



## Applying the PATROL Model According to the Indicators of Profitability and Credit Risk and Determining its Relationship to Banking Security - An Applied Study in a Sample of Iraqi Islamic Banks

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**Abstract:** Aim to search to Measuring the impact between two components of the PATROL model (profitability, credit risk) and the degree of banking security for a sample of Iraqi Islamic banks. Included the border Temporal For the study ( 6 ) years for the duration from 2016 And up to 2021 And done to choose (12) A local Islamic bank listed in the Iraq Stock Exchange .

The research concluded that there is a negative and significant correlation between the variable The first independent ( profitability ) and the variable approved (degree of bank security ) , and there is a negative and significant correlation between the variable The second independent (credit risk) and the variable approved (Degree of banking safety ) The research recommended the need to seek to strengthen the degree of banking safety in Islamic banks, the research sample , by finding a well-studied balance between the degree of banking safety and the indicators of profitability and credit risk of the PATROL model.

**Key words:** PATROL model, Profitability, Credit risk, Banking security, Iraqi Islamic banks.

### The introduction

The banking security that Islamic banks enjoy is necessary for their continuity in light of the changing environment. Banking security must be supported, which expresses the ability of the bank to absorb losses resulting from systemic and irregular risks by supporting factors that help increase the degree of banking security, and these The factors can be represented by the components (indicators) of the PATROL model, as this model is described as one of the methods of evaluating the performance of the banking system, and it is one of the modern evaluation models that banks use in evaluating their performance on an ongoing basis in order to identify and enhance strengths and weaknesses and address them. Of utmost importance in financial and banking thought are the PATROL model and banking security and the impact test between them by applying it to a sample of Islamic banks listed in the Iraq Stock Exchange for the period from 2016 to 2021, with a diagnosis and identification of the most prominent indicators and measures of the PATROL model that were dealt with in detail ( profitability and credit risks ), in addition to addressing the indicators of banking security represented by the degree of banking security, and this degree was expressed in two indicators They are (equity to total deposits, equity to total assets).

### The first topic: research methodology and previous studies

This topic will present the research methodology, which is an important part of the research, in addition to dealing with previous studies represented by Arab studies and foreign studies related to the subject of the research. The presentation will be within two requirements as follows:

### **The first requirement: research methodology**

This requirement will provide a presentation of the research methodology represented by the research problem, importance, objectives, hypotheses, research community and sample, as well as the time limits of the research as follows:

#### **First: the research problem**

Iraqi banks operate in a changing environment shrouded in fluctuations and ambiguity. Therefore, banks need to evaluate their performance periodically in order to reach a degree of safety of interest to all parties, using multiple models, since the use of more than one evaluation model enables banks, as well as other parties, to have real knowledge of their current financial situation and the possibility of their resistance to the environment. In light of the above, the research problem can be expressed by identifying the indicators of profitability and credit risk of the PATROL model and their relationship and impact on the degree of banking security of Iraqi Islamic banks. The research sample through the following questions:

- Is there a correlation between profitability and the degree of banking safety?
- Is there a correlation between credit risk and the degree of banking safety?

#### **Second: the importance of research**

The importance of research stems from necessity Islamic banks apply the PATROL model with its components (indicators) , as well as their ability to achieve sufficient profitability and efficiency in organization to increase banking security . Represented by (investors to preserve their investments, depositors to be assured of the recovery of their deposits, owners to maximize their capital and maximize the profits arising from it, the banking administration for the purpose of identifying indicators of success and failure to enable it to take the necessary measures to protect it from risks, the supervisory authorities to take precautionary measures to avoid the occurrence of crises).

#### **Third: Research objectives**

This research seeks to achieve a set of goals, most notably the following:

1. Identifying Islamic banks and addressing the most important aspects related to them, as well as identifying the PATROL model and its classifications, in addition to dealing with banking security from various aspects.
2. Measuring the degree of banking safety for Iraqi Islamic banks, the research sample for the period (2016-2021).
3. Identify the nature of the effect of the indicators of profitability and credit risk of the PATROL model on the degree of banking security of Iraqi Islamic banks , the research sample for the period (2016-2021) .

#### **Fourth: research hypotheses**

The research hypotheses were formulated as follows:

**The first hypothesis:** There is a statistically significant correlation between profitability and the degree of banking security.

**The second hypothesis:** There is a statistically significant correlation between credit risk and the degree of banking safety.

#### **Fifth: the research community and sample**

The research community consists of (28) local Islamic banks listed in the Iraq Stock Exchange, while the research sample was limited to (12) banks, which are ( Elaf Islamic Bank , Cihan Islamic Investment and Finance Bank , Islamic World Bank , Al Janoob Islamic Bank , Islamic National Bank , International Islamic Bank , Arab Islamic Bank , Islamic Trust Bank , Noor Iraq Islamic Bank , Al Ataa Islamic Bank for Investment and Finance , Islamic Holding Bank , Kurdistan International Bank for Investment and Islamic Development ) .

**Sixth: the temporal limits of the research**

temporal boundaries of this research extended for the period from 2016 to 2021, which was chosen because it represents the first work of the Iraqi local Islamic banks, in addition to the researcher's inability to go beyond this period due to the incompleteness of the annual reports of the Iraqi local Islamic banks under study.

**The second requirement: previous studies**

This requirement will present a number of Arabic studies and foreign studies related to the subject of the research, as follows:

**First: Arabic Studies**

The following table presents a number of Arabic studies that are relevant to the subject of the research:

**Schedule (1) related Arabic studies**

First study : a study (Al-Taie, 2019)	
PATROL model A comparative analytical study of a sample of Islamic banks in selected Arab countries for the period (2011-2017)	<b>Study Title</b>
Evaluating the performance of Islamic banks using the PATROL model , as well as evaluating the model itself and whether or not it is suitable for measuring the performance of Islamic banks, and comparing the performance of Islamic banks in Iraq, Jordan and Saudi Arabia.	<b>Purpose of the study</b>
(7) Selected Islamic banks divided into three countries, three Iraqi Islamic banks ( Iraqi Islamic Bank, Elaf Islamic Bank, National Islamic Bank), two Jordanian Islamic banks (Jordanian Islamic Bank, International Arab Islamic Bank), and two Saudi Islamic banks ( Al-Rajhi Bank, Al-Bilad Bank).	<b>Study sample</b>
2011-2017 _ _	<b>study duration</b>
Weakness in some indicators (quality of credit and organization) and focus on Murabaha and lack of use of other tools such as participation and speculation, and that Islamic banks did not allocate sufficient amounts for doubtful debts, so we find that the credit quality ratio is low and did not achieve the required classification whether in Iraq, Jordan and Saudi Arabia	<b>The most important results</b>
The second study: a study (Al-Sharaa and Al-Harmoushi, 2019).	
The impact of liquidity and capital risk management on the degree of banking security: An applied study of a sample of banks listed in the Iraq Stock Exchange for the period (2010-2015).	<b>Study Title</b>
Determining the impact of banking risk management (liquidity risk management and capital risk management) on the degree of banking security.	<b>Purpose of the study</b>
( 10 ) Iraqi commercial banks listed on the Iraq Stock Exchange, which are (the National Bank of Iraq, the Commercial Bank of Iraq, the United Bank for Investment, the Union Bank of Iraq, the Gulf Commercial Bank, the Middle East Bank, the Mansour Investment Bank, the Bank of Babel, the Bank of Baghdad, the Bank of Sumer commercial).	<b>Study sample</b>
2010-2015 _ _	<b>study duration</b>
There is a statistically significant direct effect relationship between each of liquidity risk management and capital risk management on the degree of banking security.	<b>The most important results</b>

Study : a study ( Hamza and Ben Ali , 2019).	
Factors affecting the degree of Algerian banking safety - an econometric study (2003-2015).	<b>Study Title</b>
Knowing the most important factors affecting the degree of Algerian banking security In order to take the necessary precautionary measures to reduce these factors	<b>Purpose of the study</b>
Algerian banking system	<b>Study sample</b>
2015 - 2003	<b>study duration</b>
The existence of a positive , statistically significant relationship between bank security and the return on the friendliness of assets . And a statistically significant negative relationship between banking security and risk Liquidity and deposit growth rate.	<b>The most important results</b>

Source: The table was prepared by the researchers based on the sources mentioned in the table.

### Second: foreign studies

The following table presents a number of foreign studies that are relevant to the subject of the research:

#### Schedule (2) relevant foreign studies

The first study: a study ( Halbos, 2022 ).	
he possibility of applying theTPATROL model to evaluate the financial performance in Iraqi banks The possibility of applying the PATROL model to assess financial performance in Iraqi banks	<b>Study Title</b>
Evaluating the financial performance of Iraqi banks , The most common financial ratios were adopted for the purpose of measuring the five elements of the PATROL model , which are ( capital adequacy , profitability , credit risk , banking efficiency , liquidity ).	<b>Purpose of the study</b>
(5) Banks from the Iraqi commercial banks.	<b>Study sample</b>
2020 – 2015	<b>study duration</b>
PATROL model in evaluating the performance of Iraqi banks, as it gave a realistic picture of the reality of Iraqi banks in terms of high capital adequacy index, high liquidity, as well as the volatility of the profitability index , and the necessity The adoption of the PATROL model by the Central Bank of Iraq instead of the CAMELS model currently approved in evaluating the performance of Iraqi banks, due to the failure to fully apply the CAMELS model as shown in the classification guide , As the Iraqi banks did not calculate the market sensitivity index because the Iraqi economy is an unstable economy and was exposed to many changes and shocks that cause difficulty in measuring this indicator in light of the fluctuation of market prices, so the PATROL model is more appropriate for the Iraqi environment because it is devoid of the change sensitivity index. to market prices.	<b>The most important results</b>
The second study: a study ( AL-Slehat, 2022 ).	
The effect of interest rate risk on financial performance and the mediating role of bank security: Evidence from the financial sector in Jordan	<b>Study Title</b>

Effect of Interest Rate Risk on Financial Performance The Medaling Role of Banking Security Degree: Evidence From The Financial Sector in Jordan	
Determining the impact of interest rate risk on financial performance through the degree of banking security as a mediating variable.	<b>Purpose of the study</b>
(13) A commercial bank The Jordanian _	<b>Study sample</b>
2018 – 2011	<b>ionstudy durat</b>
Banking security partially affects the relationship between interest rate risk and financial performance Encouraging policy makers, bank owners and managers to develop effective policies for interest rate risks on an ongoing basis , and they must strive to achieve a balance between each of interest rate risks, performance and the degree of banking security.	<b>The most important results</b>

Source: The table was prepared by the researchers based on the sources mentioned in the table.

The second topic: the concept of Islamic banks and their financing formulas

This research presents the concept of Islamic banks and the functions of Islamic banks, as well as dealing with their financing formulas as follows:

### **First: the concept of Islamic banks**

Several concepts of Islamic banks were received Given the comprehensiveness of the subject of Islamic banks, as well as the desire of every author and researcher to highlight some aspects at the expense of others, despite the existence of some similarities between these concepts ( Abdul Halim and Oreibi, 2020, 46).

It is defined as those banks or institutions whose founding law and by-law expressly stipulate adherence to the principles of Sharia and not to deal with interest in give and take, and that it is a banking institution that adheres in its transactions, investment activity and management of all of its business to Islamic Sharia (Abdul Rahman and Hussein, 2009, 28 ) , and It is a financial device that operates within the framework of Islamic law and adheres to all the moral values that came with the heavenly laws, and seeks to correct the function of capital in society in order to grant individuals a decent life ( Abdul-Fadhil, 2011, 484) (Al-Amiri, 2013, 30).

From the previous concepts of Islamic banks, its role as a financial and banking intermediary emerges, performing the following functions ( Al-Rifai, 2016, 23-24) (Muhammad, 2006, 14) (Mustafa, 2012, 6-7) ( Abdo, 2009, 12-13) :

1. investing and money.
2. Banking services are provided by opening current accounts, making transfers, and others.
3. It plays the role of the financial intermediary that regulates the bank's operations within the framework of Islamic law.
4. Do not deal with usury giving and receiving
5. Applying the principles and provisions of Islamic law.
6. The principle of (zero interest rate ) is applied.
7. Investing by following the participation system
8. Achieving elements of social solidarity among members of society .

### **Secondly: Islamic banks financing formulas**

The financing formulas adopted by Islamic banks differ from those adopted by other banks, as they provide them in a manner that is compatible with Islamic Sharia , and the following is a presentation of these formulas:



## 1. participation

Sharing is one Important investment tools for Islamic banks , and participation is an important means of financing and is used by Islamic banks to meet the requirements of contemporary commercial and financial operations (Ali, 2018, 205) , Participation in language means mixing A and miscibility i.e. mixing with the two partners (Al-Wadi and Samhan, 2009 , 193) , and Musharakah means partnership in profit or loss , That is, the bank and the customer contribute jointly to financing the project in addition to management expertise and other basic services at agreed rates. The profit is shared according to the agreement or the loss according to the contribution to the capital according to the contract agreed upon in the partnership . And it is not necessary that the shares of money be equal , or equality in work or responsibilities towards the partnership , and the terms of the agreement must be clear from the beginning, and that the partnership contract determines the profits of each partner, as part of the profits goes to the owners of experience and management, and the other part goes to the owners of capital (163 Khan & Bhatti, 2008, ) ( Archer & et al, 2013, 189 ) As for the way in which the loss is divided, each of them bears according to his percentage of the capital and those with experience and management. Their loss is a waste of their time and effort (Shaaban, 2013, 76).

## 2. Murabaha

Murabaha is considered the most common form of Islamic financing , and it is a technique used by Islamic banks all over the world . Murabaha is one of the types of Islamic financial transactions that includes a seller , a buyer , and a lender . The commodity and its selling price, which is basically a sale contract with a known profit, and it is required that the capital be known and the contract is free of usury, as customers can obtain the commodities through the bank , and that ( 80% ) of the financial operations of Islamic banks belong to the category of Murabaha and it is one of The sources of financing available for the purchase of equipment from an Islamic bank under a Murabaha contract, which the bank purchases on its behalf ( Almohana, 2017, 86-89 ) ( Iqbal & Mirakhor, 2011, 83 ). Sold to the buyer, since the seller is entrusted with the information about its original price, so he pays it to the buyer in payment of his need in exchange for a known profit ( Al-Sharifi and Al- Shamam , 2022, 126), that is, it is a contract to purchase an asset and a subsequent sale to the customer ) (ELtiby, 2017, 47-48).

## 3. speculation

Mudarabah is one of the oldest forms of business used by the Arabs for commercial activities, and literally the word mudaraba is derived from the phrase “beating in the ground,” i.e. traveling across the land for the purpose of trade (Sapuana, 2016, 350) . ( Ahmed, 2011, 154) ), and the people of the Hijaz call it Qirada or Muqadarah, and qiradh linguistically means a loan or cutting, because the owner of the money deducts a piece of his money and hands it over to the worker to dispose of it (Al-Ajlouni, 2010, 213), and speculation is one of the most important forms of investing money in jurisprudence Islamic, a kind of Sharing between capital and work (Asi, 2010, 68), and speculation is a form of partnership where the first party contributes the capital and is called the owner of the money and the other party provides the work and is called the employer to carry out the commercial activity for the mutual benefit, each party takes an agreed percentage If the speculative project incurs losses, the financier, the money owner, will bear all the financial losses, while the business owner will not receive any reward for his efforts ( Khan & Bhatti, 2008, 45 ) .

## 4. ordering to make

The linguistic meaning of the word Istisna' is manufacturing . This type of financing usually sells a commodity that does not exist at the time of the contract , as the customer informs the bank of his intention to buy a commodity that must be manufactured or assembled with certain specifications at a specific price. After that, the customer and the bank conclude an Istisna' contract, which allows the bank to make a contract with A third party to manufacture the commodity they agreed upon and deliver this commodity to the customer at a specific time and at a specified price, the customer can pay the bank immediately or in several installments ( Alsolami, 2015, 12 ) .

## 5. leasing

Leasing is one of the most important forms in which Islamic banks operate . Ijarah is a language derived from the wage, which means compensation, and means ownership of the benefit with compensation in accordance with the terms of the contract (Al - Najjar, 2009, 111), i.e. the wage or the compensation. The reward is also called a wage, and it is said as a rental wage ( Muhammad , 2022, 3), which is Legislated by the Book, the Sunnah, and consensus (Mahdi and Al-Janabi, 2018, 32) , or idiomatically , leasing means the ownership of permissible benefits for a specified period in exchange for a known material consideration, which is the price of the benefit arising from the use or benefit of an asset from the fixed assets, as it is not It aims to own the leased asset for the lessee, but rather aims to allow the use of the asset for the lessee and benefit from it or with it in exchange for paying the agreed rent value for a specific period, and the asset then returns to the owner , and this shows that the lease consists of two parties , the owner of the asset, who is the lessor, and the user of the asset, who is the lessee (Al-Ajlouni, 260 , 2010 ) , and the lease in Islamic banks can be divided into two types , the first type is the lease that ends with ownership ( financial lease ) , and the second type is the operational lease ( Ismal, 2013, 79 )( Rahman, 2010, 58 ) (Bushnaq, 2011, 58).

## 6. Sale of peace \_ \_ \_

Salam linguistically means submission and delivery, and aslam in the sense of advance means advance and peace, and it is the sale in which the price is delivered at the time of conclusion of the contract and the delivery of the specific and accurately described commodity is postponed to a later time that is specified in the contract ( Al - Shammari, 2008 , 48) And that Salam means receipt or delivery, and this sale was called the advance , because it involves an advance and credit for the capital over the price, and it was called Salam because it involves a credit for the capital in the council ( Abdul Salem , 2022, 199), and that the Salam is the sale that Delivery is deferred until a specified date in the future and is used for agricultural and industrial products. In order to comply with Sharia, the peace contract must specify the type of product for delivery . Payment must be made at the time the contract is entered into ( Khan, 2003, 28-29 ) , and the buyer pays the seller the full negotiated price for the product that the seller has promised to deliver at a future date (advance payment, deferred delivery) ( Cihak & Hesse, 2008, 22). (( Hamad , 2022, 154).

### **The third topic: The genesis of the PATROL model , its concept and components**

This topic deals with the aspects related to the PATROL model , namely the origin and concept, as well as dealing with the two indicators of profitability and credit risk, which are among the important components of the PATROL model , as follows:

#### **First: The origins of the PATROL model and its concept**

The name PATROL is derived from the first three letters of the Italian word ( PATrimonio ) , which means capital adequacy , and the first letter of both ( Rischiosita ) and ( Redditivita ) , which means profitability. and credit risk , as well as the initials Organizzazione , which means organization , and Liquidita , which means liquidity ( Cannata & Quagliariello, 2004, 13).

PATROL model is known as one of the methods of evaluating the performance of the banking system, as the PATROL model contains matrices that have a history and logic from the CAMEL model that was used in the United States of America, in addition to the possibility of using this model to identify troubled banks and thus reduce the effects of financial crises, if any, before they occur. The PATROL model focuses on five components (capital adequacy, liquidity, profitability, credit risk, and organization) to evaluate the performance of banks. These components represent the basic inputs for the data that can be obtained from bank reports (Valeria, 2011, 112) .

#### **Second: the components (indicators) of the PATROL model**

PATROL model consists of five main components (indicators) through which the performance of banks is evaluated ( Sahajwala & Denbergh, 2000, 10 ) ( Cannata & Quagliariello, 2004, 13 ) which are (capital adequacy, liquidity, profitability, credit risk, organization), The following is an illustration of the two indicators used in the research:

## 1. profitability \_ \_

Profitability is the bank's ability to generate profits optimal investment of the bank's resources , In order to achieve a return commensurate with the size of the bank's resources during a period of time , and profitability is expressed in percentages that represent The rate of return on investment in a specific resource of the bank's resources ( Jassim and Muhammad , 2020, 123), which is a measure of the bank's efficiency and through it the extent of the bank's failure is determined by Its success in the end , i.e. the ability of the bank to achieve a return by investing its resources ( Adjirackor , 2017, 2 ) , and reflects profitability Bank's ability to generation profits and keep on her continuously, It also enables him to face unwanted shocks and changes and emerging about the risks may be faced by the Bank H operations ( Rahman & Islam , 2018, 125 ) , which is one of the most basic criteria for measuring the strength and efficiency of banks' management in achieving profits ( Saeed & et al, 2019, 6 ) , so banks seek to achieve the largest possible profit for the owners and shareholders of the bank, as profitability is the result of using the bank In order for this profitability to be achieved, its revenues represented in the benefits it obtains as a result of investing the funds deposited with it, service fees and credit commissions that it receives in return for the services it provides to others must be greater than the bank's costs resulting from the interest it pays on those deposits of all kinds. And that increasing the percentage of the volume of deposits with banks and their ability to create money gives them the ability to grant loans to more customers , which allowed them to achieve high profits (Al-Rubaie, 2016, 603), and that improving profitability is the most effective way to Management ( Machiraju, 2008, 127 ) , and one of the most important indicators of profitability, which is the most famous and widespread in all financial ratios, is ( Gilbert & Wheelock , 2007, 519 ) ( IFSA, 2017, 19 ) ( Gul & et al, 2011, 70 ) ( Mishkin & Eakins, 2012, 411 ) :

### **Return on assets = net income after tax / E total assets x 100**

This ratio refers to the productivity of assets, i.e. the amount of income generated from each unit of assets, and this ratio is used to measure the overall effectiveness of management in generating profits from the available assets ( Gitman, 2006, 68 ) , and this ratio is a basic indicator for measuring the profitability of the bank. The higher this ratio, the better the bank's profitability. This ratio also shows how banks can achieve income from their assets, although the return on assets may be biased due to activities outside the balance sheet. Nevertheless, the variable used mainly to determine the financial performance of the bank is the return. On the findings ( Muraina, 2018, 43 ) ( Germanics, 2006, 26 ) ( Brigham & Ehrhardt, 2005, 454 ) ( Babar, 2011, 23 ) ( Ibrahim, 2005, 20 ) .

## 2. Credit Risk \_

It is the potential non- compliance of customers Borrowing borrowers. In fulfillment of their obligations towards the bank ( Anaza and Othman, 2013, 215 ) , which is one of the risks that arise from the possibility of failure of one of the parties to fulfill the financial obligations, which causes the bank to fall into danger, as credit risks are in the form of settlement or payments risks, and risks Credit in the banking sector arises from the possibility of the borrower defaulting on his obligations related to loans, and credit risks in Islamic banks are in the form of non-payment risks that arise when one of the parties to a commercial transaction pays money (such as a contract of peace or Istisna'a) or the delivery of assets (contract Murabaha) before receiving its assets or cash, and thus this causes exposure to potential losses ( Al-Dabbagh and Jasim, 2022, 7), and credit risks constitute the greatest concern for banking activity, and the risks vary Faded not in the internal and surrounding conditions as It differs according to the types of operations practiced by the bank, and the risks greatly affect the lending operations . Therefore, these risks must be identified and methods and methods must be devised to reduce them, at the very least ( Kudinska & et al, 2016, 90-91 ) . Credit quality is measured from Through the following equation (Hamad, 2007, 239) (Al-Saffar and Jakhyour, 2022, 55) ( Cannata & Quagliariello, 2004, 14 ) :

### **Topic: the concept of banking security and its characteristics**

This topic reviews aspects related to banking security , represented by the concept of banking security , as well as the characteristics of banking security , as follows:



### **First: the concept of banking security**

Banking security is defined as the customer's feeling that the bank is entrusted with his financial savings, and this depends on the bank's ability to deliver a message to the customer that the capabilities it has are capable of facing all the risks that arise from the occurrence of any crisis, as well as the completion of the banking service accurately and independently in an atmosphere of Flexibility, ease, transparency, and speed in dealing, as well as organization and avoiding chaos, i.e. the customer feels that his relations with the bank are not in a threatening position, and that the bank here is entrusted with his financial savings (Al-Sharaa and Al-Harmoushi, 2019, 293) (Abdullah and Khalaf, 2022, 276) , It is also defined as the state in which the bank achieves economic and financial balance, allowing it to perform its functions safely even during external shocks ( Chaikovska , 2021, 47 ).

### **Second: Characteristics of banking security**

of banking security are represented in ( Hamza, 2021, 191-192 ) (Al-Hakim, 2017, 352) (Ali, 2011, 14-16) (Hamza and Ibn Ali, 2019, 225) Al- Hashemi Al-Rifai, 2022 , 106-107) ( Al-Rifai , 2022, 22-23):

1. The bank has the ability to pay the deposited funds to their owners at any time they request them and under any circumstances, in addition to the bank paying the obligations to their owners without any procrastination.
2. Oblige the bank to publish the mandatory accounting financial statements, and the degree of disclosure Accounting in it, by applying international accounting standards and accounting disclosure in the financial statements of the bank, and this is for the purpose of accessing information that is clear, appropriate and highly reliable, in addition to being comparable with information of other banks
3. The market value of the assets is greater than the current liabilities of the bank.
4. Bank security is one of the main features of any bank.
5. Transactions between the bank and its customers are based on absolute trust in its employees. When the depositor deposits his money in the bank, he entrusts to that bank some of his privacy, which is part of his secrets . Therefore , The bank may not disclose it to any person, otherwise the depositors will turn away from dealing with this bank , in addition to that the borrowers from the bank prepare their need for the loan as a secret of their own, and announcing it harms their financial reputation and undermines their confidence in it, so the bank must maintain secrecy customer banking, And punish anyone who is involved in publishing any information or data pertaining to customers in the bank to anyone, as the customer must know fully that his money and the confidentiality of his bank accounts are safe and that they are not disclosed by the bank except to the customer himself.
6. The need to work on spreading banking awareness among customers and trying to convince them that the bank offers its various traditional and electronic services and is a safe place for their money , in order to enhance the intellectual image of the bank among customers.
7. The bank's ability to give the necessary care and transparency when providing and explaining its various services to its customers , and the commitment to credibility in responding to their inquiries
8. Constructive competition and cooperation between banks is vital to achieving a sound banking climate. Therefore, the bank must not push towards competition at the expense of safety factors, or breach its obligations towards banks.
9. Liquidity is the basis upon which trust is built between each of the bank and its customers of depositors and lenders, and liquidity constitutes a practical test of the bank's credibility towards its commitment With depositors that their money is safe and will be returned to them when they need it E to her , as well as The bank fulfills the requests of its borrowers , and in the event that this liquidity is not available, this matter will threaten the rights of depositors. And reduces the

chances of borrowers to obtain appropriate financing for investment and will be The existence of the bank itself is in danger, so liquidity must be given absolute priority among the priorities of all bank management , as it is a problem that cannot be coexisted with, even for a short period

10. The state's general economic situation is considered one of the important matters for banks. Whenever there is economic stability in the state, depositors confidently come to deposit in its banks
11. The prevailing legislations in the country that regulate the banking business and the extent of the bank's commitment to it, such as determining the minimum limits for the capital and determining the legal and optional cash reserves, and so on.
12. The geographical spread of the branches it deals with, as banks always seek to expand their activity by opening branches for them in the areas they hope to be covered by their activity, because the large number of branches and their spread makes the customer feel comfortable and safe in his dealings with the bank as a result of the distribution of risks that can That the bank is exposed to it from different sides, in addition to that the loss of this branch can be compensated from the profits generated from other branches .
13. Money laundering, terrorist financing, and crimes that occur on the bank's funds , because they are considered an existential threat to all banks, which necessitates that banks cooperate and coordinate among themselves to insure against these risks .

**Topic: estimating the indicators of profitability and credit risk The PATROL model and its impact on banking security for a sample of Iraqi Islamic banks for the period (2016-2021).**

After the theoretical aspect of the research variables represented by the two indicators of profitability and credit risk, which are components of the PATROL model and banking security, have been dealt with in the previous investigations, this topic will deal with the estimation of the two indicators of profitability and credit risk for the PATROL model and their impact on banking security for a sample of Iraqi Islamic banks for the period (2016-2021). ), according to the following paragraphs:

**First: Testing the stillness of cross-sectional data for the studied variables through the panel unit root test**

We notice through the unit root tests ( Levin, Lin and Chu-LLC ) and the test ( I'm, Pesaram and Shin-IPS ) that some of the variables settled at the level and some settled at the 1st difference as follows:

**Schedule ( 3 ) Panel unit root test**

Panel unit too test					
variants		Levin, Lin & Chut		I'm, Pesaram & Shin	
		Individual Intercept		Individual Intercept	
		t-statistic	Prob.	t-statistic	Prob.
x1	Level	- 2. 65436	0.0000	- 6. 98765	0.0000
	1st difference	- 4. 98765	0.0000	- 5. 65437	0.0000
x2	Level	- 2. 65432	0.0987_	4. 65436	0.0234_
	1st difference	-4.98765	0.0000	-2.49811	0.0002
Y1	Level	-5.46151	0.0000	- 1. 98765	0.0020
	1st difference	- 4. 98765	0.0000	- 2. 54321	0.0000
Y2	Level	-2.17968	0.0146	-1.34026	0.0901
	1st difference	0.65432-	0.0000	- 2.46633	0.0003

Source: table from Preparation Researchers based on the outputs of the program ( 1 2 Reviews )

**Second: measurement relationship engagement between the indicators of profitability and credit risk The PATROL model and its reflection on banking security indicators for a sample of Islamic banks listed in the Iraq Stock Exchange for the period ( 2016-2021 ).**

will be measured relationship engagement between the indicators of profitability and credit risk For the PATROL model and its reflection on banking security indicators, as follows:

**1. Correlation between the indicators of profitability and credit risk The PATROL model and its reflection on the equity index to total deposits**

The following table shows the correlation between the indicators of profitability and credit risk to model PATROL and its reflection on Equity index to total deposits :

**Schedule (4) relationship engagement between indicators of profitability and credit risk to model PATROL and its reflection on Indicator rights Property to total deposits.**

Covariance Analysis: Ordinary		
Date: 02/14/23 Time: 16:52		
Sample: 2016-2021		
Included notes: 72		
Covariance		
Probability	x1	x2
Y1	-2,234,823	-17398.41
	0.0 066 _	0.0 046 _

Source: table from Preparation Researchers based on the outputs of the program ( 12 Eviews ).

Above table shows the results of the correlation between the study variables ( X1 , X2 ) and ( Y1 ) as follows:

- Existence relationship Engagement negative And morale what Between the independent variable profitability index ( X1 ) and variable approved rights Property to total deposits (Y1) and so on indicatively value Factor engagement that appeared equal ( -2234.823 ), And with a level Significant (0.0066), which is less than (0.05) .
- Existence relationship Engagement negative And morale what between Indicator credit risk The independent variable ( X2 ) and the covariate approved rights Property to total deposits ( Y1 ) and so on indicatively value Factor engagement that appeared equal ( -17398.41 ), And with a level Significant (0.0046), which is less than (0.05).

**2. Relationship engagement between indicators of profitability and credit risk to model PATROL and its reflection on Indicator rights Property to total the findings**

The following table shows the correlation between the two indicators of profitability and credit risk to model PATROL and its reflection on Indicator rights Property to total The assets are as follows:

**The schedule (5)Correlation between the indicators of profitability and credit risk The PATROL model and its reflection on the total equity index the findings**

Covariance Analysis: Ordinary		
Date: 02/14/23 Time: 16:53		
Sample: 2016-2021		
Included notes: 72		
Covariance		
Probability	x1	x2
Y2	-531.3568	-302.8144
	0.0000	0.08 64 _

Source : table from Preparation Researchers based on the outputs of the program ( 1 2 Eviews).

Above table shows the results of the correlation between the study variables ( X1 , X2 ) and ( Y2 ) as follows:

- The existence of a negative and significant correlation between the independent variable profitability index ( X1 ) And the dependent variable, property rights to total assets ( Y2 ), in

terms of the value of the correlation coefficient , which appeared equal to ( -531.3568 ) , and at a significant level (0.0000) , which is less than (0.05).

- There is no correlation between risk indicator credit ( X2) The independent variable and the dependent variable are the property rights to the total assets (Y2) due to the probability exceeding the barrier (0.05) .

We conclude from the foregoing that there is a significant and negative correlation between the indicators of profitability and credit risk to model PATROL and banking security represented by the indicators of the degree of banking security, which are (index rights Property to total Deposit and index rights Property to total assets) of Islamic banks, the research sample listed on the Iraq Stock Exchange for the period (2016-2021) , and this proves the fulfillment of the two hypotheses of the study:

The first hypothesis: There is a statistically significant correlation between profitability and the degree of banking safety.

The second hypothesis: There is a statistically significant correlation between credit risk and the degree of banking safety.

### **The sixth topic: conclusions and recommendations**

The research came out with a set of conclusions and recommendations, and the following presents these conclusions and recommendations:

#### **First: conclusions**

1. Iraqi Islamic banks applied the PATROL model , which is very similar to the CAMELS bank evaluation model.
2. And the existence of a statistically significant correlation between the variable The first independent ( profitability ) and the variable approved (Degree of banking security ) in the local Islamic banks, the research sample , which is consistent with the theory.
3. There is a statistically significant correlation between A variable The second independent ( credit risk ) and the variable approved (Degree of banking security ) in the local Islamic banks, the research sample , which is consistent with the theory .

#### **Second: Recommendations**

1. The need for Islamic banks to pay attention to the indicators of the degree of banking security, because this will give an impression to both lenders and borrowers about the strength and stability of the financial position, the ability to pay off debts and loans, and stand up to financial crises in the event of their occurrence.
2. Encourage banks in general and Islamic banks in particular to apply the PATROL model.
3. The need to activate the basic indicators that characterize the PATROL model In Islamic banks, the research sample in order to reveal the strengths to strengthen them and the weaknesses to solve them in each of the components of the model In order to make use of the model.
4. Islamic banks work to find channels New investments capable of absorbing financial surpluses in excess of the banks' needs, Because most Iraqi banks use the policy of accumulating money from It would waste opportunities to maximize profitability.
5. Seeking to strengthen the degree of banking safety in Islamic banks, the research sample , by finding a balanced balance between the degree of banking safety and the indicators of profitability and credit risk of the model. PATROL
6. Work to adopt a culture of dealing with credit risks by banks in general and Islamic banks in particular, This is done by developing appropriate mechanisms to achieve this, in addition to setting up a successful credit policy and statement The danger resulting from the absence of such a policy and the consequent negative repercussions on it The degree of banking security .



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