The impact of debt -based financing modes and Musharakah on Financial stability of Islamic banks... Applied study

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Abstract :

This paper discusses the impact of the diversity of Islamic financing formulas of debts and partnerships on the financial stability of Islamic banks by testing the hypothesis of the study represented in the existence of a direct relationship between the partnership financing formulas and financial stability of Islamic banks, and there is an inverse relationship between Islamic debt-based financing formulas and financial stability of Islamic banks. This hypothesis was tested by using longitudinal panel data, and a fixed effect model, The results of estimating the study parameters indicated that the study hypotheses were accepted, and so The study concluded that there is a positive relationship between the partnership financing formulas and financial stability of Islamic banks, and there is a negative relationship relationship between Islamic debt-based financing formulas and financial stability of Islamic banks.

Keywords: Islamic financing modes, Financial Stability, Islamic Banks, Musharakah financing, debt -based financing modes.
Jel Classification Codes : G21, G1, G29

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1. Introduction.

The multiplicity of financing formulas in Islamic banks aims to increase their ability to attract savings for financing for the purpose of investment the financing formulas used by Islamic banking is the financing debts formulas such as(Murabaha for the one who ordered to buy, the financial lease ending with ownership, the Salam and Istisna'a and others), and partnerships formulas such as(partnership , the Mudaraba, Almazraea, Almisaqa Almagharisa contracts, and others) .The financing formulas used by Islamic banking is financing debts formulas such as(Murabaha for the one who ordered to buy, the financial lease ending with ownership, the Salam and Istisna'a and others), and partnerships formulas such as(partnership , the Mudaraba, Almazraea, Almisaqa Almagharisa contracts, and others)
. Despite the success of Islamic banks in finding an Islamic banking alternative in the field of investment and use of funds, they focused on financing the trade sector by using debt financing formulas such as Murabaha and Ijarah, while ignoring other forms of financing such as participation and speculation, which entail the establishment of economic activity. Real contributes to increased productivity and economic growth.Therefore, most Islamic banks that focus on debt-based financing formulas that have fixed returns and a low level of risk, and this financing method may achieve financial stability in the short term only, while it may harm the financial strength of the Islamic bank in the long term. Because it makes the work mechanisms of the Islamic Bank similar to traditional banks in terms of focusing on short-term financing, and neglecting financing formulas medium and long-term financing, which actually contributes to financing economic development projects that most Islamic countries lack.

1.1 **importance of study:**

The importance of the study stems from the study presents clear criteria to achieve financial stability for Islamic banks in the short and long term by diversifying the investment portfolio of the Islamic bank to include forms of partnerships formulas beside debt formulas.

1.2.**hypothesis of Study :**

Focusing on Islamic debt-based financing formulas negatively affects the financial stability of an Islamic bank in the long run, even if apparent financial stability is achieved in the short term, while focusing on partnership funding formulas directly affects the financial stability of an Islamic bank in the long run.

1.3.**review of the previous literature :**

A study (Siddiqi and Khan, 2011) indicated that dealing in debt forms may result in many problems as a result of not knowing the controls and restrictions of the financial system in Islamic law, and the study concluded that Murabaha financing may hinder economic growth, because it contributes to opening the "back door to dealing interest, and the reluctance of businessmen to invest in new projects.
According to a study (Usmani, 2005), despite of the increasing reliance of Islamic banks on credit formulas , the current practices of banking services and financing Islamic products are deviate from Islamic Sharia regulations that make Islamic banking behaves as conventional banks, and thus contribute to causing inflationary pressures leads to deterioration of social and economic development ، The study concluded that debt-based financing formulasdo not promote social and economic growth .

- The study (Iqbal and Mirakhor, 2007) confirmed that the Islamic bank cannot deal with financing formulas with debts and reduce the potential risks associated with these formulas without understanding the principles of Sharia, increasing debt levels in the macro- economy, leads to financial instability and exposure to financial crises, which contradicts the purposes of Sharia in achieving sustainable economic and social development. Therefore, it is important to clarify the economic importance of use the partnership formats to invest financial resources of Islamic banks.

− The study (Majzoub, 2014) clarified the reasons and repercussions of focusing on financing by debit formulas in Islamic banks by applying it to Islamic banks in Sudan through the statistics that proved the preference of those banks for debit contracts, The study although it indicated the disadvantages of focusing on the debit formulas but it did not touch on measuring the effect of focusing these formulas on the basic variables of the Islamic bank such as liquidity and financial stability.

− The study (Noraziah, 2010) is shown a number of Sharia standards and controls set by the Central Bank of Malaysia necessary to apply the participation formulas in Islamic banks were reviewed, and this study concluded that the correct application of the participation formulas contributes to supporting small and medium enterprises, which is reflected in the high indicators of economic progress In the community, the study emphasized in its recommendations, the need to pay attention to studying the risks of participation formulas, and how to hedge them, and called for the formation of reference guides in the applications of participation in Islamic jurisprudence to benefit from them in the development of Islamic financial products .

− The study (Al-Suwailem, 1998) indicated that bank financing according to Musharaka contracts provides a better alternative to investment financing instead of usurious financing or Islamic financing according to debt contracts, as this type of financing based on participation helps in increasing the actual investment rates and thus increasing economic popularity, The Musharakah financing system is characterized by being free from dealing at the forbidden interest rate and all suspicions of usury, which contributes to the low cost of financing. In kind, which represents an obstacle to small farmers, producers, investors and craftsmen, and thus Islamic banks succeeded in attracting this huge and influential sector in increasing the country's national income.

− The study showed (Kahf, M., 2004) that the application of the partnership model makes the bank a comprehensive Islamic bank and not just a usurious bank, these patterns achieve justice between the two parties to the transaction, and the parties are partners in it. Profit and loss according to the rule (AlGhannam BelGharam).

The risk of distribution among more than one financier facilitates the return of the amount of financing, and is characterized by the flexibility that makes it suitable for all aspects of financing economic and social activity, which helps Islamic banks to play the role entrusted to them.

− The study (Ruhaini Muda, Abdul Ghafar Ismail, 2010) indicated the importance of the participation formulas in the Islamic financial and banking system, calling for the necessity of urging decision makers in Islamic financial institutions to adopt the use of the participation formulas in financing operations, due to their efficiency at the level of individuals, in addition to the necessity of urging Scientific institutions and research centers study the different methods of participation, to reveal their financing characteristics and benefit from them.

Based on previous studies, and the desire to narrow the gap between what has been achieved and what must be achieved in this field, the main differences between the current study and previous studies can be presented, clarifying the most important potential areas for the contribution of the current study as follows:

− The current study focuses on the effect of the coefficient of concentration of financing formulas in debt and partnerships on the financial stability of Islamic banks. Thus, the study moves away from generality. The study also uses the method of descriptive analysis, and quantitative measurement supported by many statistical indicators.

− previous studies are theoretical studies that focus on the negative effects of debt financing in Islamic banks, and the importance of partnership contracts, and thus this applied study contributes to clarifying the impact of focusing on debt and partnership formulas on the financial stability of Islamic banks, through application to several banks in the Arab Gulf countries and during specified time.

1.4.Problem of study:

The problem of the study is represented in the main question:
Does the coefficient of concentration debt-based financing formulas and Musharak as affect the safety of financial stability in the long term?

So, Several questions stem from that main question the study will try to answers them as following:

1- Why do Islamic banks focus their investments on debt-based financing formulas despite of Islamic banking and finance have many other financing means such as participation and Mudaraba ?
2- Does attention in debit- based financing formulas in the Islamic banks arise from fear of higher risks in other Islamic financing formulas?
3- What are means and mechanisms that enable the Islamic banks to face risks of activating other Islamic financing formulas to avoid focusing on debt-based financing formulas?
4- What is the explanation for the financial stability of an Islamic bank in the short run, despite the focus on debt-based financing only, and is it stable in the long run?

1.5.Structure of Search:

To answer the previous questions, we will divide the research into the following topics:
First: The philosophical framework of financing formulas in Islamic banking.
Second: The concentration factor of Islamic financing formulas in the bank and its relationship to financial stability. (The reasons for concentration - the relationship to risks - the relationship of concentration to financial stability).
Third: A proposed econometric model for estimating the effect of concentrating debt-based financing patterns and partnerships on the long-run soundness of the financial stability of Islamic banks.
conclusion of the research which includes the results of the research and its recommendations.

2. First: The philosophical framework of financing formulas in Islamic banking

Islamic banking has been keen to make its philosophy distinct from what is found in traditional banks, as the main function of banks, whether Islamic or traditional, is financial intermediation.
By financial intermediation, it means: the banking institution mediates between savers (the surplus category) and the users of funds (the deficit category). The work of the traditional bank is based on promoting the function of financial intermediation by borrowing from the first category and then lending to the second category. As for the Islamic bank, its work is based on receiving funds on the basis of Mudaraba from savers (Rab al-mal) and then using them in the types of transactions that generate debts or that are on Post adjective. Also, part of the money obtained by the Islamic bank is in the form of debts (current accounts) that the bank borrows from savers (Al-Qura, 2013, p6).
In order to perform this function, conventional banks accept deposits for interest and lend to investors at a higher interest rate.
While Islamic banks forbid dealing with interest and perform the mediation function on the basis of a return in the form of a share of profit and loss, Islamic banks define investment finance as providing in-kind or monetary wealth with the intention of profiting from its owner (Rab Al-Mal) to another person (the Mudarib).
If the customer needs financing, the tools are trading formulas (provided by Islamic banks in their capacity as the intermediary trader or financier) from Murabaha and Salam (selling raw materials with deferred delivery and immediate price) and deferred sales (selling goods by delivering them

immediately and postponing the price or paying it in installments) and Istisna (contracting). If the customer needs the benefits, then the lease is the appropriate tool, and there are other auxiliary contracts such as mortgage, assignment, surety and agency. (Abu Ghuddah, 2006, p9) .The bank's acceptance of deposits is carried out on the basis of the Mudaraba contract, which is a company in profit between money and work. Cases of the bank (the speculator) infringing, defaulting, or violating the conditions, then it bears what has arisen because of it (previous reference).

The basis of Islamic banking work is participation and mudaraba. The bank obtains money from depositors on the basis of a loan contract and then presents it to investors on the basis of sharing in profit and loss through contracts of mudaraba and participation. (Al-Qura, 2005, p6).

Therefore, the philosophy of Islamic banking is completely different from the philosophy of traditional banking. Traditional banking trades in debts by buying and selling credit and profiting from the difference, while Islamic banking deals with goods and services by buying and selling them and profiting from the difference, which is expressed in formulas. Debts also follow the forms of financing by participation and mudaraba, as the Islamic bank speculates with its money and the money of the savers in real projects whose results the bank shares with the owners of money. This type of financing is the basis that distinguishes Islamic banking over conventional banking, and therefore the exception remains dealing with other forms of debt such as Murabaha, leasing, installment sales and others.

In practice, there are clear violations in the implementation of the debit formulas in some Islamic banks, which make who deals with the bank not find a wide difference between the Islamic and the traditional bank, including:

- Non-compliance with the steps of the executive procedures, as it became clear from the practical reality that the employee in the Islamic bank and the customer sign the purchase promise form and the Murabaha sale contract, the receipt of guarantees, and the delivery of the check to the customer to be delivered to the supplier at the same time without any time passing between signing the promise to purchase form and the purchase and ownership contract And signing the sales contract, and sometimes the customer signs all contract forms and forms in blank, then the employee in the Islamic bank fills in the data later. And the Messenger of God, may God's prayers and peace be upon him, forbade: "Selling what one does not own." (Khoja, Abu Ghaddah, 1998, p12).

- The employee in the Islamic bank sometimes responds to the customer's request to authorize him orally to purchase and hand over the check to give it to the supplier and to receive the goods directly from the supplier. at the same time. (Al-Manan, 2013, p11).

The Islamic bank finances economic activity on both sides of supply (institutions) or demand (consumers or individuals) through two methods:

‒ Debt formulas (future sales) in various forms such as Murabaha and trading, Salam, Istisna'a, Ijarah and its various derivatives.

‒ Forms of participation in its various forms, such as Mudaraba, participation, farming, cultivation watering contracts, and others.

is noted that traditional banks choose their customers according to financial solvency in order to repay the loans they obtain, while Islamic banks depend on the selection of efficiency for participation or speculation operations because the return on profits depends on the basis of capital participation with work through economic feasibility studies that Hence, Islamic finance plays a major role in achieving economic growth.

Within the framework of debt-based financing formulas and in the event of non-payment of debtor customers - the risk of non-payment - in both banks (conventional - Islamic), the loss will be on the bank alone through an increase in the provisions for doubtful debts in addition to an increase in the reserves of retained earnings in favor of facing the risks of non-payment of debts .

While we find that Islamic banking when it follows the formulas of partnerships and mudaraba, and in the event of clients' failure, the loss is borne by the clients with the Islamic bank and also part of it is borne by the depositors, as the return of depositors is linked to the results of

investing money, profit or loss, to achieve actual solidarity between owners of financial surpluses and owners of projects.

here is no doubt that this affects the soundness of the financial stability of the bank, whether conventional or Islamic. The bank that distributes its risks to the parties to the financing process achieves higher stability than the bank that bears all the financial risks alone.

But it is noticeable that most Islamic bank managements resort to investing their revenues in short-run projects, and rarely resort to investing in medium and long-run projects, which makes them move away from the theoretical framework assumed for them in terms of their reliance on all the formulas set for them, and in terms of their contributions to Achieving the development of their societies, and with regard to the term and scope of investment in these banks, the short-run commercial investment acquired the majority of the investments in these banks, while the long-run investment did not receive any significant importance, as it focused on the trade sector, while it did not care to direct its investments to The agricultural and industrial sectors, despite their importance to the development process. (Dawabah, 2004, p22) .

And with the focus of Islamic banks on the Murabaha formulas for the purchase order, which is one of the forms of debts and is implemented by deferred sale for periods that may sometimes reach three years, and what may result in irregular payments to debtors or stop and procrastinate some of them in payment, which leads to the disruption of part of the invested funds. In Murabaha, and another part is exposed to bad debts, the reasons for focusing on Murabaha operations may be due to the following: (Abu Hijleh, 2013, p3)

The low risk of these operations after fulfilling the appropriate guarantees for the payment of premiums.

Ease of studying and implementing these operations compared to other financing methods such as speculation and participation.

The speed of capital turnover, profit making and covering the various needs of the bank's customers.

- Some clients' lack of preference for other types of financing formulas in order to preserve the secrets of their activities or to disclose their work details to external parties such as taxes and others

Based on this, the formulas of participations are the most appropriate for Islamic banking from the formulas of debt for the following reasons:

• Mudaraba and participation formulas can be used for long investment periods, which is commensurate with the requirements of economic and social development, especially since debt-based financing formulas are directed to short-run investment.

•   In partnership financing, the Islamic bank is keen that the project it finances achieves an appropriate return for it, because its profit will be from that return, unlike financing by debt forms, where the bank does not pay attention to the feasibility of the project as much as it is concerned with the solvency of the customer and the extent of his ability to pay.

•   One of the most important reasons that establish Islamic banking is the distance from simulation and imitation of traditional banking based on debt trading, especially with regard to some formulas that are difficult for the public to differentiate between them and finances based on term-related interests, such as Murabaha, trading and installment sales. It remains the exception, not the original.

•   The financing formulas by Mudaraba and participation are consistent with the nature of the financial intermediation of the Islamic bank. The bank chooses a suitable business founder and invests his money with him, and waits for the outcome of participation in profit and loss, while debt-based financing formulas often require a deviation of the Islamic bank from the basic nature of its work as a financial intermediary. (Tweet, 2011, p7).

•   Achieving optimal use of financial resources because it turns the bank into a partner in the production process, which leads it to scrutinize and investigate feasibility studies and search for the best investment options. Thus, the efficiency of financing increases in achieving economic goals. (Majzoub, 2014, p17).

And relying on financing in the form of participation means that the bank will bear part of the risk in investment operations, and therefore the concept of financing in the form of participation differs from the concept of financing in the form of debt in several matters, the most important of which are:-

• Profit is linked to risk because the capital is not worth the return if it does not participate in the production process.

• The possibility of entering fixed capital into the production process in return for a wage or a share of the profits.

• Debt formulas bear the loss for the bank alone, As for the financing by partnerships, the parties to the financing process (depositors, the bank, the financier) participate in the profit and loss.

• This explains the higher risk of financing for participation formulas compared to financing with debt formulas.

Musharaka and mudaraba contracts are trust contracts that do not require mortgage or guarantees, so they are exposed to high risks as a result of the possibility of non-payment. A decrease in the liabilities side (deposits).

n the practical reality of Islamic banks, partnerships are fraught with commercial (market fluctuations) and moral (betrayal of a partner) risks that are higher than those banks can bear. Without a participation in the results of the project itself, making these formulas allow profit in isolation from the special risks faced by the financier who owns the project, and thus Islamic banks in this way avoid the risks of participation. (Al-Zarqa, 2011, p 23).

Banks maximize the return on investment portfolios, and they depend on financial resources from current accounts, so their exposure to financial shocks on the assets side cannot be offset by reducing their obligations to account holders on the liabilities side .

Therefore, Islamic banks should act as comprehensive banks by keeping shares within the components of their investment portfolios to become a party to decision-making and project management, and they can influence the investment of funds in projects whose feasibility has been studied and the formulation of contracts that include incentives, which reduces risks. (Rifki, 2012) .

3.Second: The concentration factor of Islamic financing formulas in the Isamic bank and its relationship to financial stability

The finance represents a large part of the assets of the Islamic bank, and most of the finances granted by Islamic banks are characterized by their concentration in debt-based finances (Murabahat, Tawarruq, Istisna'a, ..), and Islamic banks are not able to sell these debts to provide liquidity in light of the legal prohibition of that, and This necessitates that Islamic banks focus more on the forms of participation (Mudarabah, Musharaka , Muzaraea, Msaqah, ..), and through this Islamic banks can achieve more than one goal, including:

• Reducing credit risk due to the customer's participation in part of the financing, and providing liquidity to the bank that can be used in other projects and investments.

• These financings must also be distributed over different terms and successful and non-failed economic sectors after being well credited.

o The term concentration factor in this study refers to the percentage of the concentration of the financing formulas for the total funding formulas that represent the activity of employing the Islamic bank. The higher the ratio, the higher the concentration coefficient and vice versa.

• With the focus of Islamic banks on short-run financing, which is highlighted by the high percentage of forward sales represented by fixed-return debtors, which also have a lower level of risk, conducted by Islamic banks that have turned to the trade sector, at the expense of the financing formulas most important for economic growth, represented by participation and speculation.

- Thus the role played by Islamic banks with this description is similar in economic terms to what traditional banks play in terms of focusing on short-run financing, neglecting medium and long-run financing, which actually contributes to financing development economic projects.

3.1. The concept of financial stability for Islamic banks:

financial stability is defined as the bank's ability to meet the current and future needs of all parties dealing with the bank, through a diversified investment portfolio with risks, terms and returns, while the bank maintains liquidity that enables it to meet the urgent needs of customers. 2013, Izzeldin: 8)

The concept of financial instability is closely related to the concept of financial failure. Failure is the bank's inability to pay its obligations when they are due in cash, and failure is divided into economic failure and financial failure. Allen, F., Gale, D, 2004, p12).

3.1.1. economic Failure: In this case, the bank cannot achieve a reasonable or moderate return on its investments, when the net capital is negative, i.e., the book value of the liabilities, and the bank's liabilities are more than the book value of its assets.

3.1.2. **Financial Failure:** In this case, the bank is unable to pay its obligations to creditors and pay its debts, and it is noted that there is a difference between financial failure and financial failure.

And financial failure means a complete cessation of payment of obligations, which leads to bankruptcy and stoppage of activity, and this case does not happen suddenly.

3.2. The relationship of the financial stability of the Islamic bank to concentration in formulas with debts

There is an inverse relationship between the financial stability of the Islamic bank and the extent of its reliance on the debit formulas given that there are many legal restrictions that restrict Islamic banks' use of traditional derivatives to mitigate the risk of profit rate, due to the prohibition of interest in Islamic Sharia, so Islamic banks are limited to some tools that can To be used to mobilize deposits in order to mitigate the risks that Islamic banks may be exposed to, such as investing in low-risk formulas instead of relying on high-risk formulas

Therefore, we find that most Islamic banks rely on debt-based financing with a known profit margin, such as sukuk, Murabaha and Ajara. These formulas are characterized by the fact that the profit rate is specified at the beginning of the contract, and the contract period ranges from three months to eight years, and during that period the bank is committed to the prevailing interest rates. At the beginning of the contracting period without taking into account any changes in those prices.

So, in the event of adverse changes in the interest rate in the banking market, Islamic banks may face a financing gap between the fixed-rate assets specified at the beginning of the contract and the liabilities (depositors' money), which are affected by changes in interest rates in the market, which lead to fluctuations In the returns due to the mismatch between assets and liabilities, and this means that the more the bank relies on formulas with a known profit margin, the more it is exposed to the risks of financial instability.

And with the focus of Islamic banks on debt-based financing, for a period of up to three years, and what may result in irregular payments to debtors or the interruption and procrastination of some others in payment, which leads to the disruption of part of the funds invested in other financing formulas, and the exposure of another part to debts non-existent, which affects the safety of the financial stability of the bank in the long run.

There are several reasons that prompted Islamic banks to deal with the debt-based financing and ignore the forms of participation, including : (Al Baraka Banking Group annual report, 2021)

A- The central bank's treatment of Islamic banks as conventional banks, which hinders the implementation of investment formulas based on partnerships, but there are no legal or administrative obstacles in the implementation of Murabaha contracts for the purchase ordered due to their proximity to traditional financing.

B- The lack of experience of workers in Islamic banks regarding dealing with Islamic formulas, while Murabaha contracts do not require experience or careful study to implement them.

C-   - Murabaha contracts are characterized by the fact that they achieve guaranteed profits with the least degree of risk for Islamic banks, enabling them to withstand the competition of conventional banks.

3.3. Correlation of the concentration of risk financing formulas in Islamic banks: -

Debt based contracts are characterized by the fact that they achieve guaranteed profits with the least degree of risk for Islamic banks, enabling them to withstand the competition of conventional banks, which is evident from Figure (1)

Figure No. (1) The risk ratio of Islamic financing formulas in some
Islamic banks
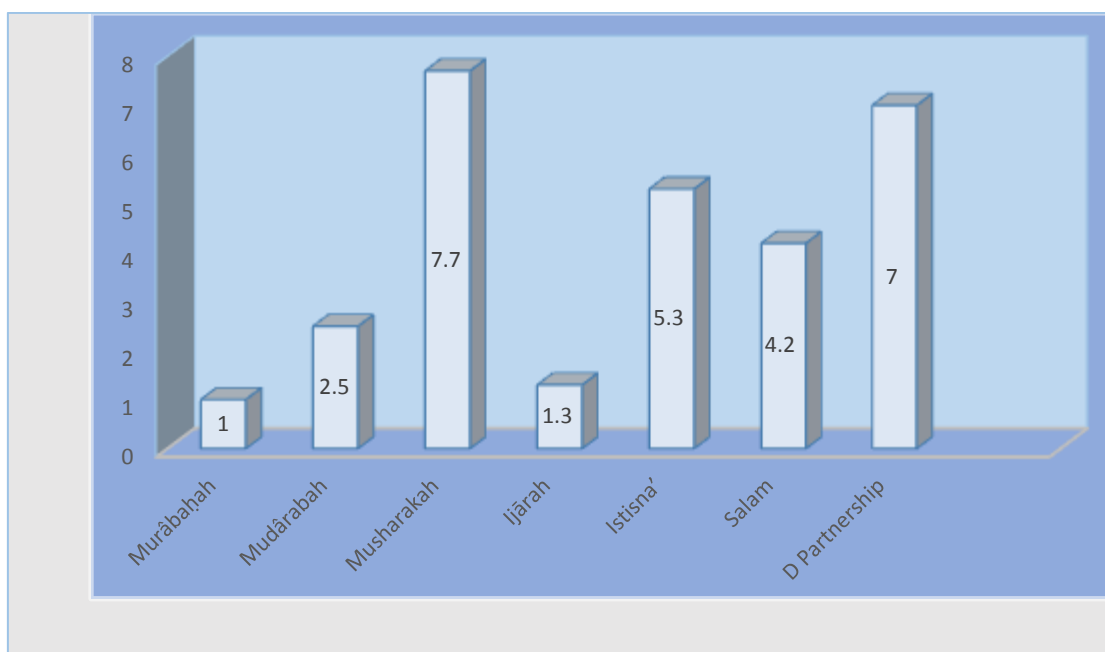
Source: Al Baraka Banking Group Annual Report, Bahrain 2021, available on www.albaraka.com

it is clear from Figure No. (1) that the Murabaha formulas includes the least degree of risk, When Islamic banks use the Murabaha formulas to order the purchase, they throw all the risks on the customer instead, because he is obligated to pay an additional amount to the financing bank to purchase the commodity, and therefore the customer bears all the risks, while no The bank bears any risks, although it is supposed to bear the risks in the event that the customer does not purchase the goods from the bank, which it overcomes by forcing the customer to pay an amount called a deposit of seriousness of the contract, but these risks remain limited and not significant such as transportation, theft, loss, customs procedures, and burdens tax and others, This confirms the tendency of the majority of Islamic banks to prefer the strategy of achieving the lowest possible level of risks in light of a certain level of expected return, in order to avoid the use of other Islamic financing formulas with high risks that may result in losses that affect the reputation of the bank and the confidence of customers in it.

Also, the majority of investment projects do not yield their returns until after a long period, which negatively affects the liquidity of the bank, while the Murabaha formulas are easy to implement and short in duration, commensurate with the nature of the resources of most Islamic banks.

Consequently, these factors have contributed to the focus of Islamic banks on debt contracts and the neglect of other forms of participation and mudaraba, which are the philosophical basis of Islamic banking.

3.4. The effect of the concentration of debt-based financing on the long-run financial stability of the Islamic banks:

The inability to absorb external shocks through reducing the nominal value of investment deposits by bearing the depositor part of the losses, which results in an imbalance of assets (resources) with liabilities (uses) because demand deposits are guaranteed in the value of the capital and are recoverable by depositors At the original value and upon request at any time.

One of the criteria for maintaining capital in an Islamic bank: The extent of the bank's investments diversification

The extent of the synchronization between the maturity of investments and the maturity of deposits, for example, it is not possible to rely on the forms of participation and mudaraba, which are long-run formulas in the event that the bulk of the short-run deposits of the Islamic bank is represented in the current accounts and investment accounts in the short term, because there is no There is a proportionality between the source of financing and the investment.

The extent to which the bank depends on clear ways and methods to deal with potential risks.

- In order for Islamic banks to achieve diversification of the investment portfolio, it is necessary to measure the degree of risks associated with each mod, predict the expected profit in light of those risks, and choose investments that are commensurate with their willingness to bear risks, as investments with high risks sometimes lead to losses, which affects the reputation The bank and customers' trust in it.

Thus, focusing on debt- based financing does not enable the Islamic bank to achieve its investment and development goals, and the bank loses the advantages of diversification resulting from dealing in different Islamic formulas.

3.5: The relative distribution of the coefficient of concentration of financing formulas in Islamic banks:

The report of the General Council of Islamic Banks indicated that the Murabaha formulas constituted about 56% of the total financing, and the leasing accounted for about 33%, while the participation represented only 3%, as shown in Figure No. (2):

Figure No. (2) Relative distribution of financing formulas in Islamic banks 2021
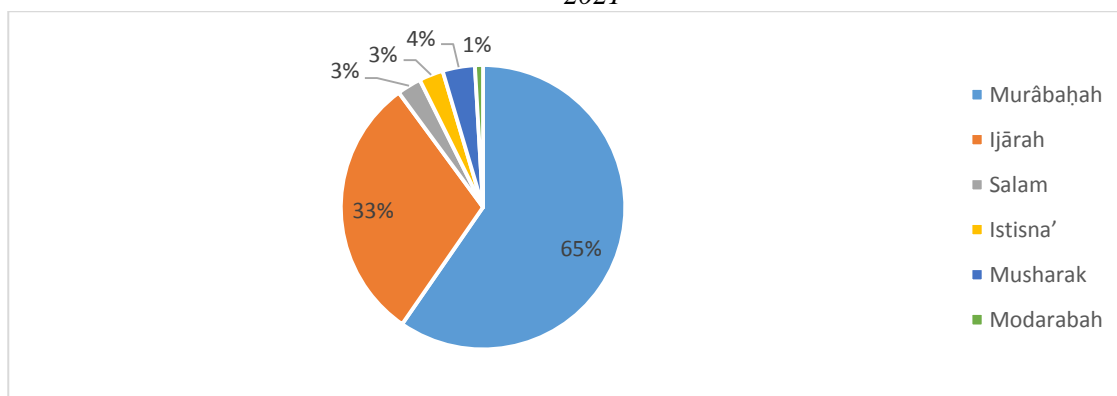
Source : Islamic Finance Information Service, 2021.

It is noted from Figure No. (2) that financial resources are employed in Islamic banks through various forms of financing, including: Murabaha financing, Musharaka financing, Mudaraba financing, Istisna' financing, Salam financing, and Ijārah financing.
However, by evaluating the previous employment of Islamic banks, we find that the applied situation of these banks is completely in contradiction with the previous theoretical perceptions, the most important of which was the ability of these banks to rely primarily on participation financing, and to make long-run investments in a large way.
By studying the budgets of some Islamic banks for later periods, it was found that short-run investment has the largest relative weight of Islamic banks' investments, reaching 75.6%, and at the

same time, medium and long-run investment did not receive much, as it reached 5.4%. (CIBAFI, 2021)

3.6. Relative Distribution of Funding formulas by Countries:

When studying the relative distribution of Islamic financing formulas according to countries, we also find the predominance of the Murabaha mode in most Islamic banks in many countries compared to other formulas as shown in Figure (3)

Figure No. (3) Forms of Islamic finance in Islamic banks in a number of countries
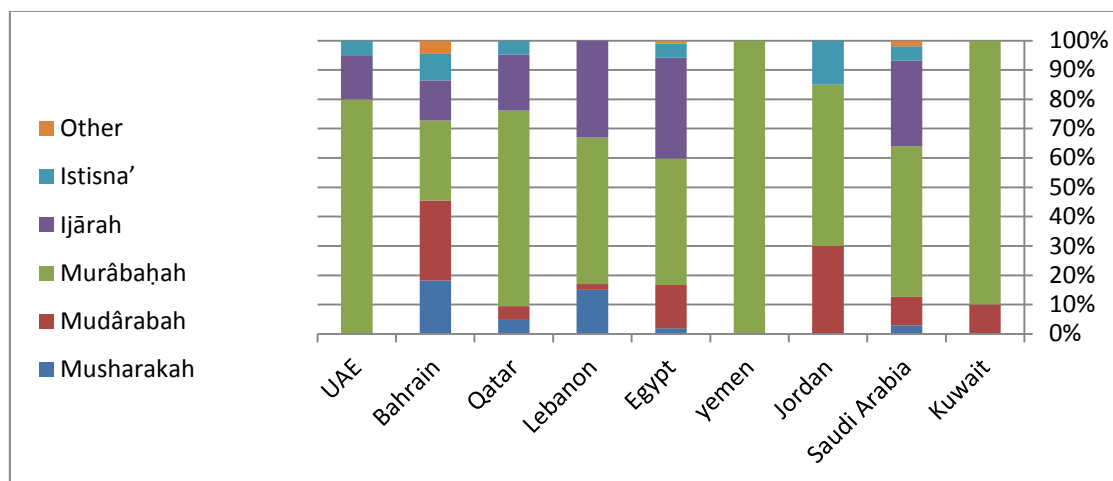
source :Islamic Finance Information Service, 2021 .

It is clear from Figure No. (3) the predominance of the debt-based financing formulasin Islamic banks in most countries. Even the countries that managed to diversify the investment portfolios of their Islamic banks, these Islamic formulas represented only very small percentages of the investment portfolio.

This expansion of reliance on debt besad financing has many negative effects, the most important of which is that it does not enable the Islamic bank to achieve its investment and development goals, and the Islamic bank loses the advantages of diversification resulting from dealing in different Islamic formulas.

4.Third: A proposed econometric model for estimating the effect of concentrating debt-based financing patterns and partnerships on the long-run soundness of the financial stability of Islamic banks

This model aims to determine the impact of the concentration of financing formulas with debts and partnerships on the safety of the financial stability of the Islamic bank in the long run in several selected banks during the period (2004-2014), and to determine the extent of their relative importance, allowing the evaluation of Islamic financing formulas provided by Islamic banks and their effectiveness in determining the suitability of these formulas to the safety of Islamic banks, and allowing appropriate policies to be taken, which can contribute positively to increasing the volume of financing provided by formulas that can contribute to achieving financial stability for Islamic banks in the future, as well as assessing the impact of these formulas' concentration in contributing to Economic and social development processes, based on that, this model will be addressed through the following :

4.1. Sample selection and time series:

The study sample consisted of five selected Islamic banks from the Islamic banks listed in the Gulf financial markets, namely Al Rajhi Bank, Al Bilad Bank in Saudi Arabia, Dubai Islamic Bank, Emirates Islamic Bank in the United Arab Emirates, Bahrain Islamic Bank in the Kingdom of Bahrain. As for the time series, it included (11) years, extending from (2004-2014). The reason for

the lack of observations within the sample is that the time series (t) does not include many Islamic banks that were excluded due to the conversion of those traditional banks to Islamic banks after 2004, and thus the lack of sufficient data to cover the study period.

4.2. Description of the model and identification of variables and data sources:

Based on the theoretical and applied literature, it is clear that there are a large number of variables that affect financial stability, but for the purpose of the study, the focus will be on the financial variables that are specific to Islamic banks, especially debt financing and financing in the form of shares that have the greatest impact on the stability of these Islamic banks.

Based on the hypotheses of the study, the following models were built to test them, as the general model of the study was developed to test the main hypothesis, which includes the effect of focusing on debt financing formulas inversely on the soundness of the financial stability of the Islamic bank in the long run, while the effect of focusing on partnership financing formulas is direct on The safety of the financial stability of the Islamic bank in the long run, and therefore, the standard model to be estimated is as shown in the following function :

$$FS = f(LO, MO)$$

$$FS_{it} = \beta_0 + \beta_1 LO_{it} + \beta_2 MO_{it} + u_{it}$$

t: (2004-2014)
i: The banks to which the study was applied during the previous period

Whereas, FS is an indicator of financial stability and can be measured by three indicators: (ROE): Return on Equity (ROE): Rate of Return on Investment (ROI): and Capital Adequacy Ratio (Z). As for (MO): represents financing in the form of participations (LO) representing financing in the form of debts.

Thus, the equation of the proposed model - in the Double Log Linear Function Form - is as follows for each indicator:

$$LnROE_{it} = \beta_0 + \beta_1 LnLO_{it} + \beta_2 LnMO_{it} + u_{it}$$
$$LnROI_{it} = \beta_0 + \beta_1 LnLO_{it} + \beta_2 LnMO_{it} + u_{it}$$
$$LnZ_{it} = \beta_0 + \beta_1 LnLO_{it} + \beta_2 LnMO_{it} + u_{it}$$

The choice of the double linear logarithmic form in the process of estimating the parameters of the model is due to the fact that the values of the parameters estimated according to this model express the flexibility of the dependent variable in relation to the independent variables.

According to the previous equations, the symbols of the variables and the indicators that express them, as well as the tribal expectations of the explanatory variables they contain and their impact on the stability of Islamic banks according to the logic of theoretical and applied economic literature, were as follows :

(**ROE**) : refers to financial stability, and its indicator is the return on equity, estimated at the rate of return on assets ROA x multiple of shareholders' equity

(**Z**) : refers to the degree of financial stability, and its indicator is the capital adequacy ratio, and it was measured through the bank's capital ratio to its risks, to show the relationship between the Islamic bank's capital sources and the risks surrounding the bank's assets and any other operations. To pay its obligations and face any losses that may occur in the future.

LO :It refers to the volume of financing in the form of debts in Islamic banks, and its indicator has been used by compiling the financing formulas with Murabaha, Ijarah and Salam, as a percentage of the total assets. There is an inverse relationship between the financial stability index and debt financing in Islamic banks .

MO :   refers to the volume of financing in the forms of participation in Islamic banks, and its indicator has been used by collecting financing by Mudaraba and participation as a percentage of the total assets, and increasing this percentage means increasing financing in the forms of participations at the expense of financing with debts, and therefore, it is expected that the relationship between the indicator of financial stability and Participation funding is a positive relationship.

Ut : It indicates the term of the random error, which is assumed to take the form of a normal distribution, and therefore, its arithmetic mean is zero, its variance is constant and its value is independent .

Table No. (1) shows some statistical results related to the study variables

Variable	Obs	Mean	Std. Dev.	Min	Max
llo	55	14.00051	5.135673	0	19.14086
lmo	55	12.41156	4.774055	0	17.48584
lroi	55	2.114824	.8962563	0	4.143135
lroe	55	3.160064	1.028277	0	5.484797
lz	55	3.610485	1.167459	0	5.590987

For financing in the debit's formula, the arithmetic mean is 14 percent, with a standard deviation of 5. As for the partnership financing formula, the arithmetic average is about 13 percent, the average return on investment is 2.11 percent, the return on assets is 3.16 percent, and the capital adequacy is 3.61.

4.3. Choosing the appropriate method for analyzing and testing the validity of the model:

The longitudinal data models and how to choose were used to reconcile the three longitudinal data models, the fixed effects model, the random effects model, the cumulative regression model. Interference between variables, more degrees of freedom, and more efficiency. (Al-Jammal, 2012: 5) .

Longitudinal regression models are divided into a firm fixed-effect approach FE and a random-effect approach RE; In which the null hypothesis is that the estimators of the fixed effects model (FE) and the estimators of the random effects model (EF) are not different, but if the null hypothesis is rejected, this is evidence that the random effects model is not suitable, and it is better to use the fixed effects model. (Al-Jammal, 2012: 8) .

The study used longitudinal panel data, and the fixed effect model (FE) was used in the estimation, due to the double number of observations, since in this case the fixed effects (FE) model is the best. Where the model in its indicators ROI, ROE, Z proved to have a statistically significant value.

4.4. Estimation results:

4.4.1. : The relationship between financial stability and its indicator, the rate of return on investment and financing formulas in Islamic banks : The quantitative results indicate that there is a direct statistically significant relationship at the level of significance of 1% between the partnership financing formulas and the rate of return on investment as an indicator of financial stability. According to Table No. (2), an increase in the financing formulas by participation by 1% leads to an increase in the rate of return on investment by 11.06%. This result confirms the hypothesis of a direct relationship between Mudaraba financing and Musharaka and the stability of Islamic banks. The results in Table No. (2) also showed that the coefficient of financing in debtor formulas is positive, but not of statistically significant value. This indicates that there is no relationship between debt financing formulas and the rate of return on investment as an indicator of stability.

Table No. (2) the estimated coefficients of the model, the statistical "t" value, and the standard deviation

	Fixed-effects (within) ROI regression	Fixed-effects (within) ROE regression	Fixed-effects (within) Z regression
Llo	.0319571 (1.06)	.039304 (0.39)	**.1831951**[***] (3.63)
Lmo	**.1106716**[***] (3.68)	.0954699 (0.95)	-.0537737 (-1.07)
Cons	.2938004 (1.29)	1.424859[*] (1.87)	1.713077[***] (4.48)
R-sq: within	0.6109	0.1107	0.3638
R-sq: overall	0.1500	0.0608	0.1745
F test	37.68[***]	2.99[*]	13.72[***]

*** The coefficient is statistically significant at the 1% level of significance, ** The coefficient is statistically significant at the 5% level of significance, and * The coefficient is statistically significant at the 10% significance level .

Table No. (2) shows the estimated coefficients of the model, the statistical "t" value, and the standard deviation, and the results show that the value of the coefficient of determination R2 is estimated at 0.61, meaning that there is a strong relationship between the return on investment as an indicator of financial stability and financing formulas in Islamic banks and 0.11 As for the return on capital index and 0.36 for capital adequacy.

4.4.2. The relationship between financial stability, index and rate of return on assets and financing formulas in Islamic banks: The quantitative results indicate that there is no statistically significant relationship between the financing formulas in Islamic banks and the rate of return on assets as an indicator of financial stability. According to Table No. (2), the increase in the financing formulas with partnerships and debtors leads to a rise in the rate of return on assets, but these results are not statistically significant. This indicates the absence or weakness of the relationship between financing formulas in Islamic banks and the rate of return on assets as an indicator of financial stability.

4.4.3. The relationship between financial stability and its indicator, capital adequacy ratio and financing formulas in Islamic banks: The results indicate that there is a positive statistically significant relationship at the level of significance of 1% between the debt-based financing formulas and the capital adequacy ratio as an indicator of financial stability. According to Table No. 2, an increase in debt based financing formulas by 1% leads to an increase in the capital adequacy ratio by 18.31%. This result confirms the hypothesis of a direct relationship between credit financing and the stability of Islamic banks. The results in Table No. (2) also showed that the coefficient of financing in the forms of participation is positive, but not of statistically significant value. This indicates that there is no relationship between the Musharaka financing formulas and the capital adequacy ratio as an indicator of financial stability.

5.Explanation: The relationship between financing formulas and the stability of Islamic banks is linked to the quality of the indicator that is used to measure financial stability.

Participation financing has an impact on financial stability if the financial stability indicator is the return on investment and the financing formulas have nothing to do with debts with this indicator. This result is logical because this type of financing depends mainly on the principle of profit and loss distribution, and every increase in investment returns benefits the bank, the money owner and the Mudaraber, and every decrease in the return is borne by all parties, not the bank alone.

As for debt - based financing formulas, they are more related to capital adequacy as an indicator of financial stability because the Islamic bank bears the loss when the customer defaults and is unable

to pay his debts, and therefore financial stability is linked to what the Islamic bank owns of capital as a reserve to cover any gap between assets and liabilities.

6 .Study results and recommendations

- Many Islamic banks resort to debt -based financing formulas, and this matter requires the presence of sufficient capital to achieve more financial stability. In this case, financial stability is based on an exogenous mechanism, i.e. the availability of capital.

- The formulas of partnership financing make the financial stability in Islamic banks linked to the principle of profit and loss distribution. In this case, financial stability is linked to an endogenous mechanism that stems from the specificity of the participants' contracts.

- Given the high costs of capital and its inability to face large risks, it is in the interest of Islamic banks to use the method of partnership financing as a basic form of project financing.

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Appendix:-

Appendix No (1)

```
Fixed-effects (within) regression          Number of obs    =      55
Group variable: sni                 Number of groups  =       5

R-sq:  within  = 0.6109              Obs per group: min =      11
    between = 0.0613                          avg =     11.0
    overall = 0.1500                          max =      11

                        F(2,48)         =    37.68
corr(u_i, Xb)  = -0.3932              Prob > F      =    0.0000

------------------------------------------------------------------------------
    lroi |    Coef.  Std. Err.    t   P>|t|   [95% Conf. Interval]
-------------+----------------------------------------------------------------
    llo |  .0319571  .0300697    1.06  0.293   -.0285019   .0924162
    lmo |  .1106716  .0300339    3.68  0.001    .0502845   .1710588
   _cons |  .2938004  .2282106    1.29  0.204   -.1650478   .7526486
-------------+----------------------------------------------------------------
  sigma_u |  .93593971
  sigma_e |  .29877241
     rho |  .90752123   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:    F(4, 48) =    82.88         Prob > F = 0.0000
```

Appendix No (2)

$$LnROE_{it} = \beta_0 + \beta_1 LnLO_{it} + \beta_2 LnMO_{it} + u_{it}$$

```
Fixed-effects (within) regression          Number of obs    =      55
Group variable: sni                 Number of groups   =       5

R-sq:  within  = 0.1107              Obs per group: min =      11
```

```
      between = 0.1452                        avg =      11.0
      overall = 0.0608                        max =      11

                          F(2,48)      =     2.99
corr(u_i, Xb)  = -0.7620                Prob > F       =    0.0598

--------------------------------------------------------------------
    lroe |    Coef.   Std. Err.     t    P>|t|    [95% Conf. Interval]
---------+----------------------------------------------------------
     llo |  .039304   .1003439    0.39   0.697    -.1624509   .2410588
     lmo |  .0954699  .1002245    0.95   0.346    -.106045    .2969847
   _cons | 1.424859   .7615497    1.87   0.067    -.1063395   2.956057
---------+----------------------------------------------------------
 sigma_u |  .56606508
 sigma_e |  .99701781
     rho |  .24377023   (fraction of variance due to u_i)
--------------------------------------------------------------------
F test that all u_i=0:    F(4, 48) =     1.49          Prob > F = 0.2214
```

Appendix No (3)

$$Lnz_{it} = \beta_0 + \beta_1 LnLO_{it} + \beta_2 LnMO_{it} + u_{it}$$

```
Fixed-effects (within) regression         Number of obs    =      55
Group variable: sni                       Number of groups  =       5

R-sq:  within  = 0.3638                    Obs per group: min =      11
       between = 0.5794                                    avg =      11.0
       overall = 0.1745                                    max =      11

                          F(2,48)      =    13.72
corr(u_i, Xb)  = -0.7860                Prob > F       =    0.0000
--------------------------------------------------------------------
      lz |    Coef.   Std. Err.     t    P>|t|    [95% Conf. Interval]
---------+----------------------------------------------------------
     llo |  .1831951  .0504159    3.63   0.001     .081827    .2845631
     lmo | -.0537737  .050356    -1.07   0.291    -.1550211   .0474738
   _cons | 1.713077   .3826268    4.48   0.000     .9437537   2.482399
---------+----------------------------------------------------------
 sigma_u |  1.7019975
 sigma_e |  .50093348
     rho |  .92028085   (fraction of variance due to u_i)
--------------------------------------------------------------------
F test that all u_i=0:    F(4, 48) =    48.53          Prob > F = 0.0000
```

Appendix No (4)

obs	s ni	year	t	ROE	ROI	z	lo	Mo	lomo	plo	pmo	llo	lmo	lroi	lroe	lz
1	1	20 04	1	44.8	6.8	19.4	673763 44	218832 4	695646 68	0.9 69	0.0 31	18.0258 045	14.5986 465	1.91692 261	3.80220 814	2.96527 307
2	1	20 05	2	47.6	6.5	18.2	773566 04	277808 0	801346 84	0.9 65	0.0 35	18.1639 365	14.8372 706	1.87180 218	3.86283 276	2.90142 159
3	1	20 06	3	43.4	7.2	25.3	869681 51	259503 7	895631 88	0.9 71	0.0 29	18.2810 525	14.7691 113	1.97408 103	3.77045 944	3.23080 44
4	1	20 07	4	30.6	7.5	23.6	102673 251	220219 4	104875 445	0.9 79	0.0 21	18.4470 622	14.6049 647	2.01490 302	3.42100 001	3.16124 671
5	1	20 08	5	25.8	6.5	14.6	139546 129	445739 5	144003 524	0.9 69	0.0 31	18.7539 058	15.3100 751	1.87180 218	3.25037 449	2.68102 153
6	1	20 09	6	24	6.4	13.82	151435 602	146665 1	152902 253	0.9 90	0.0 10	18.8356 71	14.1984 921	1.85629 799	3.17805 383	2.62611 682
7	1	20 10	7	23	7.3	15.23	122515 967	116477 3	123680 740	0.9 91	0.0 09	18.6237 519	13.9680 368	1.98787 435	3.13549 422	2.72326 717

8	1	2011	8	23.4	6.3	14.71	143394294	556957	143951251	0.996	0.004	18.7811087	13.2302433	1.84054963	3.15273602	2.68852753
9	1	2012	9	22.5	7.8	14.68	176193958	580151	176774109	0.997	0.003	18.987096	13.2710437	2.05412373	3.11351531	2.68648602
10	1	2013	10	19.8	5	18.49	190649060	483016	191132076	0.997	0.003	19.0659449	13.0878051	1.60943791	2.98568194	2.91723005
11	1	2014	11	17.2	5.2	18.48	205479276	460684	205939960	0.998	0.002	19.1408557	13.0404676	1.64865863	2.84490938	2.91668907
12	2	2004	1	0	0	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	2	2005	2	1.8	2	96	5205010	6595	5211605	0.999	0.001	15.4651322	8.79406707	0.69314718	0.58778666	4.56434819
14	2	2006	3	60.00	3.8	54	9293570	375731	9669301	0.961	0.039	16.0448333	12.8366287	1.33500107	4.09434456	3.98898405
15	2	2007	4	2.3	11.5	33	5297904	892071	6189975	0.856	0.144	15.4828218	13.701301	2.44234704	0.83290912	3.49650756
16	2	2008	5	3.9	8	23.25	7466117	810066	8276183	0.902	0.098	15.8258856	13.604871	2.07944154	1.36097655	3.14630513
17	2	2009	6	7.9	5.1	19.85	10209187	804928	11014115	0.927	0.073	16.1387986	13.5985081	1.62924054	2.06686276	2.98820401
18	2	2010	7	30	5.2	16.58	11129494	1160332	12289826	0.906	0.094	16.2251093	13.9642167	1.64865863	3.40119738	2.80819715
19	2	2011	8	101	5.1	15.45	12799829	979917	13779746	0.929	0.071	16.3649424	13.7952232	1.62924054	4.61512052	2.737609
20	2	2012	9	241	5.6	13.67	757626	50178	807804	0.938	0.062	13.5379451	10.823332	1.7227666	5.48479693	2.61520365
21	2	2013	10	154	4.5	16.04	858495	56597	915092	0.938	0.062	13.6629361	10.9437113	1.5040774	5.0369526	2.7750856
22	2	2014	11	157	4.8	15.5	962100	54597	1016697	0.946	0.054	13.7768737	10.9077342	1.56861592	5.05624581	2.74084002
23	3	2004	1	13.7	5.8	12.6	9954672	8709981	18664653	0.533	0.467	16.1135525	15.9799802	1.75785792	2.61739583	2.53369681
24	3	2005	2	14.2	6.1	10.3	14152176	13618743	27770919	0.510	0.490	16.465379	16.4269576	1.80828877	2.65324196	2.3321439
25	3	2006	3	14.8	6.4	14.6	18068246.3	13322849	31391095.3	0.576	0.424	16.7096666	16.4049911	1.85629799	2.69462718	2.68102153
26	3	2007	4	16.4	7.9	9	22353997	19202989	41556986	0.538	0.462	16.9225157	16.7705765	2.06686276	2.79728133	2.19722458
27	3	2008	5	18	6	10.7	24431105	28437730	52868835	0.462	0.538	17.0113677	17.1632273	1.79175947	2.89037176	2.37024374
28	3	2009	6	20.6	6.6	17.5	21509371	30470235	51979606	0.414	0.586	16.8839993	17.2322609	1.88706965	3.02529108	2.86220088
29	3	2010	7	22.2	5.6	17.8	20112648	39264821	59377469	0.339	0.661	16.8168594	17.4858395	1.7227666	3.10009229	2.87919846
30	3	2011	8	23	6.6	18.2	17182958	34163398	51346356	0.335	0.665	16.6594286	17.3466654	1.88706965	3.13549422	2.90142159
31	3	2012	9	24.5	5.9	17.4	17586148	35531391	53117539	0.331	0.669	16.6826221	17.3859271	1.77495235	3.19867312	2.85647021
32	3	2013	10	25.8	5.5	18.2	18729468	33663622	52393090	0.357	0.643	16.7456087	17.3319283	1.70474809	3.25037449	2.90142159
33	3	2014	11	27	4.5	14.9	28585576	38153748	66739324	0.428	0.572	17.1684128	17.4571346	1.5040774	3.29583687	2.70136121
34	4	2004	1	21	4	85	426.349	129.456	555.805	0.767	0.233	6.05525826	4.86334106	1.38629436	3.04452244	4.44265126
35	4	2005	2	24	35	92	1616640.83	603597.821	2220238.65	0.728	0.272	14.295861	13.3106634	3.55534806	3.17805383	4.52178858
36	4	2006	3	29	42	84	3679190	2012475	5691665	0.646	0.354	15.1182032	14.5148759	3.73766962	3.36729583	4.4308168
37	4	2007	4	28	45	118	7375233	3317737	10692970	0.690	0.310	15.8136381	15.0147935	3.80666249	3.33220451	4.77068462
38	4	2008	5	33	50	108	10603701	6321627	16925328	0.626	0.374	16.1767136	15.6594872	3.91202301	3.49650756	4.68213123
39	4	2009	6	34	63	171	8494287	8023215	16517502	0.514	0.486	15.9549044	15.8978498	4.14313473	3.52636052	5.14166356
40	4	2010	7	53	62	18	8015441	7400403	15415844	0.520	0.480	15.8968804	15.817045	4.12713439	3.97029191	2.89037176
41	4	2011	8	44	53	183	6920819	7029110	13949929	0.496	0.504	15.7500447	15.7655707	3.97029191	3.78418963	5.20948615
42	4	2012	9	34	38	122	12852784	10439229	23292013	0.552	0.448	16.369071	16.1610813	3.63758616	3.52636052	4.80402104
43	4	2013	10	41	44	159	14713777	10803302	25517079	0.577	0.423	16.5042948	16.1953624	3.78418963	3.71357207	5.0689042
44	4	2014	11	84	45	138	19630309	10518782	30149091	0.651	0.349	16.7925853	16.168673	3.80666249	4.4308168	4.92725369
45	5	2004	1	7.9	4.2	103	155.476	7.837	163.313	0.952	0.048	5.04649138	2.05885611	1.43508453	2.06686276	4.63472899

obs	sni	year	t	ROE	ROI	z	lo	Mo	Lomo	plo	pmo	llo	lmo	lroi	lroe	lz
46	5	2005	2	12	6.3	146	156.421	21.765	178.186	0.878	0.122	5.05255109	3.08030318	1.84054963	2.48490665	4.98360662
47	5	2006	3	17.8	8.4	172	241.71	29.44	271.15	0.891	0.109	5.48773866	3.38235429	2.12823171	2.87919846	5.14749448
48	5	2007	4	18.2	7.3	224	337.055	53	390.055	0.864	0.136	5.82024612	3.97029191	1.98787435	2.90142159	5.41164605
49	5	2008	5	12.4	6.4	268	368.563	148.486	517.049	0.713	0.287	5.90961166	5.00049068	1.85629799	2.51769647	5.59098698
50	5	2009	6	132	5.1	163	332.519	200.163	532.682	0.624	0.376	5.806697	5.29913203	1.62924054	4.88280192	5.0937502
51	5	2010	7	113	4.2	135	431.692	185.632	617.324	0.699	0.301	6.06771237	5.22376622	1.43508453	4.72738782	4.90527478
52	5	2011	8	14.4	7.5	114	201.972	190.269	392.241	0.515	0.485	5.30812907	5.24843886	2.01490302	2.66722821	4.73619845
53	5	2012	9	10.2	6.5	122	227.757	187.066	414.823	0.549	0.451	5.42827927	5.2314615	1.87180218	2.32238772	4.80402104
54	5	2013	10	13.6	5.4	116	35871	21970	57841	0.620	0.380	10.4876844	9.99743317	1.68639895	2.61006979	4.75359019
55	5	2014	11	14.3	6.7	156	21.637	19993	20014.637	0.001	0.999	3.07440481	9.90313749	1.90210753	2.66025954	5.04985601

Appendix No (5)

bank	obs	sni	year	t	ROE	ROI	z	lo	Mo	Lomo	plo	pmo	llo	lmo	lroi	lroe	lz
B1	1	1	2004	1	44.8	6.8	19.4	67376344	2188324	69564668	0.96854259	0.03145740	18.0258045	14.5986465	1.91692261	3.80220814	2.96527307
B1	2	1	2005	2	47.6	6.5	18.2	77356604	2778080	80134684	0.96532365	0.03467635	18.1639365	14.8372706	1.87180218	3.86283276	2.90142159
B1	3	1	2006	3	43.4	7.2	25.3	86968151	2595037	89563188	0.97102562	0.02897437	18.2810525	14.7691113	1.97408103	3.77045944	3.2308044
B1	4	1	2007	4	30.6	7.5	23.6	102673251	2202194	104875445	0.97900181	0.02099818	18.4470622	14.6049647	2.01490302	3.42100001	3.16124671
B1	5	1	2008	5	25.8	6.5	14.6	139546129	4457395	144003524	0.96904662	0.03095337	18.7539058	15.3100751	1.87180218	3.25037449	2.68102153
B1	6	1	2009	6	24	6.4	13.82	151435602	1466651	152902253	0.99040791	0.00959208	18.835671	14.1984921	1.85629799	3.17805383	2.62611682
B1	7	1	2010	7	23	7.3	15.23	122515967	1164773	123680740	0.99058242	0.00941757	18.6237519	13.9680368	1.98787435	3.13549422	2.72326717
B1	8	1	2011	8	23.4	6.3	14.71	143394294	556957	143951251	0.99613093	0.00386906	18.7811087	13.2302433	1.84054963	3.15273602	2.68852753
B1	9	1	2012	9	22.5	7.8	14.68	176193958	580151	176774109	0.99671812	0.00328187	18.987096	13.2710437	2.05412373	3.11351531	2.68648602
B1	10	1	2013	10	19.8	5	18.49	190649060	483016	191132076	0.99747286	0.00252713	19.0659449	13.0878051	1.60943791	2.98568194	2.91723005
B1	11	1	2014	11	17.2	5.2	18.48	205479276	460684	205939960	0.99776301	0.00223698	19.1408557	13.0404676	1.64865863	2.84490938	2.91668907
B2	12	2	2004	1	0	0	0	0	0	0	0	0	0	0	0	0	0
B2	13	2	2005	2	1.8	2	96	5205010	6595	5211605	0.99873455	0.00126544	15.4651322	8.79406707	0.69314718	0.58778666	4.56434819
B2	14	2	2006	3	60	3.8	54	9293570	375731	9669301	0.96114186	0.03885813	16.0448333	12.8366287	1.33500107	4.09434456	3.98898405
B2	15	2	2007	4	2.3	11.5	33	5297904	892071	6189975	0.85588455	0.14411544	15.4828218	13.701301	2.44234704	0.83290912	3.49650756
B2	16	2	2008	5	3.9	8	23.25	7466117	810066	8276183	0.90212082	0.09787917	15.8258856	13.604871	2.07944154	1.36097655	3.14630513
B2	17	2	2009	6	7.9	5.1	19.85	10209187	804928	11014115	0.92691850	0.07308149	16.1387986	13.5985081	1.62924054	2.06686276	2.98820401
B2	18	2	2010	7	30	5.2	16.58	11129494	1160332	12289826	0.90558597	0.09441403	16.2251093	13.9642167	1.64865863	3.40119738	2.80819715
B2	19	2	2011	8	10.1	5.1	15.4	12799829	979917	13779746	0.92888715	0.07111284	16.3649424	13.7952232	1.62924054	4.61512052	2.737609

							5										
B2	20	2	2012	9	241	5.6	13.67	757626	50178	807804	0.937883447	0.062116553	13.5379451	10.823332	1.7227666	5.48479693	2.61520365
B2	21	2	2013	10	154	4.5	16.04	858495	56597	915092	0.938151574	0.061848426	13.6629361	10.9437113	1.5040774	5.0369526	2.7750856
B2	22	2	2014	11	157	4.8	15.5	962100	54597	1016697	0.946299635	0.053700365	13.7768737	10.9077342	1.56861592	5.05624581	2.74084002
B3	23	3	2004	1	13.7	5.8	12.6	9954672	8709981	18664653	0.533343534	0.466656466	16.1135525	15.9799802	1.75785792	2.61739583	2.53369681
B3	24	3	2005	2	14.2	6.1	10.3	14152176	13618743	27770919	0.509604165	0.490395835	16.465379	16.4269576	1.80828877	2.65324196	2.3321439
B3	25	3	2006	3	14.8	6.4	14.6	18068246.3	13322849	31391095.3	0.575585087	0.424414913	16.7096666	16.4049911	1.85629799	2.69462718	2.68102153
B3	26	3	2007	4	16.4	7.9	9	22353997	19202989	41556986	0.537911893	0.462088107	16.9225157	16.7705765	2.06686276	2.79728133	2.19722458
B3	27	3	2008	5	18	6	10.7	24431105	28437730	52868835	0.462107875	0.537892125	17.0113677	17.1632273	1.79175947	2.89037176	2.37024374
B3	28	3	2009	6	20.6	6.6	17.5	21509371	30470235	51979606	0.413804041	0.586195959	16.8839993	17.2322609	1.88706965	3.02529108	2.86220088
B3	29	3	2010	7	22.2	5.6	17.8	20112648	39264821	59377469	0.338725249	0.661274751	16.8168594	17.4858395	1.7227666	3.10009229	2.87919846
B3	30	3	2011	8	23	6.6	18.2	17182958	34163398	51346356	0.334648052	0.665351948	16.6594286	17.3466654	1.88706965	3.13549422	2.90142159
B3	31	3	2012	9	24.5	5.9	17.4	17586148	35531391	53117539	0.331079872	0.668920128	16.6826221	17.3859271	1.77495235	3.19867312	2.85647021
B3	32	3	2013	10	25.8	5.5	18.2	18729468	33663622	52393090	0.357479736	0.642520264	16.7456087	17.3319283	1.70474809	3.25037449	2.90142159
B3	33	3	2014	11	27	4.5	14.9	28585576	38153748	66739324	0.428316835	0.571683165	17.1684128	17.4571346	1.5040774	3.29583687	2.70136121
B4	34	4	2004	1	21	4	85	426.349	129.456	555.805	0.767083779	0.232916221	6.05525826	4.86334106	1.38629436	3.04452244	4.44265126
B4	35	4	2005	2	24	35	92	1616640.83	603597.821	2220238.65	0.728138315	0.271861685	14.295861	13.3106634	3.55534806	3.17805383	4.52178858
B4	36	4	2006	3	29	42	84	3679190	2012475	5691665	0.646417173	0.353582827	15.1182032	14.5148759	3.73766962	3.36729583	4.4308168
B4	37	4	2007	4	28	45	118	7375233	3317737	10692970	0.689727269	0.310272731	15.8136381	15.0147935	3.80666249	3.33220451	4.77068462
B4	38	4	2008	5	33	50	108	10603701	6321627	16925328	0.626498996	0.373501004	16.1767136	15.6594872	3.91202301	3.49650756	4.68213123
B4	39	4	2009	6	34	63	171	8494287	8023215	16517502	0.514259783	0.485740217	15.9549044	15.8978498	4.14313473	3.52636052	5.14166356
B4	40	4	2010	7	53	62	18	8015441	7400403	15415844	0.519948243	0.480051757	15.8968804	15.817045	4.12713439	3.97029191	2.89037176
B4	41	4	2011	8	44	53	183	6920819	7029110	13949929	0.496118582	0.503881418	15.7500447	15.7655707	3.97029191	3.78418963	5.20948615
B4	42	4	2012	9	34	38	122	12852784	10439229	23292013	0.551810786	0.448189214	16.369071	16.1610813	3.63758616	3.52636052	4.80402104
B4	43	4	2013	10	41	44	159	14713777	10803302	25517079	0.57662466	0.42337534	16.5042948	16.1953624	3.78418963	3.71357207	5.0689042
B4	44	4	2014	11	84	45	138	19630309	10518782	30149091	0.651107823	0.348892177	16.7925853	16.168673	3.80666249	4.4308168	4.92725369
B5	45	5	2004	1	7.9	4.2	103	155.476	7.837	163.313	0.952012393	0.047987607	5.04649138	2.05885611	1.43508453	2.06686276	4.63472899
B5	46	5	2005	2	12	6.3	146	156.421	21.765	178.186	0.877852357	0.122147643	5.05255109	3.08030318	1.84054963	2.48490665	4.98360662
B5	47	5	2006	3	17.8	8.4	172	241.71	29.44	271.15	0.89142541	0.10857459	5.48773866	3.38235429	2.12823171	2.87919846	5.14749448
B5	48	5	2007	4	18.2	7.3	224	337.055	53	390.055	0.864121726	0.135878274	5.82024612	3.97029191	1.98787435	2.90142159	5.41164605
B5	49	5	2008	5	12.4	6.4	268	368.563	148.486	517.049	0.712820255	0.287179745	5.90961166	5.00049068	1.85629799	2.51769647	5.59098698
B5	50	5	2009	6	13.2	5.1	163	332.519	200.163	532.682	0.624235473	0.375764527	5.806697	5.29913203	1.62924054	4.88280192	5.0937502
B5	51	5	2010	7	11.3	4.2	135	431.692	185.632	617.324	0.69929567	0.30070433	6.06771237	5.22376622	1.43508453	4.72738782	4.90527478
B5	52	5	2011	8	14.4	7.5	114	201.972	190.269	392.241	0.514918124	0.485081876	5.30812907	5.24843886	2.01490302	2.66722821	4.73619845
B5	53	5	2012	9	10.2	6.5	122	227.757	187.066	414.823	0.54904622	0.45095378	5.42827927	5.2314615	1.87180218	2.32238772	4.80402104
B5	54	5	2013	10	13.6	5.4	116	35871	21970	57841	0.620165626	0.379834374	10.4876844	9.99743317	1.68639895	2.61006979	4.75359019
B5	55	5	2014	11	14.3	6.7	156	21.637	19993	20014.637	0.001081059	0.998918941	3.07440481	9.90313749	1.90210753	2.66025954	5.04985601