21	.111
LR	240	.615	.164	.013	1.04
EPS	240	4.005	6.255	-16.92	23.93
CAR	240	.101	.068	.016	.54
LTA	240	12.415	1.23	8.3	14.803

Table 6.1 stated the results of descriptive tests where 240 observations have been taken into account and this is the balanced panel data. The mean value of log of total assets (LTA) has been observed as 12.415 being the highest amongst the other variables. The standard deviation for financial leverage (FLR) ratio has been captured as 7.339 that also indicate the dispersion is at very high rate for this variable. Dividend per share (DPS) being known as dependent variable is witnessed “0” value in Minimum column, since most of the companies sometimes do not declare dividend in their financial year because of not having positive retained earnings balance. FLR gives a clear evident for maximum value being shown as 62.472 among other selected variables.

6.2. Correlation Matrix

The relationship among the independent variables have been identified with correlation techniques. This technique has been introduced by Karl Pearson named as co-efficient of co-relation that shows how majorly one variable influences the other. The purpose of this test is to check the multi collinearity among the variables among the independent predictors.

Table 6.2: Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) DPS	1.000						
(2) FLR	-0.185	1.000					
(3) IR	0.489	-0.172	1.000				
(4) LR	-0.326	0.042	-0.376	1.000			
(5) EPS	0.889	-0.300	0.602	-0.339	1.000		
(6) CAR	-0.003	-0.663	-0.175	0.078	-0.022	1.000	
(7) LTA	0.619	0.192	0.603	-0.265	0.664	-0.539	1.000

Correlation Table 6.2 points out the relationship between independent and dependent variables. The results are empirically tested on the basis of ± 1 benchmark threshold and this table also shows the multicollinearity among the independent variables. Bryman and Cramer (1997) relied on the assumption of Pearson of coefficient of correlation and identified that “r” should not exceed to 0.80 otherwise the serious multicollinearity occurs among the independent variables.

FLR, LR and CAR are having the negative relationship with DPS as debt to equity ratio increases the company’s gearing and is unable to pay its dividend payout for a normal pace whereas dividend payout also erodes the positive inflow of cash and it leads to adverse balance of liquidity. While the rest of the independent variables are having positive linear relationship with DPS and majorly influenced positive variable is EPS which draws the result of 0.889.

6.3. PANEL DATA ANALYSIS

The paper is secondary source information and the data is collected from 20 commercial banks from the year of 2006 to 2025. This research is called the panel data analysis because it contains cross sectional data for every bank and balanced time period for selected banks. The normality test for the selected variables has not been taken place because number of cross sectional data is greater than time period. Furthermore, Ordinary Least Square (OLS) econometric model is no more feasible because of panel data information and in this concern; the researcher applies the fixed and random effect model as the case may be considering the benchmark requirement of Hausman test.

Table 6.3: Pooled Regression analysis

DPS	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
EPS	0.498	0.028	18.08	0.000	0.444	0.552	***
LR	-0.876	0.658	-1.33	0.183	-2.167	0.414	
IR	-5.415	2.628	-2.06	0.039	-10.566	-0.264	**
FLR	0.081	0.020	3.98	0.000	0.041	0.122	***
CAR	10.031	2.403	4.17	0.000	5.322	14.741	***
LTA	0.401	0.160	2.51	0.012	0.088	0.715	**
CONSTANT	-6.296	2.046	-3.08	0.002	-10.306	-2.285	***
Mean dependent var		2.053	SD dependent var		3.512		
Overall r-squared		0.816	Number of obs		240.000		
Chi-square		1036.572	Prob > chi2		0.000		
R-squared within		0.492	R-squared between		0.974		

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

Table 6.3 represents the results of pooled regression analysis where every independent variable has been empirically tested and the coefficients are given on one unit of DPS. The FLR is positive by 0.081 that indicates about the company as the company increases FLR, the more the company is able to pay dividend to its shareholders because the company earns more on its debts after paying cost of borrowing. IR performs the negative relationship as the company utilizes the retained earnings balance; the least amount is available to make dividend declaration to existing shareholders. As per PSX market for banking sector the more investment ratio, the lessor chance of dividend or lower amount of dividend to the existing shareholders. The result of investment ratio is -5.415 which has the inverse relationship with DPS.

The confidence interval is 95% selection criterion and t calculated value should be greater than ± 1.96 and all most all the variables are greater than this standard benchmark except liquidity ratio where it has a value of -1.33 so it has an insignificant effect. Similarly, the results of p-value are significant for FLR, IR, EPS, CAR and LTA, whereas LR is having insignificant results. The overall R-squared among the cross sectional data explained the observed variable by 0.816 with the help of selected independent variables. F-test shows the overall fitness of the model and in this case the probability value of F-test is 0.0000 that indicated that coefficients in model are correct and accurate.

Table 6.4: Regression results Fixed Effect model (FE)

DPS	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
EPS	0.333	0.042	7.99	0.000	0.251	0.416	***
LR	-2.634	0.851	-3.10	0.002	-4.312	-0.957	***
IR	-5.871	3.693	-1.59	0.113	-13.151	1.409	
FLR	0.087	0.024	3.65	0.000	0.040	0.135	***
CAR	10.424	2.888	3.61	0.000	4.733	16.116	***
LTA	0.762	0.239	3.18	0.002	0.290	1.234	***
CONSTANT	-9.137	3.225	-2.83	0.005	-15.494	-2.780	***
Mean dependent var		2.053	SD dependent var		3.512		
R-squared		0.525	Number of obs		240.000		
F-test		39.348	Prob > F		0.000		
Akaike crit. (AIC)		838.463	Bayesian crit. (BIC)		862.828		

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

The results have been extracted by using the fixed effect model. As all the selected variables have given the significant value except IR whereas coefficients of LR and IR represent the negative impact on DPS (ss Table 6.4). The relationship between DPS and LR is negative as 1 unit change in LR brings about the change in DPS by -2.634. Similarly, the incidence is occurred with IR as it has negative coefficients results with DPS which is

evidenced by -5.871 unit changes with 1 unit change in IR. The rest of the selected variables are having positive relationship with DPS. R-squared value is 0.525 explained through selected independent variables. Overall, effectiveness for fitness of the model has shown the F-test value of 39.348 which maintains the benchmark requirement. Hausman test will later be applied and the probability value of F-test indicated 0.0000 which is <0.05 so representing a clear evident to accept the fixed effect model.

Random effect model focuses on the variations among the predictors in terms of cross sectional identities are random and it does not have the relationship with time like as fixed effect model.

Table 6.5: Regression results Random Rffect model (RE)

DPS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interva]	Sig
EPS	0.498	0.028	18.08	0.000	0.444	0.552	***
LR	-0.876	0.658	-1.33	0.183	-2.167	0.414	
IR	-5.415	2.628	-2.06	0.039	-10.566	-0.264	**
FLR	0.081	0.020	3.98	0.000	0.041	0.122	***
CAR	10.031	2.403	4.17	0.000	5.322	14.741	***
LTA	0.401	0.160	2.51	0.012	0.088	0.715	**
CONSTANT	-6.296	2.046	-3.08	0.002	-10.306	-2.285	***
Mean dependent var		2.053	SD dependent var			3.512	
Overall r-squared		0.816	Number of obs			240.000	
Chi-square		1036.572	Prob > chi2			0.000	
R-squared within		0.492	R-squared between			0.974	

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

Table 6.5 represents the results of random effect model where all the predictors have significant results except LR. The relationship is negative as high liquidity ratio decreases the disbursement of the funds and in the above case one unit change in LR has the negative influence on DPS by -0.876. The rest of the variables are significant as the p-value is less than 0.05 and also t-value ± 1.96 at the 95% confidence interval where all of independent variables are major influence except LR. Chi-square value shows 1036.572 that prevails the coefficients are having values than zero and Chi^2 value is 0.0000 that is a clear evident for overall fitness of the model.

6.4. Hausman Test

The results are checked with the help of Hausman test as this test helps in identifying FE OR RE model should be applied.

Table 6.6: Hausman Specification Test Comparing Fixed- and Random-Effects Estimates

Predictor	Fixed Effects, b	Random Effects, B	Difference ($b - B$)	SE of Difference
EPS	0.3333862	0.4975597	-0.1641735	0.0313724
LR	-2.6344520	-0.8763771	-1.7580750	0.5395881
IR	-5.8711150	-5.4150050	-0.4561108	2.5949190
FLR	0.0874399	0.0814596	0.0059802	0.0124006
CAR	10.4244300	10.0314100	0.3930106	1.6012760
LTA	0.7618622	0.4014379	0.3604243	0.1782334

Note. Hausman $\chi^2(6) = 23.91$, $p < .001$ (reported $p = .0005$). The null hypothesis states that differences between the fixed- and random-effects coefficients are not systematic. Its rejection supports the fixed-effects model. Here, b denotes the consistent fixed-effects estimator, whereas B denotes the random-effects estimator, which is efficient under the null hypothesis. The variance-difference matrix was not positive definite.

The above results suggests that null hypothesis is random effects and the alternative is fixed effects and the results of Chi^2 is 23.91 and the probability value of Chi^2 is 0.0005 which is less than 0.05 so the fixed effects

model will give the better results and has embarked upon that as time elapses the variable results also changes because of time responding.

Panel-corrected standard error (PCSE) is used for time series information where the cross sectional identities have been observed through OLS or Prais-Winsten regression. It is assumed that under PCSE that variance and co-variance are due to disturbance term and it contains the element of heteroscedasticity and auto correlation.

Table 6.7: Panel Corrected Standard Errors (PCSEs)

Predictor	<i>B</i>	<i>SE</i>	<i>z</i>	<i>p</i>	95% CI LL	95% CI UL
FLR	0.0815	0.0333	2.44	.015	0.0161	0.1468
IR	-5.4150	2.8933	-1.87	.061	-11.0858	0.2558
LR	-0.8764	0.8263	-1.06	.289	-2.4959	0.7431
EPS	0.4976	0.0497	10.01	< .001	0.4001	0.5950
CAR	10.0314	2.4641	4.07	< .001	5.2019	14.8610
LTA	0.4014	0.1686	2.38	.017	0.0710	0.7319
Constant	-6.2957	2.0361	-3.09	.002	-10.2863	-2.3051

Note. *N* = 240 observations across 20 groups, with 12 observations per group. The balanced-panel model used panel-corrected standard errors and assumed no autocorrelation. $R^2 = .8165$; Wald $\chi^2(6) = 339.88$, $p < .001$. *B* = unstandardized coefficient; *SE* = panel-corrected standard error; CI = confidence interval; LL = lower limit; UL = upper limit. Variable abbreviations are retained from the original statistical output.

PCSE table shows the cross sectional data of twenty commercial banks and every group has 12 years' yearly data and the panel is balanced. R- squared value is 0.816 that explained the dependent variable by predictors. The overall model fitness is also empirically checked and the value of F- test is 330.88 and the probability value is also less than 0.05 so it indicates the coefficients results are accurate as the value is other than zero.

7. DISCUSSION

7.1. Financial leverage (FLR)

It is the ratio of debt to equity ratio and the above results rejects the null and accepts the alternative hypothesis.

H_1 : Financial leverage is a significant indicator for dividend payment at PSX banking sector.

The result of FLR indicates about the significance of dividend payout as the firm earns more on its debt investments; the better the firm's position the better to pay higher amount of dividend to its stakeholders. Significance of the financial leverage results have been identified by several authors in their research papers like as Ahmed and Javid (2010), Aivazian et al., (2003), Baker et al., (2001).

7.2. Investment ratio (IR)

This ratio relates with accumulated retained earnings as the company retains its earnings for capital intensive projects the lessor amount of dividend pays out by the company to its shareholders.

H_2 : Investment ratio has a major and negative influence on dividend payment at PSX banking sector.

Investment ratio (IR) brings about the change in dividend payment unit by -5.080 but it does not have a significant influence on alternative hypothesis so it fails to reject the null hypothesis. The relationship is not applicable to PSX market particularly for banking sector. There are various researches are available that have the same consensus for reduction in dividend if the company retains money for business extension purposes like as (Kangarlouei et al, 2012; Patra et al, 2012; Abor and Bokpin, 2010).

7.3. Liquidity ratio (LR)

This ratio indicates the solvency position of the company and the cash dividend is declared and allotted on the availability of cash and cash equivalent balances. This research paper rejects the null hypothesis as the p-value has 0.000 for its negative relationship with DPO.

H_3 : Liquidity has a negative impact on dividend payout at PSX market.

Liquidity ratio (lr) so far considering the perspective of commercial banks provides the relationship between advances to deposit ratio as advances i.e. total gross loans have increased which ultimately reduces the dividend payout. In other words, the above table has revealed one unit change in LR brings about the negative change in DPO by -3.088. The result also matches with free cash flow theory or agency theory as theory describes the chances of higher liquidity will give the higher amount of cash dividend to its shareholders.

7.4. Profitability ratio (EPS)

Profitability ratio (EPS) and DPO have a positive relationship as high earnings firm pay higher amount of dividend to its shareholders. The result of profitability has a positive significant value and it rejects the null hypothesis and the proposition is as under:

H₄ : Profitability has a major and positive influence on dividend payment at PSX banking sector.

EPS increases the dividend payout by 0.394 and p-value also has 0.000 which are showing the significance of the results. Most of the researchers have the same consensus for DPO and EPS like as Kim and Jang, 2010; Baker et al., 2001

7.5. Capital to assets ratio (CAR)

This ratio indicates about what should be the proportionate of internal equity from the investor's side on total assets. High ratio will generate the credibility of the company and the greater possibilities to operate the business for the foreseeable future. This paper shows the positive and linear relationship between CAR to DPO and rejects the null hypothesis. CAR describes that capital structure plays a very pivotal role and it rejects the theory of "dividend irrelevance" which was introduced by Miller and Mogiliani (1961). CAR envisages that capital structure is a significant role on PSX market particularly for banking sector in Pakistan.

H₅ : Capital to assets ratio has a major and positive influence on dividend payment at PSX banking sector.

The co-efficient value of car with related to dpo is 4.568 positive values and the p-value is 0.046 which fails to accept null hypothesis. Hence, CAR has a significant impact on dpo on commercial banks listed on PSX.

7.6. Log of total assets (LTA) / Size of assets

Log of total assets (LTA) plays a very pivotal role for paying dividend to shareholders by the company. Twenty banks have different sizes so it has been converted into LTA in order to get equality from each bank. The empirical result for LTA is very significant; it, therefore, fails to accept the null hypothesis. The pre-supposition of hypothesis is as under:

H₆ : Size for every bank has a significant indicator for making dividend payment at PSX Banking sector.

The coefficient result of LTA indicates that one unit change brings about 0.186 changes in DPO and it is a positive linear relation between them. The p-value also indicates 0.000 is a sound evidence for its significance on PSX market. The influence of size of assets has been empirically tested by several authors like as Fatemi and Bildik, 2012; Thanatawee, 2011

8. CONCLUSION

This paper enlightens about the association of determinants of dividend payout for banking sector listed on PSX. There are six independent variables like as financial leverage, investment ratio, liquidity ratio, earning per share, capital to assets ratio and log of total assets whilst dividend payout ratio is dependent variable. Dividend per share is used as a proxy of dividend payout. Twenty individual firms data have been taken from 20 years annual report that contains the time frame from the period of January, 2006 to December, 2025 and it is a cross sectional data. Panel pooled regression data has been applied whereas the selection criterion is based on Hausman test after considering the fixed and random effect model: the results are opted on fixed effect model. Most of the variables are significant with relation to PSX such as financial leverage, profitability, capital to assets ratio and log of total assets but one variable is insignificant that is liquidity ratio. Liquidity has an inverse relationship with dividend payout as it curtails the fund requirement.

8.1. Recommendation

The determinants of dividend payout for PSX banking sector requires several reforms like as

- i. The listed banks should pay dividend in the year of surplus that will encourage the confidence of the shareholders and will keep their shares for longer term purposes.
- ii. Size of the assets of the bank performs a major role as high size firm pays the higher amount of dividend because of surplus assets. Hence, investors make their investments portfolio for considering the clientele effect theory.

8.2 Further Areas of Research

This paper limits to commercial banks that is listed on PSX and covers the period of January, 2006 to December, 2025. There are other sectors which are available on PSX for future research like as investment banks, insurance companies, Modaraba companies and leasing companies for financial sectors. There are selected variables have been taken into account so other variables may give more regressed results for listed commercial banks. The data is extracted on the yearly financial report but the quarterly results would better give more accurate pictures especially for interim and final dividend declared by banks from time to time and what are the determinants which are taken into account by each company for paying its interim and final dividend. The other

statistical tools may assist better picture for commercial banks being used by the researchers in order to evaluate their empirical findings.

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