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Research Article

Does Capital structure effects profitability: Evidence from conventional and Islamic banking

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ABSTRACT

The current research study analyzed the effect of capital structure and productivity performance of banking sectors. The study used the regression and co-relation analysis to test the impact of capital structure on productivity performance. The study divided the banking sector into two broad categories such as, Conventional Banks and Islamic Banks over the sample period. For the said purpose an economic model was developed for conventional and Islamic banks. This model is based on Net Profit Margin (NPM) i.e. dependent variable and explanatory variables such as Debt to Assets (DTA), Debt to Equity (DTE), Total Capitalization Ratio (TCR) and Coverage Ratio (CR). The results showed that Conventional Banks, DTA and DTE were statistical significant for dependent variable NPM. While in case of Islamic Banks, DTE and CR were statistically significant with positive signs and were contributing reasonably well in the profitability.

KEYWORDS: NPM, DTA, DTE, Total Capitalization Ratio (TCR), Coverage Ratio (CR), conventional Banks and Islamic Banks

1 | INTRODUCTION

Banks are institutions play a vital role to circulate the money in an economy. An economy highly depended on robust banking system. Banking institutions also help to individual and meet their needs. A strong and transparent banking system is crucial for business entity. A banking sector is a key sector that boost the economic development. It plays an important role in the import and export of goods and services. It also promote online business and facilitate them. They perform verity of tasks such as accepts customer's deposit, offer loans to needy entity, make investment, encourage investment. They also support to the government.

Nowadays it considers the dominant player of the economy. Without sound, effective and efficient financial system no country can achieve the target of sustained growth. It is the banking sector to mobilize and channelize the resources effectively. Hence, sound and ultra-modern efficient banking sector is needed for global competition. Almost all the sector of economy directly or indirectly linked with banking sector of a country for the achievement of their goals. Whereas Islamic Banks work differently and discourage fixed amount of interest. Accordingt . Berger, Hunter, and Timme (1993) noted that efficient banks financial performance is good and generate sufficient amount of profit. Bank is not only responsible to accept deposit and grant loan, but also to provide various financial services to the community.

Islamic Banking

No doubt from Islamic view point it is a best practice of banking. It encourages those people who are reluctant to deposit their saving in the conventional banks. It is a best source by utilizing their saving because most of the people are religious minded in Pakistan. They prefer Islamic mode of financing instead of conventional financing. Most of the people are now shifted to Islamic banking and they consider that their functions are more reliable and they are offering interest free banking. This is only perception that promoting the business of Islamic banking in all over the world especially in the Muslim countries. Malaysia is biggest market of Islamic banking. There is a good business of Islamic banking in Pakistan also. Day by day Islamic banking is increasing in Pakistan. The people got the trust of Islamic banking that is why Islamic banking is increasing.

Conventional Banking

It is very old concept to accept deposits from people and make investment on the behalf of them. After particular period the bank gives a fixed return in the shape of interest. In the beginning it considers as a safe mode where people deposits their saving without any hesitation. There is challenge for the conventional banking. They are trying to attract the customers with better services. They are maintain close relations with customers after granting loan services. Capital structure consist of long term liabilities, specific short term liabilities like bank notes, common equity and preferred equity which contains fund with which a firm finances its overall operations and growth by using various sources of funds mentioned above. Actually the capital structure of a business consists of firms, debt and equity. It depends on management and stake holders that how they used debt and equity composition.

The selected field of study is of prime significance in the broad spectrum of banking system, and its important sustainable national development. The field of research has been selected to realize and highlight the role of capital in efficient productivity of the firms. It is a reality that with the accessibility of capital all other available resources including human resource can be gainfully utilized. More specifically productivity of a firm is directly hinged upon the availability of capital, in its all forms. Even the most efficient management of any organization is handicapped in planning, organizing staffing etc. without adequate capital.

Capital structure signifies its role in every adventure of factorial development, which ultimately communicates in to a momentum for acceleration. The initiation and promotion in its various forms. The productivity of firm can be enhanced by utilizing the existing stock of capital for the use of adjusting technology as well as human resources. If a company is heavily depending on financed by debt possess high risk because this firm is relatively highly levered. Capital structures throw light on importance of debt to equity position in overall operation of growth of firm. Hence capital structure is the composition of debt & equity that consist of firm financing its assets and can be written as the sum of network worth plus preferred stocks plus long term debt. The result of various studies shows that debt to equity ratio is positively associated to profitability ratio i.e. gross profit ratio (GPR), operating profit ratio (OPR) and net profit ratio (NPR) except return on capital employed (ROCE) and return on investment (ROI). Debt to asset ratio is positively and strongly relates to OPR, NPR and ROCE.

2| LITERATURE REVIEW

Over the last few years, there has been extensive broaden literature analyzing the functions of conventional banking sectors. Empirical evidence on Islamic banking sectors is up till now unripe and under progress. A variety of studies on Islamic banks effectiveness rigorous awareness on the theoretical issue while empirical work depended on the descriptive analysis, as an alternative of statistical estimation (EL-Gamal and Inanoglu, 2005).

Research are applying frontier technique to determine banking performance. Hussain (2003) presents a cost efficiency analysis of Sudan Islamic banks 1990-2000. Applying the said approach to measure the effect of cost efficiency with respect to profitability. These study found massive differences in the cost effectiveness. State bank are very cost inefficient. The study relate to observe the standards of bank performance valuation. He also concludes that smaller banks are more competent than the other existing banks in Sudan. Beside, those banks which have greater ratio of Mudharabah financing concern with total assets. This have a great competitive edge. As a whole, real changeability in efficiency estimates is located to a variety of factors.

According to Myers (2001) each theory have own assumptions and work accordingly, so nothing of them best for capital structure decisions. Hassan and Bashir (2003) and Hassan (2004), were of the opinion that conventional banks are less efficient than Islamic banks. Hassan and Hussain (2003) paying attention on the performance of Sudanese banking System during the period of 1992-2000. They used different parametric and non- parametric DAE methods to anlyze the panel data of Sudan banking system. They found 50% and 55% average cost and earnings with respect to parametric analysis. Where as in non-parametric approach the ratio was 23%. Their study shows 37% allocative efficiency and 60% technical efficiency. Another study EL-Gamal and Inalogulu (2004) examined the Turkish banks and applied the stochastic frontier approach to measure the cost efficiency. The study concluded and reported cost efficiency of Islamic banks because they using Sharia concepts of banking. They also showed less non-performing loans.

Another research, Bashir (2000) explored the evidence of Islamic banks performance in & Middle East countries. The study reported good performance of banking system due Sharia concepts. Due to Islamic banking concepts the overall financial and economic development is acceptable. The study analyzed the 14 Islamic banks Egypt, Jordan, Qatar, UAE, Kuwait and Bahrain performance indicators such as PBT, ROA, and ROE. The results showed and confirmed previous research results and also confirmed that Islamic banks profitability is positively related to equity & loans. As a consequence if loans and equity are greater, it leads to high profitability of Islamic banks. On the other hand, if leverage is greater and loan to assets are also high it causes high profitability of Islamic banks.

Ibqal (2001) studied expansion of Islamic Banking Industry during the Year 1990-1998 in order to locate the volume of annual progress in term of deposit, assets, investment, equity and revenues. The study also used ratio analysis of capital Asset ratio (CAR), deployment ratio, cost efficiency ratio, performance ratio, return on assets, return on equity and debt to equity ratio. The study found ROA & ROE are higher than traditional banks. They study also confirmed that Islamic banks financial performance indicators are much better than the conventional banks. The study reached on this point the profit ratio of Islamic banks compared favorably with the foreign standards. He was of the opinion that conventional banks depositors' risk of investment was less as compared with the depositors of Islamic Banks. This discrepancy is very appealing. These Islamic Banks function efficiently on small scale rather than large scale. The sound findings of this paper is that it is most compound for Islamic banks to regulate their credit risk monitoring system as they get bigger and bigger.

Banking occur in 1963 in Egypt, Then in 1970 Islamic Banking rose on the map of the world with its complete brilliance, as Islamic banking begin running Arabic and Asian countries. Today in more than 60 countries with 166 billion dollars, Islamic Banks are running. Their growth rate is 10% to 15%. When we put glance on credit market, then market share of Islamic banking are 2% to 15% from the period 1970 to present period. (Aggarwal and Yousaf 2000).

Various studies have been made since the emergence of Islamic banking and finance. It is difficult to find appropriate literature on the issue of viability of Islamic banks and capability to mobilize saving, pool risk and facilitate transactions (Hassan and Bashir 2003). But function of Islamic banking and finance has emerged in some previous years and deposit the appropriate growth of Islamic banking sector. The paper or studies focusing on the performance of Islamic banks are restricted in number (Yudistira, 2003)

Samad and Hassan (1999) used ratio analysis to measure financial performance of Malaysian Islamic banks and U.A.E Islamic banks in the same way for the measurement of efficiency of Islamic banks in Bangladesh. Sarker (1999) used banking efficiency model and claims that Islamic banks can stay alive within traditional banking system where profit and loss sharing models of financing are least functioning.

3| RESEARCH METHODOLOGY

This study examines the capital structure and productivity performance of traditional and Islamic banks. The study has taken two Islamic banks i.e. "Meezan Bank Limited" and "Bank Islami" and two conventional banks such as "Allied Bank Limited and "Muslim Commercial Bank limited" for analysis.

This study attempts to fill the gap in the literature by providing new empirical evidence on relative operating performance and efficiencies of the Islamic Banks and the conventional banks by using following methods:

1. A regression model is used to check cause & effect relationship between dependent & independent variables.
2. Correlation analysis is another dimension which indicates the strength & direction of linear relationship between two variables. This analysis depicts whether variables are positively or negatively correlated.
3.

This study uses statistical analysis and model is used in the following log linear form:

It is hypothesized that:

$\partial\, lnY_{it} / \partial\, \beta_1\, lnDA_{it} < 0$, $\partial\, lnY_{it} / \partial\, \beta_2\, lnDE_{it} > 0$, $\partial\, lnY_{tpb} / \partial\, \beta_3\, lnTC_{it} > 0$, $\partial\, lnY_{tpb} / \partial\, \beta_3\, lnTIE_{it} > 0$ $\quad lnY_{it} = \alpha + \beta_1\, lnDA_{it} + \beta_2\, lnDE_{it} + \beta_3\, lnTC_{it} + \beta_4\, lnTC_{it} + \mu t$

Where,

"i" represents the certain bank while "t" indicates the time period from 2004-2011

Y_{it} = Net Profit Margin

DA_{it} = Debt to Assets

DE_{it} = Debt to Equity

TC_{it} = Total Capitalization

TIE_{it} = Time Interest Earned

µt = Error Term

SPECIFICATION OF VARIABLES

1. Debt to Assets

Indicates what proportion of the company's assets is being financed through debt. It expresses as:

$$DA = \frac{\text{Total Debt}}{\text{Total Assets}}$$

2. Debt to Equity

It indicates what proportion of equity and debt that the company is using to finance its assets. It measures as:

$$\text{Debt to Equity} = \frac{\text{Total Liabilities}}{\text{Shareholders Equity}}$$

3. Total Capitalization

Long-term debt is divided by the sum of long-term debt and shareholders' equity. This ratio is calculated as:

$$\text{Capitalization Ratio} = \frac{\text{Long - term Debt}}{\text{Long - term Debt + Shareholders' Equity}}$$

4. Time Interest Earned

Another important independent variable is time interested earned. The *Times Interest Earned Ratio* is used to measure a company's ability to meet interest payments on its debt. Also referred to as the "interest coverage" or fixed-charge coverage", the ratio provides an indication to lenders and investors as to whether the company is likely to run into any financial trouble. It expresses as:

$$\text{Times Interest Earned Ratio} = \frac{\text{Net Income + Interest Expense + Income Tax Expense)}}{\text{Interest Expense}}$$

4| ANALYSIS AND RESULTS

Correlation analysis was applied to find relationship between two variables. Correlation indicates about three dimensions like strength, direction and association. Co-efficient of correlation is denoted by r which shows the strength of the relationship between two variables. Its range is -1.0 to +1.0.Here +1.0 shows strong positive relationship while -1.0 indicates negative relationship. But 0 shows no relationship between two variables. On the basis of above rules correlation matrix is showing association, direction and strength of variable.

Table 1. **Descriptive Statistics**

Variable(s)	LX1	LX2	LX3	LX4	LX5
Maximum	3.8716	4.4780	4.2121	-.020203	1.3838
Minimum	3.3499	4.4548	4.0099	-.020203	.96317
Mean	3.6380	4.4652	4.0904	-.020203	1.1552
Std. Deviation	.21542	.0087846	.079720	0.00	.12777
Coef of Variation	.059215	.0019673	.019489	0.00	.11061

Table 2. **Estimated Correlation Matrixes of Variables**

	LX1	LX2	LX3	LX4	LX5
L X1	1.0000				
LX2	.74486	1.0000			
LX3	-.96532	-.75880	1.0000		
LX4	.0000	-.0000	.0000	1.0000	
LX5	.64944	.11274	-.60287	-.0000	1.0000

Table 3. **Ordinary Least Squares Estimation**

Dependent variable is Net Profit Margin (LX1)

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO [PROB]
LX2	1.2250	.18694	6.5529 [.001]
LX3	-1.3011	.18452	-7.0509 [.001]
LX5	3.2059	2.3417	1.3691[.229]

R-Squared .94715 S.E. of Regression 2.1912 Mean of Dependent Variable 38.7763 S.D. of Dependent Variable 8.0552

DW-statistic 1.8076

Interpretation.

Above regression results show that independent variables debt to Assets (LX2) and Debt to equity ratio (LX3) are found statistically significant with expected sings. The value of DTA is 6.5529 and the coefficient is 1.2250 while in case of DTE the t value is -7.0509 and its coefficient is -1.3011.So, it shows that debt to assets and debt to equity ratio are play an important role in profitability of the bank. It is recommended that bank should focus on the said ratios to enhance the profitability.

ALLIED BANK

Table 4 DESCRIPTIVE STATISTICS

VARIABLE(S)	LX1	LX2	LX3	LX4	LX5
Maximum	3.2402	4.5422	4.0207	-.020203	.67803
Minimum	2.6093	4.5218	3.9342	-.020203	.45742
Mean	2.9644	4.5323	3.9704	-.020203	.60131
Std. Deviation	.19204	.0076016	.029706	0.00	.073488
Coef of Variation	.064782	.0016772	.0074819	0.00	.12221

Table 5. ESTIMATED CORRELATION MATRIX OF VARIABLES

	LX1	X2	L X3	LX4	LX5
LX1	1.0000				
LX2	-.23026	1.0000			
LX3	-.44405	.22442	1.0000		
LX4	-.098540	-.44340	-.41256	1.0000	
LX5	.50950	-.65747	-.14440	.078053	1.0000

Table 6. ORDINARY LEAST SQUARES ESTIMATION

Dependent Variable is LX1

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO [PROB]
INT	5.7149	74.5213	.076688 [.944]
LX2	.1580	6.4894	5.13496 [.002]
LX3	.3560	2.9140	-3.1517[.010]
LX4	-5.7876	9.4912	-.60979[.585]
LX5	1.2138	1.3476	.90076[.434]

R-Squared .50427 R-Bar-Squared -.15671

Mean of Dependent Variable 2.9657 S.D. of Dependent Variable .19224

DW-statistic 1.2899

Interpretation.

Regression results show that the independent variable debt to asset and debt to equity are found statistically significant with expected sign. Here the value of t-value in debt to asset case is 5.13496 with co efficient 0.1580. While in case of debt to equity, the value of t-value is -3.1517 and its co-efficient value is 0.3560.So, here debt to asset and debt to equity play significant role in the profitability of bank. Thus, it is recommended that bank should concentrate on these ratios for the better performance of bank.

BANK ISLAMI

Table 7. **DESCRIPTIVE STATISTICS**

VARIABLE(S)	LX1	LX2	LX3	LX4	LX5
Maximum	3.6310	4.5104	2.3418	-.010050	.22314
Minimum	.20701	3.9166	.0099503	-.71335	-.71335
Mean	1.9781	4.2892	1.2320	-.22581	-.44409
Std. Deviation	.96034	.23402	.87320	.22277	.34772
Coef of Variation	.48548	.054561	.70875	.98656	.78301

Table 8. **ESTIMATED CORRELATION MATRIX OF VARIABLES**

	LX1	X2	L X3	LX4	LX5
LX1	1.0000				
LX2	.10509	1.0000			
LX3	.015602	.96708	1.0000		
LX4	.042500	.57308	.51649	1.0000	
LX5	-.4207	.59551	.71967	.22757	1.0000

Table 9. **ORDINARY LEAST SQUARES ESTIMATION**

Dependent variable is LX1

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO [PROB]
INT	-2.6557	35.2898	-.075255[.945]
LX2	.59584	9.0478	.065855[.952]
LX3	.66573	2.7260	4.24421[.023]
LX4	-63104	2.3948	-.26350[.809]
LX5	.5119	2.1652	-3.1601[.030]

R-Squared .40112 Mean of Dependent Variable 1.9781

S.D. of Dependent Variable .96034 DW-statistic 3.0674

Interpretation.

Here regression results show that independent variable debt to equity and coverage ratio is found statistically significant with expected sign. The value of t in case of debt to equity is 4.24421 and its co efficient is 0.66573.In case of coverage ratio the value of t -3.1601 with co efficient 0.5119.So both these ratios play prominent role in the profitability of bank.

MAZEEN BANK

Table 10 DESCRIPTIVE STATISTICS

VARIABLE(S)	LX1	LX2	LX3	LX4	LX5
Maximum	3.1064	4.5339	3.1463	-.51293	.40547
Minimum	2.2116	4.4798	2.3988	-094311	.095310
Mean	2.7890	4.5147	2.7246	-.063284	.21632
Coef of Variation	.12998	.0044753	.10769	.21201	.47818

Table 11. ESTIMATED CORRELATION MATRIX OF VARIABLES

	LX1	X2	L X3	LX4	LX5
LX1	1.0000				
X2	-.69222	1.0000			
LX3	-.45839	.90439	1.0000		
LX4	-.31711	.50118	.65875	1.0000	
LX5	-.71782	.35649	.089054	-.083034	1.0000

Table 12. ORDINARY LEAST SQUARES ESTIMATION

Dependent variable is LX1

REGRESSOR	COEFFICIENT	STANDARD ERROR	T-RATIO [PROB]
A	3.8534	1.7240	2.2352[.089]
LX3	-.32125	.46199	-6.69536[.001]
LX4	-5.5362	10.0978	-.54826[.613]
LX5	-2.4940	.98934	-2.5209[.065]

R-Squared .69503 R-Bar-Squared .46630

Mean of Dependent Variable 2.7890 S.D. of Dependent Variable .36250

DW-statistic 2.9241

Interpretation:

Regression result shows that independent variable debt to equity found statistically significant with expected sign. The value of t in debt to equity case is -6.69536 with co efficient -0.32125.So here independent variable debt to equity play significant role in the profitability of bank.

The analyses of this study support its hypothesis that capital structure has important impact on the performance of said banks.

Conclusion.

The present study empirically investigated the question of whether conventional or Islamic banks are increasing their profitability by more or less debt. The main objective of this study was to find out the impact of conventional and Islamic banks capital structure on the profitability of the bank. The study has come to conclusion that debt to assets, debt to equity and coverage ratios are statistical significant with respect profitability. The ordinary least square method was used for estimation. Conventional banks, debt to asset, debt to equity has positive relation with dependent variable NPM. It is necessary for the conventional banks (MCB Bank and Allied Bank) in order to increase their profitability; they should concentrate more on debt to asset and debt to equity with managing and controlling the debt properly. It is more important for conventional banks to use their debts by making investment, in this way they can increase their profit. On the other hand it is good for conventional banks to increase equity in this way more profit goes to stockholders and banks can expand their business and reduce risk. Whereas, debt to equity and coverage ratios are statistically significant for Islamic banks (Bank Islami and Meezan Bank). Islamic banks should concentrate on debt to equity and coverage ratio for maximization of profit. So in order to increase their performance Islamic banks should provide more financial products to their customers.

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