

# How Capital Structure influences the Dividend Policy? An Empirical Investigation of Banking Sector

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## Abstract

*The dividend payment policy of the banking sector is slightly different from other organizations where dividends are paid and future investment needs are met by capturing more deposits from outside lenders. Therefore, the risk is taken in the money of the lenders, while the dividends are distributed to the owners. The present study has achieved two main objectives with respect to the capital structure and dividend payments of the Pakistani banks. The first objective illustrates that banks with higher financial leverage pay higher dividends than others. While the second objective envisages that banks that are not able to obtain external public deposits and that have a greater portion of institutional loans in their capital structure tend to pay less dividends. In order to understand these relations between the capital structure and the dividend payments of the banks, the technique of panel data analysis was used. The annual data of thirty-one of the banks listed in the charter of the state-owned bank of Pakistan who is continuously paying dividends for the nine-year period from 2008 to 2016 was used in our analysis. The results showed that greater financial leverage positively influences the distribution of dividends. Meanwhile, institutional lending by banks to meet their short-term needs negatively affects dividends. On the other hand, earnings per share and size also significantly influence the distribution of dividends. This study will help policymakers and managers understand the relationship between capital structure and dividend policy decisions and discover the important determinants of the distribution of dividends from banks.*

**Keywords:** Capital Structure, Dividend Policy, Institutional Borrowing, Cash Flows, Banking Sector

## Introduction

The capital structure and dividend payments are always the most crucial and interrelated issues in the history of financial literature (Khan et al., 2016). A capital structure and optimal payout policy are needed to achieve the ultimate goal of the company to increase shareholder wealth. The capital structure decision describes the source of funding for a project. In the contemporary world, organizations do not rely on a single source of

funding, but seek more modern and innovative sources of funding to mitigate risk and increase the perceived financial benefits of a project (Schepens, 2016). Shareholder's equity, long-term debt and hybrid securities are the main components of a company's capital structure. The collection of funds through these instruments depends on the cost assumed in the issuance of these instruments and the value derived from them (Serfling, 2016). Taking into account, the importance of the capital structure for an organization, different theories have been presented in the literature on corporate finance, for example, the theory of the irrelevance of capital structure by (Modus & Litzenberger, 1973) and pecking order theory of the capital structure (Myers & Majluf, 1984).

Similarly dividend payout policy is also remained the focus of research for a quite long time (Sindhu, Hashmi & Ul Haq, 2016). In the study of dividends payout researchers attempt to describe the amount of disbursement from company to shareholders out of the earnings. Companies distribute some of its earnings to shareholders and save the remaining for future projects. This behavior of company affects the firm value (Zia, Sindhu & Hashmi, 2017) and sends different signals for outside investors. In literature, the word "Dividend Puzzle" is used for decision regarding dividend policy because it is not yet cleared that companies should pay dividends or not to increase its market value. To understand the phenomenon of dividend puzzle, different theories have been presented on the issue of companies' dividend payout policy like bird in hand theory, Linter (1962) and Gordon (1963) models of dividend relevance, Miller and Modigliani (1961) model of irrelevance and residual theory of dividend policy.

Dividend policy decision and capital structure decisions are interrelated to each other. One of these speaks about the distribution of profit to owners and other talks about the sources of funding to invest in profitable projects. This relationship becomes more interesting in the presence of diverse opinions of researchers about dividend payout and capital structure (Sindhu, Hashmi & Ul Haq, 2016). This study attempts to observe the relationship of these decisions in high debt organizations i.e. banks, where on one side managers try to inject more deposits to enhance further investment portfolio of banks and on the other side directors announce dividends on permanent basis to satisfy investors. Banks in the nature of their business are very different from other organizations. The main product of banking sector organizations are loans issued to lenders. According to financial statement analysis of State Bank of Pakistan (SBP) of financial year 2014, loans and advances issued by banks contribute 45.25% in the total assets of banking industry in Pakistan.

The interest earned from these loans adds a major chunk in the total income of banking sector organizations. According to SBP analysis of financial sector in 2014, Interest income is 2.24 times greater than non interest incomes of the banks. By getting into these figures, one can understand the importance of lending and borrowing for banks. This frequent borrowing and lending make the capital structure of banks completely different from other organizations. As per financial statement analysis of financial sector 2010-14 issued by State Bank of Pakistan, at the end of financial year 2014 total equity of banks was 975 Billion PKR, while total liability during the same period was 10,947 Billion PKR, approximately ten times higher than the equity portion. Here these liabilities constitute of mainly deposits and other accounts, bills payable and borrowing from other institutions.

Now the question arises, if the funds are so important for banks then why banks pay dividends and opt external borrowing to run its ongoing business? Why banks prefer to disburse their own earnings and struggle so much for external financing in shape of deposits? Is it a clear deviation from pecking order theory? Having such a higher portion of debt in the capital structure why banks tend to pay dividend? Knowing the fact that tax rate imposed on capital gain is less than dividends; why all profitable banks are paying the dividends to its shareholders? What are the determinants of dividends issued by banks? Do capital structure and deposits affect significantly on dividend policy of banks? i.e. the banks which are likely to get more deposits pay higher dividends by fulfilling their needs through deposits than others. Does the borrowing from other banks or institutes affect the dividend payments of banks? i.e. the banks which have more portion of institutional borrowing in their liability side of balance sheet pay lesser dividends than others.

Past study proposed to investigate the impact of financing decision on the dividend policy (Baker & Weigand, 2015). The present study in anticipating filling that research gap (Baker and Weigand, 2015) has investigated the impact of capital structure decisions on dividend policy decisions. Furthermore, the main emphasis of the study on banking sector of Pakistan makes this research unique. This study is going to contribute for the policy makers and managers of banks as to understand the relationship between capital structure and dividend policy decisions of banks and to find out the important determinants of dividend policy of banks. The remaining portion of this paper is divided into four different sections accordingly. In section two, we have described some previous studies which are carried out on this area to provide support to our topic from theories and researches. Section three comprises of the methodology through which the hypotheses of this study have been tested. In section four, major results of tests have been discussed. Section five draws conclusion from this research, gives recommendations to the directors and higher management of banks, and shows avenues for future research to researchers.

## Literature Review

Dividend policy is widely studied in the literature of corporate finance. Different economists, financial analysts and financial theorists contributed in the development of dividend policy literature (for example, Brennan, 1970; Jensen and Meckling, 1976; Rozeff, 1982; Jensen, 1986; Masulis and Trueman, 1988; Hand and Landsman, 2005). There are many theories presented on the topic of dividend policy. These theories suggested a mixed evidence of effect of dividend policy on the value of organizations. Some of these theories attempt to illustrate the importance of dividends for the market firm value while others declare dividend completely irrelevant and have no impact on market firm value (Sindhu, Ul Haq & Ali, 2014). Bird in hand theory speaks about the preferences of investors between dividends and capital gain. According to Gordon (1963) and Linter (1962) mostly investors prefer dividends over capital gain because of their certainty. Capital gains are not as certain as dividends. They are main supporters of relevance of dividend policy. An opposite version of bird in hand theory is residual theory of dividend.

Residual theory of dividends postulates that a company retains its earnings for future

profitable projects while distributes residual earnings in shape of dividend. It exerts that dividends are not much important (Conroy et al., 2000; Benartzi et al., 1997). Fama and French (2001) concluded that the number of firms paying dividends has dramatically declined over the past 20 years. Among dividends, cash dividend attracts the least attention of the firms. Grullon and Michaely (2002) argued that firms are giving less importance to dividend payouts in United States and preferring share repurchase as a substitute of dividends.

Capital structure decision is another important part of our research. Modigliani and Miller (1958) proposed capital structure irrelevance theory and described capital structure as completely irrelevant factor in determining the firm value, i.e., it does not matter whether a project is financed by equity or debt the value addition by the project will remain the same. They spoke in favor of conservation of investment value. According to them investment firm value depends upon underlying profitability and risk rather than debt equity division. The main pitfall behind this theory was its implausible assumptions (tax-free economy, no bankruptcy cost and efficient market) that do not work in real scenario.

Thus later they revised their theory and excluded the tax-free assumption. In the presence of corporate taxes Modigliani and Miller (1963) stated that the debt sources of capital are very beneficial for organization due to the advantages of tax shield gain on interest payments to bondholders. In context of capital structure, Kraus and Litzenberger (1973) presented the idea known as tradeoff theory of capital structure. According to tradeoff theory, debt is better source of finance up to that extent where the benefits of tax shields gained on tax are higher than the bankruptcy cost associated with that debt. Increased portion of debts will enhance both of these elements so organizations have to find an optimal level where the maximum benefits can be achieved.

Myers and Majluf (1984) presented pecking order theory of capital structure and elaborated the preferences of organizations regarding the choices between debt and equity. According to them organizations prefer internal source of financing over the external source of debt or equity. The Companies go to finance through issuance of equity as a last resort. Pecking order theory of capital structure describes the preference of managers for internal financing rather than external. So this theory is the most relevant to our area of research. Capital structure decisions affect the dividend policy of an organization. If an organization needs more debt to finance its projects it is less likely announce dividends for its shareholders.

Allen et al. (2012) tried to describe the relationship between dividend payouts and the extent to which firm is financed by debt. They used loan-specific data to document a significant inverse relation between a firm's dividend payouts and the intensity of a firm's reliance on bank loan financing. They concluded that loan financing through banks limit dividend payouts to protect the integrity of senior claims on the firm's assets. Moreover, dividend payouts decline in the presence of monitoring by relationship banks, which acts as an effective governance mechanism. Bank monitoring and corporate governance (insider stake and institutional block holdings) are complementary mechanisms to resolve firm agency problems. The payment of dividends by using debt financing gives rise to agency problems between owners and management of an organization. In the presence of higher debt level management tends to issue less dividends.

Allen et al. (2012) was relevant to the non-banking organizations but in banking sector external borrowing in shape of deposits is main determinant of profitability. Demirgüç-Kunt and Huizinga (1999) found that higher deposits helps banks to improve profitability, similar results were reported by (Athanasoglou, et al. 2009). This higher portion of deposits in the capital structure of banks enhances profitability and hence chances of dividend payouts increase. It gives rise to the main hypothesis of our study that debt portion in capital structure of bank predicts the dividend payouts to the owners.

Aivazian, Booth, and Cleary (2006) examined the relation between dividend smoothing policy and public debt holdings versus bank debt, and find that firms with public debt are more likely to pay dividends than firms with private debt. Due to unavailability of data, they used presence of credit rating as a proxy of public debt. So this method is not appropriate to conduct research on banking sector. Aviazian et al. (2006) further enhances the scope of our study by the including a new determinant of dividend policy in our model. This claim can be empirically examined in the case of banks. So, second hypothesis of our study focuses on the institutional borrowing in banks and dividend payout policy. It illustrates that the banks having more interbank borrowing are less likely to pay dividends than the banks having external borrowing from depositors.

Dividend policy decisions are not solely depends upon the financing decisions of an organization (Sindhu, 2014) but free cash flow can also influence the dividend distribution. Rather there are multiple determinants of dividend policy that are explored by researchers. For example, Lintner's (1956) model states that dividend payment is a function of both net incomes after tax and dividends paid in the previous year. Barclay, Smith, and Watts (1995) use includes investment opportunities, regulation, size, and signaling factors to explain industrial firms' dividend policy. Casey and Theis (1997) study the petroleum industry and find support for dividend policy to be related to agency problems and risk, but not investment opportunities or size. In the start of 21st century, Casey and Dickens (2000) explored the support for investment opportunities (Sindhu, 2014) and agency problems as determinants for dividend policy, but not risk or size.

Dickens, Casey, and Newman (2002) further enhanced the scope of study and used investment opportunities, capital adequacy, size, signaling, ownership, dividend history, and risk to explain dividend payments. Al-Ajmi (2010) used earning per share, dividend per share, market to book value, capital to assets ratio, size, risk and cash flow per share as determinants of dividend payouts. Similarly the latest study of Imran, Usman, and Nishat (2013) used firms earning, size, pervious dividends and cash flow per share as determinants of dividend policy. These all are most important determinants of dividend payout policy and importance of these variables cannot be neglected at all.

In model of the study we used these important variables that affect the dividend policy of an organization as control variables to gauge the impact of capital structure on dividend policy of banks. The control variables for our study will comprise of profitability (measured through earning per share) of organization, size of organization, available cash balance, and investment opportunity for an organization as mentioned by Barclay, Smith, and Watts (1995); Casey and Dickens (2000); Bodla et al. (2007); Al-Ajmi(2010) and Imran, Usman, and Nishat (2013).

## Methodology

In the study of relationship between dividend policy and capital structure, banking sector of Pakistan is targeted to examine the hypotheses. So the target population of the study is banking industry of Pakistan. A sample is drawn out of the given population to conduct the empirical analysis and to achieve the objectives of the study. Annual data of 31 conventional banks working in Pakistan for the period of nine years (2006 to 2014) is collected. Based on this sample total number of observations become 270 approximately. As discussed earlier, three main categories of variables are used in this study i.e. independent, control and dependent variable. These different types of variables are used in different models because of the importance of these variables in determining the dividend payouts of banks. In literature different researchers have employed similar variables in a same model like Casey and Dickens (2000); Bodla et al. (2007); Al-ajmi(2010). Multivariate generalized least square regression method is utilized to examine the impact of financial leverage and institutions verses public borrowing on dividend policy. Econometric models developed to verify the relationship between dependent and independent variables of the study is described in equation (i) and (ii).

$$Div_{it} = \alpha_1 + \beta_1 Prof_{it} + \beta_2 IO_{it} + \beta_3 Siz_{it} + \beta_4 CF_{it} + \beta_5 FL_{it} + \mu_{it} \dots \dots \dots (i)$$

To testify the impact of borrowing from other banks on dividend policy of the banks another Multivariate least square regression model is developed. The symbolic representation of this model is shown in equation (ii).

$$Div_{it} = \alpha_2 + \beta_1 Prof_{it} + \beta_2 IO_{it} + \beta_3 Siz_{it} + \beta_4 CF_{it} + \beta_5 FL_{it} + \beta_6 IB_{it} + \mu_{it} \dots \dots \dots (ii)$$

Div<sub>it</sub> = Dividends paid by individual bank i in year t.

Prof<sub>it</sub> = Profitability of individual bank i in year t.

IO<sub>it</sub> = Investment Opportunity of individual bank i in year t.

Siz<sub>it</sub> = Size of individual bank i in year t.

CF<sub>it</sub> = Cash flow availability of individual bank i in year t.

FL<sub>it</sub> = Financial leverage of individual bank i in year t.

IB<sub>it</sub> = Institutional borrowing of bank i in year t.

" $\alpha_1$ "," $\alpha_2$ " = Represents the values of constant for equation (i) and (ii).

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  = Represents the values of coefficient of respective variables.

$\mu_{it}$  = Error term

The specific proxies to measure these variables are demonstrated in Table 3.1 in the appendix.

Empirical Findings

First step in empirical analysis started with the normality of financial data and descriptive statistics is one of those sources which indicated that sample data is normal in research analysis. It explains the mean and median, minimum and maximum values. Mean and median indicated that there is an average behavior of data. Standard deviation indicated the risk of data which deviated from the mean values. The other values like skewness, kurtosis and Jarque bera could also be probable source of normality of data. Mean, median, minimum and maximum values have been shown in the table I.

Variable	Mean	Min	SD	Median	Max
Dividend Payouts	0.352	0.000	0.173	0.315	1.000
Profitability	0.322	0.000	0.105	0.255	0.440
Size	10.26	9.040	1.342	9.853	12.20
Investment Opportunity	0.521	0.331	0.295	0.474	0.703
Financial Leverage	8.209	6.284	2.150	8.904	10.62
Cash Flows	0.434	0.095	0.226	0.571	0.705
Institutional Borrowing	0.542	0.109	0.216	0.449	0.765

Further, there are few assumptions which must be followed like autocorrelation, heteroscedasticity and multicollinearity should not exist in the sample data. Breusch-Pagan and White test incorporated for removal of autocorrelation and heteroscedasticity. Whereas, variance inflation factor test indicated there is no issue of multicollinearity. Making ensure the normality of data, regression analysis is used for hypothesis testing. Capital structure decisions can be viewed by measuring the portion of public debt and institutional borrowing in total financing of an organization. Model 1 and model 2 are developed to test the impact of capital structure on dividend payouts of banks. Results of both models are shown in table II.

Variables	$\beta$	P-Value
Constant	-11.93	0.301
Profitability	0.230 <sup>***</sup>	0.000
Size	1.250 <sup>**</sup>	0.000
Investment Opportunity	0.320	0.749
Financial Leverage	0.120 <sup>***</sup>	0.000
Cash Flows	0.580	0.536
R <sup>2</sup>	0.590	
N	270.0	

<sup>\*\*\*</sup> Significant at level 1%; <sup>\*\*</sup> Significant at level 5%, DV=Dividend Payout

Both models of study showed similar results. R2 of model 1 is 0.59 which describes that 59% variation in dividend payouts is caused by profitability, size, investment opportunity, capitalization and cash flow of an organization. Profitability, size and capitalization contribute significantly in forecasting dividend distribution by a bank. Investment opportunity and cash flow didn't indicate significant relation with dividend payments. Coefficient of profitability is 0.23 and is significant at level 1%. It indicates that 1 unit increase in profitability causes 0.25 unit increases in dividend payouts. Profitability is

measured through earnings per share and it is the strongest determinant of dividend distribution. If an organization is not earning profits, it is not in the position to distribute something to its owners.

Bodla et al. (2007) and Al-Ajmi (2010) also concluded similar results for relationship between profitability and dividend payouts. Financial leverage also significantly affects dividend payouts of banks. Results suggest that 1 unit increase in financial leverage causes 0.12 unit increase in dividend payouts of banks. In model 2, the value of this coefficient is also 0.12 showing the consistency of impact of financial leverage on dividend payouts. Dividend payouts depend upon the amount of liabilities of an organization. In case of banks, deposits have a significant portion in total liability and ultimately in financial leverage. So, higher financial leverage can be translated into higher deposits in case of banks. Banks with more deposits pay higher dividends than others. These deposits help banks to increase their investment portfolio and make those banks able to earn higher profits.

Afza and Mirza (2010) concluded opposite results, showing the negative impact of financial leverage on dividends. But they conducted study on non-financial sector firms. Our results are totally different from those because in banking sector higher deposits causes to increase financial leverage as well as profitability. Size of bank is another important determinant of dividend payout explored by our model. According to both of our models, size of bank contributes significantly positively in measuring dividend payouts of banks. Coefficient for size in model 1 is 1.25 while in model 2 its value is 1.17 and both of these values are significant. The values of coefficients of size in both models depict that one unit increase in size of bank causes 1.25 and 1.17 unit increase in dividend payouts. It has been observed in this study that normally the banks with higher size pay higher dividends to its owners. The rationale behind this result is that the banks with higher size normally have a diverse portfolio to invest and obviously earn higher returns, so ultimate these banks have a large chunk to distribute among its owners. Some other studies also showed similar results (Al-Malkawi, 2007; Stacescu, 2006).

**Table III:** Results based on regression analysis

Variables	$\beta$	P-Value
Constant	-10.80	0.203
Profitability	0.23***	0.000
Size	1.17***	0.000
Investment Opportunity	-0.020	0.982
Financial Leverage	0.12***	0.000
Cash Flows	0.410	0.661
Institutional Borrowing	-2.07**	0.050
R <sup>2</sup>	0.600	
N	270.0	
*** Significant at level 1%; ** Significant at level 5%, DV=Dividend Payout		

R<sup>2</sup> of model 2 is 0.60 which pronounces that 60% variation in dividend payouts is caused by independent and control variables. Results of model 2 are very close to model 1 showing that variables of model 1 have strong and consistent impact on dividend payouts. One additional variable, institutional borrowing is used in model 2 to investigate its

impact on dividend payouts. Coefficient of institutional borrowing is -2.07; probability value of the coefficient is 0.05 that is expressing the significance of results. High negative value of coefficient describes that one unit increasing in institutional borrowing causes 2.07 units decrease in dividend payouts in banking sector organization. This is the fourth important variable in determining the dividend payouts in banks. The banks having higher portion of institutional borrowing than public deposits are less inclined towards dividend payments.

Higher portion of institutional borrowing discourages a bank to pay dividends to investors rather they try to minimize the portion of institutional borrowing by pay back those short term expensive loans to the lender, so those banks are not able to pay dividends in this scenario. Higher institutional borrowing generates senior claims of intuitions and it limits the organizational tendency to pay dividends. Faulkender and Petersen (2006) and Allen et al. (2012) also supported our findings on institutional borrowing and payout relationship. Both of those studies concluded similar results for public and private borrowing and dividend relations.

## **Conclusion**

Dividend payouts builds company's image in the eyes of investors. These dividend payments depend upon a number of variables. The results of our models exhibit that in banking sector, dividend payouts depend upon the financial leverage of a bank. Banks with higher financial leverage tends to pay higher dividends. More financial leverage is translated by higher liability or higher deposits on the liability side of banking organization. These deposits help banks to increase their investment portfolio and make those banks able to earn higher profits. As the profitability of a bank rises it gives higher dividends to its owners as proved by our study. Third most important variable in determining dividend payouts among banks is the size of a bank. It is observed in this study that normally the banks with higher size pay higher dividends to its owners.

The rationale behind this result is that the banks with higher size normally have a diverse portfolio to invest and obviously earn higher returns, so ultimate these banks have a large chunk to distribute among its owners. Fourth most important variable in determining the dividend payouts in banks is the extent to which these banks have borrowings from other banks or institutions. It has been observed in the study that the banks having higher portion of institutional borrowing than public deposits are less inclined towards dividend payments. Higher portion of institutional borrowing discourages a bank to pay dividends to investors rather they try to minimize the portion of institutional borrowing by pay back those short term expensive loans to the lender, so those banks are not able to pay dividends in this scenario.

Cash flows contribute positively in determination of dividend payouts but results indicate that positive impact of cash flows is not significant (Sindhu, 2014). It demonstrates that cash availability did not contributes much in measuring dividends because it has been observed that stock dividends are also equally famous in banking industry of Pakistan. The effect of investment opportunity on dividends is also insignificant. It infers that in banking industry most of profitable projects are not financed by internal financing; rather bankers prefer to finance their projects through external financing in shape of deposits.

Strictly against the pecking order theory, banking sector organizations are found to pay dividends to its owners and accumulate deposits from public to continue its ongoing and future projects. This study opens further avenues for future researchers to investigate the dividends paying behavior of successful and unsuccessful banks, and the banks in developed and developing countries, and explore the differences among them. Researchers can find out the optimal level of dividends that should be paid by banks by considering their size, profitability, deposits, institutional borrowings, and investment opportunity in future.

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