



The role of capital structure in financial performance: Applied research in a number of commercial Banks listed on the Iraqi stock exchange
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Abstract:

This research aims to clarify the nature of the relationship of correlation and impact of capital structure in the financial results of commercial banks in Iraq. To obtain this goal, a simple linear regression method was applied to the dependent and independent variables. Secondary data were collected from audited annual financial reports of 10 Iraqi banks listed on the Iraqi Stock Exchange (ISX), which covered a period of eight years from 2015 to 2022 and was statistically analyzed. The dependent variable was the bank's performance indicator, which was calculated through return on equity (ROE), as well as the bank's capital structure, which was considered as an independent variable was computed by total liabilities-to-equity ratio (LER), equity-to-assets ratio (EAR), and bank asset growth (BAG). The results reveal a positive correlation between (ROE) and both (LER, BAG) and a negative correlation with (LER) and liability-to-equity ratio (LER) positively and significantly impacts on return on equity, while an insignificant favorable impact on the banks current years performance (ROE) by equity-to-assets ratio (EAR) and bank asset growth (BAG) were noticed. Accordingly, the current research, suggests that Iraqi commercial banks should safe adequate amount of capital to evade form any financial risks and enhance profitability to survive.

Keywords: Banks Capital Structure, Liability to Equity Ratio (LER), Equity to Assets Ratio (EAR), Bank Asset Growth (BAG), Return on Equity (ROE).

Introduction:

Nowadays, banks are essential to the growth of economics throughout multitudinous nations. Banks are one of the most significant financial institutions that individuals constantly count on to convert their savings into investment. In the Kurdistan region and Iraq, banks yet occupy an influential position in the nation's economic development. Therefore, the influence of banks capital structure on its financial outcomes has been extensively assessed during the last two decades. For instance, (Jadah et al., 2021) believe that a bank without an appropriate capital structure will face challenges to survive in a competitive market. (Musah, 2018) believes that requirements of capital which include of liability and equity attains an organization's goal of maximizing wealth of shareholders. Similarly, firm performance is affected by capital structure because enhancing the financial leverage ratio to a certain degree simultaneously influences firm profitability and liability (Rababah, 2022). Regarding this, Pnito et al., as cited in (Ibrahim, 2019) conducted a study over the course of five years on twenty-one Indian banks explained that organization capital structure may have an important impact on its financial result. (Obuobi et al., 2020) in a study on seven Ghanaian banks revealed that financial performance, which was evaluated by assets profitability, shareholders equity, and profit per share has been negatively impacted by liability to assets ratio which was considered as the bank's capital structure. However, the subject of assessing the relationship between capital structure of a firm and its profitability has been examined by many scholars, but to the researcher's knowledge examining the influence of Iraqi commercial banks capital structure on its performance has not received as much attention, in considering of this, the present investigation is a crucial effort to enunciate this influence through calculating liability to equity ratio, equity to total assets ratio and bank asset growth as the banks' capital structure indicator, also return on equity represented as the banks financial performance, findings of this research may provide more

knowledge to the banks financial managers about their financial decision making and banks financial condition, besides enlighten outside investors awardees about banks financial achievement.

Accordingly, the research structure consists of four sections: the first dealt with the literature review and research methodology, while second section focused on theoretical aspect of the research, while the third section was devoted to findings and discussions, the fourth section dealt with conclusions and recommendations.

1.1 Literature review and research methodology

Several studies have been conducted to attain some findings regarding the influence of capital structure on financial performance; some of these studies suggest an affirmative relationship between capital structure and bank performance, but some others reveal a negative relationship or even no correlation at all between capital structure and bank performance. (Taani, 2013), (Birru, 2016), and (Sanjeevi & Srinivasa Rao, 2013)) conclude that banks performance is clearly influenced by capital structure, (Mohamed-Aymen, 2018) conducted a study on nineteen Tunisian banks to reveal capital structures link and banks performance, he discovered that banks capital structure positively correlated with return on assets (ROA), return on equity (ROE) and net interest margin (NIM). Interestingly, Bhat and Jain, as stated in (Arhinful et al., 2023) conducted a study to determine does capital structure of commercial banks in Nepal affects its profitability and they concluded that return on equity (ROE) was positively affected by both of long-term debt and financial institution size. Moreover, (Meng & Ugut, 2022)) conducted a comparative study that analyzed the relationship between capital structures element and banks performance, their research encompassed thirteen commercial banks in Indonesia and twelve banks in China, the authors discovered that the amount of loan to deposit proportion, size of asset and liability to assets ratio (LAR) positively and significantly influenced on return on assets (ROA), while debt to assets and capital adequacy ratio both positively and significantly influenced return on equity (ROE) in the study of Indonesian banks,. whereas, the conclusion of Chinese commercial banks study displayed that both of capital adequacy and debt assets ratio had positive influence on return on assets (ROA), while, (ROE) was significantly linked with loan to deposit ratio. Several scholars vigorously seek after to obtain accurate result about the subject of relationship between companies result operation and its financial structures, they utilize large samples in their investigations. Some examples to be mentioned to explicate this subject is the study that was carried out by (Nini et al., 2020) they discovered that capital structure drastically and adversely affected organizations financial operation results through using large samples of Indonesian manufacturing firms. likewise, (Sike et al., 2023) produced a strong association between elements of capital structure and financial fulfillment in a research applied on 129 non-financial firms in Nigeria, in addition, (Mubeen and Akhtar, as referenced in (Mohammad Obeid Gharaibeh, 2015) investigated the quality of capital structures influence on 155 textile Pakistani firms operation result during the period 2006 to 2021, interestingly they came across to a result that (RAO), (ROE) and (EPS) were positively affected by firms debt and equity.

On the contrary, considerable number of scholars revealed that a firm efficiency and its financial structure unfavorably linked together. (Adeoye & Olojede, 2019) terminated a study extending from 2012-2018 on ten Nigerian banks in order to detect the effect of capital structure on banks performance, the author received a result that ratio of leverage significantly and negatively influenced (ROA) and (ROE). Moreover, (Chalise & Adhikari, 2022) carried out a research on fourteen Nepalian commercial banks to analyze the influence of banks capitalization, bank size and their profitability, they discovered that (ROA) and distributed profit per share was adversely linked to (LER), (Nini et al., 2020), conclude that financial elements of Indonesian manufacturing companies have negative and significant influence on their financial achievements, (Raluca as cited in A, A., O, W., & OL, Q. 2018) examined the connection between capital arrangement of Romanian corporate and their financial success, based on the results firms performance which was computed by ROA,

ROE, RCA and MBR were significantly and oppositely impacted by capital structure, (Al Omari, 2021) conducted research on ten Ammani banks listed on (ASE), the study encompassed the duration of ten years, the researcher discovered that banks financial mixture of liability and equity has no any influence on its financial outcome.

1.2 Research methodology

1.2.1 Research problem

The research investigates the correlation between (ROE) with (LER, EAR and BAG). There has not been a reliable study to determine the correlation between the bank's performance and its capital structure.

1.2.2 Research Objective:

Determining the influence of capital structure on financial outcomes on commercial banks listed on the Iraqi stock exchange is considered as the essential goal of the research. To acquire this ambitious the effect of liability to equity, equity to assets ratio and bank assets growth precisely on banks shareholder were assessed.

1.2.3 Importance of the research This research is important because there has not been enough investigation on such a topic in Iraq lately. Most recently, on the Iraqi market, association between banks financial structure and performance has not been reliable. From financial perspective, this research will be vital for bank managers and investors to raise consciousness about factors and elements that impact the mentioned issue.

1.2.4 Hypotheses:

H₁: There is a significant correlation between the (ROE) and each of (LER, EAR, BAG) macro level and indicator level.

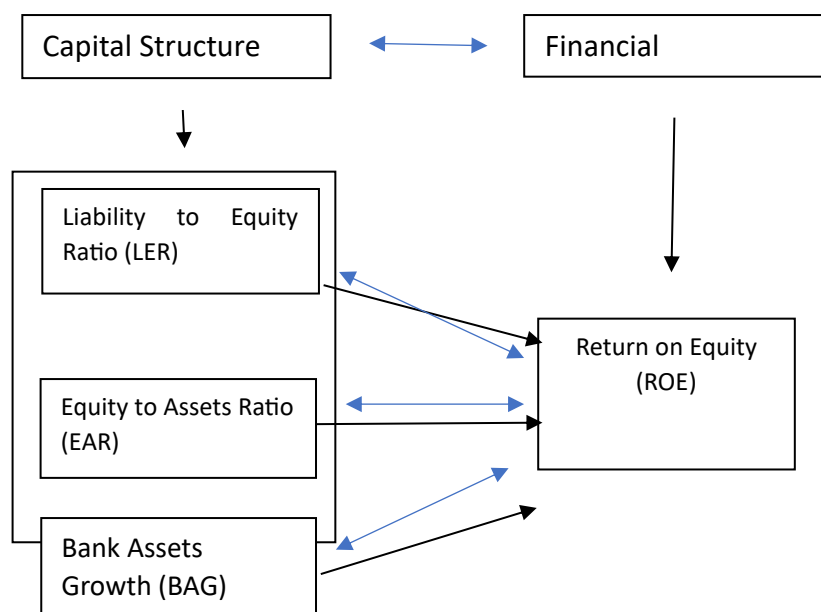
H₂: There is a significant impact of the Liability to Equity Ratio (LER) in return on equity (ROE).

H₃: There is a significant impact of the Equity to Assets Ratio (EAR) on the return on equity (ROE).

H₄: There is a significant impact on the Banks Asset Growth (BAG) on the return on equity (ROE).

1.2.5 Research model:

Figure 1 relation between variables



H₃

1.2.6 Research limits

1. Place limits: The research was applied to ten of commercial banks listed on the Iraqi stock exchange, namely (Sumer commercial bank, commercial bank of Iraq, Gulf commercial bank, national bank of Iraq, Bank of Baghdad, Economy Bank, International Development Bank, Investment Bank of Iraq, Iraqi Middle East Investment Bank, Union Bank of Iraq).

1.2.7 Approved data analysis methods

Table 1: Description of the variables

Variable	Formula
Dependent variable:	
Return on Equity (ROE).	Net Income divided by Owner Equity.
Independent variables:	
Liability to Equity Ratio (LER).	Total Debt divided by Owner Equity.
Equity to Assets Ratio (EAR).	Equity divided by Total Assets.
Banks Assets Growth (BAG).	The Current Assets Year – previous Assets Year divided by previous Assets Year.

The dependent variable of the research is shareholders return which is specifically utilized for evaluating banks financial result, liability to equity ratio, equity to assets ratio and banks assets growth simultaneously were considered as independent variable of the paper to calculate capital structure. Based on the simple linear regression method to determine conclusion of the variables of the research the following simple linear regression method was developed:

$$ROE = B_0 + B_1LER + B_2EAR + B_3BAG + \varepsilon$$

Where:

ROE= Return on Equity.

β_0 = Constant.

β_1 to β_3 = Coefficients of concerned explanatory variables.

LER= Liability to Equity Ratio.

EAR= Equity to Assets Ratio.

BAG= Banks Assets Growth.

ε =Error term.

2. The theoretical aspects of the research

The research studies the connections between bank capital structure and financial performance and to achieve appropriate results, the researcher has studied the history of this subject and revised several other researches who dealt with similar topics.

3. findings and Discussions

3.1 Descriptive Statistics:

Table 2 Descriptive Statistics

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>St. Deviation</i>
<i>ROE</i>	80	-.03	.15	.0239	.03312
<i>LER</i>	80	.24	6.25	1.5705	1.30304
<i>EAR</i>	80	.14	.81	.4610	.16073
<i>BAG</i>	80	-.13	1.04	.0294	.18309
<i>Valid N (Listwise)</i>	80				

Table (2) accurately exhibits a summary descriptive statistical results for the dependent and independent variables for 80 samples for 10 banks for 8 years from 2015-2022, based on the observations it is illustrated that the mean of the (ROE) which indicates net income after tax to equity is (0.0239) with the maximum (0.15) and the minimum (-0.03), then it is precisely enlightened that the mean of (LER) which determines total Debt to equity equal is (1.5705) with the maximum (6.25) and the minimum (0.24), the mean of (EAR) which demonstrates equity to total assets is also displayed as (0.4610) with the maximum (0.81) and the minimum (0.14), the (BAG)s mean which illuminates banks assets growth through the formula of the current assets year minus last assts year to last assts year is (0.0294) with the maximum (1.04) and the minimum (-0.31) were displayed, standard deviation value for the independent variables lower than the mean indicators which means that the data are tightly clustered around the mean of themselves, meanwhile standard deviation value for the dependent variable is higher than the mean which means the data are widely dispersed around the mean of itself.

3.2 Correlation Analysis:

Table 3 Correlation matrix

	ROE	LER	EAR	BAG
ROE	1			
LER	.589**	1		
EAR	-.480**	-.895**	1	
BAG	.376**	.425**	-.383**	1

** . Correlation is Significant at the 0.01 level (2-Tailed).

Table 3 illuminates the result of direct correlation between dependent and independent variables to find out if there exists any association between capital structure which calculated by Liability to equity ratio (LER), equity to assets ratio (EAR) and banks assets growth (BAG) with financial performance, the result shows that return on equity ratio (ROE) as the banks financial performance positively linked with both of total liabilities to equity ratio (DER) and banks assets growth (BAG) with a rate of (58.9%) and (37,6%) respectively, therefore it is attained that an enhance in the 10 Iraqi banks Liability to equity ratio (LER) and banks asset growth would lead to a moderate increase in the return on equity, on the contrary it was explicated that the return on equity ratio (ROE) is negatively correlated with equity to assets ratio (EAR) with a rate of (-48%) which means an increase in equity to assets ratio (EAR) causes to decrease in return on assets (ROE), findings also demonstrated a strong negative correlation between (LER) and (EAR) with a rate of (-89.5%) and positive association with banks assets growth (BAG) with a rate of (42.5%) which means an increase in (LER) results in dramatic reduce in (EAR) with an increase in (EAR), furthermore unfavorable link between (EAR) and banks

assets growth (BAG) was illuminated with a rate of (-38.3%) which defines an increase in the (EAR) brings about to some decrease in banks assets growth (BA).

Moreover, Pearson correlation coefficient between (ROE) with (LER), (EAR) and (BAG) significant at 0.01, hence this outcome indicates a strong connection between capital structure and financial performance on banks listed on Iraq stock exchange.

3.3 Regression Analysis:

Table 4: Model Summary

Model	R	R ²	AR ²	Std. Error of the R Estimated Change	Square Change	F Change	Df
1	.615 [*]	.378	.353	.02663	.378	15.387	3

From the table 4 the value of R is 61.5% which indicates the strength of correlation between dependent and independent variables of this research, R square shows the result of 37.8%, this displays that the independent variables have an impact of 37.8% on the dependent variable. while the remaining (62.2%) is illustrated by other variables outside the mentioned independent variable in this research, this indubitably elucidates that there are various contributor factors that can be used to explain return on equity (ROE).

3.4 Analyze of Variance

Table 5: Result of ANOVA

Model	Sum of Square	Df	Mean Square	F	Sig
1 Regression	.033	3	.011	15.387	.000 ^b
Residual	.054	76	.001		
Total	.087	79			

- a. Dependent Variable: ROE.
- b. Predictors (Constant), BAG, EAR, LER.

Based on the table 5 the acquired of F value is 15.387 and significance is 0.000, this determines the statistical significance of the regression model that was run is less than 0.05, therefore it is highly significant and any changes in the independent variables will utterly have an effect on the dependent variable (ROE).

3.5 Model of Coefficients:

Table 6: Results of Coefficients

Model		Unstandardized Coefficients		Standardized	T	Sig.
				Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-.029	.027		-1.077	.283
	LER	.019	.005	.737	3.652	.001
	EAR	.049	.042	.238	1.175	.244
	BAG	.028	.018	.154	1.541	.128

a. Dependent Variable: ROE

Based on the table 6, the influence of the independent variables on the dependent variable can be explained as the following:

$$ROE = -.029 + .019 + .049 + .028 + \varepsilon$$

The coefficient of liability to equity ratio (0.019) is statistically significant at (.001) level since the p-value less than (0.05), which means that H_1 is accepted, thus indicating that an increase in liability to equity ratio by one unit would result in (1.9) increase in return on equity, also the coefficient value of equity to assets ratio is (4.9) is not statistically significant at (0.244) level since the p-value greater than (0.05), which means that H_2 is rejected, so it is revealed that there is no significant effect of equity to assets ratio on return on equity, Furthermore bank asset growth the coefficient value at (2.8) is not statistically significant at (0.128) because the p-value greater than (0.05), which means that H_3 is rejected, thus far banks asset growth has no impact on banks return equity.

4. Conclusion and Recommendations

4.1 Conclusion

The study examined the influence of capital structure on financial permeance by using 10 private banks listed on the Iraq stock exchange from 2015 to 2022. Capital structure decision is quite important for the banks to be successful, however Iraqi banking system has not acquainted about yet. An exhilarating and precious result of the study is that. Total Liability to equity generated a statistically significant positive influence on ROE, meanwhile equity to assets and bank asset growth have non-significant impact ROE, this result is similar to the research of (Dinh & Pham, 2020), and it is also in line with the study of (Goyal, 2013) who believes that capital structure elements impact on banks financial outcomes. Moreover, this study also produced that equity to assets ratio and banks asset growth have no influence on ROE and this outcome is not in agreement with (Jadah et al., 2020) and (Javeed, 2016). Depending on the above conclusions it is noticed that any increase in liability to equity ratio may raise banks return on equity, this could indicate that banks have roughly higher reliance on borrows funds than to its equity, so it magnifies the Iraqi banks financial risk. The result of this paper remains correct until another scholar will find a different result.

4.2 Recommendations

Depending on the findings of the research, it can be recommended that it would be an opportune idea for the Iraqi bank managers to diversify their source of funding and safe adequate amount of capital to evade from any risks associates with financial activities, this facilitates in attaining more investor and clients which their banks more safer and reliable, this confidently reduces financial risk and increases the banks profitability to survival.

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