

THE ROLE OF FINANCIAL ARCHITECTURE IN ENHANCING BANKING PERFORMANCE: A CASE STUDY OF THE BANK OF BABYLON FOR THE PERIOD (2011-2021)

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Abstract

The study aims to determine the nature of the influence between the financial architecture as an independent variable represented by: the ownership structure, which was measured by a set of indicators represented by (administrative, family, institutional, and foreign ownership) and the capital structure, which was measured by a set of indicators represented by (the ratio of total debt to Total assets, the ratio of ownership rights to total assets, and the ratio of ownership rights to total deposits) and the governance of banks that were measured through (the number of members of the Board of Directors and its meetings), and banking performance as a dependent variable as it was measured through three indicators: liquidity, profitability, and capital. The problem lies in knowing the extent of the impact of financial architecture on banking performance. To answer this question, the study tested a sample of Iraqi commercial banks represented by the Bank of Babel for the period (2011-2021), and the financial statements issued by the banks in the study sample were relied on through the annual bulletins, and then the hypotheses related to the impact analysis between the variables of the study were tested, to reach the required goals. Using the spss.v23 statistical program. The results show that financial architecture is a system based on dimensions, the most important of which are the ownership structure, the capital structure, and governance, which aims to discover modern financing methods through innovative financial tools that keep pace with recent changes in financial performance. The main null hypothesis, states that (there is no significant effect of financial architecture on banking performance) and the acceptance of the alternative hypothesis. The current study recommends the need to follow up the financial architecture in Iraqi banks through its dimensions, because of its great importance on banking performance and contributes to increasing confidence and credibility in financial reports and improving its reputation in the stock market and thus affecting the achievement of the planned goals in banks.

Keywords: Financial architecture, banking performance, ownership structure, capital structure, bank governance.

1. INTRODUCTION

Due to the continuous and rapid changes that the world is witnessing today and the intensification of competition as a result of the abolition of financial and trade barriers and the procedures for opening markets, the traditional financial system has become unable to meet the requirements of the current environment, so it has become obligatory for all organizations, including banks, that wish to maintain their competitive positions and expand their operations in the markets. Local and international means follow modern means of financing, which are based on following new thinking that does not depend on old and traditional constants, and the most prominent of these means or tools is the financial architecture with three dimensions: the ownership structure, the capital structure and the governance of banks, as a mechanism that works to provide creative solutions that help make Financial markets are more efficient and stable and to achieve a set of goals, the most important and most prominent of which is working to improve and develop banking performance, through the development and innovation of modern financial mechanisms and tools that can absorb the constant changes and fluctuations in the markets, and this applies to the banking sector that uses financial architecture to reorient, improve and develop performance banker. In light of the openness and development of markets, and with the increasing intensity of intense competition, it becomes necessary for



organizations to think about making fundamental changes that will achieve a competitive advantage, in terms of continuing to improve and develop banking performance, and the financial architecture is among those proposed alternatives to make these changes, as it has proven its effectiveness in keeping pace with the processes of innovation and development that achieve leadership and absorb everything new. What about its role in the field of banking work, specifically its impact on improving banking performance, and the main question is:

What is the significance of the impact of financial architecture on banking performance?

2. LITERATURE REVIEW

2.1. FINANCIAL ARCHITECTURE

The concept of financial architecture was proposed for the first time by S. Myers in 1999, and then it was developed by Cassimon and Engelen in 2001 and became what is known as the financial architecture of the new economy, as that development began from high-income OECD countries, and even countries Shkolnyk & another, 2020:120), as they suggest that new economy organizations need to achieve a level of financial security, which is a prerequisite for ensuring their sustainable operation and the formation of competitive development criteria in the internal and external market environment (Sosnovska & Zhytar, 2018:334).

It also refers to the complete financial design of the business, including ownership, legal form of organization, financing, and risk allocation. Therefore, for a public corporation, the financial structure may differ by at least three major components: ownership structure, bank governance, and capital structure.

Most of the researchers, including Ivashkovskaya & Stepanova, 2011:1 (Stepanova, 2011:2 & Kokoreva) (Widnyana, 2019:27), agreed that the dimensions of the financial architecture are the ownership structure, the capital structure, and the governance of banks, which can be clarified in detail:

1- Ownership Structure:

It is the distribution of common shares and capital among the various identities of its owners, as it is of great importance in the governance of organizations because it determines the efficiency of the organization and various investment decisions, including determining the capital structure associated with the cost of capital. Examining the relationship between the ownership structure and the cost of capital requires distinguishing between the different types of shareholders: institutional ownership, administrative ownership, family ownership, and foreign ownership. Ellili, 2020:7)) and it is calculated through administrative ownership, family ownership, institutional ownership, and foreign ownership

2- Capital Structure:

It is a mixture of debt and equity securities used in real investment financing, and the capital structure reflects the financing strategy of the organization, for example, the target total ratio of debt to equity, and the capital structure is one of the most important effective criteria in evaluating and guiding economic organizations in the financial markets. Capital, and the intermediate goals that managers must consider to maximize shareholder wealth in determining the best mix of financial resources for the organization (Mouna et al, 2017:11). they are calculated through the ratios of total debt to total assets, equity ratios to total assets, and equity ratios to the total deposit

3- Banks Governance:

As "the framework of rules, relationships, systems, and processes through which power is exercised and controlled within banks, it accompanies the mechanisms by which banks are held accountable, and those controlled by them (Al-Hamdi, 6: 2020), which are calculated through the number of members of the Board of Directors and its meetings.



2.2. BANKING PERFORMANCE

It is a description of the identification of the bank’s status and trends and to identify the strengths and weaknesses through the study of expenses, revenues, assets, liabilities, and shareholders’ rights (Sultan, 2014:49). Bank performance evaluation indicators are quantitative and financial indicators whose calculation process is easy, due to the nature of the information adopted in the performance evaluation process, in addition to that, their results are in the form of relative numbers (Abdul Rahim and Abdel Wafi, 2019:30), and the following is a detailed explanation of the most important ratios Financial that is used to measure banking performance:

1- Liquidity Ratio:

Liquidity refers to the speed in converting assets into cash, liquidity ratios focus primarily on cash flows, and it is an indicator to measure the ability of the bank to meet its short-term obligations, and liquidity management is achieved through the effective use of assets (Durrah&anther, 2016:436), which is calculated through trading ratios and cash ratios.

2- Profitability ratio:

It is an indication of the bank’s ability to achieve profits from the invested funds or sales. The importance of this ratio is not limited to management only, but also to owners and lenders who provide long-term loans. Profits are one of the most important factors affecting the wealth of owners, and the lack of profits is a negative indicator. For lenders, the lender expects the bank to be able to fulfill the principal of the loan from the profits it earns and not through selling the assets it owns (Hindi, 2004: 96) and it is measured through the rates of return on equity and the rates of return on total assets

3- The capital ratio:

This ratio measures the extent of the contribution of each of the shareholders and owners in financing projects, and this ratio is calculated through the ratios of the ratio of fixed assets to equity and the ratio of current liabilities to equity (Kafi, 276:2009).

3. METHODOLOGY

The study adopts a quantitative approach using the financial data of the banks listed in the Iraq Stock Exchange that are obtained from the published annual reports as well as the annual reports of the Iraq Stock Exchange for the period (2011-2021).

4. RESULTS

4.1. FINANCIAL ANALYSIS OF FINANCIAL ARCHITECTURE AS AN INDEPENDENT VARIABLE

1- Estimating the financial architecture based on the ownership structure scale and through its types:

Table 1. Results of Measuring Types of Property Structure (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Administrative Ownership	15.99	15.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90
Family Ownership	14.01	14.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.54
Institutional Ownership	0.00	0.00	0.00	0.33	0.25	0.20	0.20	0.20	0.20	0.20	0.20	0.16
Foreign Property	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

A- Administrative ownership: represented by the percentage of shares owned by members of the Board of Directors and executive managers to the total number of shares. Table (2-3) shows the results of this percentage. For administrative ownership, I mean the increase in the ownership of managers and members of the board of directors, i.e. the compatibility of their interests with the interests of the bank, and this is due to the managers employing the bank’s resources towards achieving profits in the long term. Management and executives are limited due to the lack of concern for their interests



without the interests of minority shareholders, as well as the possibility of replacing management more easily than banks with high management ownership.

B- Family ownership: represented by the ratio of the number of shares owned by family members to the total number of shares. Table (2-3) shows the results of measuring administrative ownership. It is noted that there is a discrepancy in the ratio of family ownership and that this discrepancy was in a state of fluctuation between the years of the sample. As it turns out that the ratio is equal to zero from 2011 to 2017, which means that the bank did not have family ownership in these years, then it increased from 2018 to 2021, and this reflects the extent of family ownership in banks, and the extent to which family members exercise administrative control over the management team in Make important business decisions.

C- Institutional Ownership: represented by the percentage of shares owned by the institutional investors to the total number of shares. Table (3-2) shows the results of measuring institutional ownership. The high percentage of ownership refers to the ability to control managers, which helps in limiting undesirable behavior, as well as the desire of these institutions to own these shares to control management and achieve their interests, while the low percentage of ownership means that banks own few shares of the sectors that make up their investment portfolio.

D- Foreign ownership: represented by the ratio of shares owned by foreigners to the total number of shares. Table (2) shows the results of this ratio. It is noted that the decrease in the percentage of foreign ownership is due to bad political and economic conditions, and this means that the banks did not have foreign ownership. Its rise is because the banking performance was distinct and superior to the performance of the market, as revenues were achieved with the lowest risk within the current conditions, and work to continue development in its banking products and services, electronic systems, its spread in distribution outlets, and the development of electronic distribution channels, and the high Foreign ownership means the control of foreign ownership over the decisions taken by banks.

2- Estimating the financial architecture based on capital structure indicators

Table 2. Results of Measuring Capital Structure Ratios (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Financial Leverage	60.59	63.13	50.96	39.06	31.77	23.00	18.22	27.48	36.09	39.96	40.98	39.20
Ownership right to total assets	39.41	36.87	49.04	60.94	68.23	77.00	81.78	72.52	63.91	60.04	59.02	60.79
Right of ownership to total deposits	66.12	59.27	97.22	168.79	244.86	463.33	59.27	393.44	215.86	174.02	164.53	233.49

A- The ratio of total debts to total assets (financial leverage), which is measured by dividing total liabilities by total assets. Table (3-3) shows the results of measuring financial leverage for Bank of Babel, and the lowest percentage was 18.22% in Bank of Babel in 2017 This means that the bank does not rely on borrowing and indicates the soundness of the bank's financial position and encourages the lenders to agree to grant the loan. The highest rate of 63.13% was in 2012, and this means that this bank borrowed a lot for financing, and then the risks associated with it increased.

B- - Ratio of ownership right to total assets: which is measured by dividing ownership right by total assets. Table (3-3) shows the results of measuring the ratio of ownership right to total assets for Bank of Babel, and the highest percentage was 81.78% in North Bank in 2017. It means that the financial position of the bank is good, and it can appropriately invest its money, and the lowest rate was 36.87% in 2012, and this means that the bank's investment decisions were not good, and it also indicates a decrease in the percentage that shareholders get from the total assets in the event of the bank's liquidation.



C - **Ratio of ownership rights to total deposits:** which is measured by dividing ownership rights by total deposits. Table (3-3) shows the results of measuring the ratio of ownership rights to total deposits for a bank. The highest percentage achieved was 720.97% in 2017. The bank was able to return the deposits that it obtained from the funds owned by it without relying on debts, while the lowest percentage was 59.27% in 2012, which means that the bank relied on its funds at a lower rate than the rest of the years to cover deposits

3- Estimating the financial architecture based on the indicators of bank governance

Table 3. Results of Measuring Bank Governance (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Size of the Board of Directors	4	4	4	4	4	4	4	4	4	4	4	4
Number of Board Meetings	8	8	8	3	6	6	12	10	9	0	2	6.54

A- The results of Table (3-3) show that the number of members of the boards of directors of the selected banks is fixed during the study period (2011-2021).

B - The number of meetings of the Board of Directors. It can be seen from Table 3-3 that they varied due to the difference in emergency and periodic meetings, and this difference is due to the conditions and situations in which banks live.

4.2. FINANCIAL ANALYSIS OF BANKING PERFORMANCE AS A DEPENDENT VARIABLE

1- **Liquidity ratio:** It is measured by two indicators:

Table 4. Results of measuring liquidity ratios (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Cash ratios	89.90	112.18	53.89	48.78	67.18	105.64	70.41	26.45	6.00	11.11	1.98	53.95
Turnover ratios	148.79	143.09	171.29	198.54	249.40	340.00	422.98	170.77	230.03	209.28	182.33	224.22

A- **Cash Ratio:** It is obtained by dividing cash and cash equivalents on short-term debts. Table 11-3 shows the results of measuring the cash ratio of Bank of Babel, as it recorded the highest ratio of 112.18% in 2012, which indicates the bank’s retention of liquidity. A lot of cash means that the money remains idle without being used in the bank’s clearings, while the lowest percentage was 6.00% in 2019, which means a decrease in cash liquidity and its investment in various fields of investment.

B- **Trading ratio:** It is obtained by dividing current assets by current liabilities. Table 11-3 shows the results of measuring the trading ratio for Bank of Babel, as the highest rate was 422.98% in 2017, which means that this bank is less exposed to risks because it has high liquidity. On the other hand, the return is lower due to the inverse relationship between liquidity and return, while the lowest percentage was 143.09% in 2012, which means that the bank is more exposed to risk due to the decrease in liquidity.

2- **Profitability ratio:** It is measured by two indicators:



Table 5. Results of Measuring Profitability Ratios (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Return on equity	5.42	5.25	3.05	3.02	2.18	3.42	1.72	1.65	0.58	-4.46	-1.80	1.82
Return on total assets	2.14	1.94	1.49	1.84	1.49	2.63	1.41	1.19	0.37	-2.68	-1.06	0.97

A- **Return on equity:** It is obtained by dividing the total return on equity. Table 12-3 shows the results of measuring the return on equity for Bank of Babylon, as it was the highest rate in 2011 with a value of 5.42, which means that the bank this year is better than other years in terms of achieving the return on equity, and it will produce more profits and free cash flow that can be used to support a higher level of growth and to keep the bank financially strong, but the lowest percentage was in 2020 with a value of -4.46, which means the lowest year in which the bank achieved Return on the right of ownership if the profits were low.

B- **Return on total assets:** This percentage is obtained by dividing the total return by the total assets. The year is the best in terms of achieving the return on assets, and it also indicates the efficiency of investment and operational management, which indicates the ability and efficiency of banks to use assets and generate profits. As for the lowest percentage in 2020, it amounted to -2.68%, which means that this year was the least achieving the rate of return to The total assets in the bank.

3- **Capital ratio:** which is measured by two indicators:

Table 6. Results of Capital Ratios Measurement (2011-2021)

year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Fixed assets to equity	24.99	26.24	25.92	36.84	30.42	28.33	28.03	27.31	26.57	27.27	42.82	29.52
Current liabilities to equity	153.75	171.19	103.92	64.10	46.57	29.86	22.28	37.89	56.47	66.56	69.45	74.73

A- **The ratio of fixed assets to equity:** It is measured by dividing fixed assets by equity. Table (14-3) shows the results of measuring the ratio of fixed assets to equity for Bank of Babel, as it was the highest rate of 36.84% in 2014, and this means that the increase in The bank's reliance on internal sources of financing represented by property rights, while the lowest percentage was in 2011 when it amounted to 24.99%, which means a decrease in dependence on proprietary financing sources and an increase in the percentage of reliance on debt and borrowing.

B- **Current liabilities to equity:** It is obtained by dividing current liabilities by equity. Table (14-3) shows the results of measuring current liabilities to equity for Bank of Babel, as the highest rate was 171.19% in 2012, which means an increase in the amount of money Provided by the owner of the bank and the funds that come from current obligations, while the lowest percentage was 22.28% in 2017, which means that the funds put in by the owners and shareholders are insufficient, and therefore the bank is forced to use short-term sources of funds.

5. CONCLUSIONS AND DISCUSSION

The results demonstrate that the financial architecture is a multidimensional system that includes ownership structure, capital structure, and governance, and aims to discover modern financing methods through innovative financial tools that keep pace with modern changes in financial



performance, i.e. creating new financing methods that serve the organization better and contribute to its performance improvement. Banking performance measures what the bank accomplishes, which demonstrates the conditions for success as obtaining valuable information regarding the flow and use of funds, as well as effectiveness and efficiency. In addition, information can motivate managers to make the best decisions possible. Through financial analysis, the indicators for measuring the level of financial architecture through its dimensions, which are the ownership structure, the governance of banks, and the capital structure, revealed that the study sample banks were fluctuating, as it was determined when measuring the types of ownership structure that there is no preference for one type over another, but there are Determinants considered by the institution when determining the ownership structure. When measuring the capital structure, it was determined that the majority of results were favorable, i.e., the proportion of ownership rights increased relative to the total deposits. As for bank governance, its outcomes were inconsistent. The main null hypothesis (there is no significant effect of financial architecture on banking performance) was refuted through statistical analysis. As a result, the financial architecture of Iraqi banks should be observed in all of its dimensions, namely the ownership structure, the capital structure, and the governance of banks, due to the significance of these factors in determining the performance of banks and thus the achievement of their intended objectives. It requires the banks listed on the Iraq Stock Exchange to develop performance commensurate with the competition of other banks to remain in the financial markets by continuing the new developments in their operating environment, whether in the method of performance or the financial instruments used. When working with the concept of financial architecture, Iraqi commercial banks must exercise caution when establishing the capital structure, ownership structure, and good application of bank governance to reduce costs, increase profitability, and maximize the market value of listed banks. To contextualize the results regarding the impact of the financial architecture on other variables, it is necessary to conduct additional research on the financial architecture and to select samples from the sectors listed on the Iraq Stock Exchange that are distinct from the samples selected for this study.

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