



## The Effect of Capital Structure and Ownership Structure on Banks Performance

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*The study aims to explore the relationship between capital and ownership structure with the performance of conventional and Islamic banking in Pakistan. Capital structure is the most discussed topic in the literature of finance. It defines the success or failure of any firm, whether banking or non-banking. So, as their importance in organizational success, specifically in determining performance, it was necessary to check their relationship with the ownership structure. Three hypotheses have been developed to study the relationship between dependent and independent variables. Different ratios have been used as the measurement of dependent and independent variables. By employing the annual data from 2007-12, the ordinary least square method results show that the Capital structure measure of return on assets has a significant relationship with capital structure and ownership structure. Return on equity has a significant and positive relationship with capital structure. The ownership structure is also significant with return on equity. Earnings per share are significant with capital structure. As the results show, all three hypotheses have been accepted. This study's findings provide a new outlook to finance managers for assessing the optimum capital structure, which may enhance organizational performance. It has also modified some concepts relating to capital structure.*

**Keywords:** *capital structure; ownership structure; return on assets; return on equity; earnings per share*

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When a firm gives equity, debt, and hybrid securities by financing its whole assets and operations is called capital structure. Equity has two categories: common stock and preferred stock, while debt has three categories: debt for a short period, debt for a long period, and the combination of both debts, i.e., total debt. A firm issues some hybrid securities and the above-mentioned financing sources; these securities have both debt and equity characteristics, such as income bonds. Capital structure has always been one of the debatable topics among Finance

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scholars. It is always a crucial decision for every firm. It has always been an effort of firm managers to have the optimum capital structure, which shows their concern to have the minimum cost of capital with maximum value. Modigliani and Miller (1958) were the pioneers who started the debate on capital structure. They believe that firm value would certainly not be concerned with the capital structure in the absence of bankruptcy cost and tax benefit.

In most cases, financial managers find it challenging to manage the absolute determinism of capital structure. There is a possibility that the firm capital structure may change from time to time according to the needs and requirements. When a firm uses more debt, then the fixed obligation of the firm increases. It predicts better future earnings for the firm. While selecting the optimum capital structure, the trade-off between risk and return must be kept in mind. Van Horne (2002) believes that the risk and profitability of the investment can determine a firm value. Having the right blend of debt and equity will provide a company an edge over other companies. The literature tried to prove that there must be a mixture of both debt and equity in every organization. If a firm uses 100% equity, it may have to bear high taxes or poor governance. If a firm uses more debt, it may face the problems that all the profit would be distributed among creditors interested in interest on their principal amount. Kim (2005) views that using more debt in a company may badly affect the firm's performance.

Many theories describe the performance of the firm concerning capital structure. *Agency theory* states that there is an agency problem among owners (shareholders) and management. Managers are more interested in their benefits, and personal growth and shareholders want to maximize their wealth. Debt financing is a better option because it lessens firm-free cash flows. This is because they have to pay a fixed amount of taxes for this debt they have taken. Modigliani and Miller (1963) elucidate that more debt capital should be used than equity. The State Bank of Pakistan regulates and controls banking activities and makes monetary policy decisions in Pakistan. In the last few years, the Pakistani banking sector has involved the private sector and foreign investors in getting better results. Thus they created healthy competition between conventional and Islamic banking sectors; both have great competition in motivating their customers, devising innovative products, and providing the best services for them. Every bank tries to produce innovative products and services to retain their customer and for their growth.

Pakistan is an ideological state and came into existence in 1947 in the name of Islam. The Islamic banking system has been prevalent in Pakistan due to Riba-free banking. The state bank's role in making Islamic banking successful can't be denied in keeping with conventional banking. This devised many strategies: The first strategy is establishing Islamic banks and combining both Islamic and conventional banking. The second strategy is that Islamic banking was encouraged. The third strategy is to have the standalone branches of existing commercial banks. The capital adequacy ratio is the ratio of the bank's capital to its risk. It is also known as the capital-to-risk asset ratio. Capital adequacy ratio is the ratio that determines the bank's capacity to meet the time liability and risks such as credit risk. The bank's capital structure includes short-term as well as long-term debt. They can borrow from the state bank of Pakistan to meet their long-term financing needs.

There are many studies available on capital structure. These studies describe its effect on the firm's performance—Saeed et al., (2013) study brought into light a relationship between capital structure and profitability. They have shown an association between capital structure and Pakistani banks' profit. A few studies elucidate that banks' performance in Pakistan has an effect on capital structure. Several modern corporations are run by professional executives these days. These professional executives owe a small fraction of the shares in the company. There is an ongoing debate on the ownership structure and the separation of ownership from its control. According to Williamson (1964), serving

managers prefer their interests as compared to the shareholders. The impact of capital and ownership structure on Islamic and conventional banks' performance has been examined in this study. Many banks are still facing the problem of selecting the optimum capital structure. The relationship between capital and ownership structure with banks' performance has been analyzed in this study.

### *Problem Statement*

The banking industry has been one of the essential services for humankind. For the economic development of any country, banking infrastructure plays a vital role. There have been drastic changes in the banking industry for the last 60 years. Islamic and conventional banks have a rivalry and bonds between them in Pakistan and the Gulf states. Both Islamic and conventional banks try to satisfy their customers according to their needs and want by providing innovative products and services. Every firm has to make crucial decisions on capital structure. Banks are not exceptional. The debate regarding capital structure was started by (Modigliani & Miller, 1958). They opined this relationship would cut down the assumptions of taxes, and transaction costs and provide a conducive environment for the markets if the firm performance remains deficient in the capital structure. However, after their study, many researchers found a positive link between capital structure and a firm's performance. According to our best knowledge, let alone a book, even a single study does not address this relation between bank performance. First of all, we have to find material about the required topic to analyze its impact on capital structure and ownership structure regarding Pakistan's bank performance.

This study aims to ascertain the interrelation of capital and ownership structure with the performance of conventional and Islamic banking in Pakistan. There has been a lot of debate among policymakers regarding the firm's performance depending on capital structure. This will be the foremost study of Islamic and conventional banking in Pakistan based on capital structure and ownership structure.

## **Literature Review**

Modigliani and Miller (1958) highlighted the fact that there was no relation between capital structure and the firm's value. Both repel each other. The idea behind this theory is that there must be a conducive capital market without any taxes. Some assumptions were not valid. Rajan and Zingales (1995) analyzed the determinants of capital structure in view of financial decisions in most industrialized countries. For this, an effort has been made to fill the gap. It is yet to be seen whether America's capital structure and other countries are similar. They have also analyzed some institutional differences found across the nations and their impact on financing decisions. They find that G7 countries have the same level of leverage, and existing differences cannot be explained easily. Marsh (1982) concludes that the choice between debt and equity markets is foremost the part that influences the companies and past history of securities prices.

Dividend policy continues to be an area that has some unanswered questions. Some questions have been answered but in a conflicting way, and some questions are still to be asked (Rozeff, 1982). He argued that an increase in dividends relative to earnings lower agency cost but raised the cost of external financing. He found a negative link between dividend payout and leverage. Kester (1986), with a larger sample of manufacturing corporations in Japan and the United States, study the capital and ownership structure and test the hypothesis that Japanese manufacturing is more levered than U.S. manufacturing. However, their results suggest that when levered is measured on a market value basis and adjusted for liquid assets, significant differences in country differences in leverage between

the U.S and Japan. On the other hand, if leverage is measured on a book value basis, higher leverage is found in Japan.

Shyam-Sunder and Myers (1999) said that if a firm needs external funds, it will prefer debt over equity owing to the lower cost of information. The base of this theory is the information asymmetry among investors and managers. Managers have more information as compare to outside investors about the firm's future riskiness. Abbadi and Abu-Rab (2012) established a model for measuring capital structure's effect on the banks' efficiency. The result shows that there is a negative relationship between leverage and bank profits. Pastory et al.'s (2013) findings suggest a negative association between capital structure and bank performance. Chinaemerem and Anthony (2012) have examined the relationship between capital structure and financial performance. They studied the thirty firms listed on the Nigerian stock exchange and found that the firm's performance malleable by capital structure. They used different ratios such as return on assets and return on equity to measure the firm's performance and debt ratio as a proxy of capital structure. Mumtaz et al. (2013) also checked the correlation between capital structure and firms' performance. Their study consists of a sample size of 83 companies listed on the Karachi stock exchange. Their final findings revealed that capital structure negatively but significantly correlated with the financial performance of companies. They have also found that as the portion of debt financing increases in total capital structure, the risk of failure also increases. Further, they concluded that capital structure also negatively affects the market value of a firm.

For the last 20 years, there have been many changes in the regulations of the banking industry all over the world. Owing to market integration and financial deregulation, the scope of the banking industry is reshaping day by day, and due to this, the role of banks is not only limited to a financial intermediary, but they are also now offering new products and innovative services to their customers. Saunders et al. (1990) empirically proved a positive link between managerial stock ownership and the incentives to take risk. Further, they suggest that the banks which are controlled by shareholders tend to take more risk as compared to the banks which are controlled by managers.

Wen (2010) has proved that shareholders with massive holdings continuously examine managers' performance because they have a significant share in company shares. This thing may enhance firm efficiency and reduces agency cost. Bhatt and Bhattacharya (2015) suggested that the firms' performance can only be increased when their executives are independent and have no consideration for companies' issuances. This thing has a significant and positive impact on the case of big companies. But, they failed to investigate the effect of agency theory on firm performance.

Some other studies, such as Umar et al. (2012), Nikoo (2015), and Salteh, (2012), have also checked the relationship between a firm's performance and capital structure. They studied the firm,s capital structure,s association with the firm's performance, and analyzed a significant relationship between capital structure and the firm,s performance. They linked the different ratios of capital structure and the firm's performance and found different behavior of variables.

Laeven and Levine (2009) infer that the owners who are influential in the banks tend to take high risks. Pindado and Torre (2011) have discussed that the ownership structure can be a helpful source to explain the choice between debt and equity. It shows that the control of the firm is mostly banking upon the capital structure. There is no straightforward relationship between ownership and capital structure. They prove that self-interested agents play a key role in the decision of a capital structure. They can have debt ratios according to their interest. Arosa et al. (2010) concluded by showing that there is no direct association between ownership concentration on the shareholders' attitude. Depending on the family's generation, managing the firm's ownership concentration and performance are different. When there are

low control rights levels, he concluded a positive relationship between the firms' ownership concentration and corporate performance. Further, they found a negative relationship when there is a high level of ownership concentration.

## Research Methodology

Banks' performance is measured by using ratio measures. Ratios measure can be seen in many studies such as Hasan (2009) and Sehrish et al. (2012). There are many advantages of using the ratio method. One of the most important benefits of using ratio methods, especially in measuring bank performance, is that it compensates for disparities. Banks are not equal with respect to size and capital. One of the qualities of using the ratio measures is that when we use the ratio measure, this removes the disparities and brings them to par.

### Data and Variables

Data for this study has been collected from the State Bank of Pakistan's website of the selected banks and the Karachi Stock Exchange (KSE). Five banks have been selected from the conventional banking industry and five banks from the Islamic banking industry. All of the banks which are selected in this study are listed in KSE. Data for 2005-2012 has been used for this study.

The followings are variables that have been used in this study. The detail and formulas of different ratios used to measure the variables are in the below table.

**Table 1**  
**Variables of Study**

Variables		Measurement
Dependent Variables	Return on Equity	Net Income/Total Equity
	Return on Assets	Net Income/Total Assets
	Earnings Per Share	Net Income/shares outstanding
Independent Variables	Long-term debt to capital	Long-term debt/capital
	Short-term debt to capital	Short-term debt/capital
	Total Debt to Capital	Total Debt/Capital
	Ownership Structure	No. of shares held by the board of directors/ total number of shares outstanding

Ebaid (2009) used ROA, ROE, and Gross Profit Margin to measure the firm's performance. Firm performance is measured by (Bokhari & Khan, 2013) using ROA, ROE, NPM, and EPS. In this study, capital structure is an independent variable that can be measured by short-term debt and long-term debt. The ownership structure is also another independent variable, measured by the ratio of the number of shares held by BOD to the total number of shares outstanding. The dependent variables for this study are firm performance, which will be measured by return on equity (ROE), Return on Assets (ROA), and Earning per share (EPS). Ordinary Least square regression and correlation model will be used to determine the association between capital structure, ownership structure, and firm performance.

### Hypotheses

*H1: There exists a positive and significant relationship between return on asset and long-term debt to capital, short-term debt to capital, total debt to capital, and ownership structure.*

*H2: There exists a positive and significant relationship between return on equity and long-term debt to capital, short-term debt to capital, total debt to capital, and ownership structure.*

*H3: There exists a positive and significant relationship between earning per share and long-term debt to capital, short-term debt to capital, total debt to capital, and ownership structure.*

## Results

### Descriptive Statistics

Statics show the behavior of change among variables. The below table represents the statistical outcomes, i.e., mean, median, standard deviation, etc., of variables.

Table 2 provides the details for descriptive statistics of variables that are used in our analysis. The table's first row indicates the variable's mean includes ROA, ROE, EPS, OS, LTDTC, STDTC, and TDTC. Median values can be seen in the second row of the table for the given variables, which define the data's middle value. Maximum and Minimum Values can be seen in the third and fourth row of the table, respectively. The fifth row of Std. Dev. explains the variability of variables from their mean values. The results of the Jarque-Bera test demonstrate whether the sample follows the normal distribution or not. The probability of Jarque-Bera shows that all the variables have a normal distribution.

**Table 2**  
**Descriptive Statistics (Observations = 47)**

	ROA	ROE	EPS	OS	LTDTC	STDTC	TDC
Mean	-0.04	0.03	-0.00	0.00	0.01	0.00	0.00
Median	-0.07	-0.03	-0.03	0.04	0.00	0.05	0.00
Maximum	0.08	0.18	0.2	0.11	0.06	0.11	0.00
Minimum	-0.15	-0.17	-0.18	-0.12	-0.01	-0.12	-0.01
Std. Dev.	0.08	0.11	0.12	0.10	0.02	0.10	0.00
Skewness	0.54	0.56	0.33	-0.16	0.83	-0.20	-1.66
Kurtosis	1.84	2.58	2.13	1.18	2.95	1.16	4.46
Jarque-Bera	52.01	29.90	24.57	70.89	57.13	73.28	273.58
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 3 represents the correlation matrix, which shows the association between the variables of this study. The diagonal elements of the correlation between variables with themselves are always equal to one. ROA indicates a positive association with all the variables except LTDTC and TDTC. ROE has a positive association with all the variables except TDTC. EPS has a positive association with OS and STDTC and a negative relationship with LTDTC and TDTC. OS has a positive association with STDTC and a negative

association with LTDTC and TDTC. LTDTC has a negative association with STDTC and a positive association with TDTC. STDTC has a negative association with TDTC.

**Table 3**  
**Correlation**

	1	2	3	4	5	6	7
1. Return on Asset	1						
2. Return on Equity	0.75	1					
3. Earnings Per Share	0.93	0.90	1				
4. Earnings Per Share	0.70	0.72	0.73	1			
5. Long-term debt to capital	-0.22	0.06	-0.03	-0.55	1		
6. Short-term debt to capital	0.67	0.73	0.72	0.99	-0.52	1	
7. Total Debt to Capital	-0.60	-0.02	-0.39	-0.35	0.48	-0.29	1

*Capital, Ownership Structure, and Its Effect on Bank's Performance Measured Through ROA*

Table 4 shows all the variables in the first column, and then there are three models showing different results. In model one, the relationship of ROA is checked with STDTC and OS, Model 2 indicates the relationship of ROA with LTDTC and OS, and model 3 indicates the relationship of ROA with TDTC and OS. Firm performance is negatively and significantly associated with STDTC measured by return on assets. Further significant and positive association is found between LTDTC and the firm's performance measured by ROA. There is a significant negative relationship between total debt to the capital with firm performance measured by ROA. It is also shown that there is a positive and significant association between ownership structure and firm performance when ROA measures firm performance. These findings are consistent with those (Bokhari & Khan, 2013). He also finds a negative and significant association between STDTC and TDTC, when the firm performance is measured through ROA. The results (Abor, 2007) are also consistent; he finds that the relationship between STD and TD with ROA is statistically significant and negative. Sheikh and Wang (2013) found that ROA is negatively associated with all capital structure measures. Shyam-Sunder and Myers (1999) also state a positive association between long-term debt and profitability. Salim and Yadav (2012) also concluded a significant and negative association between capital structure and firm performance when ROA measures performance. The adjusted determination coefficient R<sup>2</sup> shows that 63.89% of the ROA variations are explained conjunct by the independent variables in the model of STDTC and LTDTC and TDTC; this ratio is 53.50% and 63.89%, respectively.

*Capital, Ownership Structure, and Its Effect on Bank's Performance Measured Through ROE*

Table 4 shows all the variables in the first column, and then there are three models showing different results. In model one, the relationship of ROE is checked with STDTC and OS, model 2 indicates the relationship of ROE with LTDTC and OS, and model 3 indicates the relationship of ROE with TDTC and OS. There is a significant positive association between short term, long-term, and total debt to the capital with firm performance when ROE measures firm performance. Further, there is a negative and significant association between Ownership structure and STDTC with firm performance, it also has a significant positive

association with long-term debt to capital as well as total debt to capital. Abor (2007) found a positive and significant association between STDTA and ROE. He further concluded that there is a significant positive association between total debt to capital and ROE. There is a negative association between Long term debt to capital and ROE. By increasing the short-term debt, the company's profits increase due to the low-interest rate. At the same time, the results of Salim and Yadav (2012) show a significant and negative association between ROA and Capital structure. The adjusted determination coefficient  $R^2$  shows that 58.16% of the ROE variations were explained conjunct by the independent variables in the model of STDTC and LTDTC and TDTC; this ratio is 81.71% and 58.16%, respectively.

**Table 4**  
**Regression Results**

Model	M-1	M-2	M-3	M-1	M-2	M-3	M-1	M-2	M-3
Variables	ROA			ROE			EPS		
Constant	-0.037 [-15.57] (0.000)	-0.05 [-18.5] (0.00)	-0.037 [-15.57] (0.000)	-0.042 [-12.53] (0.00)	-0.06 [-27.88] (0.00)	-0.04 [-12.5] (0.00)	0.001 [0.37] (0.70)	-0.034 [-10.61] (0.00)	0.001 [0.37] (0.00)
STDTC	-4.71 [-13.99] (0.00)			4.04 [8.64] (0.00)			-2.40 [-4.5] (0.00)		
LTDTC		0.78 [6.44] (0.00)			2.80 [28.4] (0.00)			2.55 [19.7] (0.00)	
TDTC			-4.7123 [-13.99] (0.00)			4.04 [8.64] (0.00)			-2.40 [-4.5] (0.00)
OS	5.17 [15.73] (0.00)	0.69 [22.71] (0.00)	0.46 [19.28] (0.00)	-3.16 [-6.92] (0.00)	1.15 [46.8] (0.00)	0.87 [26.19] (0.00)	3.2 [6.2] (0.00)	1.23 [38.3] (0.00)	0.81 [21.2] (0.00)
$R^2$	0.63	0.53	0.63	0.581	0.81	0.58	0.56	0.74	0.56
Adj. $R^2$	0.63	0.5331	0.63	0.579	0.81	0.57	0.56	0.74	0.56
F	437.0	284.19	437.7	343.4	1103.64	343.4	317.5	724.2	317.9
Prob. F	0.00	0.0000	0.00	0.000	0.00	0.00	0.00	0.00	0.00
DW Stat	2.25	3.2683	2.25	1.560	1.69	1.56	2.20	3.03	2.20

Note. ROA = return on asset; ROE = return on equity; EPS = earning per share;  
STDTC = short-term debt to capital; LTDTC = long-term debt to capital;  
TDTC = total debt to capital; OS = ownership structure

#### *Capital, Ownership Structure, and its Effect on Bank's Performance Measured through EPS*

Table 4 shows all the variables in the first column, and then there are three more models. In model one, the relationship of EPS is checked with STDTC and OS, model 2 indicates the relationship of EPS with LTDTC and OS, and model 3 indicates the relationship of EPS with TDTC and OS. The table shows that (when the firm's performance is measured by EPS), short-term and total debt to capital is significantly negatively associated with firm performance. On the other hand, long-term debt to capital has a significant positive association with firm performance. There is a significant positive association between Ownership



structure and firm performance. These results for the association between EPS and STDTC and TDTC are consistent with Salim and Yadav's (2012) findings. They found a significant and negative relationship between them. The adjusted determination coefficient  $R^2$  shows that 56.27% of the variations of the EPS explained with conjunct by the independent variables in the model of STDTC and LTDTC and TDTC; this ratio is 74.57% and 56.27%, respectively.

## Discussion and Conclusion

It has been tried in this study to find the effect of capital structure and ownership structure on the performance of the banks, as a comparative analysis of Islamic and conventional banks in Pakistan. The theoretical literature on capital structure, specifically the Modigliani-Miller theorem, trade-off theory, and pecking order theory, were reviewed to provide a sufficient understanding that capital structure and ownership structure could affect firm performance. Extensive literature was reviewed to provide and identify the proxies of capital structure, and ownership structure and to measure firm performance. Return on Assets (ROA), return on equity (ROE), and earnings per share (EPS) are used to measure a firm's performance. Short-term debt to capital (STDTC), Long term debt to Capital (LTDTC) and Total debt to capital (TDTC) is used to measure the capital structure. The study is conducted on the banking sector of Pakistan. A total sample of 10 banks is selected of which 5 of them are Islamic, and 5 are conventional. A series of regressions have been used to find the relationship between capital structure, ownership structure, and bank performance. The capital structure measure of ROA has a significant relationship with capital structure and ownership structure. While STDTC and TDTC have a negative and LTDTC has a positive effect. ROE has a significant and positive relationship with capital structure. The ownership structure is also significant with ROE. Earnings per share are significant with capital structure, while STDTC and TDTC have a negative relationship and LTDTC has a positive relationship.

### *Limitations and Future Directions*

One of the major limitations of this study is the data available concerning the period, especially for Islamic banks. The study period is limited to eight years due to the unavailability of data for Islamic banks. Finally, the data is also old and pertains to pre COVID-19 period. This study is conducted in Pakistan. Further research can be conducted in other developed or developing countries. Up-to-date data will be useful because Islamic banking has shown growth over the years. Therefore, the period of the study may also be extended for more reliable results.

More variables can be included to clarify our study results; these variables can be size, growth, etc. Capital structure has important implications for organizational performance, and this will be interesting to investigate how debt structure strategies, for example, debt specialization (Colla et al., 2013; Khan et al., 2017a), are relevant for various sized firms and for Pakistani (Khan et al., 2016; 2017b) and South Asian firms. The same study can be conducted as a comparative analysis for two or more different countries. Comparing South Asian firms on the study variables with the rest of the world is needed to identify whether the reasons for the adoption of capital structure composition and ownership in this part of the world are different or not.

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