



# THE IMPACT OF FINANCIAL BALANCE ON FINANCIAL HEALTH (AN ANALYTICAL STUDY OF A SAMPLE OF COMMERCIAL BANKS LISTED ON THE IRAQI STOCK EXCHANGE FOR THE PERIOD (2013-2022))

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| Article history:   | Abstract:   |
|--|---|
| <b>Received:</b> 6 <sup>th</sup> March 2024<br><b>Accepted:</b> 4 <sup>th</sup> April 2024 | The research aims to test the impact of financial balance on the financial health of Iraqi commercial banks, using a sample of (9) commercial banks listed on the Iraqi Stock Exchange (2013-2022). Three financial indicators were chosen to measure financial balance: (liquidity index, Financial flexibility, water solvency index), and financial health was measured through (rate of return on assets). The descriptive and analytical approach was used for the data and information contained in the financial reports of the banks in the research sample. Ready-made software was also used, including (MS Excel) and (Eviews 13) ), to test hypotheses and answer questions related to the research problem and reach the goals, and the research reached a set of results, the most important of which are: The banks in the research sample do not suffer from a financial imbalance resulting from weakness in its three dimensions. The research also presented a set of recommendations, the most important of which are: the need for banks to evaluate... Monitoring its financial performance on an ongoing basis, using financial health indicators due to their importance in the strength of the financial position of any bank. |

**Keywords:** financial balance, financial health, commercial banks, Iraq Stock Exchange..

## THE INTRODUCTION

The concept of financial balance is considered one of the basic concept in the field of financial management. Financial balance is understood as achieving a balance between the two sides of the general budget by adopting a specific financial policy. However, this concept cannot be used adequately to describe and understand the financial position of banks, as it does not fully reflect... The financial reality of the bank is necessary, given its reliance on a short-term view of the financial situation, and this may make banks vulnerable to financial risks such as decreased profits, changes in exchange rates, and negative effects resulting from the government's financial and monetary policies, in addition to market conditions and other factors. Therefore, modern thought in The concept of financial balance indicates that it can be temporary and borrowing requirements must be carefully considered to ensure management's efficiency in achieving returns that exceed borrowing costs, as if management is unable to achieve this balance effectively, this will lead to increased financial pressures by reducing cash flows. Internal and increased external cash flows, such as repaying loans and their interests, and this could threaten the sustainability of banks and lead to their bankruptcy, so the research adopts a different vision that takes into account multiple dimensions of financial balance, including liquidity, financial solvency, and financial flexibility. The research also aims to present a model It links financial balance and financial health, and studies the extent to which financial balance affects the financial health of the banks in the research sample.

**The first axis: research methodology**

**First: the research problem**



Financial balance is considered one of the basic elements that the management of banks and financial institutions seeks to achieve in order to ensure financial health. Therefore, the research problem can be formulated by generating a set of research questions that help us determine the nature of the problem and enable us to explore all its aspects. Therefore, the research problem can stem from the following main question: Does financial balance, in terms of its indicators, have an impact on financial health?

Some of the following sub-questions can be asked:

1. Is there an effect of liquidity on the financial health of the banks studied ?
2. Is there an effect of financial solvency on the financial health of the banks studied ?
3. Is there an effect of financial flexibility on the financial health of the banks studied ?

### **Second: The importance of research**

The importance of the research stems from the importance of both the financial balance and the financial health of banks, so the importance of the research can be summarized in the following:

1. The importance of research variables (financial balance, financial health) in the financial management literature.
2. Determine ways to achieve financial balance in commercial banks, and the extent of its importance in achieving financial health.
3. The importance of the research sample (commercial banks), because of their important role in providing liquidity in financial markets, necessary to support various activities in financial systems.

### **Third: Research objectives**

The research aims to demonstrate the extent to which financial balance, with its three dimensions: liquidity, financial flexibility, and solvency, affects financial health. More specifically, there are several goals that the research seeks to achieve, including:

1. Identifying the most prominent indicators of financial balance and financial health.
2. Measuring the extent of financial balance (in terms of its indicators) enjoyed by the investigated banks.
3. Measuring the degree of financial health of the investigated banks.
4. Testing the extent of the impact of financial balance on the financial health of the investigated banks

### **Fourth: Hypotheses**

For the purpose of answering the questions raised in the research problem and reaching the research objectives, the research started from the following hypotheses:

Main hypothesis: There is a statistically significant positive effect of financial balance on financial health.

Three hypotheses branch out from it, as follows:

1. There is a statistically significant positive effect of liquidity on financial health.
2. There is a statistically significant positive effect of financial solvency on financial health.
3. There is a statistically significant positive effect of financial flexibility on financial health.

### **Fifth: The research population and sample**

The research community is represented by the commercial banks listed on the Iraq Stock Exchange, and a sample of (9) commercial banks was chosen to represent the research. These banks were chosen due to their continued activity without interruption in the specified time period between (2013-2022), which is (the Iraqi Investment Bank), Bank of Babel, Gulf Commercial Bank, Baghdad Bank, Sumer Commercial Bank, National Bank of Iraq, Middle East Bank, Commercial Bank of Iraq, United Investment Bank.

### **Sixth: Research method**

The descriptive approach was adopted in presenting the concepts and the theoretical aspect of the research, and the analytical and quantitative approach in analyzing the data using ratios and financial models to calculate financial balance and financial health, and using statistical methods and programs, including ( Eviews 13) to test the effect between the research variables, and Figure (1) represents the research model. :

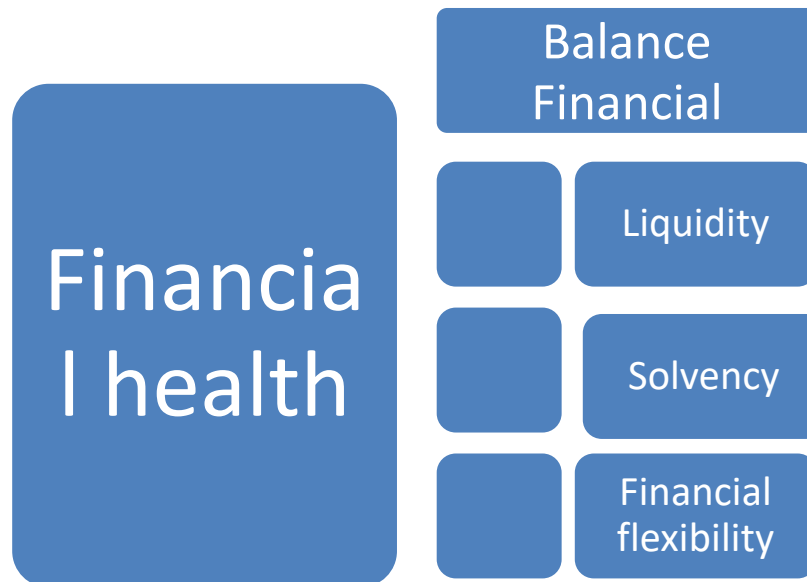


Figure (1) search model  
Source: Prepared by the researcher

### Seventh: Previous studies

The subject of previous studies occupies a pivotal aspect in achieving scientific research . Addressing what the researchers were exposed to builds the foundation for the topic of the current research in terms of the models chosen, the variables used, the ways in which the relationship between the variables was treated, and the results reached, and its great importance in discovering and crystallizing The problem of our research and determining its dimensions and procedures. Previous studies are considered a starting point for the right direction for research worthy of study and scrutiny, according to the sources we have available on the subject of our study. As far as we know, this research , which combines financial balance and financial health, has not been addressed in local, Arab, or foreign studies on the matter. Limit the researcher's knowledge.

Among the studies that touched on the study of financial balance is the study (Al-Hamdani, 2022), which adopted the analytical and quantitative approach in analyzing data using ratios and financial models to calculate financial balance. The study assumed that the banks studied suffer from financial imbalance as a result of weakness in its four dimensions, and the study concluded The researched banks do not suffer from financial imbalance as a result of weakness in its four dimensions, and the study (Omran, 2021) which adopted the analytical and quantitative approach in analyzing the data using ratios and financial models to calculate financial balance and financial fragility, and the study assumed the presence of a statistically significant effect of financial balance. With its dimensions (liquidity, profitability, financial solvency) on financial fragility, the study found that there was no significant, statistically significant effect for three dimensions of the independent variable financial balance, namely (liquidity, profitability, financial solvency) in reducing financial fragility. As for financial flexibility, it was proven The study has a statistically significant impact on financial fragility.

Among the studies that touched on the study of financial health is the study (Al-Binaa, 2022), which adopted the analytical and quantitative approach in analyzing data using ratios and financial models to calculate the liquidity gap and the liquidity gap and financial health. The study assumed that there is no significant effect of the liquidity gap on financial health indicators. For banks, the study found that there was no significant effect of the liquidity gap on the financial health indicators of banks, and the study (Rashwan and Abu Nasser, 2021) which adopted the descriptive analytical approach for the purpose of analyzing and measuring the effect between the variables of the study, and the study assumed that there was no significant effect for health indicators. Finance on the market value of banks listed on the Palestine Stock Exchange. The study found a significant impact of financial health indicators on the market value of banks according to the ( Tobin's Q ) model.

### The second axis: the theoretical aspect The first requirement: financial balance



### **First: The concept of financial balance**

Financial balance is one of the financial goals that financial management seeks to achieve because of its direct connection to financial stability. It represents, at a certain moment, the balance between permanent funds and fixed working capital in a specific period. This requires equalization of revenues and expenditures or equalization of the term of sources and uses of funds. The content of financial balance is summed up in equalization. Total expenditures with total revenues without the need to resort to borrowing to finance the deficit or achieve a surplus that may lead to extravagance (Al-Hamden and Imran, 2022, 45).

The idea of financial balance stems from the financial budget, considering that it depends on the balance between assets and liabilities, that is, the extent to which the bank is able to pay its necessary debts and the ability to pay them when they are due, and that its assets allow the payment of its necessary debts, on the basis that the funds that remain in the bank for a period of more than A year is what will finance the uses in the long term, and the same applies to the current assets that will finance the bank's debts or obligations in the short term, and thus the correspondence between the financial resources in the budget and their uses is expressed in the financial balance (Hossam, 2016, 41), and the financial balance can be defined as a method For financial analysis, modern methods are used that require determining the basic goal of the analysis that any scientific research seeks through the use of financial ratios ( Vasile & Loachim , 2015, 324). Financial balance can also be defined as a process of technical analysis using statistical methods and techniques for data, statements, and financial statements. Its aim is to evaluate past and present financial performance, predict future financial performance, and help parties benefiting from the analysis in making sound financial decisions (Bilal, 2019, 3-4).

### **Second: The importance of financial balance**

The importance of financial balance lies in the following ( Awayreb , 2014, 14)

1. Predicting the future results of the institution's public treasury and evaluating the risks associated with them.
2. Estimating returns from available investment opportunities.
3. It is also used for the purpose of internal control over internal and external funds flows in terms of areas for use.
4. Evaluating the financial performance of the institution and identifying the rational use of resources.

### **Third: Objectives of financial balance**

Through financial balance, banks seek to achieve two main goals: (Yahiawi and Maghalawi, 2021, 21).

1. Liquidity: It is considered necessary for the bank to fulfill its obligations and avoid the risks of bankruptcy and liquidation if liquidity is not available in a timely manner.
2. Profitability: It is considered necessary to ensure the exchange's ability to survive and continue its work. To achieve profitability, banks seek to invest as much of their money as possible in investments with high returns.

It can be said that liquidity and profitability are two interrelated goals, but at the same time they are conflicting goals, as a result of achieving the highest percentage of profits occupying the thinking of those in charge of financial management at the expense of providing the minimum ability to meet short-term obligations and operate long-term assets.

### **Fourth: Types of financial balance**

The financial balance is of two types: ( Cheniti and Shuwaili , 2016, 54-55):

Short-term financial balance : It is part of the bank's assets held in liquid form, as it is considered the optimal basic measure for treasury management and a monitoring indicator of the institution's cash position at a specific date, as the funds used by the bank must remain to finance the value of its assets over a period of time, and according to it, the need is determined. The bank provides liquid funds, the most important of which is moving the operational cycle and paying obligations on their due dates.

Long-term financial balance : The institution's long-term financial balance is good in terms of the possibility of future expansion that requires long-term capital investments, and the bank's ability to pay its debts on their due dates in an ongoing manner.

### **Fifth: Conditions for financial balance**

In order for financial balance to be achieved in the economic bank, the following conditions must be met ( Budhej , 2015, 4):

The first condition: The working capital must be positive, and this is achieved when the bank is able to finance fixed assets based on permanent resources, that is, financing its investments by resorting to long and medium-term resources, represented by capital and medium and long-term debt.

The second condition: The working capital must cover the need for working capital, as it is not enough for the working capital to be positive, but rather this margin must be sufficient to cover the needs of the exploitation cycle.



The third condition: a positive treasury. The previous two conditions are met, and thus the bank is able to cover the treasury's resources, represented by current bank credits, and by the treasury's uses, represented by available resources.

### **Sixth: Financial balance indicators**

Many studies and research have indicated that financial balance can be measured through financial indicators that express relationships between balance sheet items, as (Al-Hamdani and Imran, 2022, 45) indicated the possibility of measuring financial balance through ratios of liquidity, profitability, financial solvency, and flexibility. Accordingly, the financial balance will be measured through liquidity ratios, financial solvency, and financial flexibility. The following is an explanation of these indicators:

#### **1. Liquidity**

They are ratios that measure the extent of the bank's ability to pay its short-term obligations. Therefore, we find that this type of ratios primarily concerns the company's creditors as well as management. One of the most important known liquidity ratios is the trading ratio, which is the ratio of current assets to the ratio of current liabilities, or in other words, it is the number The times current assets exceed current liabilities, it is calculated as follows (Ajdir and Abdel Hadi, 2023, 297)

$$\text{Current ratio} = \text{Current assets} \div \text{Current liabilities} * 100$$

#### **2. Solvency**

Financial solvency expresses the strength and ability of the bank's capital and its own funds to absorb the risks and losses of failure of investment operations, such as the risk of non-payment and the decline in the value of investments. Financial solvency also plays an important role in maintaining the strength and safety of the banks' position and the safety of banking systems, as it represents a firewall in the face of... Unexpected losses that the bank may be exposed to and prevent these losses from affecting depositors' funds (Shaqfa et al., 2019, 118). The Central Bank of Iraq set the capital adequacy ratio at no less than (10%) as a percentage of the financial solvency of all commercial banks operating in Iraq, except for foreign bank branches. This ratio represents the relationship between the capital base and assets weighted with the weights specified by the Basel Committee to confront various risks (Al-Hamdani and Imran, 2022, 49), and this ratio is calculated according to the following equation (Central Bank of Iraq, 2018, 3)|:

$$\text{Capital adequacy ratio} = \text{capital base} / \text{net assets weighted with weights to offset credit risk, market risk, and operational risk}$$

#### **3. Financial flexibility**

Financial flexibility refers to the accumulation of the volume of cash held by banks over time, and therefore banks enjoy financial flexibility if during times of need they have options to obtain cash (liquidity) and thus avoid default (Zainudin et al , 2017, 6), as it can be described A bank is considered financially flexible if it has sufficient liquidity to face cash flow shocks, and is able to pursue investment opportunities in a timely manner due to its ability to easily access external funds ( Marchica & Mura , 2010, 2). Therefore, financial flexibility is the bank's ability to provide cash after... A short period of availability of information about unexpected financial needs and the creation of new opportunities for investment. Financial flexibility is the ability of banks to finance in order to respond appropriately to unexpected events to maximize the value of the bank. Therefore, banks that have financial flexibility are able to withstand financial pressures and when opportunities arise. Profitable, they can provide the necessary funds for investment at the lowest cost ( Arslan et al , 2010, 2), and the ratio is calculated by dividing the total debt (current liabilities + long-term liabilities) by the equity as follows (Al-Amiri, 2018, 40)

$$\text{Financial flexibility} = \text{total debt} / \text{equity}$$

### **The second requirement: financial health**

#### **First: The concept of financial health**

Banks are generally considered successful if they succeed in achieving their specific goals in the long term. The manager's task is to define these goals and determine the best ways to achieve them. However, it is necessary to have a sufficient amount of relevant information to make the optimal decision. Financial analysis is a tool that provides managers and decision makers with the appropriate information for their decisions. Strategic and operational, as the financial analysis examines the development of the company's economic situation in the past and on this basis allows for an assessment of its financial health in the future. Through financial analysis, it is possible to reveal problem areas in the bank that the financial manager must focus his attention on solving. Therefore, the result of the financial analysis is an evaluation A general and comprehensive overview of the company's financial situation, identifying the strengths and weaknesses within it, and developing appropriate solutions to those problems. Therefore, the financial health of



any company can be assessed through financial analysis, identifying its strengths and weaknesses, while proposing possible improvements in order to raise the level of its financial performance ( Al-Atwi and Abu Saiba , 2022, 313).

Financial health is defined as a depiction of the results of the bank's operations based on financial reports within a limited period of time, which is manifested in a form of financial performance ( Banne, et al , 2019, 3649), while ( Barnard, et al , 2010, 2) defined it as Material well-being, which was measured by ascertaining the public's perceptions of their material well-being on a continuum ranging from prosperity to extreme poverty, while ( Masri , 2020, 287) defined it as the ability to manage income and expenses in a way that leads to a stable financial situation for the company, which includes the state of Debts that can be controlled by.

### **Second: The importance of financial health**

The financial analyst begins by analyzing the financial health by using the financial statements of previous years to measure and evaluate the performance of the financial position and estimate the bank's future. Through this update, the bank can identify its financial strengths and weaknesses and can also help the bank in identifying (Rashwan and Abu Nasser, 2021, 121):

1. The level of profitability and its comparison with other competing banks operating in the same industry.
2. The bank's efficiency in using its assets to generate revenues.
3. The credit policies followed by the bank.

Financial health has four important elements, as identified by some of the most prominent researchers and advocates of financial health:

1. Streamlined short-term financing, including the ability to meet ongoing financial obligations and consumption needs.
2. Preparing for and recovering from financial shocks.
3. A long-term perspective that includes achieving goals and maintaining or improving well-being.
4. A level of achievement beyond a minimum that indicates a feeling of confidence and well-being.

These elements form the basis for measuring financial health. The first three elements reflect the basic functions of finance to move resources across time, space and users and reduce risks. The last element acknowledges that finances are a source of serious stress for many individuals and that this has consequences and importance for policy makers, while continuing to provide insights. Relevant to service providers (Al-Shammari, 2022, 27).

Third: Financial health goals

There is a set of objectives that the bank will deal with to put each step into practice (Al-Shammari, 2022, 28):

1. Understand your bank's country context and national policies.
2. Set identity baselines and priorities (based on country context and bank starting point.)
3. Set SMART goals.
4. Determine measures and procedures.
5. Determine key performance indicators.

There is a set of requirements for the principles of responsible banking to set goals, as the goals of your bank must ( Parkers , 2016, 44):

1. Be specific, measurable, achievable, relevant and time-bound.
2. Address one of the most significant areas of impact resulting from your bank's activities and provision of products and services.
3. Link and drive alignment with, and further contribute to, appropriate SDGs and other relevant international, national or regional frameworks, such as national public policies.
4. Identify the significant (potential) negative impacts of specific targets on other dimensions of the SDGs/climate change/society targets, and steps should be taken to mitigate these as much as possible to maximize the net positive impact of the target.
5. Include specific actions and milestones to achieve the goal.

### **Fourth: Financial health indicators**

Measuring the financial health within the bank is extremely important, and management must be proactive in constantly assessing the future financial health of the company before it is reflected in the financial statements of that bank ( Kritsonis , 2005, 2). There are several financial ratios that measure financial health, the most famous of which is the rate of return on... Assets, as the return on assets showed how effective bank management can use their assets to generate income, and this rate must be higher than the inflation rate and the average interest rate in the banking market, to ensure that the invested capital is compensated at a level higher than the average interest rate, and it can be calculated through The following equation ( Diana , 2016, 1040):

$$\text{Rate of return on assets} = \text{net income} / \text{total assets}$$

### **The third axis: the applied aspect of the research**



This axis included a description of the research variables interpreted and adopted for the Iraqi banks in the research sample, and then presented the statistical characteristics, as the research sample consisted of (9) banks, due to the availability of data on the indicators

**First: research variables**

The research included financial health indicators as a dependent variable and financial balance indicators as independent variables for a sample of banks for the period 2013-2022, and the (13 Eviews) program was used.

Table (1)  
 Description of research variables

| Source: | His description                           | Variable name           | Variable symbol | Table |
|---------|---|-------------------------|-----------------|-------|
|         | Dependent variable<br>Financial health    | <b>Financial health</b> | <b>Y</b>        |       |
|         | Explanted variable<br>(financial balance) | Liquidity               | <b>X1</b>       |       |
|         |   | Sheet                   | <b>X2</b>       |       |
|         |   | Flexibility             | <b>X3</b>       |       |

prepared by the researcher based on the model description.

**Second: Analysis of financial balance and financial health**

Analysis of the financial balance and financial health of a sample of banks operating in the Iraqi market and listed on the Iraqi Stock Exchange for the period (2013-2022). This analysis was conducted with the aim of highlighting the role that the financial balance plays in achieving the financial health of the bank, as in Table (2)

Table (2) Descriptive statistics for the banks in the research sample

| Unite d      | Commercial   | Middle East  | Al-Ahly      | Sumer        | Baghd ad     | Gulf         | Babylo n     | Invest ment  | Bank name Indicator      |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------------|
| <b>1.81</b>  | <b>1.964</b> | <b>1.265</b> | <b>1.74</b>  | <b>1.773</b> | <b>1.182</b> | <b>1.331</b> | <b>1.685</b> | <b>1.652</b> | Liquidityx 1             |
| <b>0.446</b> | <b>2.642</b> | <b>1.387</b> | <b>1.354</b> | <b>2.114</b> | <b>0.668</b> | <b>0.59</b>  | <b>1.181</b> | <b>0.82</b>  | Solvencyx 2              |
| <b>1.353</b> | <b>0.999</b> | <b>3.58</b>  | <b>1.065</b> | <b>1.51</b>  | <b>5.237</b> | <b>2.251</b> | <b>1.706</b> | <b>1.526</b> | Financial flexibilityx 3 |
| <b>0.12</b>  | <b>2.586</b> | <b>2.65</b>  | <b>6.37</b>  | <b>12.23</b> | <b>2.59</b>  | <b>3.55</b>  | <b>2.25</b>  | <b>3.56</b>  | Y financial health       |

Table (2) indicates the rates of indicators (financial balance and financial health) for the Iraqi banks studied and for all years of the research. With regard to the liquidity ratio, it appears from the aforementioned table that the Commercial Bank of Iraq achieved the highest liquidity rate among the banks in the research sample during the research period, as it reached (1.964). While the Bank of Baghdad achieved the lowest liquidity rate, reaching (1.182), as for financial solvency, it appears that the Commercial Bank of Iraq achieved the highest solvency rate among the banks in the research sample during the research period, as it reached (2.642), while the United Bank achieved the lowest rate. Financial solvency, as it reached (0.446), and with regard to financial flexibility, the Bank of Baghdad achieved the highest financial flexibility rate, reaching (5.237), while the Commercial Bank of Iraq achieved the lowest financial flexibility rate among the banks in the research sample during the research period, as it reached (0.999). In financial health, Sumer Bank achieved the highest financial health rate, reaching (12.23). It also appears that United Bank achieved the lowest financial health rate among the banks in the research sample during the research period, as it reached (0.12)

**Third: Testing the Stationarity of cross-sectional data**

We infer through the unit root tests (Levin, Lin and Chu-LLC) and the I'm, Pesaram and Shin (IPS) test whether the included variables do not have the characteristic of stability and suffer from a unit root, and then here we accept the null hypothesis (H0 = 0) and reject the alternative hypothesis. However, if the variables do not suffer from a unit root and



are stable, then here we will accept the alternative hypothesis ( $H_1 = 1$ ) and reject the null hypothesis. We notice from Table (3) the results of the tests that all the variables stabilized at the level and the first difference (1) is as follows:

Table (3)  
 Panel unit root test

| Panel unit root test |                |                      |        |                             |        |
|----------------------|----------------|----------------------|--------|-----------------------------|--------|
| Variables            |                | Levin, Lin & Chu t   |        | I'm, Pesaram and Shin (IPS) |        |
|                      |                | Individual Intercept |        | Individual Intercept        |        |
|                      |                | t-Statistic          | Prob.  | t-Statistic                 | Prob.  |
| Y                    | Level          | -4.45543             | 0.0065 | -4.9653                     | 0.0000 |
|                      | 1st Difference | -8.65432             | 0.0043 | -8.1873                     | 0.0004 |
| X1                   | Level          | 2.76547-             | 0.0098 | -6.9984                     | 0.0000 |
|                      | 1st Difference | 6.46404              | 0.0023 | -2.5432                     | 0.0002 |
| X2                   | Level          | -4.87071             | 0.0002 | -2.8873                     | 0.0000 |
|                      | 1st Difference | -2.6519              | 0.0032 | -6.8283                     | 0.0000 |
| X3                   | Level          | -4.4665              | 0.0002 | -2.8873                     | 0.0000 |
|                      | 1st Difference | -2.43899             | 0.0032 | -6.8283                     | 0.0000 |

Source: Table prepared by the researcher using (13 Eviews) program.

**Fourth:** Estimating the impact of financial balance on the financial health index using the dynamic analysis model in combined cross-sectional samples ( PMG-PANEL ARDEL ) .

For the purpose of answering the questions raised in the research problem and reaching the research objectives, the research results showed the presence of a statistically significant effect of financial balance on financial health, from which three hypotheses branch out as follows:

The results showed a statistically significant effect of liquidity on financial health. This means that the relationship is inverse between liquidity ( X1 ) and financial health ( Y ) and at a significant level (0.0401), that is, when changing ( X1 ) by one unit leads to a change ( Y ) by (-1.18036) units, with other factors remaining constant.

1. The results showed a significant, statistically significant effect of financial solvency on financial health. This means that the relationship between solvency ( X2 ) and financial health ( Y ) is direct and at a significant level (0.0000), that is, when changing ( X2 ) by one unit leads to a change in... ( Y ) by (1.68603.) units, with other factors remaining constant.
2. The results showed a statistically significant effect of financial flexibility on financial health. This means that the relationship is inverse between liquidity ( X3 ) and financial health (( Y )) and at a significance level ((0.0016), that is, when changing ( X1 ) by one unit leads to a change in ( Y ) by (0.34518) units, with all factors remaining The other is fixed.
3. The results of the table show that the value of the error correction factor has a negative sign, reaching 0.91616 - and this value is significant based on the probability value, which was (0.00823), which is less than (0.05), meaning that the first condition has been met, noting that this value indicates that ( 9%) of the short-term errors can be corrected in a unit of time, represented here by the year, in order to return to the long-term equilibrium situation.





| <b>Dependent Variable: D(Y)</b>                                |                    |                   |                    |                |
|--|--------------------|-------------------|--------------------|----------------|
| <b>Method: ARDL</b>  |                    |                   |                    |                |
| <b>Automatic-lag linear regressors (0 max. lags): X1 X2 X3</b> |                    |                   |                    |                |
| <b>Selected model: PMG(1,0,0,0)</b>                            |                    |                   |                    |                |
| <b>Variable</b>  | <b>Coefficient</b> | <b>Std. Error</b> | <b>t-Statistic</b> | <b>Prob.</b>   |
| <b>Long-run (Pooled) Coefficients</b>                          |                    |                   |                    |                |
| <b>X1</b>  | <b>-1.18036</b>    | <b>0.596500</b>   | <b>-1.978811</b>   | <b>0.0401</b>  |
| <b>X2</b>  | <b>1.68603</b>     | <b>0.291763</b>   | <b>5.778775</b>    | <b>0.0000</b>  |
| <b>X3</b>  | <b>-0.34518</b>    | <b>0.105333</b>   | <b>-3.277018</b>   | <b>0.0016</b>  |
| <b>C</b>   | <b>4.45842</b>     | <b>1.110826</b>   | <b>4.013609</b>    | <b>0.0001</b>  |
| <b>Short-run (Mean-Group) Coefficients</b>                     |                    |                   |                    |                |
| <b>COINTEQ</b>   | <b>-0.91616</b>    | <b>0.338122</b>   | <b>-2.709563</b>   | <b>0.00823</b> |

(Table 4)

Results of estimating the impact of financial balance on financial health

Source: Table prepared by the researcher using (13 Eviews) program.

#### **Fifth: Correlation matrix**

1. The results of the table showed that there is a correlation between the liquidity indicator as an independent variable and financial health as a dependent variable
2. The results of the table showed that there is no correlation between the solvency index as an independent variable and financial health as a dependent variable
3. The results of the table showed that there is no correlation between the flexibility indicator as an independent variable and financial health as a dependent variable.

5ble (4))

Correlation matrix results

| <b>Covariance Analysis: Ordinary</b> |                 |                 |                 |           |
|--------------------------------------|-----------------|-----------------|-----------------|-----------|
| <b>Sample: 2013-2022</b>             |                 |                 |                 |           |
| <b>Included observations: 90</b>     |                 |                 |                 |           |
| <b>Correlation</b>                   |                 |                 |                 |           |
| <b>Probability</b>                   | <b>Y</b>        | <b>X1</b>       | <b>X2</b>       | <b>X3</b> |
| <b>Y</b>                             | <b>1</b>        |                 |                 |           |
|                                      | -----           |                 |                 |           |
| <b>X1</b>                            | <b>-0.24442</b> | <b>1</b>        |                 |           |
|                                      | <b>0.020248</b> | -----           |                 |           |
| <b>X2</b>                            | <b>0.105565</b> | <b>0.087300</b> | <b>1</b>        |           |
|                                      | <b>0.322049</b> | <b>0.413249</b> | -----           |           |
| <b>X3</b>                            | <b>-0.04565</b> | <b>-0.41358</b> | <b>-0.25167</b> | <b>1</b>  |
|                                      | <b>0.669174</b> | <b>5.084600</b> | <b>0.016716</b> | -----     |

Source: Table prepared by the researcher using (13 Eviews) program.



**Sixth:** Results of the Bounds Test for Co-Integration ( Bound Test):

1. The Bounds Test is used to determine the extent of the existence of a long-term equilibrium relationship and the existence of co-integration between (Financial Balance) as an independent variable and (Financial Health) as a dependent variable, by comparing the ( F ) statistic and the bounds of values. The highest and lowest criticality, as in Table (5)
2. Table (5) shows that the calculated F-statistic value was greater than the maximum tabular value, which was (4.306) . At a significant level (5%) , which means that we reject the null hypothesis and accept the alternative hypothesis, and this means the existence of a cointegration relationship between financial balance and financial health, that is, the existence of a long-term equilibrium relationship.

Table (5)  
ResultsBound Test

| <b>Null hypothesis: No relationship levels</b>                                    |              |              |              |                |              |              |
|---|--------------|--------------|--------------|----------------|--------------|--------------|
| <b>Number of cointegrating variables: 9</b>                                       |              |              |              |                |              |              |
| <b>Number of cointegrating variables: 3</b>                                       |              |              |              |                |              |              |
| <b>Trend type: Rest. constant (Case 2)</b>  |              |              |              |                |              |              |
| <b>Cross-Section</b>  |              |              | <b>Obs.</b>  | <b>F-Stat.</b> |              |              |
| <b>1</b>  |              |              | <b>9</b>     | <b>11.0733</b> |              |              |
| <b>2</b>  |              |              | <b>9</b>     | <b>7.88991</b> |              |              |
| <b>3</b>  |              |              | <b>9</b>     | <b>5.77525</b> |              |              |
| <b>4</b>  |              |              | <b>9</b>     | <b>8.52149</b> |              |              |
| <b>5</b>  |              |              | <b>9</b>     | <b>8.35802</b> |              |              |
| <b>6</b>  |              |              | <b>9</b>     | <b>4.33882</b> |              |              |
| <b>7</b>  |              |              | <b>9</b>     | <b>0.12662</b> |              |              |
| <b>8</b>  |              |              | <b>9</b>     | <b>6.59956</b> |              |              |
| <b>9</b>  |              |              | <b>9</b>     | <b>17.2128</b> |              |              |
|   | <b>10%</b>   |              | <b>5%</b>    |                | <b>1%</b>    |              |
|   |              |              |              |                |              |              |
|   |              |              |              |                |              |              |
| <b>Sample Size</b>  | <b>I(0)</b>  | <b>I(1)</b>  | <b>I(0)</b>  | <b>I(1)</b>    | <b>I(0)</b>  | <b>I(1)</b>  |
| <b>30</b>   | <b>2.676</b> | <b>3.586</b> | <b>3.272</b> | <b>4.306</b>   | <b>4.614</b> | <b>5.966</b> |
| <b>Asymptotic</b>   | <b>2.37</b>  | <b>3.2</b>   | <b>2.79</b>  | <b>3.67</b>    | <b>3.65</b>  | <b>4.66</b>  |
| <b>* I(0) and I(1) are respectively the stationary and non-stationary bounds.</b> |              |              |              |                |              |              |

Source: Prepared by the researcher based on the outputs of the statistical program (13Eviews)

Fourth axis: conclusions and recommendations

**CONCLUSIONS**

**The research concluded the following:**

1. The Commercial Bank of Iraq achieved the highest liquidity rate among the banks in the research sample during the research period, reaching (1.964), while the Bank of Baghdad achieved the lowest liquidity rate, reaching (1.182). This indicates that the higher the liquidity rate, the higher the financial health.
2. The Commercial Bank of Iraq achieved the highest financial solvency rate among the banks in the research sample during the research period, as it reached (2.642), while the United Bank achieved the lowest financial solvency rate, as it reached (0.446).
3. The Bank of Baghdad achieved the highest rate of financial flexibility, reaching (5.237), while the Commercial Bank of Iraq achieved the lowest rate of financial flexibility among the banks in the research sample during the research period, reaching (0.999).
4. Sumer Bank achieved the highest financial health rate, reaching (12.23), while United Bank achieved the lowest financial health rate among the banks in the research sample during the research period, reaching (0.12).



5. There is a positive, statistically significant effect of financial balance on financial health
6. There is a statistically significant negative effect on liquidity and financial health
7. There is a positive, statistically significant effect on financial solvency and financial health
8. There is a statistically significant negative effect for financial flexibility and financial health
9. There is a correlation between liquidity and financial health
10. There is no correlation between financial solvency and financial health
11. There is no correlation between financial flexibility and financial health
12. The existence of a cointegration relationship between financial balance and financial health, that is, the existence of a long-term equilibrium relationship

### **RECOMMENDATIONS**

1. Giving great importance to the process of evaluating the financial health of the bank to discover its strengths, weaknesses and financial position.
2. Using financial balance indicators because they have financial implications that reveal the bank's financial position well.
3. The necessity of monitoring the financial health of the bank.
4. It is necessary for banks to evaluate their financial performance on an ongoing basis, using financial balance indicators because of their importance in the strength of the financial position of any bank with financial activity.
5. Iraqi commercial banks should focus on profitability as the ultimate goal they seek to achieve, taking into account finding a balance between profitability, liquidity, and safety , because profitability is the first pillar for building real financial solvency that enhances the financial situation.

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