Determinants of Capitalization of Islamic Banking: Evidence from Select Islamic Banks in Asia

[1]Mohammed Ali Malek, [2]G. Vidyasagar Rao

[1]PhD Research Scholar, [2]Assistance Professor
Department of Business Management
College of Commerce and Business Management, Osmania University, Hyderabad, India

Abstract: Capitalization of Islamic banking is one key of the capital structure of Islamic banks. This study attempts to determine the internal and external factors that effect on capitalization of Islamic banking in terms of equity-to-total assets ratio using data of select Islamic banks in Asian countries where these banks operate in (Bahrain, Iran, Turkey and Malaysia) in the period of 2011–2020. Panel data method is used in the practical analysis. Equity Ratio (ER) is used as a proxy of capitalization in this study. Descriptive statistics, correlation and regression analysis are applied to the variables under study. The results of analysis show that Return on Average Assets (ROAA) and GDP Growth Rate (GDPGR) have a significant and positive effect on Equity Ratio (ER) of select Islamic Banks; both are consistent with trade-off theory. While, Return on Average Equity (ROAE) and Growth Rate of Total Assets (GRTA) have a significant and negative effect on Equity Ratio (ER) of select Islamic banks; both are consistent with pecking order theory. The other variables e.g., Total Assets (nlogTA), Tangibility Ratio (TR), Liquidity Ratio (LQR), Bank Age (BA), Inflation Growth Rate (IGR) and Type of Banking System (TBS) have a non-significant effect on Equity Ratio (ER) of select Islamic banks.

Index Terms - **Capital Structure, Capitalization, Equity Ratio, Islamic Banking, Internal and External Variables.**

I. INTRODUCTION

Focusing on capital structure of Islamic banking comes from two reasons. Firstly, Islamic banking seeks to adopt market-oriented plan rather than regional-market plan. From example, Islamic banks have been directed to operate in eastern and western countries not only in Muslim countries. Countries from different continents have embraced the principles of Islamic banking to create a comparative environment to achieve socio-economic system. Secondly, several developing Islamic countries keep moving towards open economies and moving away from isolated economy. Therefore, they try to connect their financial markets and banks with the global financial system, whereas, Islamic banking is a part of it. Recent studies have extended the geographical scope and investigated the determinants of capital structure of Islamic banks from different countries, e.g., (Alzahrani, Rana, & Ahmad, 2021), (Sobarsyah, et al., 2020), (Bitar, Hassan, & Hippler, 2017), (Belkhir, Maghyereh, & Awartani, 2016) and (Pellegrina, 2012). By taking into consideration the capital structure theories, their results pointed out that total assets, profitability, change in assets, tangibility, liquidity were positively related to capital structure of Islamic banks. Meanwhile, GDP was positively related to capital structure, but inflation was negatively related to it. On the other hand, capital structure of Islamic banks is not only influenced by the theories of capital structure, it also faces some restrictions due to principles of Islamic banking which critically ban dealing with the interest. These principles make the process of capital decision on the edge. The other principle of Islamic banking is the participation of profit and loss. In other words, there is no predetermined interest rate for capital. Therefore, in capital structure of Islamic banking, there is zero interest rate (Malek, 2021).

In this paper, the researchers attempt to cover select Islamic banks from Asia and try to answer the research problem "Do the proposed internal and external variables determine the capitalization of Islamic banking in Asia?" The target capitalization varies from one country to another, reflecting the capital adequacy, management efficiency of the Islamic banks to raise and allocate of financial resources in a changing environment. (Octavia & Brown, 2010) draw the attention to macroeconomic factors; they found that macroeconomic factors played a significant role in determining capital structure of banks in developing countries. Furthermore, capitalization of Islamic banks often changes across periods of financial and political distress (Bitar, Hassan, & Hippler, 2017).

Consequently, understanding the internal and external factors that drive the decision of capital structure of Islamic banks becomes gradually imperative. Practically, standard capital structure theories and empirical results can be applied to Islamic banks (Belkhir, Maghyereh, & Awartani, 2016). Some relationships were considered by (Pellegrina, 2012) firstly, the relationship between capitalization and bank risk-taking positions; secondly, the relationship between profitability and efficiency of the bank.

Islamic banking has the lion's share of Islamic banking in Asia. it is an important continent of the global economy as well as Islamic financial and banking system. Asia is the home to the largest portion of the Muslim population in the world (Komijani & Taghizadeh-Hesary, 2018). The total Islamic banking assets in 2020 was USD 2.3 trillion. The Growth of Islamic Banking Assets in 2020 was 14%. The Islamic banking assets by region in 2020 were as follows: Gulf Cooperation Council (GCC) countries had USD 1,122 billion, Middle East and North Africa (MENA) countries had USD 777 billion, Southeast Asia had USD 301 billion, South Asia had USD 78 billion, Europe had USD 67 billion, Sub-Saharan Africa had USD 3 billion, Americas had USD 0.4 billion and others in Asia had USD 0.2 billion (Refinitiv, 2021).

The remainder of the paper is organized as follows: Section 2 sheds light on the capital structure theories, and review the earlier studies on the internal and external factors of Islamic banks capitalization. Section 3 describes the data set and methodology. Section 4 interprets the empirical results of the study. Finally, section 5 concludes the paper.

II. REVIEW OF LITERATURE

The literature of capitalization of Islamic banking has not been given enough concern especially the equity ratio. In this paper the researchers reviewed the related theories and previous studies that have been discussed before. Most of the earlier studies covered aspects that did not touch the core variables that effect the financing of Islamic banks. This study shed some light on the internal and external factors that effect on capitalization of Islamic banks.

2.1 Theoretical Framework and Previous Studies

Capital structure is the mixture of equity capital and debt of a bank. The capital structure decision of a bank is very imperative since it is related to the ability of the bank to satisfy the expectations of its stakeholders. The mix of incomes, equity capital, and debt helps supporting the growth and operations of a bank. There are two important theories play a role in the decision-making process of capital structure of a bank viz., the trade-off theory and pecking order theory. According to (Modigliani & Miller, 1958) the trade-off theory proposes that the market value of a firm is determined by its earning power and the risk of its underlying assets. Therefore, trade-off theory identifies a mix of debt and equity where the decreasing of Weighted Average Cost of Capital (WACC) offsets the increasing of financial risk to a company. The pecking order theory that has been developed by (Myers & Majluf, 1984) assumes that the cost of financing increases with asymmetric information. Logically, banks give prioritization of sources of financing to, firstly, preferring internal financing, secondly, debt, lastly, raising equity as a last resort. asymmetric information is existed as managers of a firm know more about firm's prospects, value and risks than outside investors. (Dierkens, 1991) showed that information asymmetry was significantly decreased by the equity issue announcement. (Burgstahler, Jiambalvo, & Noreen, 1989) found that the financial information affected the set of production and investment opportunities which directly affected the value of equity.

From the other hand, Islamic banks are governed by specific ethical principles of Islamic law (shariah). These principles lead Islamic banks to have different assets, activities, mechanism of governance, financial resources and risk management methods from conventional banks. Subsequently, consideration of ethical principles influence the capital structure of Islamic banking. For example, the prohibition of interest pushes the decision makers in Islamic banks to avoid debt financing because debt includes interest. So, the principle of prohibition of interest assuages the asymmetry of information concerning to the pecking order theory. Likewise, the principle of profit and loss sharing corresponds with the trade-off theory, whereas, the cost of capital is related to the financial risk.

2.2 Internal factors of Islamic banks capital structure

Few studies have been published on capitalization of Islamic banking in forms of equity ratio. With the help of available studies, the researchers attempt to extract some factors / variables that effect on the capitalization (equity ratio) of Islamic banks. The following internal factors / variables have been hypothesized effecting the capitalization (Equity Ratio) of Islamic banks.

2.2.1 Asset Size

Asset size is the total assets of a bank as described in the balance sheet. It is frequently used in the literature of finance and banking. The Total Assets (nlogTA) of a bank are used as a proxy for the bank size. The sum of assets is represented by the natural logarithm of bank size (In N = x). (Alzahrani, Rana, & Ahmad, 2021) revealed that the capital structure was negatively correlated with asset size. (Bitar, Hassan, & Hippler, 2017) showed that smaller Islamic banks were highly capitalized. Additionally, (Beck, Demirguc-Kunt, & Merrouche, 2013) found that the higher capitalization and better asset quality had helped Islamic banks outperform conventional banks during the latest crisis. From a different angle, (Abedifar, Molyneux, & Tarazi, 2013) pointed out that small Islamic banks appeared more stable than conventional banks in terms of insolvency risk, as they were more capitalized.

2.2.2 Profitability

Profitability ratios indicate how effectively a bank generates income and rate for shareholders. Return on Average Assets (ROAA) is used as a proxy for profitability of Islamic banking. It is represented by the net profit (net income) divided by average total assets. Whereas, Return on Average Equity (ROAE) is used as a proxy for profitability of Islamic banking. It is represented by the net profit (net income) divided by average total equity. (Alzahrani, Rana, & Ahmad, 2021) revealed that the capital structure was positively correlated with profitability. (Belkhir, Maghyereh, & Awartani, 2016) found that profitability was associated with leverage consistent with the trade-off and pecking order theories of capital structure. (Dittmar & Thakor, 2007) pointed out that project payoff influenced the decision of using equity to finance a project. (Fitbeck & Mullineaux, 1993) indicated that small dividend increases should result

in positive abnormal equity returns. Additionally, (Chowdhury, Haque, & Masih, 2016) stated that the equity financing was positively and significantly related to Return on Assets (ROA). (Abduh & Alias, 2014) showed that shareholders' equity had a negative correlation with Return on Assets (ROA). Moreover, the impact of shareholders' equity on Return on Assets (ROA) was not significant. (Purnamasari, 2015) found that the stock price changes could be improved through increasing of Return on Assets (ROA), increasing of Return on Equity (ROE) and increasing of Economic Value Added (EVA).

2.2.3 Growth Rate of Total Assets

Growth Rate of Total Assets (GRTA) displays how quickly a bank is growing its assets. It is considered as a percentage change in Assets over a period of time. (Bitar, Hassan, & Hippler, 2017) revealed that changing in assets size affected on changing in capitalization. A study has been conducted by (Sobarsyah, et al., 2020) pointed out that Islamic banks with higher capitalization and higher loan growth aggravated credit risk one year ahead. The study suggested that Islamic banking should mitigate operational risk and information asymmetry that might be a source of moral hazard. (Azma, Aisyah, Izzah, & Rahman, 2018) stated that the higher percentage of equity-to-asset ratio steered to less leverage which supported faster growth of Islamic banks in the UK. Previously, (Belkhir, Maghyereh, & Awartani, 2016) found that growth was related with leverage compatible with the trade-off and pecking order theories of capital structure. While, (Zhang, 2000) showed that firm growth played an important role in combining book value and earnings in equity valuation.

2.2.4 Tangibility Ratio

Tangibility Ratio (TR) determines the financial health of a bank by determining its ability to cover debt obligations with current tangible assets after fulfilling all liabilities. In the other hand, reasonable tangibility helps banks to raise more debt secured by these assets. (Belkhir, Maghyereh, & Awartani, 2016) found that asset tangibility was related with leverage well-matched with the trade-off and pecking order theories of capital structure. The study revealed that better institutional quality has led firms to use more debt. Related to pecking order theory, (Bitar, Hassan, & Hippler, 2017) opined those banks with available tangible assets were less sensitive to asymmetry of information. They added that the issuing equity would be expected lower than the cost of debt. Furthermore, as Islamic banking embraced the backed-assets principle, then, better tangible assets could create a security mechanism to support the steady of Islamic banks during periods of financial stress.

2.2.5 Liquidity Ratio

Liquidity Ratio (LQR) is the ability of a bank to have sufficient liquid assets i.e., cash to pay the bills and obligations on time. It is represented by the current assets divided by current liabilities. (Alzahrani, Rana, & Ahmad, 2021) revealed that the capital structure was positively correlated with liquidity. (Bitar, Hassan, & Hippler, 2017) stated that highly liquid Islamic banks were highly capitalized. Additionally, Islamic banks preferred to hold higher liquidity buffers than conventional banks, which could serve as a hedge against liquidity risk. Moreover, (Pellegrina, 2012) showed that Islamic banks who had higher liquidity standard and lower level of non-performing loans had less risky position. According to the trade-off theory, (Belkhir, Maghyereh, & Awartani, 2016) opined that firms with more liquid assets face lower bankruptcy costs. Therefore, more liquid assets will result in more leverage. From the view of financial industry (Hanselaara, Stulz, & Dijk, 2018) pointed out that assets market liquidity affected the cost of equity issuance.

2.2.6 Bank Age

Bank Age (BA) is the length of time during which the bank has been established. Based on the principles of Islamic banking which emphasis on participating of profit and loss, age of the bank implicitly influences the value of equity. The new established Islamic banks have the chance to go through Pre-Initial Public Offering (Pre-IPO). While the elder Islamic banks should go through Post-Initial Public Offering (Post-IPO). (Asquith & David W. Mullins, 1986) stated that the announcement of equity offerings reduced stock prices significantly. Despite the fact, (Kolodny & Suhler, 1985) indicated that shareholders of firms announcing new equity issues experienced significant, abnormal and negative returns. Therefore, the time of issuing the equity goes in a parallel line with asymmetry information which is linked to pecking order theory.

2.3 External factors of Islamic banks capital structure

The macroeconomic environment was a neglected area in the field of capitalization of Islamic banking in forms of equity ratio. Some previous researches attempted to deal with some external factors / variables that effect on the capitalization (equity ratio) of Islamic banks. The following external factors / variables have been hypothesized effecting the capitalization (Equity Ratio) of Islamic banks.

2.3.1 Gross domestic product Growth Rate

Gross domestic product (GDP) measures the market value of all final goods and services that have been produced in a specific time period. Gross Domestic Products Growth Rate (GDPGR) is the annual change of Gross Domestic Product (GDP) per capita. The related data has been obtained from (Knoema, 2021). (Alzahrani, Rana, & Ahmad, 2021) stated that during the global financial crisis 2007/2008, Islamic and conventional banks decreased their capital ratios. Although at the time of high GDP, Islamic banks tended to raise more equity. (Bitar, Hassan, & Hippler, 2017) suggested that "In the periods of economic boom and expansion, the stock price is higher, expected bankruptcy cost is lower, and taxable income is higher, therefore, raising equity is more favorable".

2.3.2 Inflation Growth Rate

Inflation or Customer Price Index (CPI) defines the amount of price increases of goods and services in an economy. Inflation Growth Rate (IGR) is the annual change of Inflation Rate. The related data has been obtained from (Knoema, 2021). (Bitar, Hassan, & Hippler, 2017) proposed that "When inflation rate is low, individuals, firms and banks borrow and invest more, leading to rapid

growth and higher inflation rates. Contrarywise, when inflation rate is high, Central banks of countries intervene and try to increase interest rates, forcing borrowers to borrow less, which decreases leverage and favors the use of internal funds and raising equity". (Talos, Bankuti, & Varga, 2016) indicated that the crisis and the changing economic environment were reflected on the performance of Islamic banks, but did not cause any severe changes.

2.3.3 Type of Banking System

A banking system is a group or network of financial institutes that provide financial services to the society. In this study, Type of Banking System (TBS) indicates either the economic system of a country deals with dual banking system (Islamic banks and conventional banks) or only Islamic banking system. For example, Islamic banks and conventional banks work side by side in three countries involved in the study sample i.e., Bahrain, Turkey and Malaysia; while, Islamic banks are only allowed to work in Iran. Even though, the principles of Islamic banking have an implicit impact on change in equity; the effect of Type of Banking System (TBS) on capitalization of Islamic banks corresponds to pecking order theory. One of previous studies conducted by (Gallardo Ramiro & Hernandez Ganan, 2010) opined that through the statement of changes in equity, more extensive information would be obtained on the structure and variations faced the net worth of a firm in a certain period.

Source: model developed by the authors
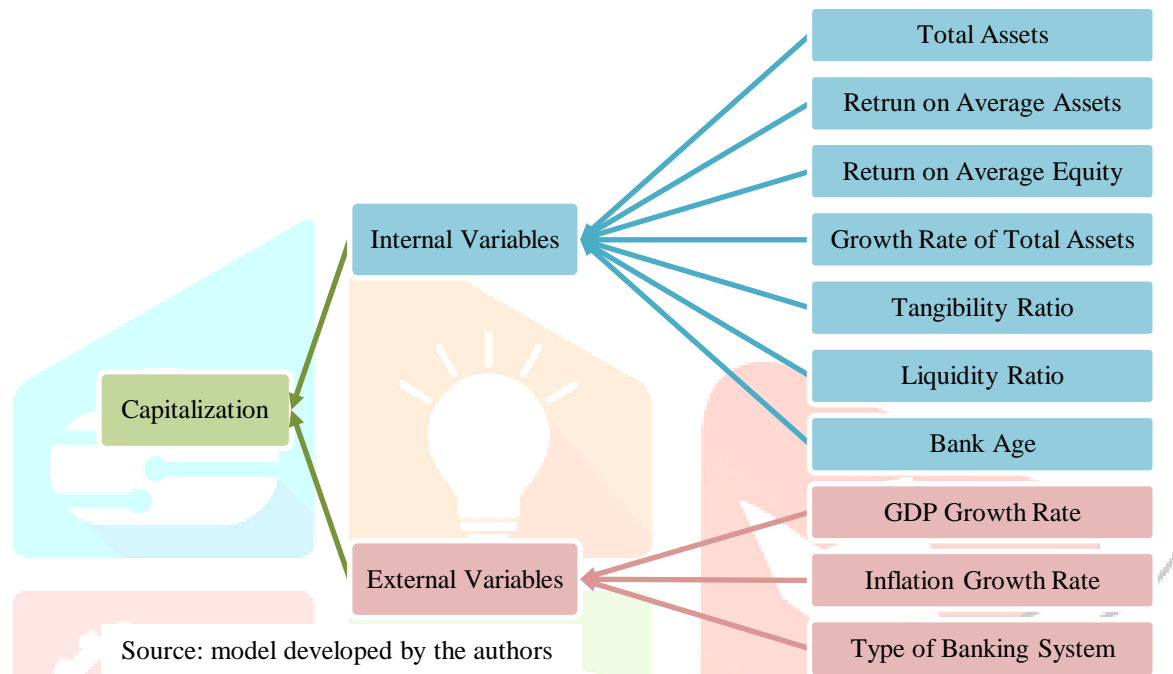
Figure I: Capitalization determinants of select Islamic banks under study

III. DATA AND METHODOLOGY

Panel data of purposive sample is used to measure the effect of internal and external variables under study on capitalization of Islamic banking. The data set is used for this purpose, and the sample of Islamic banks is chosen based on the availability and accessibility of data from 4 Islamic banks each bank represents one country. The sample is from four regions i.e., Gulf Cooperation Council (GCC) countries, Middle East except (GCC) countries, Western Asia and Asian-Pacific. Specifically, the data obtained and calculated from different banks in Bahrain, Iran, Turkey and Malaysia. 10 years data of the period 2011 - 2020 is used for the purpose of analysis. The sample of select Islamic banks is selected from different countries and has obtained from the available annual reports. The available data helps the researchers to measure the effect of internal and external factors on capitalization in terms of Equity Ratio (ER) of select Islamic banks. The internal financial data is obtained from income and balance sheet statements. On the contrary, external variables such as the data of economic activities and inflation rate are obtained from (Knoema, 2021).

3.1. Variables

The variables in the research model are considered in this study to measure the effect of internal and external variables on the capitalization in terms of Equity Ratio (ER) of Islamic banks under study. Equity Ratio (ER) is used as a dependent variable and the other variables are considered as independent (explanatory) variables. Independent variables are assembled into internal and external variables (Table I).

Table I: Determinants of capitalization of select Islamic banks under study

Type of variables	Variables	Measure	Notation
Dependent variable	Equity Ratio	Total Equity$_t$ \ Total Assets$_t$	ER
Independent variables	Total Assets	Natural Logarithm of Total Assets$_t$	nlogTA
	Return on Average Assets	Net Profit$_t$ \ Average Total Assets$_t$	ROAA
	Return on Average Equity	Net Profit$_t$ \ Average Total Equity$_t$	ROAE
	Growth Rate of Total Assets	(Total Assets$_t$ - Total Assets$_{t-1}$) \ Total Assets$_{t-1}$	GRTA
	Tangibility Ratio	Fixed Assets$_t$ \ Total Assets$_t$	TR
	Liquidity Ratio	Current Assets$_t$ \ Current Liabilities$_t$	LQR
	Bank Age	Number of Years since inception	BA
	GDP Growth Rate	(GDP growth rate$_t$ - GDP growth rate$_{t-1}$) \ GDP growth rate$_{t-1}$	GDPGR
	Inflation Growth Rate	(Inflation growth rate$_t$ - Inflation growth rate$_{t-1}$) \ Inflation growth rate$_{t-1}$	IGR
	Type of banking system	Type dummy variable; 1 = Islamic banking system, 0 = dual banking system	TBS

3.2. Hypotheses of the Study.

The previous researches have been conducted to examine the relationship of various independent variables on capitalization of Islamic banks. The relationship among internal and external (independent) variables with capitalization in terms of Equity Ratio (ER) of Islamic banks from previous studies give chance to look in a different way at the effect of independent variables under study on the dependent variable in terms of Equity Ratio (ER). Consequently, the conceptual framework of this study has been constructed and formulated. The hypotheses assume that there is no effect of independent variables on dependent variable. The following null hypotheses explain the effect of each independent variable under study on the dependent variable (capitalization) in terms of Equity Ratio (ER).

H_1: There is no effect of total assets on Equity Ratio of select Islamic banks.

H_2: There is no effect of Return on Average Assets on Equity Ratio of select Islamic banks.

H_3: There is no effect of Return on Average Equity on Equity Ratio of select Islamic banks.

H_4: There is no effect of Growth Rate of Total Assets on Equity Ratio of select Islamic banks.

H_5: There is no effect of Tangibility Ratio on Equity Ratio of select Islamic banks.

H_6: There is no effect of Liquidity Ratio on Equity Ratio of select Islamic banks.

H_7: There is no effect of Bank Age on Equity Ratio of select Islamic banks.

H_8: There is no effect of GDP Growth Rate on Equity Ratio of select Islamic banks.

H_9: There is no effect of Inflation Growth Rate on Equity Ratio of select Islamic banks.

H_{10}: There is no effect of Type of Banking System on Equity Ratio of select Islamic banks.

3.3. The model used to measure the effect of variables under study on capitalization of select Islamic banks

The panel data is used in investigating the effect of proposed determinants on capitalization of select Islamic banks. In the panel data, the used model involves n cross-sectional units, denoted n = 1,2, …. ,N, observed at each of (t) time periods, t = 1,2, …. ,T. In year set, the sum of observation is n * t. The basic formula for the panel data is defined as follows:

$$y_{nt} = \alpha + \beta \chi_{nt} + \varepsilon_{nt} \tag{1}$$

Where the dependent variable i.e., Equity Ratio (ER) denoted by y_{nt}. Intercept term used and denoted by α on the explanatory variables, while β is a k * 1 vector of parameters to be estimated, and vector of observations is x_{nt} which is 1 * k, t = 1,2, …. ,T; n = 1,2, …. ,N. The functional form of above multiple regression model is as follows:

Equity Ratio = f (Natural log of Total Assets, Return on Average Assets, Return on Average Equity, Growth Rate of Total Assets, Tangibility Ratio, Liquidity Ratio, Bank Age, GDP Growth Rate, Inflation Growth Rate, Type of Banking System) (2)

$$ER = \alpha + \beta_1\ nlogTA_{nt} + \beta_2\ ROAA_{nt} + \beta_3\ ROAE_{nt} + \beta_4\ GRTA_{nt} + \beta_5\ TR_{nt} + \beta_6\ LQR_{nt} + \beta_7\ BA_{nt} +$$
$$\beta_8\ GDPGR_{nt} + \beta_9\ IGR_{nt} + \beta_{10}\ TBS_{nt} + \varepsilon_{nt} \tag{3}$$

IV. EMPIRICAL RESULTS

To test the effect of internal and external variables on capitalization in terms of Equity Ratio (ER) of select Islamic banks, the entire variables are subjected to statistical analysis as follows:

4.1. Descriptive Statistics

In the Table II, the descriptive statistics are conducted to measure the effect of internal and external variables of select Islamic bank. The table contains the central tendency. It displays the mean, standard deviation, minimum and maximum values of all variables under study. Mean denotes the average value, standard deviation shows deviation of value from the mean, and Max & Min presents the maximum and minimum values of collected and calculated data.

Table II: Descriptive statistics of capitalization determinants of select Islamic banks

Variables	Mean	SD	Min	Max
Equity Ratio	0.091	0.036	0.044	0.179
nlogTA	23.805	0.552	22.691	24.867
Return on Average Assets	0.014	0.013	-0.011	0.050
Return on Average Equity	0.149	0.078	-0.097	0.318
Growth Rate of Total Assets	0.198	0.161	-0.064	0.589
Tangibility Ratio	0.045	0.045	0.009	0.217
Liquidity Ratio	3.348	1.998	0.985	9.712
Bank Age	16	10.153	4	37
GDP Growth Rate	0.024	0.101	-0.324	0.273
Inflation Growth Rate	-0.343	1.835	-10.333	2.146
Type of Banking System	0.250	0.439	0	1

The descriptive statistics shows the average of Equity Ratio (ER) of select Islamic banks is 0.091 across the sample for the study period. The Equity Ratio (ER) standard deviation is 0.036. The average of Total Assets (nlogTA) which calculated as natural logarithm of total assets of select Islamic banks is 23.805 across the sample for the study period. The Total Assets (nlogTA) standard deviation is 0.552. The average of profitability in terms of Return on Average Assets (ROAA) of select Islamic banks is 0.014 across the sample for the study period. The Return on Average Assets (ROAA) standard deviation is 0.013. The average of profitability in terms of Return on Average Equity (ROAE) of select Islamic banks is 0.149 across the sample for the study period. The Return on Average Equity (ROAE) standard deviation is 0.078. The average of Growth Rate of Total Assets (GRTA) of select Islamic banks is 0.198 across the sample for the study period. The Growth Rate of Total Assets (GRTA) standard deviation is 0.161. The average of Tangibility Ratio (TR) of select Islamic banks is 0.045 across the sample for the study period. The Tangibility Ratio (TR) standard deviation is 0.045. The average of Liquidity Ratio (LQR) of select Islamic banks is 3.348 across the sample for the study period. The Tangibility Ratio (TR) standard deviation is 1.998. The average of Bank Age (BA) of select Islamic banks is 16 across the sample for the study period. The Bank Age (BA) standard deviation is 10.153. The average of Gross Domestic Product Growth Rate (GDPGR) of origin countries of select Islamic banks is 0.024 across origin countries of selected banks for the study period. The Gross Domestic Product Growth Rate (GDPGR) standard deviation is 0.101. The average of Inflation Growth Rate (IGR) of origin countries of select Islamic banks is -0.343 across origin countries of selected banks for the study period. The Inflation Growth Rate (IGR) standard deviation is 1.835. Finally, the average of Type of Banking System (TBS) of origin countries of select Islamic banks is 0.250 across origin countries of selected banks for the study period. The Type of Banking System (TBS) standard deviation is 0.439.

4.2. Correlation Analysis

The Table III below shows the two tailed test of Pearson correlation among all variables viz., dependent and independent variables which consist of internal and external variables to measure the strength of one variable affecting the other variable. The Table III shows that there is a correlation among all variables independent as well as dependent variables. At the 0.05 level of confidence, the correlation is significantly positive; firstly, between Equity Ratio (ER) and Tangibility Assets (TA), secondly, between Return on Average Assets (ROAA) and Tangibility Ratio (TR); thirdly, between Return on Average Assets (ROAE) and Type of Banking System (TBS); fourthly, between Growth Rate of Total Assets (GRTA) and Type of Banking System (TBS). Furthermore, at the 0.05 level of confidence, the correlation is significantly negative; firstly, between Return on Average Equity (ROAE) and Bank Age (BA); secondly, between Bank Age (BA) and Inflation Growth Rate. On the other hand, the low correlation coefficients explain that there is no multicollinearity exists among the variables.

Table III: Correlation of capitalization determinants of select Islamic banks

Variables	ER	nlogTA	ROAA	ROAE	GRTA	TR	LQR	BA	GDPGR	IGR	TBS
ER	1										
nlogTA	-.511**	1									
ROAA	.774**	-.122	1								
ROAE	.281	.278	.799**	1							
GRTA	.138	-.140	.273	.253	1						
TR	.397*	-.023	.342*	.093	.040	1					
LQR	.535**	-.754**	.246	-.059	.246	-.118	1				
BA	-.014	.035	-.248	-.347*	-.524**	-.077	-.054	1			
GDPGR	-.108	.134	-.085	.091	.272	-.037	.008	-.008	1		
IGR	.000	-.051	.049	.053	.232	.043	.063	-.327*	.035	1	
TBS	.543**	.036	.580**	.370*	.376*	.594**	.184	-.259	.095	.195	1

**. Correlation is significant at the 0.01 level (2-tailed - Pearson Correlation).

*. Correlation is significant at the 0.05 level (2-tailed - Pearson Correlation).

4.3. Regression Analysis

The multiple linear regression analysis is conducted for further investigation. Equity Ratio (ER) is representing the capitalization of Islamic banks in this study. The multiple linear regression equation of Equity Ratio (ER) has two types of variables. First ones include internal variables and second ones includes external variables. Specifically, the results of the multiple linear regression analysis explain the determinants of capitalization in terms of Equity Ratio (ER) from a different angle. The equation assumes that internal and external variables effect on Equity Ratio (ER) of select Islamic banks. The value of R = 0.974 which shows a strong relationship between independent variables and dependent variable. The value of $R^2 = 0.948$ which displays that all the explanatory variables i.e., internal and external variables explain Equity Ratio (ER) 94.8 percent. The value of F-statistic of Equity Ratio (ER) = 53.178. It is the result of a standard statistical test used in ANOVA and multiple linear regression analysis to determine the variances amongst means of select Islamic banks. It has a significant value, whereas, the value of Prob. F-statistic (p-value) is 0.000 which is less than 0.05 level of significance. Thus, it demonstrates that the entire model is fit for analysis.

4.3.1. Internal determinants of capitalization of Islamic banks under study

Regarding the internal variables in this study and at 0.05 percent level of significance, Total Assets (nlogTA) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is negative. In this study at 0.05 percent level of significance, Return on Average Assets (ROAA) has a positive and significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive. In this study at 0.05 percent level of significance, Return on Average Equity (ROAE) has a negative and significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is negative. In this study at 0.05 percent level of significance, Growth Rate of Total Assets (GRTA) has a negative and significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is negative. In this study at 0.05 percent level of significance, Tangibility Ratio (TR) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is negative. In this study at 0.05 percent level of significance, Liquidity Ratio (LR) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive. In this study at 0.05 percent level of significance, Bank Age (BA) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive.

Significantly, the positive value of Return on Average Assets (ROAA) is consistent with trade-off theory. Where, it indicates that the increasing of profitability conducive to decreasing of financial risk. Contrary, the negative value of Return on Average Equity (ROAE) is consistent with pecking order theory. Where, it implies that there is asymmetry information among the managers of Islamic banks and outsider investors. In the same vein, the negative value of Growth Rate of Total Assets (GRTA) is consistent with pecking order theory. Where, it points out that the mix of financing leads to increasing of asymmetry information which in turn leads to increasing of cost of capital.

Table IV: Effects of explanatory variables under study on capitalization of select Islamic banks

Types of Variables	Variables	Coefficients	t-statistic	Sig.
Internal Variables	(Constant)	0.210	1.471	0.152
	nlog of Total Assets	-0.005	-0.869	0.392
	Return on Average Assets	4.057	11.196	0.000
	Return on Average Equity	-0.378	-6.951	0.000
	Growth Rate of Total Assets	-0.029	-2.238	0.033
	Tangibility Ratio	-0.026	-0.497	0.623
	Liquidity Ratio	0.002	1.176	0.249
	Bank Age	0.000	0.048	0.962
External Variables	GDP Growth Rate	0.044	2.521	0.017
	Inflation Growth Rate	0.000	-0.476	0.638
	Type of Banking System	0.006	0.914	0.368
Model Summary	R	0.974	---	---
	R^2	0.948	---	---
	SE. of the Estimate	0.009497	---	---
	F - statistic	53.178	---	---
	Prob. (F-statistic)	0.000	---	---

4.3.2. External determinants of capitalization of Islamic banks under study

Concerning external Variables in this study and at 0.05 percent level of significant, GDP Growth Rate (GDPGR) has a positive and significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive. Inflation Growth Rate (IGR) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive. Type of Banking System (TBS) has a non-significant effect on Equity Ratio (ER) of select Islamic banks and the value of its coefficient is positive.

Meaningfully, the positive value of GDP Growth Rate (GDPGR) is consistent with trade-off theory. Where, it shows that the improving of macroeconomic conditions especially Gross Domestic Product (GDP) conducive to decreasing of market risk.

V. CONCLUSION

This paper determines the internal and external variables under study that effect on capitalization of Islamic banking in terms of Equity Ratio (ER). To conduct the research, data was taken from financial reports of select Islamic banks from different countries in Asia, each country represents one region. The study covers the period from 2011 until 2020. Results suggest that the select Islamic banks have a steady capital structure due to depending on staple capitalization in terms of Equity Ratio (ER). Additionally, the principles of Islamic banking contributed vastly to enhance the performance of Islamic banks. This study finds Return on Average Assets (ROAA) and GDP Growth Rate (GDPGR) have a significant and positive effect on Equity Ratio (ER) of select Islamic Banks; both are consistent with trade-off theory. While, Return on Average Equity (ROAE) and Growth Rate of Total Assets (GRTA) have a significant and negative effect on Equity Ratio (ER) of select Islamic banks; both are consistent with pecking order theory. The other variables e.g., Total Assets (nlogTA), Tangibility Ratio (TR), Liquidity Ratio (LQR), Bank Age (BA), Inflation Growth Rate (IGR) and Type of Banking System (TBS) have a non-significant effect on Equity Ratio (ER) of select Islamic banks. Which means profitability in terms of Return on Average Assets (ROAA) and Return on Average Equity (ROAE) as well as Growth Rate of Total Assets (GRTA) and GDP Growth Rate (GDPGR) determine the capitalization of Islamic banks in terms of Equity Ratio (ER). The implications of this study are that the policy-makers of Islamic banks need to keep observing the effectiveness of profitability and assets adequacy of Islamic banks beside the macroeconomic environment in terms of GDP. The findings of this study not only fill the gap in the literature of equity Ratio (ER) as a proxy of capitalization, nevertheless it provides another view to understand the effect of internal and external factors on Equity Ratio (ER) of Islamic banks. The main limitation for this study is data collection. Generally, data of Islamic banking in Asia is not easily available and accessible. Bank Scope is the source of data and the required calculation of ratios has been done by the researchers. Further studies should cover a large sample to prove or refute the results of this study. Moreover, to establish a comparative study of capitalization between Islamic banks and conventional banks.

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