Measuring Banking Operational Efficiency and its Impact on Productivity: An Applied Study on Selected Iraqi Private Banks

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Abstract

This study dealt with concepts related to banking operational efficiency and its measurement in Iraqi banks. The study is applied as an example on five known private banks in Iraq, and these banks are (Baghdad, Al-Mansour, Ashur, Al-Ahly and Al-Credit). For the period from 2015 to 2018 based on financial ratios indicator. In order to identify the management of Iraqi banks for their operational system on the ability to control the costs and profitability. The results of the study showed that some banks (Assyria, Baghdad, and Al-Ahly) are relay on using operational efficiency which resulted in rising their profits and minimizing costs. This was observed clearly in small-sized banks more than in large banks. In addition, it found that the low profits are due to mismanagement of operational costs.

Keywords

Banking Operational Efficiency, Banking Financial Ratios.

Introduction

As a result of the intensification of banking competition, Iraqi banks are seeking to achieve their goal of maximizing profits. This is done by measuring its banking operational efficiency, which depends on how its resources are used in the banking sector. It is considered a necessary act to rationalize and direct the course of the banking industry in every country. In order to be able to continue and grow and be able to face the competition between local and Arab banks for the financial services they provide. As a result of the increasing use of information and communication technology, banks must keep pace with the developments occurring in similar banks in terms of administration and finance. Especially, the success of the economic system in our present time has become dependent on the effectiveness and success of the financial system of any the bank.
As the operational efficiency in the banking business occupies an important position, especially in the period of liberalization and globalization in the financial markets. As it became engaged in its activity in a fast-moving and competitive environment, as these Iraqi banks found themselves in a position to focus on the efficiency of their performance at various levels as a condition for their success. The term operational efficiency was used in analyzing banks on the proper use of their resources. Measuring the efficiency of banks and working to monitor their activities is considered essential for the banks’ survival in light of risks and changes. As a result of the occurrence of many financial crises that were mainly caused by banks. Therefore, measuring efficiency enables us to know the strengths and weaknesses and try to correct deviations and correct situations before it is too late.

Measuring banking operational efficiency has been measured in many ways and applied to various international banks. Grazyna (2008) study the financial ratios method and the data encapsulation analysis method. The main objective of this study is to present the results of the efficiency analysis of the two methods and compared them. The study sample was the largest operating bank in Poland in the period of 2000-2007. Based on the analysis conducted and the results showed that efficiency measures give a similar performance means that not exactly in Polish commercial banks. These results from both methods are complementary to each other, showed the restrictions on banks face in applying them to banking services.

Sherifa (2014) measured the operational efficiency of banking institutions in seven banks as an sample in Algeria. Two public banks, one is mixed bank, and four foreign private banks, for the period (2006-2012). Set of financial indicators and a standard of the random cost limit method. The most important results of the study were that banks do not have the ability to control their costs and did not achieve price elasticity of demand. Also, the sample banks did not achieve economies of scale. Only two small banks achieved scale economies that would enable them to diversify their products.

Odunayo (2015) assess the operational efficiency of banks in Nigeria. A ratio analysis of six (6) banks covering the period from 2004 to 2013 was used. The data used were derived from the statement of comprehensive income and the statement of financial position of banks listed on the Nigeria Stock Exchange. This data includes interest expense, employee expenses, customer deposits, total loans, total investment, etc. A fixed effect model and various tests were used. The results of the analyzes show that the price of employment, total loans and total deposits have a negative impact on the operational efficiency of banks. Based on the results, Nigerian banks have to invest new advanced
technology to reduce the cost of their employees, due to its give negative impact on operational efficiency. It should be supported by the proper management of the bank.

Ahlam and Ahmed (2016) used the DEA technique to measure the degree of operational efficiency of Gulf Bank Algeria in managing liquidity risk. Because the bank's inputs and outputs are characterized by bifurcation and differentiation, some focus has been given to them. By choosing the samples as follows: Debt Inputs, General Expenses, and Outputs. Through this study, they concluded that Gulf Bank Algeria has a high level of technical and volumetric competence in managing its resources and hedging it from liquidity risks.

Muhammad (2019) study a comparison of the operational efficiency of Islamic banks in Malaysia and Pakistan using different approaches. envelope analysis (DEA) using the overall Malmquist factor productivity index. To examine the operational efficiency of banks and the performance of banks, eleven financial percentages were studied in this study. A level of productivity was found using the data envelope analysis model. The Islamic banking system in Pakistan has increased compared to the Malaysian Islamic banks.

However, the study is try to answer the problems that can be summarized as follows:

1. Are banks using their resources optimally to achieve profits at a time of intense external competition?
2. Are banks exposed to declining profits due to the high cost of banking and business services as a result of neglecting to measure banking operational efficiency?

The main objectives of this study can be summarized as follows:

1. It aims to know the extent to which Iraqi local banks use operational efficiency and optimally utilize their resources.
2. Evaluating the banking operational efficiency of the selected Iraqi banks, based on the analyzing and interpreting of their financial statements data.
3. To know the concept of operational banking efficiency and its components.
4. To Know the impact of productivity in Iraqi banks and its relation with operational efficiency, which helps the management in Iraqi banks to take appropriate decisions.

The importance of this research study is to measure banking operational efficiency, and highlighted the significance of the position occupied by banks in all societies. In addition, to identifying banking operational efficiency, which helps to evaluate Iraqi banks and
know their performance and its impact on profitability, and how to exploit their resources and accomplish maximum output with the least amount of input.

Methodology

Relevant resources were used to form the theoretical side, and as for the practical aspect, it relied on the financial reports and financial statements for the purpose of measuring banking operational efficiency through analyzing financial ratios.

The efficiency can be defined as a set of skills and experiences gained from the work environment. It represents doing the job in the best possible way in terms of cost and time (Saleh, 2004). In general, it is the achievement of a lot with the least possible by reducing the resources used, whether these resources are human, material or financial. And work to reduce waste in production capacity (Talal and Naima, 2020; hasani et al, 2020). Efficiency is also defined as the ability of an individual or organization to produce the required product while reducing efforts and costs. Here we point out that efficiency is a relative term that cannot be absolute. The efficiency ratio generally measures the efficiency of the administration in using its resources at the lowest costs and the most profit (Cevdet and Murat, 2000).

Banking Efficiency

Efficient banks are the ones that can direct their available economic resources towards achieving the largest possible returns with the least possible waste, i.e. controlling their material and human energies. Among the most important factors that affect banking efficiency are profitability, risk, administrative factors, degree of competition, regulations and legislation (Sherifa, 2014).

The types of banking efficiency are productivity efficiency, economies of scale efficiency, scale savings efficiency and banking operational efficiency (Odunayo, 2015).

Production Efficiency

Productivity is the relationship between the amount of resources used and the results achieved. Productivity is:

\[
\text{Productivity} = \frac{\text{Total Output}}{\text{Total Inputs}}
\]

So productivity is the ratio of output to input. This definition applies in an organization, industry, or economy as a whole in simpler terms. Productivity is only the arithmetic ratio
between the quantity produced and the amount of resources used in production (Al-Hibel, 2013). As for banking, its outputs are not homogeneous, and it is also difficult to determine an effective amount of resources needed to produce intangible outputs, which are services. This makes determining and measuring productivity very difficult, as the higher the production efficiency, the higher the ratio of output to the user of resources (Al-Hajj and Falih, 2009).

**Volume Efficiency**

Volume efficiency is the profit resulting from the decrease in production costs as a result of the increase and expansion of the project. Measuring the profit is most important in banking institutions, the optimum level of production is determined by studying the relationship between average costs and the level of production. the bank is consider to have the efficiency of volume, when it operates within the range of fixed rate return (Odunay 2015), which is consider as one of the most important factors for increasing profits in a banking institution. Due to expanding the size of the organization and its operations leads to reducing costs by distributing fixed costs on a wider base. The banks can change all the production components that it uses and thus the production costs will change in the long term. Which leads to an increase in the size of the institution more than the increase in the production elements used. This is called the principle of volume gain or economies of scale, and this increase is continuous until it begins to decrease at a certain level (Qureshi, 2002).

**Scope Efficiency**

Scale efficiency comes into effect when a bank is operating in several different locations. And that the merger of financial markets led to the tendency of banks to enter these markets with the aim of borrowing. In light of the competition between banks to attract customers' deposits, most banks headed to expand their products by diversifying their financial portfolios and providing new services. For this diversity, it was able to achieve the so-called scope efficiency, means reduce costs by using the same inputs to produce several types of products, i.e. cost savings (Odunay 2015). Berger and Humphrey (1990) found that multi-production banks led to produce diversified outputs and this consider the main advantage for the costumer with same time in reducing their costs between (10%) and (40%) compared with the banks producing a single product. The bank can expand its banking business and it should reduce its medium costs by turning it into a large bank that increases its size. This is without opening branches or installing automatic machines, but rather expanding the scope in his geographical area (Al-Khuzami, 2007). For example, the
bank that specializes in granting commercial and industrial loans, finds that it is possible to use the technology and managerial skills available can provide consumer loans as well. A bank can produce two or three types of loans at a cost less than the total cost of two or three banks that specialize in producing one loan (Ibrahim-2019).

Operational Efficiency in the Banking Sector

Operational efficiency is the structured tactical planning to maintain a safe balance between cost and productivity. It identifies wasted operations that contribute to lost resources and organizational profits (Odunay 2015). Therefore, operational efficiency is represented in choosing the least expensive resources to produce the maximum number of financial and banking services in a highly competitive environment (Ahlam, 2016). Efficient banks are more competitive due to lower operating costs and can control banking more than less efficient banks. Banks may try to continually improve its operational efficiency, in line with its objectives, as it provides the product in the form of services and it also works for profit. As well as keeping customers and provide services in relation to deposits, withdrawals, loans, disbursements and money transfers, and often use handcrafted devices (Grazyna 2008). In order to survive and adapt to the changing environment, banks are putting more pressure on understanding developments in operational efficiency such as technology, infrastructure, and personnel. The process of providing high-quality service to its customers and relying on it in performance and in order to be able to compete in the financial markets.

Operational efficiency may be related to various aspects of its operations, such as financial soundness, profitability, and quality of services to clients (Ibrahim 2019). The main goal of operational efficiency is to achieve economic growth at the lowest technical cost. The challenge of improving operational efficiency is adapting to new technology in banking. It has enabled banks to handle not only massive trading volume but also provide efficient products and services to bring in new business in the face of stiff competition in the market. Managers, employees, and policy may contribute better to increased operational efficiency. Farrill (1957) has concluded that it contains two components.

1. Technical Efficiency is measured the deviation between the level of output achieved and the actual production capacity. Accordingly, it measures the ability of the banking institution to produce the maximum level of output based on the use of a certain level of inputs. Also, it can be defined the main criteria for measuring the effectiveness of banks (Muhmud 2019). The ability of the banking institution to produce a certain level of outputs or products defines technical, operational or specialized efficiency as being
the least amount of resources, assuming the technological factor is constant (Saída, 2019).

2. Allocative Efficiency is the combination of an appropriate group of people, processes and technology to enhance productivity while reducing the cost of routine operations to the required level. In other words, to provide products and services effectively without sacrificing quality (Shawky 2008). The studies promoted the possibility of controlling operational efficiency, which measures the extent of deviation from the overall efficiency level. As this deviation is due to other factors that affect the production elements, such as management skills, technology used, incentive systems, wages, effectiveness of human resources, etc. Hence high efficiency is refer to good control over such elements (Cevdet 2000).

Analysis of Banking Operational Efficiency through Financial Indicators Methods

Measuring the operational efficiency of banks is an important area that has been subject to continuous development and adjustments. It encountered difficulty in determining the amount of resources needed to produce the output. These outputs are intangible services to generate profits and to verify operational efficiency in the banking sector. Management experts as well as academics are trying to develop advanced methods for measuring it. Therefore, true efficiency can only be measured by using financial indicators and competency analysis is necessary for evaluating the performance of banks. To estimate the efficiency of banks, we can apply various methods of analyzing financial indicators which are among the most popular proficiency analysis methods used in banks (Grazyna 2008).

Efficiency analysis is essential for assessing the performance of banks. Financial indicators are still an important analytical tool in which efficiency indicators may be analyzed from various aspects. In the case of time as a criterion, which allows to check whether the efficiency improves or deteriorates during a certain period of time. If looking at a group of banks, we can compare the banks ’ efficiency to average group values. Bank financial reports such as balance sheets, profit and loss accounts, or cash flow accounts are often used to evaluate indicators of efficiency.

Financial ratios indicators are among the most important tools used to measure the operational efficiency of Iraqi banks. The evaluation is relied on the return on equity index, as it is considered an integrated and comprehensive indicator to assess the profit efficiency and cost efficiency of the banks. In order to carry out this study, data were obtained from the financial statements (balance sheet) and the results accounts tables for
five years during the period between 2015 and 2018, the percentages of the indicators of the banks under study were calculated as follows.

- Return On Equity (ROE) index = net funds / private funds
- Return On Assets (ROA) index = net funds / total assets
- Equity Multiplier (EM) index = private funds / total assets
- Asset Utility (AU) index = revenue / total assets
- Profit Margin (PM) index = net funds / revenue

Results and Discussion

Profit Efficiency Assessment

The productivity of the selected banks in this study is measured by the indicators represented by the Return on Equity (ROE), Return on Assets (ROA), the Equity Multiplier (EM), the Assets Utility AU and the Profit Margin (PM). The results of indicate the return on equity was shown in Figure 1.

![Figure 1 Return On Equity (ROE) index](http://www.webology.org)

Al-Ahli Bank achieved the highest rate of return on property rights among the banks under study. Its highest return reached 0.08% in 2016, and its lowest return was 0.01% in 2017. A significant decrease was observed between 2016 and 2017. Then followed by Bank of Baghdad, as it achieved its highest return of 0.07% in the year 2016, and the lowest return was of 0.01% in 2018. Al-Mansour Bank achieved 0.06 in the years 2015 and 2018, and considered one of the banks with the least volatility in the return on equity
index during the years of study. As well as Ashur Bank achieved its highest return 0.06 indicates same as the ratios of Al-Mansour Bank. The credit bank was achieved the lowest return index equal to 0.008 in the year 2018. We note that the highest returns for the banks were in 2016, when compared to other years, and in 2018 the returns were the low percent for all banks.

The return on equity index is achieved due to the return on assets and the equity multiplier indices. The results of these indicators were presented in Figures No. (2) and (3).

![Figure 2 Return On Assets (ROA) index](image1.png)

![Figure 3 Equity Multiplier (EM) index](image2.png)
The index of the equity multiplier for banks during the study years was greater than the return on assets index. This is explained that the banks are depend on debt financing, compared to the equity. We observe this largely in the credit bank.

For the return on assets index, Figure (2), for the studied banks were weak and percentage did not exceed 4% during the study period. It is also reflected in the lack of diversification of the banking portfolio and the absence of a real financial market in the Iraqi banks competition.

For the asset benefit index represented in Figure (4), the rates were close, but the Credit Bank achieved its highest rate of 0.32 for the year 2018.

![Figure 4 Asset Utility (AU) index](image)

**Cost Efficiency Assessment**

The evaluation of cost efficiency assessment is normally rely on the profit margin indicator. Which shows the bank’s ability to control its costs. Figure (5) shows the profit margin indicator Bank Assyria achieved the highest profit margin rates among the five banks.
The highest rate of profit margin reached to 3.37% in 2015, followed by Bank of Baghdad 1.64 in 2016. Al-Ahli Bank 1.51 in 2015 and finally Al-Mansour Bank and Credit Bank. Making a profit means converting these resources to suitable uses.

According to the above, the evaluation of the studied banks can be summarized as follows:

1. The evaluation of profitability: the profitability of the bank is measured through the profit indicators represented by a return on equity. In which Al-Ahli Bank was the highest return. As well as, the return on assets and the profit margin, Al-Ahli Bank and Ashur Bank are among the other studied banks.

2. The evaluation of costs: The profit margin indicator shows that Ashur Bank, Al-Ahli and Baghdad are more efficient in controlling its costs compared to other banks. This refer to decrease in the size of these banks leads to lower costs.
3. The evaluation of risk: The financial equity multiplier indicator shows the bank’s risk through using others money to finance its investments. This study find that the credit bank becomes more risky when compared with others banks, due to its heavy rely on debt for financing. Then followed by Ashur and Al-Ahli banks, while Baghdad and Al-Mansour banks are considered the least risky.

4. The evaluation of productivity: The asset utility index showed that the credit bank is more productive compared to the other four banks during the study period. This is due to the large size of the bank and the having many branches.

Conclusion

This study covers the investigation of Five private banks in Iraq, In order to evaluate the productivity using important indicators. The following conclusions can be summarized:

1. The measurement of operational efficiency in banks is based on financial ratios of increasing profits and minimizing costs. A good operational efficiency was appeared in the Al-Ahli and Baghdad banks. This indicates that the banks have an appropriate administration that uses its resources properly. Mansour, Credit and Ashur banks were limited in achieving profitability and low costs. This is due to the lack of efficiency in management and reducing the cost, which leads to a lack of optimal use of available resources to ensure the highest returns. Small-sized banks may considered to be more efficient in managing their efficiency and controlling their costs than larger banks.

2. The indicators of financial ratios help in diagnosing the financial deviations of the bank and assessing its performance. In order to know its position in terms of profitability and degree of risk, the application of this indicator ease and simplicity to evaluate any banks worldwide.

3. Banks managers should pay attention to measuring operational efficiency and its development. This consider as one of the important tools of optimal utilization of resources that support enhancing the performance efficiency of these banks.

4. Paying attention to employee productivity to raise banking efficiency and human resources in general in the financial and banking sectors. Beginning with selection on the basis of academic qualification and experience, as well as continuous training to develop the skills of bank employees and qualify them in the field of utilizing new technology.

5. Studying the cost of business and banking services provided by banks and the comparison between them on the basis of lowest cost and highest return. Iraqi banks are obviously relying on traditional activities. The challenges throughout the policy of liberalizing trade in banking services and intense competition, the Iraqi banks must
provide an integrated package of banking services, combining traditional and innovative products to increase the scope of their operations and provide modern financing activities.

References


http://www.webology.org
## Appendix

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<tr>
<th>Banks in 2015</th>
<th>Profits</th>
<th>Revenues</th>
<th>Equity</th>
<th>Assets</th>
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<tr>
<td>Al-Mansour Bank</td>
<td>18,029,761,756.000</td>
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### Banks in 2016

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### Banks in 2017

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### Banks in 2018

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