

Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2019.vol6.no4.65

Impact of Capital Structure on Profitability: A Comparative Study of Islamic and Conventional Banks of Pakistan

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Received: July 21, 2019 Revised: September 16, 2019 Accepted: September 24, 2019

Abstract

This study has two main purposes; first, it examines the effect of capital structure on profitability of Islamic and conventional banks; second, it determines that whether the capital structure of Islamic and conventional banks is same or not. A sample of ten banks was taken over the period 2006-2016. Independent samples T-test was used for finding the comparison between the capital structure of Islamic and conventional banks while for assessing the impact of capital structure on profitability, regression analysis (Fixed effects model) was used. Results showed that the capital structure of both types of banks was similar except for bank size which differed significantly. Moreover, ROA was negatively correlated to the capital structure of both conventional and Islamic banks. In contrast, ROE was positively correlated to the capital structure of both conventional and Islamic banks. In addition to that, two explanatory variables were positively correlated while two were negatively correlated to EPS for both Islamic and conventional banks. This study proves the existence of prominent theories of capital structure (pecking order theory and trade-off theory) for both conventional and Islamic banks in Pakistan and also validates the economies of scale.

Keywords : Capital Structure, Profitability, Islamic Banks, Conventional Banks, Pakistan

JEL Classification Code : G01, G02, G03

1. Introduction

Capital structure is a verified interesting topic for the researchers and has been studied from different perspectives. Researchers have rushed towards this topic when Modigliani and Miller (1958) proposed the theorem of irrelevancy. Gharaibeh (2015), Goyal (2013), Hailu (2015), Ibrahim (2015), Rafique (2011), Sakti, Tareq, Saiti, and Akhtar (2017), Kim and Lee (2017), Meero (2015) and many more have studied capital structure. According to Brounen and

Eichholtz (2001), the most controversial debate in the corporate finance literature is the issue of capital structure. According to Chechet and Olayiwola (2014), organizations can raise funds by two means i.e. internally or externally. Internally, an organization tends to finance its operation from retained earnings while externally the options of raising debt and issuance of shares are available. The capital structure consists of a company's equity and debt (Arulvel&Ajanthan, 2013). Moreover, Addae, Nyarko-Baasi, and Hughes (2013) declare that profitability, firm's value, shareholder's wealth and value are all used interchangeably because they show the creation of wealth for shareholders. According to Zeitun and Tian (2007), the firm's revenue can be maximized if the firm's managers can identify the optimal capital structure. Zarrouk, Jedia, and Moualhi (2016) identified the differences between Islamic and conventional banks. Islamic banks' activities should comply with Shariah and Quran and don't believe in interest in contrast to conventional banks.

This research mainly focuses on two research questions:

Q.1: Is Islamic banks' capital structure the same as conventional banks' one?

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Q.2: What is the impact of capital structure on the performance of Islamic and conventional banks in Pakistan?

The rest of the study is as follows: Section 2 is about Literature Review. Materials and methods are described in section 3. Section 4 is allocated to results and discussion. Section 5 discusses conclusion and section 6 is about recommendations and future implication.

2. Literature Review

Capital structure has been studying by the researchers to find out the optimal capital structure since long; and for this purpose, many theories such as Modigliani and Miller (MM) theory, the static trade-off theory and pecking order theory are presented. The capital structure topic drew the attention of the researchers when MM presented their theory of irrelevancy. The work of the researchers across the globe shows that for some organizations there exists a positive relationship between the capital structure and the performance while for others, it shows a negative relationship (Muhammad, Shah, & Islam, 2014). This is the reason an effort is being made to study this relationship for Pakistani banks.

Moreover, the literature on the topic of capital structure is available with the respect to profitability but a major part of the literature goes to developed countries (Meero, 2015). There is still a need for researching this topic in developing countries like Pakistan because the existing literature lacks the comparison of two types of banks in terms of profitability and capital structure. Moreover, in Pakistan, up to some context, the impact of capital structure on profitability has been studied as the work of Zafar, Zeeshan, and Ahmed (2016) and Qamar, Masood, and Khan (2016) show, but that is purely on general banking without discrimination of commercial and Islamic banks. Hence, this study will not only show the influence of capital structure on Islamic and commercial banks' profitability but will also find out the difference/similarity of the capital structure of two types of banks. In addition to that, the comparison of Islamic and conventional banks in Pakistan in terms of profitability and capital structure will cover the gap in the existing finance and accounting's literature, especially in Pakistan.

2.1. Theoretical Background

The decision of the percentage of debt and equity in the capital structure is paramount for all organizations because this decision directly affects the performance of the organization. If the balance between equity and debt is kept rationally then it would boost the performance of the organization; otherwise, it would lead the organization towards the bankruptcy. The two prominent theories regarding capital structure, which are found in literature, are

trade-off theory and pecking order theory.

2.1.1. Trade-off Theory

Trade-off theory focuses on the balance between the cost and benefit of the debt. The company should consider the cost and benefit attached to the debt and should try to get the optimal capital structure. The benefit an organization can take by adding some debt in its capital structure is the benefit of the tax shield. On the other hand, the costs, attached to the debt, are bankruptcy cost and non-bankruptcy cost like the cost of investors, cost of employees, cost of suppliers, and cost of customers etc. Trade-off theory suggests a positive relationship between a firm's performance and debt. The same positive relationship between profitability and leverage is shown by researchers and thus proves the relevancy of trade-off theory.

Appiadjei (2014) examined the influence of capital structure on performance of the firms for all 35 companies listed on Ghana stock exchange for the period 2004-2008 and observed that there was a direct relation between short term debt and profitability and positive relation between long term debt and profitability. Anaflo, Amponteng, and Yin (2015) also analyzed the relationship between capital structure and profitability for Ghanaian banks during 2007-2013. They found that there was a direct relation between short-term debt and ROA (return of assets), ROE (return on equity), and EPS (earning per share); and reverse relation was found between the long term debt and dependent variables of the study except for EPS. Moreover, Zafar et al. (2016) investigated the influence of capital structure on banking performance for 25 banks listed on Karachi stock exchange and found the positive relationship between debt to assets and performance indicators such as ROA, ROE and EPS.

In addition to that, Addae et al. (2013) examined the association between profitability and capital structure during 2005-2009 for Ghana. A regression model was used for the estimation of data. The result revealed that there was a positive association between short term debt and profitability. Similarly, Rajha and Alslehat (2014) tested the influence on performance by capital structure of Jordanian Islamic banks during 1998 to 2012. The relationship between dependent and independent variables was found out by multiple regressions. The result showed that equity ratio, total asset and financing to total assets had a direct effect on performance. The same positive relationship between leverage and profitability was also identified by Chisti, Ali, and Sangmi (2013); Bitar, Hassan, Pukthuanthong, and Walker (2016); Pratomo and Ismail (2007); and Akhtar, Ali, and Sadaqat (2011).

2.1.2. Pecking Order Theory

According to pecking order theory, there are three possibilities for financing an organization: an internal source of fund, debt, and equity. This theory places the internal source of fund at the top of the priority, but the problem

arises when the internal fund is exhausted. Externally, organizations seek two ways of financing. First, to get funds from credit holders and the second way is to issue shares. Issuance of shares to get the finance is placed in the last of hierarchy. Pecking order theory suggests a negative relation between leverage and profitability which is shown by researchers.

Hailu (2015) explored the influence of capital structure on the performance of conventional banks in Ethiopia for the period 2001-2012 and observed that debt to asset ratio had a negative relation to the profitability. Nguyen and Nguyen (2015) examined the influence of capital structure on the performance in Vietnam for 147 listed firms during 2006-2014. The result indicated that all leverage variables were negatively correlated to the firm's performance. Chechet and Olayiwola (2014) analyzed the relationship between the capital structure and profitability for the quoted firms in Nigeria for the period 2000-2009 and showed that the debt ratio was negatively related to profitability.

Goyal (2013) sought to study the capital structure's impact on the profitability of Indian's listed banks during 2008-2012 and found an indirect relationship between profitability and capital structure. Likewise, the same negative relationship between leverage and profitability was also identified by Chechet and Olayiwola (2014); Lee and Liu (2015); Hasan, Ahsan, Rahaman, and Alam, (2014); Qamar et al. (2016); and Zeitun (2012).

2.2. Research Hypotheses

The motive of the study is not only to find an influence of capital structure on profitability of Islamic and conventional banks in Pakistan but also to compare the capital structure of Islamic and commercial for the period 2006-2016. The null and alternate hypotheses of this study are given below:

2.2.1. Comparison of Islamic and Conventional banks

H0: Capital structure of conventional and Islamic banks is the same.

H1: Capital structure of conventional and Islamic is different.

The first hypothesis of this study is to find out whether the capital structure of commercial and Islamic banks in Pakistan is the same or different.

2.2.2. Null hypotheses for finding the impact of capital structure on profitability are as followed

H10: There is no significant impact of capital structure on ROE of Islamic and conventional banks.

H20: There is no significant impact of capital structure on the ROA of Islamic and conventional banks.

H30: There is no significant impact of capital structure on EPS of Islamic and conventional banks.

3. Materials and Method

Eleven years of data of the sampled ten banks has been composed of the financial statements of the concerned banks during 2006-2016. The population of this particular study is all banks operating in Pakistan i.e. conventional and Islamic banks. The five conventional banks which are part of the study are National bank of Pakistan (NBP), Habib bank limited (HBL), United bank limited (UBL), Muslim commercial bank (MCB), and Allied bank Limited (ABL). The sample Islamic banks in the study are Meezan bank, Bank Islami, Albaraka Islamic bank, Dubai Islamic bank and Burj bank. To carry out the objectives of this research, different software and methods have been used. For statistical purpose, SPSS 16 and E-View9 versions are used and for calculation, MS Excel is used. Panel data is analyzed in many ways: descriptive statistics, t-test with the 95% confidence level and multiple regressions.

3.1. Model Specification

This study tries to find out the influence of capital structure on profitability of the sampled banks. Capital structure is determined by three financial ratios: debt to equity ratio (DTE), debt to assets (DTA) and shareholder equity ratio; while profitability/performance is determined by three other financial ratios: return on equity (ROE) and earnings per share (EPS), Return on assets (ROA). This study has used the following model:

$$Y_{it} = \beta_0 + \beta_1 D_{it} + e_{it}$$

where Y= dependent variable, β_0 shows intercept, β_1 = slope, D= explanatory variable, e shows error term, I = no. of banks and t = no. of periods. Where "I" represents the cross-sectional element of the study while "t" represents the time series element in this study.

Equation 1: Return on asset

$$\begin{aligned} ROA_{it} = & \beta_{0it} + \beta_1 TDTA_{it} + \beta_2 ETTA_{it} \\ & + \beta_3 TDTE_{it} + \beta_4 size + \varepsilon_{it} \end{aligned}$$

Equation 2: Return on equity

$$\begin{aligned} ROE_{it} = & \beta_{0it} + \beta_1 TDTA_{it} + \beta_2 ETTA_{it} \\ & + \beta_3 TDTE_{it} + \beta_4 size + \varepsilon_{it} \end{aligned}$$

Equation 3: Earnings per Share

$$\text{EPS}_{it} = \beta_0 + \beta_1 \text{TDTTA}_{it} + \beta_2 \text{ETTA}_{it} + \beta_3 \text{TDTE}_{it} + \beta_4 \text{size} + \varepsilon_{it}$$

3.2. Variables

The dependent variables used in this research are return on equity (ROE), return on assets (ROA) and earnings per share (EPS) which determine profitability. This determination of profitability has been used by many researchers like Anafo et al. (2015), Mujahid and Akhtar (2014), Zafar et al. (2016) and many others. Likewise, independent variables included in the study are debt to equity, debt to assets, bank size and shareholder equity to total assets and the same independent variables were taken by different researchers like Meero (2015).

4. Results and Discussion

4.1. Descriptive Statistics of Islamic and Conventional Bank

4.1.1. Commercial Bank's Descriptive Statistics

The mean value of ROA in this study is 2%. This 2% return on assets goes to investors. This value is very low and it means that commercial banks are not generating enough profit. The mean value of Return on equity is 0.24. Shareholders would get a 24% return in the net profit. The mean value of Earning per share (EPS) is 15.4 which show the profit of investors per share. Moreover, the mean worth of debt to equity is 10.83 which give us the percentage of 1083%. This is a very handy ratio which shows the capital of shareholders in the business as well as the capital of creditors in the business. The high value of this ratio shows that banks in Pakistan are highly dependent on debt. Debt to asset ratio, 0.89, illustrates how much assets of the banks are financed by debt. The shareholder equity ratio is also a part of the research. This ratio gives us the clue that how much assets of the organization are financed by the shareholders. By this ratio, we have come to know that 9.7% of assets of the conventional banks have been provided by the equity holders while the rest of the assets have been financed by the creditors. Along with this, bank size values are taken by taking the log of assets for the particular periods; average worth of the bank size is 8.92. The descriptive statistic of commercial banks is given in Table 1.

Table 1: Descriptive statistics

Con: Conventional, Isl: Islamic, ROA: Return on Assets, ROE: Return on Equity, EPS: Earning per share

Descriptive statistics of Conventional banks and Islamic banks					
	N (Con/Isl)	Minimum (Con/Isl)	Maximum (Con/Isl)	Mean (Con/Isl)	Std. Deviation (Con/Isl)
ROA	55/52	0.004/-0.034	0.043/0.019	0.0207/0.0004	0.007/0.012
ROE	55/52	0.054/-0.234	0.483/0.346	0.249/0.036	0.075/0.125
EPS	55/50	2.480/-2.190	26.170/5.55	1.540E1/0.624	6.283/1.678
Debt to equity	55/53	1.141/0.003	16.599/22.284	1.083E1/9.825E0	2.822/5.367
Debt to assets	55/53	0.847/0.003	0.951/0.953	0.895/0.850	0.024/0.161
Equity to assets	55/53	0.056/0.042	0.755/0.996	0.097/0.147	0.0921/0.160
Bank size	55/53	8.40/6.43	9.40/8.82	8.921/70745	0.2275/0.495
Valid N	55/50				

4.1.2. Descriptive Statistics of Islamic Banks

The mean value of Return on assets (ROA) in this study is 0.0004 which is 0.04%. It means that every rupee invested by investors in Islamic banks can get the return of 0.0004. This ratio specifically emphasizes on bank's earning by investing in assets. Both types of banks in this study are not generating enough profit and ROA value is very low, but comparatively performance of commercial banks is good than Islamic banks. The mean value of Return on equity (ROE) is 0.036 which shows that against each rupee of investment by shareholders; they get 0.036 in return. It is calculated by net income divided by shareholder equity. The mean value of Earnings per share in this study is 0.624. Earnings per share show that how much return an investor gets per share at the time of announcing dividends. The mean value of the sampled Islamic banks in this study is

0.624 which tells us that an investor can get 0.624 returns by holding the share of Islamic banks in Pakistan. The mean value of Debt to equity in this study is found as 9.82. Debt to equity ratio tells us the providence of the funds in the company by the shareholders and the creditors. Like conventional banks, the result of this ratio for Islamic banks is also high. This means that against one rupee of shareholders, creditors have provided 9.82 rupees. Mean value of debt to assets for the sampled Islamic banks is 0.850 which is 85%. And it means 85% of assets are financed by debt. Among the independent variables, one is the equity holder ratio which is total shareholder's equity by total assets. This focuses on the funds provided by the shareholders to finance the bank's assets. The mean value of shareholder equity ratio is calculated as 0.147 which shows that 14.7% of the assets go to the shareholders while the rest

of the assets are financed by the debt. Besides all these ratios, the last one is bank size, whose mean value is 7.74. The descriptive statistic of Islamic banks is given in Table 1.

4.2. Comparison of Capital Structure between Commercial and Islamic Banks

For comparison between the capital structure of Islamic and conventional banks, we ran the test of independent samples T-test. The same test was run by Meero (2015). This study uses four independent variables like debt to equity, equity to assets, debt to assets, and size of the bank. Independent sample test was run for each of them individually and it was focused that whether the capital structure of the sampled banks was the same or different.

This independent samples test, in which our major focus would be on Levene's test, has been run on SPSS software.

This test by default considers two hypotheses i.e. for the first one, variances are considered equal while for other hypothesis, variances are not considered equal. In the Levene's test, we would consider just one row based on the significant value which is also called the p-value. Levene's test of all independent variables is given in Table 2. Table 2 shows Levene's test of just one independent variable i.e. Debt to Equity and for the remaining variables, required values from the software-generated tables have been extracted to find out the comparison of capital structure between commercial and Islamic banks.

From Table 2, we could see that all the variables, except the bank size, have similar capital structure. The similarity of both types of banks in term of capital structure can be due to the fact that both are operating in the same environment having the same rules and regulations and compulsions from the government of Pakistan.

Table 2: Levene's Test of all independent variables

Variable	Levene's test significant value	2 tailed significant value	Result (similarity/difference between Islamic and conventional banks' capital structure)
Debt to Equity	0.000	0.226	Similar capital structure
Debt to assets	0.000	0.49	Almost similar capital structure
Equity to assets	0.003	0.54	Similar capital structure
Bank size	0.000	0.000	Significantly difference

4.3. Regression Analysis

To find an influence on performance by capital structure of Islamic and conventional banks in Pakistan, we have first to find out the appropriate model for our study i.e. either random-effects model or fixed-effects model. We have run the Hausman test which is shown in appendix 4 and came to know that the fixed-effects model is appropriate because the p-value in the Hausman test is below than 5%. Furthermore, for some variables, we have taken log or lag to remove the problem of normality or autocorrelation respectively. The same techniques have been used by Zafar et al. (2016), Qamar et al. (2016) and many others.

4.3.1. Assumptions of the Classical Linear Regression Model

This part of the study presents the assumptions of the classical linear regression model. The main assumptions are multicollinearity, autocorrelation, heteroscedasticity, and normality. All the mentioned tests are run on Eview 9 for both commercial and Islamic banks and none of them has shown any problem in the data.

4.3.2. Interpretation of Equation 1

$$\text{ROA}_{it} = \beta_{0it} + \beta_1 \text{TDTTA}_{it} + \beta_2 \text{ETTA}_{it} + \beta_3 \text{TDTE}_{it} + \beta_4 \text{size} + \varepsilon_{it}$$

Appendix 5 illustrates the relationship between ROA and independent variables used in this study for both Islamic and conventional banks. Debt to equity, debt to asset, equity to assets and size were used for the determination of capital structure while profitability was measured by ROA in equation 1. The R-square is 62% for conventional banks and 37% for Islamic banks. R-square percentage means that 62 % (conventional), and 37 % (Islamic) of profitability (ROA) is measured by the explanatory variables used in this study. R-square for conventional banks is fairly well and shows that model is fit but the same model for Islamic banks is not as good as for the conventional banks because R-square for Islamic banks is low, but low R-square has seen in the literature. In addition to that, the autocorrelation has also been found by regression. If the value of Durbin Watson is between 1-3 then there is no autocorrelation in the data (Muhammad et al., 2014). The value of Durbin Watson for both types of banks is around 1 which shows that data has no autocorrelation. Regarding the relationship, it has been found that capital structure is negatively correlated to ROA which is a profitability determinant for both conventional and Islamic banks. Two variables, one in conventional and one in Islamic, show contrary results but both of them are insignificant.

Our result is in line with the result of Qamar et al. (2016), Hailu (2015), Saeed, Gull and Rasheed (2013); they have also found an indirect association between capital structure and profitability. Likewise, Chechet and Olayiwola (2014); Goyal (2013); Hasan et al. (2014); and Zeitun (2012) have also found a negative relation between the performance of

organizations and leverage. The negative relationship between ROA and leverage is due to the fact that banks in Pakistan whether Islamic or conventional are highly dependent on debt. This high percentage of debt has led to less percentage of profitability. Moreover, capital structures of both types of banks contain around 90% of debt which is a huge percentage to be considered. This negative

relationship between profitability and leverage is aligned with pecking order theory which suggests a negative relation between profitability and leverage. The tables which show the relationship between ROA and the independent variable of conventional and Islamic banks are given in Table 3 and Table 4 respectively.

Table 3: ROA (Conventional banks) relationship with independent variables

*Significant at 5%, ROA: Return on Assets

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.2612	0.0417	6.2625	0.0000
LOG(DEBT_ASSET)	0.0151	0.0730	0.2073	0.8366
LOG(DEBT_EQUITY)	-0.0344	0.0108	-3.1895	0.0025*
SIZE	-0.0165	0.0035	-4.7146	0.0000*
EQUITY_ASSETS	-0.1035	0.0344	-3.0093	0.0041*
R-squared	0.6236	Mean dependent var		0.0214
Adjusted R-squared	0.5935	S.D. dependent var		0.0089
S.E. of regression	0.0056	Akaike info criterion		-7.4150
Sum squared resid	0.0016	Schwarz criterion		-7.2358
Log likelihood	208.91	Hannan-Quinn criter.		-7.3445
F-statistic	20.711	Durbin-Watson stat		1.0070
Prob (F-statistic)	0.0000			

Table 4: ROA (Islamic banks) relationship with independent variables

*Significant at 5%, ROA: Return on Assets

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	0.0144	0.0100	1.4425	0.1558
C	-0.2563	0.1000	-2.5614	0.0137*
DEBT_EQUITY	-0.0045	0.0023	-1.9479	0.0574*
LOG(DEBT_ASSET)	-0.1635	0.0537	-3.0413	0.0038*
LOG(EQUITY_ASSETS)	-0.0731	0.0273	-2.6706	0.0104*
R-squared	0.3752	Mean dependent var		0.0046
Adjusted R-squared	0.3220	S.D. dependent var		0.0127
S.E. of regression	-0.0104	Akaike info criterion		-6.1846
Sum squared resid	0.0051	Schwarz criterion		-5.9970
Log likelihood	165.80	Hannan-Quinn criter.		-6.1126
F-statistic	7.0571	Durbin-Watson stat		1.3167
Prob (F-statistic)	0.0001			

4.3.3. Interpretation of Equation 2

$$\text{ROE}_{it} = \beta_0 + \beta_1 \text{TDTTA}_{it} + \beta_2 \text{ETTA}_{it} + \beta_3 \text{TDTE}_{it} + \beta_4 \text{size} + \varepsilon_{it}$$

The result of this equation shows that independent variables of both Islamic and commercial banks show positive relation with ROE except to debt to equity in case of Islamic banks. Debt to equity, debt to asset, equity to assets and size were used for the determination of capital structure while profitability was measured by ROE in equation 2. Moreover, the R-squared is 13% and 73% for conventional banks and Islamic banks. R-squared percentage means that 13 % (conventional), and 73 % (Islamic) of profitability (ROE) is measured by the independent variables used in this study. In addition to that, the value of Durbin Watson for both types of banks is

around 1 which shows that data has no autocorrelation. The same direct association between performance and the capital structure was found by Mujahid and Akhtar (2014), Saeed, Gull, and Rasheed (2013) but that was just for two variables namely, firm size and total debt to capital. Anafo et al. (2015); Chisti et al. (2013); Rajha and Alslehat (2014); Bitar et al. (2016); Pratomo and Ismail (2007); and Akhtar et al. (2011), also found a direct link between performance and size of the banks. The positive relationship between profitability's variables and leverage conforms to trade-off theory which states that by balancing debt in the capital structure, organizations can make maximum profit. Equation 2 suggests that due to the presence of debt in the capital structure, ROE of the banks goes higher. The relationship between ROE and the independent variable of conventional and Islamic banks is shown in Table 5 and Table 6 respectively.

Table 5: LROE (Conventional banks) relationship with independent variables

*Significant at 5%, LROE: Log Return on Equity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LAGDTE	0.1345	0.0528	2.5449	0.0143*
LAGETA	19.4047	7.1445	2.7160	0.0092*
C	-4.5801	1.1844	-3.8667	0.0003
R-squared	0.1380	Mean dependent var		
Adjusted R-squared	0.1013	S.D. dependent var		
S.E. of regression	0.2225	Akaike info criterion		
Sum squared resid	2.3276	Schwarz criterion		
Log likelihood	5.7323	Hannan-Quinn criter.		
F-statistic	3.7642	Durbin-Watson stat		
Prob (F-statistic)	0.0304			

Table 6: LROE (Islamic banks) relationship with independent variables

*Significant at 5%, LROE: Log Return on Equity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DTA	0.2883	0.1321	2.1812	0.0371*
DTE	-6.1370	1.5598	-3.9343	0.0005*
ETA	5.7705	0.9259	6.2321	0.0000*
SIZE	0.0869	1.5577	0.0558	0.9558
C	-1.9123	9.8849	-0.1934	0.8479
R-squared	0.7386	Mean dependent var		
Adjusted R-squared	0.7037	S.D. dependent var		
S.E. of regression	1.4003	Akaike info criterion		
Sum squared resid	58.8271	Schwarz criterion		
Log likelihood	-58.7498	Hannan-Quinn criter.		
F-statistic	21.1944	Durbin-Watson stat		
Prob (F-statistic)	0.0000			

4.3.4. Interpretation of Equation 3

$$\text{EPS}_{it} = \beta_0 + \beta_1 \text{TDTTA}_{it} + \beta_2 \text{ETTA}_{it} + \beta_3 \text{TDTE}_{it} + \beta_4 \text{size} + \varepsilon_{it}$$

The relationship between EPS, a determinant of profitability, and leverage show conflicting results. There is an indirect relation between the capital structure variables and EPS for conventional banks while the Islamic variables show opposing results; two of them show indirect relation and the rest of the two variables show direct relation. Debt to equity, debt to asset, equity to assets and size were used for the determination of capital structure while profitability was measured by EPS in equation 3. Moreover, the value of Durbin Watson for both types of banks is around 1 which shows that data has no autocorrelation. The same indirect relation between EPS and capital structure is shown by Sivathasan and Rathika. (2013). Some of the independent

variables representing capital structure for Islamic banks show direct relation. The direct relation between size and performance was also found by Anafo et al. (2015). Along with Mujahid and Akhtar (2014) who found not only the positive relation between size and performance but also the direct relation between debt to equity and performance's determinant like EPS, ROA and ROE. The relationship of leverage and EPS shows that both the theories of capital structure which are under consideration of this study are true for equation 3. There is an indirect relationship between EPS and leverage in case of conventional banks which suggests that pecking order theory is true for this relationship. Furthermore, there is a positive relationship found between EPS and leverage of the Islamic banks which shows that trade-off theory exists. The relationship between EPS and the independent variable of conventional and Islamic banks is shown in Table 7 and Table 8 respectively.

Table 7: EPS (Conventional banks) relationship with independent variables

*Significant at 5%, EPS: Earning per share

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	37.7983	36.7476	1.0285	0.3088
LOG(DEBT_ASSET)	42.6220	64.3181	0.6626	0.5106
LOG(DEBT_EQUITY)	-26.3684	9.5284	-2.7673	0.0079*
SIZE	5.7394	3.0899	1.8574	0.0691
EQUITY_ASSETS	-75.7140	30.3057	-2.4983	0.0158*
R-squared	0.4114	Mean dependent var		
Adjusted R-squared	0.3643	S.D. dependent var		
S.E. of regression	5.0091	Akaike info criterion		
Sum squared resid	1254.602	Schwarz criterion		
Log likelihood	-164.0407	Hannan-Quinn criter.		
F-statistic	8.7390	Durbin-Watson stat		
Prob (F-statistic)	0.0000			

Table 8: EPS (Islamic banks) relationship with independent variables

*Significant at 5%, EPS: Earning per share

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDTA	-6.2484	1.5054	-4.1506	0.0001*
LDTE	6.1439	1.5207	4.0401	0.0002*
LETA	-5.8294	1.3342	-4.3692	0.0001*
LSIZE	8.2267	1.8033	4.5618	0.0000*
C	-14.6759	3.3246	-4.4143	0.0000
R-squared	0.4503	Mean dependent var		
Adjusted R-squared	0.4054	S.D. dependent var		
S.E. of regression	0.3044	Akaike info criterion		
Sum squared resid	4.5421	Schwarz criterion		
Log likelihood	-9.7818	Hannan-Quinn criter.		
F-statistic	10.0355	Durbin-Watson stat		
Prob (F-statistic)	0.0000			

4.5. Results

4.5.1. Similarity/Difference of Capital Structure of Islamic and Conventional Banks

This study includes four capital structure's variables, in which three of them, debt to equity, debt to assets and equity to assets, showed no significant difference between capital structure of Islamic and conventional banks while one of them shows significantly different result. The same capital structure of the banks might be because of operating in the same environment having the same rules and regulations from the government of Pakistan. Thus our null hypothesis is approved.

H0: Capital structure of both conventional and Islamic banks is the same.

4.5.2 Impact of Capital Structure on the Performance of Islamic and Conventional Banks

Regression results show that there exist some relationship, either positive or negative, between capital structure's variables and performance. ROA, a determinant of profitability, shows an indirect relationship with all variables of capital structure. In contrast, ROE exhibits a positive relation with independent variables except for one

variable in Islamic banks. Furthermore, EPS has shown a negative relationship with capital structure variables while Islamic banks show a mixed relationship, for some variables it shows positive relation and for others it is negative. So, all the null hypotheses which declare that there is no significant relationship between capital structure and performances are rejected while all alternate hypotheses are accepted which state that there exists a relationship between capital structure and performance.

H1: There is a significant impact of capital structure on the ROA of Islamic and conventional banks.

H2: There is a significant impact of capital structure on ROE of Islamic and conventional banks.

H3: There is a significant impact of capital structure on EPS of Islamic and conventional banks

5. Conclusion

The Empirical analysis of this study states that the capital structure of both conventional and Islamic banks is similar which conforms to the finding of Meero (2015). Moreover, the performance determinant, ROA, was

negatively correlated with leverage which is aligned with the study of Chechet and Olayiwola (2014); Goyal (2013); Hasan et al. (2014); and Zeitun (2012). The result of this relationship proves the pecking order theory which suggests a negative relation between profitability and leverage. Furthermore, there was a direct relation found between ROE and leverage, and this relation was also found by Anafo et al. (2015); Chisti et al. (2013); Rajha and Alslehat (2014); Bitar et al. (2016); Pratomo and Ismail (2007); and Akhtar et al. (2011). This direct relation validates the presence of trade-off theory which deals with a direct relation between the performance of an organization and debt. In addition to that, EPS showed contradictory results between profitability and leverage. In the case of conventional banks, there was a direct relation found between profitability and performance while Islamic banks showed indirect relation. Besides, it has been found that EPS is positively correlated with bank size which shows the economies of scale because banks having maximum age in the market are comparatively perform well in the market due to heavy investment, maximum customers, and diverse market. Thus, it is observed that capital structure has an influence on the performance/profitability of both commercial and Islamic banks and managers should carefully adjust the capital structure to get maximum profit.

Recommendations

This study covers the impact of capital structure on profitability of Islamic and conventional banks during 2006-2016. However, the variables used in this respective study do not consider the study from every angle and yet this topic can be researched considering some more variables, especially allowing some macroeconomic variables like GDP, exchange rates and inflation. Moreover, the two dependent variables in this study have somewhat gauged the organization in the same manner; it should be changed in future research for more handy results.

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