

**The Impact of the Capital Structure in the Aspect of Banking Safety  
Measurement Applications and Standards (Basel and CAMEL) on  
Liquidity Risk**

**An Applied Study on Commercial Banks Operating in Gezira State -Sudan -  
2015-2018**

**تأثير هيكل رأس المال في مجال تطبيقات ومعايير قياس الأمان المصرفي (بازل وكامل) على  
مخاطر السيولة- دراسة تطبيقية على البنوك التجارية العاملة في ولاية الجزيرة - السودان -  
2018-2015**

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**Abstract**

**ملخص**

The optimal capital structure is one of the most important topics that have captured the attention of many researchers. A study on the matter, was followed by several studies, each of which attempts to clarify the effect of the capital structure on the value of the bank during the cost of capital. The debate continues to this day between writers and researchers in the field of financial management about whether or not the optimal capital structure exists by (Modigliani & Miller, 1958).

**Keywords :** Capital Structure, Bank, Safety Measurement.

يعد هيكل رأس المال الأمثل أحد أهم الموضوعات التي لفتت انتباه العديد من الباحثين. دراسة حول الموضوع ، أعقبها عدة دراسات حاولت كل منها توضيح تأثير هيكل رأس المال على قيمة البنك خلال تكلفة رأس المال. يستمر الجدل حتى يومنا هذا بين الكتاب والباحثين في مجال الإدارة المالية حول ما إذا كان الهيكل الرأسمالي الأمثل موجوداً أم لا .  
**الكلمات المفتاحية:** هيكل رأس المال ، البنك ، قياس الأمان

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## 1. Introduction:

The optimal capital structure is one of the most important topics that have captured the attention of many researchers. A study on the matter, was followed by several studies, each of which attempts to clarify the effect of the capital structure on the value of the bank during the cost of capital. The debate continues to this day between writers and researchers in the field of financial management about whether or not the optimal capital structure exists by (Modigliani & Miller, 1958).

The financial management makes decisions related to the quality of funds required to be managed, and these decisions determine the extent to which the facility goes to rely on loans to finance its assets, as well as determines the extent of dependence on both long-term and short-term financing sources. The capital structure is one of the important pillars for banks when they practice because of its banking activity and addressing various risks, and in order for banks to be able to enhance their role, it is imperative to pay attention to the financing side by using the capital structure to support sources of financing and analyzing data related to the bank's activities. The decision to choose the capital structure is considered one of the most important decisions taken by the financial management in establishments in general and in the banking sector in particular for it affects future cash flows and thus liquidity. For the complexity and sensitivity of the decision the financial manager must study it well, because it results in determining the financial position of the institution. The financing decision relates to determining the optimal capital structure for the facility's investments, meaning that it is the financing mix that reduces the cost of capital to a minimum and reduces risks, and then maximizes the wealth of owners in addition to maximizing the market value of the share and thus the market value of the enterprise as a whole. As for liquidity risk, it has become today among the issues that require attention and taking the necessary measures that limit them regardless of their sources, whether internal or external. The bank that is unable to fulfill its obligations is the beginning of the occurrence of the deficit phenomenon which leads to its bankruptcy (Hussein and Salimm, 2017). The Central Bank of Sudan exerts efforts to achieve banking safety and create a banking system that plays its role in supporting financial stability, advancing economic development and an effective contribution to moving the economic activity. It directs all banks to take the necessary and adequate measures to activate the activity of banking risk management and in particular liquidity risk, which is considered one of the most important risks facing banks. It may lead to weak management, loss of confidence and banking collapse, which the

supervisory authority seeks to avoid and lead to financial default. Consequently, failure to choose the optimal capital structure leads to failure to achieve banking safety (Ahmed, Muhammad, 2007).

### **2. Statement of the Problem:**

- (1) The effect of the capital structure on the liquidity risk of commercial banks operating in Gezira State.
- (2) The effect of the capital structure on achieving banking safety for commercial banking operating in Gezira State.
- (3) The capital structure influence in raising the efficiency of financial performance indicators in commercial banks operating in Gezira State.

### **3. Research Questions:**

- (1) How can bank safety be achieved through choosing the optimal capital structure?
- (2) How can banking liquidity risk be reduced through banking safety applications?
- (3) How can the efficiency of financial performance be raised through optimal selection of the capital structure and reduction of bank liquidity risks?
- (4) How can the standards of Basel Committee and (CAMELS) decisions be achieved in order to raise the financial efficiency within the commercial banks operating in Gezira State?

### **4. Study Objective:**

- (1) To study the effect of capital structure on liquidity risk in commercial banks operating in Gezira State.
- (2) To study the effect of the capital structure on achieving banking safety in commercial banks operating in Gezira State.
- (3) To study the effect of the capital structure on raising the efficiency of financial performance indicators in commercial banks operating in Gezira State.

### **5. Significance of the Study:**

The importance of the study stems from the importance of the variables studied by the researcher, which are represented in the following: -

- (1) The effect of capital structure on liquidity risk at the level of the public national sector and the banking sector in particular.
- (2) The effect of the capital structure on achieving banking safety at the national economy level in particular.

- (3) Clarifying the effect of the capital structure on raising the efficiency of financial performance indicators for the national economy in general and the banking sector in particular.

### 6. Research Methodology:

The study relied on the analytical descriptive approach to analyze and explain the effect of the capital structure on the risk of liquidity and banking safety. Statistical analysis (SPSS) was used, in addition to the use of the discursive approach to define research axes and formulate hypotheses. Induction method was used to test hypotheses and to make sure of their validity, in addition to comparing them. The questionnaire was used to collect and analyze the data under study - by means of the Likart fifth scale to collect data through the independent variable (financial structure) and independent variables (liquidity and its risks - banking safety - efficiency of financial performance), in addition to the use of frequency distribution (arithmetic mean and standard deviation) of the data under study, and to test and analyze hypotheses by means of (Chi-squared) test to find out the significance of statistical differences at the level of significance (5%).

### 7. Sources of Data Collection and Analysis:

The questionnaire was used as a means of obtaining primary information, while secondary information was obtained through references, periodicals, scientific research and the Internet.

### 8. Research Hypotheses:

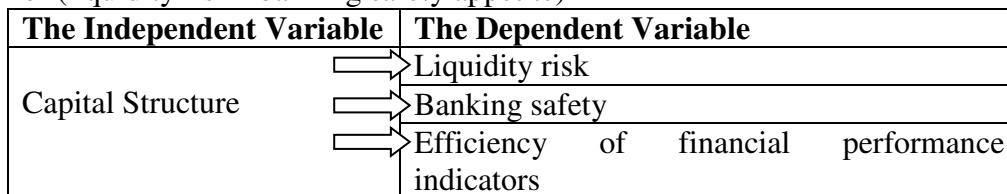
**H1** (First Hypothesis): There is a statistically significant relationship between the capital structure and the reduction of liquidity risk in commercial banks operating in Gezira State.

**H2** (Second Hypothesis): There is a statistically significant relationship between the capital structure and achieving banking safety in commercial banks operating in Gezira State.

**H3** (Third Hypothesis): There is a statistically significant relationship between the capital structure and raising the efficiency of financial performance indicators in the commercial banks operating in the Gezira State.

**Figure No. 1**

A model for analyzing the applications of the capital structure in the aspect of (liquidity risk - banking safety appetite)



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**Source: Prepared by the Researcher (2018)**

**2. Previous Studies:** - Previous studies link studies with the research problem and the possibility of finding an explanation for the hypotheses under study, which are as follows: -

**First: Nizar's Study (2003-2004):**

This study examined the problem of banking safety due to its negative effects on the macroeconomics of countries, as it contributed to the creation of many global financial crises. The study dealt with the application of Basel Standards (CAMELS) to the *Islamic Cooperative Development Bank*. The study used the descriptive and analytical approach to study the bank's case in the period between (2003-2004). The results of the study showed that the composition of the *Islamic Cooperative Development Bank* is dominated by the high risk character of a high rate of default in financing. It also became clear that the liquidity position of the bank is weak despite the efficiency of the capital of this bank. The study recommended that the bank should intensify its efforts to recover bad debts, facilitate guarantees taken from troubled clients, and create an allowance for bad debts.

**Second: Iman Study (2004):**

The researcher examined the impact of the financial structure on the financial performance of the banking system by applying to the *Islamic Solidarity Bank* in the period between (1998-2002). The existence of a balanced financial structure commensurate with the concept of capital adequacy. The data of *Islamic Solidarity Bank* in the period determined for the study were analyzed using some financial ratios related to liquidity and profitability in accordance with the laws pertaining to each ratio. The financial leverage factor was also extracted and compared to the bank's liquidity and profitability ratios. Likewise, the study was to ensure the possibility of an optimal and balanced financing structure for the bank. *Islamic Solidarity Bank* owns a large number of certificates (Shahama and Shamam) that help it control liquidity, and the rise of investment deposits has a wide difference between the practical and the theoretical side in calculating profitability ratios, liquidity and capital adequacy. The study recommended the following: Maintaining sufficient liquidity so that the bank can continue to pay its obligations on time and face customer withdrawals at any moment, the bank's continuing to protect the rights of depositors, increasing investment in certificates (Shahama and Shamam) for the benefits that you have enjoyed, reducing the bank's expenses so that it can achieve the highest profit at the lowest cost, and raise the bank's capital as much as possible so that the bank is not exposed to the option of merging or liquidation in the future. The researcher noticed that this study focused on

reforming the financial structures of banks and identifying how to develop a balanced financial structure, while the research study focused on knowing the effect of capital structure on liquidity risks and achieving banking safety in commercial banks in Gezira State, Sudan.

**Third: Abdeljalil's Study (2006):**

This study aimed to find out the permanence and growth of the liquidity deficit in Sudanese banks, the increase in the number of banks requesting funding through the liquidity deficit window, the increase in the number of times requesting funding on this window, and the increase in the volume of funds provided by the Central Bank in Sudan to bridge the liquidity deficit in Sudanese banks. The importance of knowing these reasons in the future help to avoid the negative effects of the perpetuation of the temporary liquidity deficit in Sudanese banks. The study adopted the descriptive and analytical approach to suit the nature of the study. Questionnaire and personal interview method were used as tools for collecting primary data. Based on the data collected and analyzed, the study concluded that the most important reasons for the permanence and growth of the temporary liquidity deficit in Sudanese banks are poor liquidity management, the high volume of expenditures, the high volume of troubled financing, the high volume of deposits in foreign currency, the withdrawal of a large number of large depositors of their deposits from banks, in addition to inadequate incentive for the management of banks to manage their resources in a good way. According to the results above, the study recommended qualifying and training those in charge of managing liquidity, following the scientific foundations in managing liquidity, raising the efficiency of Sudanese banks by reconsidering the volume of expenditures and the percentage of troubled financing and creating a mechanism that limits losses resulting from changing the exchange rate and issuing more regulations by the banking center. Strict measures regarding liquidity deficit financing in order to raise the efficiency of managing its liquidity.

**Fourth: Bjorn and Christian (2013):**

This study aimed at finding the relationship between the two sources of bank default risk, liquidity risk, and credit risk. The study used samples from almost all American commercial banks during the period between (1998-2010) to analyze the relationship between these two sources of risk at the level of banking institutions and how this relationship affects the bank's probability of default. The results of the study show that both risk categories do not have a mutually significant economic relationship, contemporary or backward. However, they affect the probability of default. This effect consists of two parts: while the two risks separately increase the

performance data, the effect of their interaction depends on the general level of banking risk and may lead to an exacerbation or mitigation of the hypothetical risks. These results provide new insights into understanding banking risks and serve as a support for regulatory efforts aimed at enhancing common bank risk management for liquidity and credit risks. The researcher believes that this study aimed to determine the relationship between liquidity risk and credit risk in US commercial banks.

**Fifth: Alhassan and Erasmus (2017):**

The study examines the relationship between capital structure and profitability of non-bank financial institutions in Ghana. Samples were taken from 42 non-bank financial institutions and data were extracted from the financial reports from (2006-2015). Return on assets was used as a non-independent variable, while the capital structure measured on the basis of the total debt to capital ratio was used as a main independent variable with the size of the company. The descriptive analysis revealed that non-bank financial institutions have a high capacity that enables them to achieve 70% of the capital, and the study indicated that customers consider the main source of financing. The Pearson relationship and the results of the regression showed that the capital structure is positively correlated with the profitability of non-bank financial institutions in Ghana, but it is statistically significant with return on assets only. Regarding the control variables, the size of the company and the composition of the assets were positively correlated with the profitability of non-bank financial institutions capable of converting deposits into loans, this helps to enhance their profit as evidenced by the positive relationship with the composition of assets and debt ratio. These results confirm the expectations of agency theory while contradicting previous studies conducted on this subject about commercial banks in Ghana. Non-bank financial institutions in Ghana are highly efficient in granting and recovering loans from their obligations, which improve their total profit. The researcher believes that this study examined the relationship between the capital structure and the profitability of non-bank financial institutions, while the research deals with the impact of capital structure on liquidity risk and achieving banking safety in Sudanese banks (Gezira State).

**Sixth: Hamzah and Murad (2018):**

The study problem was represented in answering the following main question, what are the factors affecting the capital structure in Algerian banks. This study aimed to understand the behavior of banks towards their financial structure by examining the effect of some factors (bank size, profitability and liquidity) on the capital structure. The importance of this

study stems from the fact that it helps to identify the most important factors affecting the capital structure and determine the impact of each of the variables of the study. By applying it to a sample of 12 banks operating in the Algerian banking sector, a set of results, the most important of which is, there is a direct statistical correlation between the size of the bank and the capital structure in Algerian banks, and there is no statistically significant correlation between profitability, liquidity and capital structure in Algerian banks. The researcher believes that this study focused on the factors affecting the capital structure in Algerian banks, while the researcher's study focuses on knowing the effect of the capital structure on liquidity risks and achieving banking safety in Sudanese banks.

## **2.1 Methodological Framework:**

### **2.1.1 The Concept and Importance of Capital:**

The capital structure means permanent financing of the corporation, which is represented in long-term loans, preferred shares and equity, and it is clear that the capital structure is part of the financial structure that includes all types and forms of financing. The capital structure is defined as a mixture of long-term sources such as preferred stocks, bonds, long-term loans and retained earnings. That is, the term capital structure refers to the relationship between sources of long-term financing. The importance that capital acquires through financial management on the one hand, and the owners and borrowers, on the other hand, can be found. (Tawfiq, 1970, p.302)

#### **(1) The Importance of Capital Structure to Financial Management:**

**(A) The capital structure as a source of long-term financing:** All companies need long-term sources of financing to ensure their survival in the world of business and the expansion of investment in the various elements of assets. Therefore, these financial needs are managed from self-financing sources represented in property rights and external sources of financing that are due meet them on time.

**(B) The importance of the capital structure from the perspective of financial balance:** the creation of financial balance requires the necessity to reconcile the nature of the asset with appropriate sources of financing, and it is a golden rule that should be taken care of in financing issues, as it is preferable to finance long-term assets with long-term sources, and the same is with respect to short-term assets. This is due to the need to reduce the problem of contradiction that exists between the liquidity of the asset and the maturity of the liabilities. It is not possible to finance credit assets with short-term sources as the institution is committed to repaying it in a shorter period than the maturity of the asset and the opposite situation cannot be



caused, as the institution maintains assets that it does not need. (Ismail, 2001, p.16).

### 2.1.2 Optimum Capital Structure:

The process of choosing the optimal capital structure depends mainly on dealing with the theoretical relationships between debt employment and shareholder profits. If the share of loans increases, the profits distributed to shareholders increase and the degree of risk increases. This requires achieving a balance between financing through lending and financing by ownership because of the relationship between the return on the one hand and the risks on the other hand, (Khan, Gharabieh, 1995). The decision to choose the optimal financial structure is a function of three basic factors: the choice of assets, the choice of a mixture of borrowing funds and equity funds, in addition to the paid distribution policy. The capital structure consists of the following: -

**(A) Profitability:** The financial structure should pay back to the firm by reaching its maximum market value while adhering to the lowest possible cost.

**(B) Debt-Repayment Capacity:** the entity's borrowing must not exceed the limit that threatens its ability to meet its borrowing obligations, and at the same time the owners avoid any financial risks.

**(C) Flexibility:** in the sense that the financial structure of the facility is not static, but rather it must be distinguished by the ability to adjust the sources of funds according to the main changes when funds are needed at the lowest possible cost.

**(D) Control:** The financial structure should include the least risk possible to ensure control and control over the management of the establishment.

#### **(3) Characteristics and Advantages of Capital Structure Sources:**

The capital structure includes only the types of long-term financing, which are represented in long-term sources of financing, equity and preferred shares. The components of the capital structure must be known. They comprise of long-term sources of financing which are mainly common stocks, preferred stocks, retained earnings and long term loans including bonds.

**(1) Ordinary Shares:** A common share is defined as an ownership document that has a par value and a market value, and the nominal value is the price written on the share coupon, and is usually stipulated in the articles of incorporation, and the book value is the ownership value that does not include preferred shares divided by the number of issued ordinary shares,

and the market value is the value of the share in the capital market, and these values may be more or less than the par value or book value.

**(2) Preferred Shares:** A preference share represents an ownership document that has par value, book value and market value, and its book value is calculated by dividing the value of preference shares, as it appears in the company's books by the number of issued preferred shares.

**(3) Retained Earnings:** Retained earnings represent a source of self-financing, and they are profits that have been realized and have not been distributed to shareholders. They could be distributed in the case of the adequate firm's profits for the current period, especially if the enterprise follows a policy of fixed distribution.

### **2.1.3 The Importance of Liquidity and its Risks:**

Liquidity is of special importance for banks, especially compared to non-financial units, where the flow of cash balances to and from the bank is huge compared to its capital base in addition to the difficulty of forecasting or predicting the size and timing of the bank's cash flow outside the bank, taking into account that the largest part of the bank's resources is exposed to this flow. Banks need liquidity to meet the needs of their customers for funds, and customers face their needs for liquidity, either by withdrawing their deposits with banks or by borrowing from them, and since such needs are continuous, so it must be banks are always ready to meet such requirements because such willingness gives them the following advantages: -

1. Appearing in a risk-sensitive financial market in the guise of safe and able to fulfill its obligations.
2. Enhancing the confidence of both depositors and borrowers, and ensuring that their requirements can be met as it appeared.
3. It is considered a positive indicator for the financial market, analysts, depositors, and management.
4. Confirming the ability to fulfill commitments and obligations.
5. Avoid overpaying money.
6. Avoid resorting to borrowing from the central bank and its negative aspects.(Abdali,Saeed, 2014)

\* The concept of liquidity risk: Liquidity risk is a function of the difficulty that the bank is likely to encounter in raising funds to fulfill obligations, and it may result from the inability to sell an asset at its fair value (Nasr Ramadan). Therefore, the liquidity risk is limited to the bank's inability to fulfill its obligations when they are due, and the inability to provide the

required financing to fulfill its obligations as a result of bad debts or to engage in failed investment projects, whether local or international.

\* Types of liquidity risk: There are three main types of liquidity risk, which can be explained as follows:

**1- Funding liquidity risk:** Liquidity risk appears when the bank is unable to meet expected and unexpected cash flows efficiently without affecting the daily operations carried out by the bank or on the bank's financial position in general. (Bouabdali, Saeed 2014)

**2- Market liquidity risk:** Sometimes it may be difficult for the bank to dispose of some of the assets in its possession, whether through sale or mortgage, according to prevailing market prices, due to the difficulty of liquidating them, and if the bank is forced in this case, it may result in losses that the bank does not wish to bear.

**3- Accidental Liquidity Risk:** It arises from sudden withdrawals that the bank may be exposed to from customer deposits or sudden withdrawals from accounts that have credit facilities, which are granted to some customers.

The researcher believes that these risks have an impact on the performance of banks through the lack of necessary financing or obtaining it at a high cost, or the failure to liquidate assets at unfair prices due to market fluctuations or the inability to pay obligations when they are due. The bank must manage these risks to achieve banking safety by studying the projects submitted to obtain financing well, while maintaining high liquidity assets and keeping additional reserves to face sudden withdrawals.

\* Reasons for Liquidity Risk in Banks: Liquidity risk may come from different sources, for example (Amzikah, 2016, p. 41):

**(1) The Liabilities side:** The depositors withdraw their deposits immediately and suddenly, which requires the bank to provide additional funds by borrowing from others or selling some assets to meet the sudden withdrawal process.

**(2) Asset side:** When encountering difficulties in selling assets to meet cash outflows.

\* Factors Affecting Bank Liquidity: Among the most important factors affecting the liquidity of commercial banks are the following (Ahlasa , 2013, p. 46):

**(1) Deposits and withdrawals on deposits:** Facing withdrawals on deposits in cash.

**(2) Customers' transactions with the public treasury:** the liquidity of the commercial bank is affected by the public's relationship with the public

treasury. In general, bank liquidity improves in the event that the clients of the commercial bank are creditors to the treasury.

**(3) Balance of clearing operations between the banks:** the liquidity of the commercial bank increases, if it appears that the balance of its current account is credited with the central bank as a result of the settlement of its accounts with other commercial banks.

**(4) The position of the central bank in relation to banks:** The central bank, as a monetary authority, has the ability to influence bank liquidity by providing commercial banks with the required cash from paper and coin money.

The researcher believes that these factors greatly affect the liquidity of banks, as the liquidity shortage has negative effects, including the bank's inability to meet emergency withdrawals of clients. They as well, affect pay obligations towards others on time, problems with the central bank, and may lead to a bad reputation of the bank and thus failure to achieve banking safety.

\* The Concept of Banking Safety: Researchers have dealt with the concept of banking safety from different points of view, and there is no consensus in the literature on a unified definition of the term banking safety. There are many definitions: It was defined as a set of systems and rules to achieve risk management, better presence in the market, and sufficient financial capacity to meet risks without prejudice to the rights of depositors and the integrity and efficiency of those in charge of the bank and its owners (1). Banking safety means facilitating the efficient distribution of financial resources on the side of other financial and economic operations (saving, investment, lending, and liquidity creation and distribution, and it is also known as the specialized assessment for the stability of the financial system with the aim of determine the state of any weakness.

\* Banking Safety Objectives: Banking safety aims to achieve a set of objectives, which are (Mohammad, 2016, p 8):

**(1) Maintaining financial stability:** the efficiency of the performance of the financial system leads in turn to the interconnectedness and integrity of its basic components. The occurrence of disturbance in one of these elements would undermine the stability of the entire financial system. Emphasizing the importance of enhancing financial stability and supporting it is necessary by reaching a high degree of efficiency, with emphasis on the importance of coordination between monetary and fiscal policies and the role of central banks in achieving financial stability, by paying attention to the following:

1. Efficient distribution of economic resources according to geographical regions.
2. Evaluating and measuring financial risks and defining their departments.
3. The continued ability to perform these basic functions even with exposure to external shocks or in the event of accumulation of imbalances.

**(2) Depositors' Protection:** Since banks rely mainly on deposits and savings in their financing operations that originate from the depositor, a mechanism must be in place to reassure him/her and protect his/her deposited funds. Depositors' funds are protected through the deposit insurance system that contributes to the stability of the banking system and continue to perform its economic functions.

**(3) Maintaining a Proper Financial and Banking System:** A proper banking system attracts and finances financial resources to activities that are characterized by rates of financial returns in exchange for zero levels of risk. A proper banking system also serves various banking transactions and deals in payment systems that help raise the efficiency of the economic activity.

**Field study procedures:** This part depends on the study methodology, the method of collecting data, statistical treatment and interpretation, and carrying out reliability and validity tests to ensure their validity in addition to population description. The study sample includes all commercial banks operating in Gezira State (Sudan). The study population was chosen by using the intentional sample, which means testing a number of cases or individuals on the basis that they achieve the purpose of the study where 210 questionnaires were distributed and (200) were retrieved with a response rate of more than (75%).

**The First Hypothesis (H1):** There is a statistically significant relationship between the capital structure and the reduction of liquidity risk in commercial banks operating in Gezira State.

**Table No. (1)**

**Analysis of the Relationship between Capital Structure and Liquidity Risk**

| No | Statements  | Arithmetic Mean | Standard Deviation | Relative Weight % | Response Level |
|----|---|-----------------|--------------------|-------------------|----------------|
| 1  | The existence of a suitable capital structure for the bank reduces the bank's inability to meet expected and unexpected cash flows. | <b>4.21</b>     | <b>0.818</b>       | <b>84.2%</b>      | High           |

|    |   |             |              |               |      |
|----|---|-------------|--------------|---------------|------|
| 2  | The existence of an appropriate capital structure for the bank reduces sudden withdrawals from clients' deposits.                               | <b>4.08</b> | <b>0.807</b> | <b>81.6 %</b> | High |
| 3  | Diversity in the sources of the bank's capital structure reduces the liquidity risk.  | <b>4.26</b> | <b>0.738</b> | <b>85.2 %</b> | High |
| 4  | The existence of a suitable capital structure for the bank limits the market liquidity risk.  | <b>4.19</b> | <b>0.723</b> | <b>83.8 %</b> | High |
| 5  | Choosing the capital structure according to the size of the bank leads to a decrease in liquidity.  | <b>4.17</b> | <b>0.711</b> | <b>83.3 %</b> | High |
| 6  | Maintaining the optimal ratio of borrowing in the bank's capital structure leads to the reduction of liquidity risk.                            | <b>4.20</b> | <b>0.701</b> | <b>84.0 %</b> | High |
| 7  | Choosing the bank's capital structure according to a well thought out plan reduces the liquidity risk.  | <b>4.30</b> | <b>0.685</b> | <b>86.0 %</b> | High |
| 8  | Management's trends in choosing the capital structure reduce the bank's liquidity risk.   | <b>4.15</b> | <b>0.732</b> | <b>83.0 %</b> | High |
| 9  | Examining the bank's capital structure in a manner compatible with various financial changes helps in managing liquidity risk.                  | <b>4.22</b> | <b>0.660</b> | <b>84.3 %</b> | High |
| 10 | Lenders' trends affect the bank's capital structure, which affects liquidity risk.  | <b>4.07</b> | <b>0.783</b> | <b>81.4 %</b> | High |
| 11 | Choosing the capital structure, in a way that is compatible with the competitive environment in which the bank operates, limits liquidity risk. | <b>4.23</b> | <b>0.724</b> | <b>84.6 %</b> | High |
| 12 | Choosing the capital structure on the basis of predictive and objective estimations helps in managing the bank's liquidity risk.                | <b>4.18</b> | <b>0.893</b> | <b>80.8 %</b> | High |
|    | All statements  | <b>4.18</b> | <b>0.747</b> | <b>83.5 %</b> | High |

**Source: Prepared by the researcher from field study data for commercial banks in the Gezira State (2018).**

**Table No (1) displays the following:**

(1) The arithmetic mean of all statements is greater than the assumed mean of the study (3) and greater than the relative weight (60%). This result indicates the approval of the sample individuals on the relationship between the capital structure and the reduction of liquidity risk in commercial banks operating in Gezira State with a responsive level. All expressions achieved a general average of (4.18) with a standard deviation (0.747) and a significance ratio (83.5%).

(2) It is noticed from the table that the statement (*choosing the bank's capital structure according to a thoughtful plan that reduces liquidity risk*) came first in terms of importance, as the average of the respondents of the sample on the statement was (4.30) with a standard deviation (0.685) and with a very high relative importance of (86%), followed in second place by the statement (*diversification in the sources of the bank's capital structure reduces the risk of liquidity management*) with an arithmetic mean (4.26), a standard deviation (0.738), and with relative importance (86%).

(3) As for the last place, the statement (*choosing the capital structure on the basis of predictive and objective estimations, helps in managing the bank's liquidity risk*), as it averaged (4.04) with a standard deviation (0.893) and a relative importance of (80.8%).

**The Second Hypothesis (H2):** There is a statistically significant relationship between the capital structure and achieving banking safety in commercial banks operating in Gezira State.

**Table No. (2)**

**Analysis of the Relationship between Capital Structure and achieving Banking Safety.**

| No | Statements   | Arithmetic Mean | Standard Deviation | Relative Weight % | Response Level |
|----|--|-----------------|--------------------|-------------------|----------------|
| 1  | The balance between highly profitable borrowing funds and equity funds in the capital structure configuration leads to an optimal capital structure for the bank, thus achieving banking safety. | 4.23            | 0.662              | 84.6%             | Very high      |
| 2  | Good diversification in the sources of the bank's capital structure helps in reducing risks, thus achieving banking safety.  | 4.18            | 0.664              | 83.6 %            | Very high      |
| 3  | Good planning for choosing the capital structure increases the bank's ability to fulfill its obligations, thus achieving   | 4.35            | 0.624              | 86.9 %            | Very high      |

|    |  |      |       |        |           |
|----|--|------|-------|--------|-----------|
|    | banking safety.  |      |       |        |           |
| 4  | Commitment to the publications and controls issued by the Central Bank of Sudan to determine the capital structure of the bank that leads to achieving banking safety.   | 4.21 | 0.786 | 84.2 % | Very high |
| 5  | Lack of training and insufficient experience affect the optimal use of the sources of the bank's capital structure and the achievement of banking safety.  | 4.22 | 0.756 | 84.3 % | Very high |
| 6  | The bank's full dependence on debts in forming the capital structure exposes the bank to risks, which affects banking safety.  | 4.25 | 0.740 | 85.0%  | Very high |
| 7  | Increasing the bank's ability to borrow in the formation of the capital structure increases its ability to compete, thus achieving banking safety.   | 3.87 | 0.947 | 77.4%  | Very high |
| 8  | Availability of accurate information on the sources of the bank's capital structure to achieve banking safety.   | 4.24 | 0.637 | 84.8%  | High      |
| 9  | The bank's reliance on low-cost financing sources to determine the optimal capital structure to reduce risks and achieve banking safety.   | 3.89 | 0.907 | 77.8 % | High      |
| 10 | The economic state of the country affects the recession and recovery of the bank's capital structure and the achievement of banking safety.  | 4.08 | 0.873 | 81.6 % | Very high |
| 11 | The formation of the bank's capital structure according to the scientific theories of the capital structure reduces risks and achieves banking safety.   | 4.13 | 0.696 | 82.6%  | Very high |
| 12 | The difference in the internal control systems of the bank and the inefficiency of administrative systems in the optimal selection of sources for the capital structure leads to high risks, which affects banking safety. | 4.19 | 0.739 | 83.8 % | Very high |



|  |                |      |       |      |           |
|--|----------------|------|-------|------|-----------|
|  | All statements | 4.33 | 0.826 | 83 % | Very high |
|--|----------------|------|-------|------|-----------|

**Source: Researcher's preparation from field study data for commercial banks in the Gezira State (2018).**

**The Table No (2) displays the following:**

(1) The arithmetic mean of all statements is greater than the hypothesis mean of the study (3) and greater than the relative weight (60%). This result indicates the approval of the sample members on the relationship between the capital structure and achieving banking safety in commercial banks operating in Gezira State, with a high level of desirability *Very*, as all the expressions achieved a general average of ((4.15) with a standard deviation (0.752) and a relative importance (83%).

(2) The statement (*good planning for choosing the capital structure increases the bank's ability to fulfill its obligations in order to achieve banking safety*), came first in terms of relative importance, as the responses of the respondents to the statement reached (4.35) with a standard deviation (0.624) with a very high relative importance of (86.9%), followed by the statement (*the bank's complete dependence on debts in forming the capital structure exposes the bank to risks that affect banking safety*), with an arithmetic mean (4.25) and a standard deviation (0.740) and of relative importance (85%).

(3) As for the last rank, the statement (*increasing the bank's ability to borrow in the formation of the capital structure increases its ability to compete, thus achieving banking safety*), where it averaged (3.87) with a standard deviation (0.947) and a relative importance of (77.4%).

**The Third Hypothesis (H3):** There is a statistically significant relationship between the capital structure and raising the efficiency of financial performance indicators and commercial banks operating in Gezira State.

**Table No. (3)**

**Analysis of the Relationship between the Capital Structure and the Standard for Raising the Efficiency of Financial Performance Indicators.**

| No | Statements | Arithmetic Mean | Standard Deviation | Relative Weight % | Response Level |
|----|------------|-----------------|--------------------|-------------------|----------------|
|----|------------|-----------------|--------------------|-------------------|----------------|

|    |  |             |              |                |           |
|----|--|-------------|--------------|----------------|-----------|
| 1  | I. Management trends in choosing the bank's capital structure increase the efficiency of average financial performance.  | <b>4.30</b> | <b>0.700</b> | <b>86.0 %</b>  | Very high |
| 2  | Choosing a capital structure that is compatible with the various financial changes in the bank increases the efficiency of the financial performance indicators.   | <b>4.24</b> | <b>0.623</b> | <b>84.8%</b>   | Very high |
| 3  | Good planning by the bank's management to choose the capital structure increases the efficiency of financial performance quality indicators.   | <b>4.35</b> | <b>0.624</b> | <b>86.9 %</b>  | Very high |
| 4  | Increasing the level of disclosure of the sources of the bank's capital structure increases the efficiency of financial performance indicators.  | <b>4.12</b> | <b>0.740</b> | <b>82.4%</b>   | Very high |
| 5  | Selecting the bank's capital structure on the basis of predictive and objective estimations increases the efficiency of financial performance indicators.  | <b>4.04</b> | <b>0.788</b> | <b>80.8 %</b>  | Very high |
| 6  | The bank's ability to borrow in forming its capital structure increases its competitiveness, which improves financial performance indicators.  | <b>3.99</b> | <b>0.808</b> | <b>79.8%</b>   | Very high |
| 7  | Commitment to the minimum capital adequacy level leads to the bank's adherence to the basic principles of effective control and increases the efficiency of financial performance indicators.                                  | <b>4.13</b> | <b>0.758</b> | <b>82.6%</b>   | Very high |
| 8  | The availability of allocations and reserves in the bank's capital structure increases the efficiency of financial performance indicators.   | <b>4.23</b> | <b>0.686</b> | <b>84.6 %</b>  | Very high |
| 9  | The bank's balance between borrowing funds and property funds increases the efficiency of financial performance indicators.  | <b>4.20</b> | <b>0.679</b> | <b>84.0 %</b>  | Very high |
| 10 | Training, adequate experience, and commitment to responsibility by the bank's management and the optimal use of capital structure resources increases the efficiency of financial performance indicators.                      | <b>4.39</b> | <b>0.639</b> | <b>87.7%</b>   | Very high |
| 11 | The volume and sources of liquid funds in the sources of the bank's capital structure lead to the bank's fulfillment of its daily obligations, which increases the efficiency of financial performance quality indicators.     | <b>4.28</b> | <b>0.751</b> | <b>85.6 %</b>  | Very high |
| 12 | The bank's management's commitment to organizing the lending policy and moving away from excessive lending policies in the growth and economic stagnation stages increases the efficiency of financial performance indicators. | <b>4.21</b> | <b>0.738</b> | <b>84.25 %</b> | Very high |
|    | All statements   | <b>4.21</b> | <b>0.711</b> | <b>84.1%</b>   | Very      |

|  |  |  |  |      |
|--|--|--|--|------|
|  |  |  |  | high |
|--|--|--|--|------|

**Source: Researcher's preparation from field study data for commercial banks in the Gezira State (2018).**

**The Table No (3) displays the following:**

(1) The arithmetic mean of all statements is greater than the hypothetical mean of the study (3) and greater than the relative weight (60%). This result indicates the approval of the sample members on the relationship between the capital structure and raising the efficiency of financial performance indicators in commercial banks operating in Gezira State. The response is very high, as all the expressions achieved an overall average of (4.21) with a standard deviation (0.711) and a relative importance (84.1%).

(2) It is noticed that the statement (*training, sufficient experience and commitment to responsibility by the bank's management and the optimal use of capital structure resources increases the efficiency of financial performance indicators*) came first in terms of relative importance, as the average of the respondents' responses to the statement reached (4.39) with a standard deviation (0.639) with a very high relative importance amounting to (87.7%). It is followed in the second place by the statement (*good planning by the bank's management to choose the capital structure increases the efficiency of two indicators of the quality of financial performance*) with an arithmetic mean (4.35) and a standard deviation (0.624) and of relative importance (86.9%).

(3) As for the last rank, the statement (*the bank's ability to borrow in the formation of the capital structure increases its competitiveness, which improves financial performance indicators*), as its average reached (3.99) with a standard deviation (0.808) and a relative importance (79.8%).

It is evident from the analysis of the field study on Table (1-3) that most of the sample members agree on the content of the axes of the relationship between the capital structure and raising the efficiency of the financial performance indicators of Sudanese banks, especially that the level of response is very high.

### **3. Findings and Recommendations: -**

**First: Findings:** Through the field study and indicators of statistical analysis, the research reached the following results:

- (1) There is an influential relationship between capital structure and liquidity risk in Sudanese banks.
- (2) The process of selecting the capital structure according to a well thought out plan reduces or limits liquidity risk.
- (3) Diversification of the capital structure sources reduces liquidity risk.

- (4) Choosing the capital structure of the banks in a way that suits the various financial changes helps in managing liquidity risk.
- (5) The existence of the capital structure of banks reduces the inability of banks to meet expected and unpredictable cash flows.
- (6) There is a strong relationship between capital structure and achieving banking safety.
- (7) Good planning for choosing the capital structure increases the ability of banks to fulfill their obligations and achieve banking safety.
- (8) The dependence of banks completely on debts in forming the capital structure exposes banks to risks and affects banking safety.
- (9) Providing accurate information on the sources of the capital structure for banks to achieve banking safety.
- (10) Lack of training and insufficient experience affect the optimal use of the sources of the capital structure of banks and the achievement of banking safety.
- (11) There is a reciprocal relationship between the capital structure component and the indicator of raising the efficiency of financial performance in Sudanese banks.
- (12) Training, adequate experience and commitment to the responsibility of the banks' administrations and the optimal use of capital structure resources increases the efficiency of financial performance indicators.
- (13) Good planning by bank departments to choose the capital structure increases the efficiency of financial performance indicators.
- (14) Management trends in selecting banks' capital structures increase the efficiency of financial performance quality indicators.
- (15) The volume and sources of liquid funds in the sources of the capital structure of the banks lead to the banks' fulfillment of daily obligations and increases the efficiency of indicators of financial performance.

**Second: Recommendations:**

- (1) The need for Sudanese banks to develop a clear strategy to preserve capital at the appropriate level required to face liquidity risks.
- (2) The necessity for Sudanese banks to balance borrowing funds and property funds and provide liquidity to depositors in order to return their money upon request by increasing the banks' capital and reserves.
- (3) Sudanese banks must adhere to the publications and controls issued by the Central Bank of Sudan to determine the capital structure in order to reduce liquidity risks and raise the efficiency of financial performance indicators.

- (4) Sudanese banks should provide allocations and reserves in the capital structure in order to reduce liquidity risks and raise the efficiency of financial performance quality indicators.
- (5) Commercial banks should ensure that managers have scientific and practical experience and have the ability to make financial decisions so that the optimal capital structures for Sudanese banks can be determined.
- (6) The necessity of stability in the various economic policies so that Sudanese banks can reduce liquidity risks and achieve banking safety.
- (7) The need to pay attention to studies and research at the academic and applied levels, with the aim of correcting the defect in the capital structure of commercial banks operating in the Gezira State.
- (8) The departments of commercial banks must adhere to the capital adequacy standards issued by the Basel Committee and the Islamic Financial Services Council to achieve banking safety.
- (9) The Central Bank of Sudan should tighten the financial and administrative penalties for Sudanese banks that violate the controls related to the formation of the capital structure.
- (10) Sudanese banks should diagnose, measure, and deal with liquidity risks early, by adopting solid procedures for identifying and measuring liquidity risks and creating a comprehensive framework for forecasting cash flows during previous periods of time.

### References

❖ أولاً : الكتب:

- (1) أحمد توفيق، جميل.(1970م). مذكرات في الإدارة المالية. الإسكندرية: دار الجامعات المصرية.
- (2) عدنان إسماعيل، محمد.(2001). أسواق المال وبورصة الأوراق المالية. ومصادر تمويل مشروعات الأعمال. القاهرة: دار النهضة العربية.
- (3) يونس خان، محمد، وغرابيه، هشام صالح.(1995). الإدارة المالية. عمان: مركز الكتب الأردني.
- (4) الفاقود، مختار عبد السلام، وأمزيكة، فرج أحمد.(2016). محددات مخاطر السيولة بالمصارف التجارية الليبية - دراسة ميدانية على مصرف الجمهورية. الجامعة الأسمرية الغسليمية. مجلة العلوم الاقتصادية والسياسية.(العدد 07).

❖ ثانياً :المجلات والدوريات باللغة العربية:

- (5) بو عبدلي، أحلام، ومرسلي، نزيهة.(2016). أثر الهيكل المالي على ربحية البنوك التجارية ، دراسة حالة بنك سوستي جنرال الجزائر. *مجلة الباحث الاقتصادي*.(العدد 06+).
- (6) الإمام، صلاح الدين أمين.(2010). إستخدام نظام التصنيف ( CAMEL ) فى تحقيق السلامة المالية الكلية التقنية. *مجلة المنصور*.(العدد 13).
- ❖ **ثالثا: الرسائل الجامعية :**
- (7) الحسن، ايمان حسن أحمد.(2004). أثر الهيكل المالي على الاداء المالي للجهاز المصرفي السودانى ، دراسة تطبيقية على مصرف التضامن الاسلامى. جامعة أم درمان الاسلامية: رسالة ماجستير غير منشورة.
- (8) أحلاسه، نصر رمضان.(2013). دور المعلومات المحاسبية والمالية فى إدارة مخاطر السيولة ،دراسة تطبيقية على البنوك التجارية العاملة فى قطاع غزة. الجامعة الإسلامية : رسالة ماجستير غير منشورة
- (9) عبد اللطيف، نزار عبد الرحيم.(2004). دور معيير بازل ( CAMEL ) فى تحقيق السلامة المصرفية ، دراسة حالة بنك التنمية التعاونى الاسلامى. جامعة السودان للعلوم والتكنولوجيا: رسالة ماجستير غير منشورة.
- (10) حسين، أحمد حسين، وهكار، محمد سليم.(2017). تشخيص واقع هيكل راس المال المصرفى ن دراسة تحليلية لعينة من المصارف المدرجة فى سوق العراق للاوراق المالية ، رسالة ماجستير منشورة.
- (11) إدريس، أحمد عبد الجليل.(2006). أسباب ديمومة وتنمى عجز السيولة المؤقت فى المصارف السودانية.جامعة الجزيرة: رسالة ماجستير غير منشورة.
- (12) التومى، حمزة جيلانى، وتهتان، موارد.(2018). أثر كل من ، أثر كل من حجم البنك ، الربحية والسيولة على هيكل رأس المال فى البنوك الجزائرية للإقتصاد والمالية. (العدد 09). ص 201-214.

#### Fourth: websites:-

- (1) [www.kuna.net.kw/Articlepage.aspx](http://www.kuna.net.kw/Articlepage.aspx).

#### Fifth: Journals and Courses in English:-

- (1) The cost of Capital ,corporation Finance and the Theory of Investment, Authors : Franco Modigliani and Merton H. Miller, Source : The American Economic Association ,Vol.48 ,No .3 (Jun ,1958),pp.261-297 .
- (2) Al Hassan Musah and Erasmus Dodzi Gakpetore (2017).Capital Structure and Perform of Non-Financial Institutions in Ghana, *Research Journal of Finance and Accounting* Vol 8, No 14,
- (3) Bjorn Imbierowicz and Christian Rauch(2013) ,The Relationship between Liquidity Risk in Banks ,*Journal of Banking & Finance* ,No 40.