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# MEASURING THE EFFECT OF SOME BALANCE SHEET VARIABLES ON NET PROFIT USING THE HIPPOCAMPAL QUANTILE REGRESSION: AN APPLIED STUDY ON A SAMPLE OF PRIVATE BANKS LISTED IN THE IRAQ STOCK EXCHANGE FOR THE PERIOD (2010-2020)

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**Karrar Hatam Attieh Al-Bidairi. Measuring The Effect of Some Balance Sheet Variables on Net Profit Using the Hippocampal Quantile Regression: An Applied Study on A Sample of Private Banks Listed in The Iraq Stock Exchange for The Period (2010-2020) -- Palarch's Journal of Archaeology of Egypt/Egyptology 19(1), 1160-1178. ISSN 1567-214x**

**Keywords: Balance Sheet, Assets, Liabilities, Net Income, Hippocampal Quantile Regression.**

**ABSTRACT:**

This study examines the impact of the most important items of the balance sheet (capital, total assets, total deposits, investment, cash credit, shareholders' equity, and the number of branches) on the net profit of Iraqi private banks listed in the Iraq Stock Exchange, as the research sample consisted of ( 10) Banks represented (56%) of the research community using annual reports data for the period from (2010-2020), and the research problem was formulated, which refers to the question (Do the assets and liabilities of the research sample banks affect the net profit?) To test the research hypothesis, it was Adopting the hippocampal segmental regression model against any standard problem, which was adopted after conducting a descriptive analysis of the data of the research sample banks. Segmental regression levels. We recommend the need to pay attention to increasing the volume of deposits, diversifying investments and reducing credit restrictions, as well as the need to harmonize the balance sheet items in a way that reduces the time gaps in interest rates between assets and liabilities, and thus reduces risk and increases profits.

## INTRODUCTION:

The banking system is the backbone of economic life in light of the banking development and the increase in banking awareness and the use of electronic means in banking services, which has increased the importance of the banking

system in supporting economic activity in any country. The banks also aim to maximize their profits by managing the sources of funds and reducing the cost of obtaining them and between the uses of these funds. This money, and the banks at the beginning of their establishment did not suffer from a liquidity problem due to its availability in large quantities and the lack of demand for loans until the forties and fifties until the emergence of the problem of lack of liquidity due to the increase in demand for loans in the early sixties in order to increase economic activity and the increase of small projects, which called on banks to the need to manage The sources of funds have and the management of the uses of this money correctly, but in the current era and as a result of technological development and the increase of laws and regulatory controls and the emergence of financial crises as well as fluctuations in interest rates and the intensification of competition among banks, all of this has led to the difficulty of managing the sources and uses of funds in commercial banks. Banks pay attention to assets and liabilities and harmonize them in order to achieve their goals and reduce the risks to which you are exposed.

### *The Scientific Methodology of Research*

### *Problem Of Research*

The problem is the difficulty of matching between assets and liabilities and because of the high risks that may affect the net profit of commercial banks. The problem can be formulated in the following question: (Do the assets and liabilities of commercial banks affect the net profit?)

### *The Importance of Research*

The research takes its importance from the importance of its subject and the problem that it is trying to find solutions to, which is the nature of the relationship between the variables of assets and liabilities of commercial banks and the extent of their impact on net income, as the sources of funds and their uses are the only source to achieve net income.

## RESEARCH OBJECTIVES

The research aims to:

A-Identify the vocabulary of assets, liabilities and net profit.

B-To identify the impact of the sources and uses of funds in commercial banks on the net profit.

C-Analysing the impact of some items on the balance sheet of the research sample banks on the net profit and studying the relationship between them.

## RESEARCH HYPOTHESES

The main hypothesis was (there is no statistically significant impact relationship at a significance level of less than (5%) for the independent variables (capital, total assets, total deposits, investment, cash credit, shareholders' equity, and number of branches on the dependent variable (net

income) for commercial banks research sample). A set of sub-hypotheses was branched out of it, depending on the cardinal regression model used in the research, as follows:

**A-** There is no statistically significant effect relationship at a significance level less than (5%) for the independent variables on the dependent variable at the quintile level (0.15).

**B-**There is no statistically significant effect relationship at a significance level less than (5%) for the independent variables on the dependent variable at the quintile level (0.30).

**C-**There is no statistically significant effect relationship at a significance level less than (5%) for the independent variables on the dependent variable at the quintile level (0.50).

**D-**There is no statistically significant effect relationship at a level of significance less than (5%) for the independent variables on the dependent variable at the quintile level (0.75).

**E-**There is no statistically significant effect relationship at a level of significance less than (5%) for the independent variables on the dependent variable at the quintile level (0.95).

***Society and research sample***

The research community represented in the private banks listed in the Iraq Stock Exchange. As for the research sample, it was represented in (10) banks, which represented a percentage (56%) of the research community and the banks investigated as follows:

**Table (1)** the banks that make up the research sample

| No. | Name of bank | No. | Name of bank |
|---|---|---|---|
| 1 | Bank of Baghdad | **6** | Mosul Investment Bank |
| 2 | Commercial Bank of Iraq | **7** | Middle East Bank |
| 3 | Investment Bank of Iraq | **8** | National Bank of Iraq |
| 4 | Gulf Commercial Bank | **9** | Sumer Commercial Bank |
| 5 | Al-Ahly Islamic Bank | **10** | Credit Bank of Iraq |

**Source:** Prepared by the researcher

## *The Theoretical Aspect (Balance Sheet and Net Profit)*

### *The Balance Sheet (Assets and Liabilities)*

### *Managing Assets, Liabilities and Sources of Funds*

Banks are commercial institutions, the majority of their assets and liabilities are financial assets and liabilities. They undertake the provision of financial services to the national economy by linking two sectors: the surplus sector looking for investment opportunities and the deficit sector looking for sources of funding, and it is the responsibility of the banks to satisfy both the financial surplus units and the financial deficit units By playing the role of financial mediation between them, and that some surplus units have become crowding out banks in providing direct financing to deficit units (Ramadan, 1997:44). Commercial banks are obligated to manage assets and liabilities in order to achieve a balance between their objectives, which will achieve greater effectiveness for the bank's management in achieving its objectives of increasing the wealth of the owners (Ranjan & Nallari, 2004: 83). As for the sources of money in commercial banks (liabilities) they are divided into internal and external sources and consist the internal sources are from the funds of private banks, while the external sources consist of deposits of all kinds in addition to other credit accounts (Hindi, 96: 112).

### *Internal Sources of Bank Financing*

The bank's own money is equal to the difference between the bank's assets and liabilities, and it is also called (the bank's net value). The net value accounts play the role of a protector that absorbs sudden financial shocks that the bank is exposed to (Al-Rawi, 2003: 31).

### *Paid-In Capital:*

The paid-up capital is the money that the bank obtains from the owners of the project and any subsequent additions or reductions. This source represents a small percentage of the total funds obtained from all sources, but the importance of this source cannot be marginalized as it is the first guarantee of depositors' money And the source of their trust (Al-Tarad, 1998: 32).

### *Retained Earnings:*

The profits are held in banks for various reasons and are part of shareholders, a means of obtaining funds for internally investment, and the forms taken by retained profits can be divided into reserves and provisions The unprecedented profits for distribution, preferably the dependence on internal financing significantly as the expose of the cost (AlShammari, 1999: 160).

***External Sources of Bank Financing***

***Deposits:***

Deposits, in general, represent the most prominent external sources of financing for the bank. Both domestic and foreign deposits constitute the main source of the commercial bank's funds. Deposits can be classified into the following main types: (Al-Zubaidi, 46: 2002)

***Demand Deposits (Current Deposits):***

represented by the money deposited by the depositor with commercial banks, and the depositor can withdraw the deposit at any time he wants without restriction or condition under orders issued by the depositor to the bank to be paid to him or to another person. The bank does not pay this type of deposit Deposits are interest, so the nature of these deposits requires keeping a large percentage of them in the form of liquid funds to meet the unconditional withdrawal of them (Al-Hawari, 1984:45).

***Time Deposits****:*

Term deposits are divided into two types, the first is due on specific dates and the second is subject to notices. Deposits that are due on specific dates represent the funds that individuals and private and public entities wish to deposit in the bank for a specified period in advance (three months, six months, a year) as Partial withdrawals from it are not permissible before the expiry of the term specified for depositing them, and the interest rate is determined according to the term of the deposit (Sultan, 1993: 42). As for time deposits with risks, they are the funds deposited by individuals and organizations in banks, provided that withdrawals are not made from them except after notifying the bank of a period determined by agreement between the two parties. When depositing, the bank pays interest on these deposits according to the time period (Al-Shamma', 1982: 44).

***Issuance Of Bonds:***

The bank issues them and sells them to the public and financial institutions, and keeps the funds resulting from this sale within its own funds, provided that the payment of deposits has priority over the payment of these bonds upon liquidation of the bank's business.

***Borrowing From the Central Bank:***

We find in the consolidated budget of the operating commercial banks another source of financing, which is the loans from the Central Bank. (Mishkin, 2007: 226)

***External Borrowing:***

It is summarized in the loans and credits that banks obtain from their correspondents abroad, usually in foreign currencies, so this source cannot be described as a direct source, and its use is limited to financing banking operations for the local bank (Al-Ashqar, 2000: 46).

***Uses Of Funds in Commercial Banks (Assets)***

The uses of commercial bank funds take two basic forms, which are cash and non-cash uses, such as facilities and services (Al-Shammari: 1999: 102).

***Monetary Uses***

The money of the commercial bank is distributed over its assets included in its balance sheet, and these assets can be divided as follows: (Al-Shamma, 1999:22 ) Central

***Cash:***

Banks keep part of their money in the form of cash in their vaults or with the Central Bank in the form of current accounts as a reserve to counter the movement of deposits withdrawal.

***Quasi-Cash:***

the bank maintains a large part of its reserves in the form of quasi-cash from its assets after it maintains the obligatory cash reserve in the form of ready cash and balances with the central bank, and quasi-cash constitutes the second line of defense and therefore it is called secondary reserve and is used against the risks of lack of liquidity as the bank employs Part of his money is in commercial papers that mature in the short term, provided that these papers are highly liquid, or in short-term loans that the bank can call at any moment it wants (Paul, 1986: 192).

***Balances With Other Banks:***

Balances with other banks take three forms, including balances with the central bank, either in the form of a current account, which is the cash reserve stipulated by law and must not be less than a certain percentage of the total deposits and the central bank does not pay any interest On this account if it is equal to the required percentage (Al-Zubaidi, 2002: 44), but if it exceeds that, it is paid on the increase. To facilitate dealing, these balances are considered ready cash, so they are included in the cash reserve account of the commercial bank. As for the last form, it is represented in balances with foreign banks, which are balances owned by local commercial banks but deposited with foreign banks (Al-Shamaa, 1992: 22).

***Discounted Bills of Exchange and Transfers:***

Represented in deducting treasury bills and commercial papers. As for deducting treasury bills, the degree of liquidity of treasury bills is high and banks usually buy them at a value less than their nominal value, i.e. at a discount (Al-Lozi, 2003: 45), while commercial papers are considered one of the best Short-term investments as long as they carry more than one signature, and this is explained by the fact that their value is not subject to violent fluctuations, such as securities whose prices change from one moment to another, and the law protects them with many guarantees, and because commercial papers are usually payable after a short period, the bank finds a way to renew loans constantly In addition to the possibility of deducting it at the Central Bank if cash is needed immediately (Fahmy and Saeed, 2008: 23).

***Loans And Advances:***

Loans and advances are considered one of the most important forms of commercial bank investments, and are almost the most important at all (Jamal, 2009: 29). For the commercial bank, one of the types of commercial loans is the overdraft. This type of loan is characterized by the absence of an in-kind guarantee, but the guarantee in fact contributes to the formation of the financial position and the customer's financial reputation (Al-Alaq, 1998: 29), and according to this credit, the bank puts the bank at the customer's disposal. A certain limit of the credit from which it can be withdrawn, provided that its balance is paid in a period of one year usually, and the interest is calculated on the debit balance of the credit. (Al-Shamaa, 2004: 36). As for the other type, it is represented in the credits with the guarantee of goods or commercial papers as an attempt by the banks to ensure that the money they lend to some of their customers is not lost (Awad, 1989: 14). The approval period, easy inventory, and easy selling (Fahmy, Saeed, 2008: 24).

***Non-Monetary Uses:***

These uses take the form of services provided by commercial banks to their customers in order to facilitate their business, and the profitability of these investments is limited in most cases, such as letters of guarantee and documentary credits (Al-Rawi, 2003: 189) (Khalil, 1982: 233):

***1-Letters of Guarantee:***

Letters of guarantee and letters of credit are considered non-cash banking facilities, and issuing them, like most other banking operations, is a profitable business if it is well-performed, otherwise the bank may incur heavy losses. Its liquidity will come at a later time. Therefore, banks should draw up a policy for this type of facility in which they can reconcile between profit and safety.

***Documentary Credits:***

are any arrangements made by the bank that opened the credit at the request of its customers and in accordance with its instructions, whereby the bank undertakes to pay to the beneficiary (seller) a certain amount of money within a specified period (that is, until the date of expiry of the credit) in return for the beneficiary to implement Certain terms and conditions.

***Net Profit***

***The Concept and Importance of Net Profit***

Profit has an accounting and an economic definition. From an accounting point of view, it is the increase in revenues over costs during a certain period, that is, the difference between the value of the revenues generated and their cost. In economic terms, it is the increase in wealth, which includes the increase in revenues over its costs plus profits. The (unrealized) resulting from the increase in prices, it can also be said that the economic profit is the return on the risk on the basis that the investment is a risk on the part of the investor, and the economic profit can be clarified as follows (on the basis that the economic profit is a risk return) (Al-Shama`,1992 :83), and interest is a main source of income for the bank, rather it is the largest percentage of its income, which is imposed on loans and advances, and there are other types of assets that can generate income for the bank such as securities such as stocks and bonds, in other words there are assets that vary in their ability to Achieving an income for the bank, which is determined mainly by the amount of risk to which the assets are exposed. Jude held with the bank (Matar, 1999: 81).

As for the importance of the net profit, it comes from the fact that banks, like other business establishments, must strive to achieve the largest amount of profits, while others believe that banks are service institutions, as the bank aims to achieve profits on the basis that profit has economic functions that cannot be neglected, so this team confirmed It is necessary to strike a balance between profit on the basis that it has economic functions and liquidity, which is of interest to depositors, and there is an economic importance to profits, which is that profits are necessary to meet the risks that the bank is exposed to in order to continue to perform its work, as it is necessary for the development of capital, as profits are necessary For banks because they contribute to supporting the financial position and ensuring the survival and continuity of the bank (Sultan, 1993: 190).

***Methods Of Increasing Net Profit and The Factors Affecting It***

In order for the bank to increase the net profit, it must follow certain methods that lead it to increase its resources from banking operations, which in turn lead to an increase in profit. Reducing the costs of banking operations by various means, and these procedures have many obstacles, including what is related to the increase in income from assets, as it is imperative for the

exchange to increase its assets in order for it to obtain higher revenues than before, because it is not possible to achieve an increase in its profitability when revenues and costs are stable, and that the bank increases its assets from loans and investments It stands at certain limits that it cannot exceed, and the expansion of bank credit is also subject to the monetary policy determined by the Central Bank. It seeks to reduce its costs as a measure to increase its profitability (Al-Amri, 2015: 114-115).

There are some policies that the bank follows and adheres to in order to maintain its continuity and continuity, and they affect in one way or another the amount of net profit that it achieves, the most important of which is the bank's desire to strengthen its financial position by strengthening free reserves and provisions that face certain risks, as well as the bank's commitment to Safety in taking its financing decisions that are characterized by risk, as the parallelism of risks with profitability will result in a decrease in profits on the basis that the financing decisions adhere to the aspect of caution and caution and therefore its return is characterized by low, as well as changes in interest rates are among the most important elements that control the size of the bank's profits and cannot be separated About the financing decision, as it is part of this decision, and the importance of this element has increased recently as a result of rapid fluctuations in interest rates, as well as the desire of banks to provide liquidity in their assets, and this constitutes one of the negative returns to the bank's profitability due to the intersection of profitability with liquidity (Ramadan, 2003: 41)

***Measuring And Analysing the Results of The Impact Relationship***

This topic deals with the analysis and interpretation of the results of the research hypotheses test, which pertain to the effect relationship between a group of independent variables amounting to (7) variables on the variable dependent on a group of banks listed in the Iraqi Stock Exchange through the use of the R-statistical program.

The effect of the seven independent variables (capital, total assets, total deposits, investment, cash credit, shareholders' equity, and number of branches) on the dependent variable (net profit) will be studied through the main hypothesis, and to test this hypothesis it is necessary to employ a set of tests that It is used with the linear regression equation, whatever the type of regression used in the current research, as there are a set of challenges that we face, including the small sample size and others. High ability in the face of anomalous or extreme data, as the quantitative regression model can estimate undefined regression models simultaneously, which helps to give a clear idea of the effect relationships between the independent variables and the variable adopted in the current research, and the researcher will use five quantitative levels, which is the partial regression at the level 0.15)), the capricious regression at the level of 0.30)), the capricious regression at the level (0.50), the capricious regression at the level (0.75) and the regression Al-Qasimi is at the level (0.95), which gives a very high explanatory coverage in measuring the effect of the relationship between the independent variables and the

dependent variable. Figure (1) shows the spread of quantitative regression lines at five different levels.

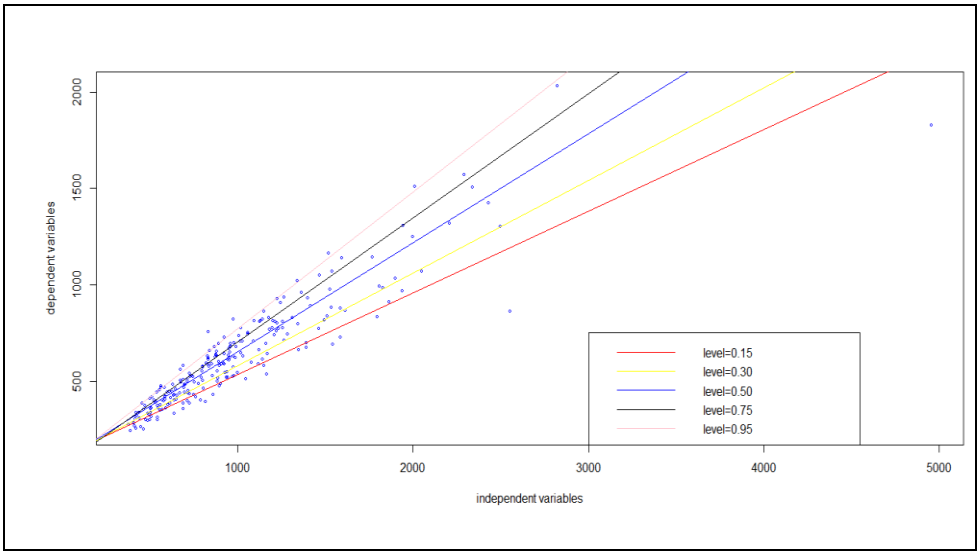


**Figure 1.** Quantitative regression lines at five different levels.

**Source:** Prepared by the researcher, based on R-program.

We notice from Figure (1) that there are five lines of the regression model, each line represents an independent regression model in itself, and all these five models will be estimated simultaneously, and this means that each line will estimate the data set after giving it different weights, and to test the impact hypothesis under these five levels, The pseudo-R square coefficient of determination has been determined, which is used to find out the explanatory power and measures the strength and quality of the regression model, as the closer the ratio is to (100%), the greater the representation of the research phenomenon, while the regression coefficient (B) which measures the amount of change in the dependent variable when it changes The independent variable is one unit, and the (T) test is used to show the significance of the regression model as well as the parameters of the fixed regression model. As for the level of significance (Sig), which indicates the level of significance at which hypotheses will be accepted or rejected. , for the selected sample data, as shown below:

***Level 1: Quintile Regression at Level (0.15)***

**Table (2)** Coefficients Estimation of quartile regression at quantile level $\theta_1 = (0.15)$

| **Quintile level = 0.15** | | | |
|---|---|---|---|
| **Explanatory variables** | **Coefficients** | **T value** | **Sig** |
| **Intercept** | 0.872 | 2.587 | 0.685 |
| **$x_1$: Capital** | 0.213 | 7.393 | 0.0007 |
| **$x_2$: Total assets** | 0.423 | 0.054 | 0.985 |
| **$x_3$: Total deposits** | 0.516 | 5.020 | 0.000 |

| | | | |
|---|---|---|---|
| **$x_4$: Investment** | 0.626 | 9.144 | 0.000 |
| **$x_5$: Cash credit** | 0.834 | 6.288 | 0.000 |
| **$x_6$: Equity** | 2.415 | 6.257 | 0.001 |
| **x7: Number of branches** | **2.815** | **9.2260** | **0.756** |
| **Pseudo-R square** | **= 0.7295** | | |

**Source:** Prepared by the researcher based on the program - R-

From Table (2), the value of (Pseudo-R square) is (0.7295), which means that the independent variables (x1, x2, x3, x4, x5, x6, x7) can explain 72.95% of the changes that occur in the dependent variable (y) This is an indication of the strength of the Qasimi regression model in representing the data at the level (0.15), and the variable (X1) has the value of the regression coefficient equal to (0.213), and this means that an increase in capital by one unit will lead to an increase in net profit by ( 0.213) when the values of the rest of the variables are stable, and that the effect of the variable (X1) on the variable (y) is a significant effect, because the significance value of the variable (X1) is (0.0007), As for the variable (X2), the value of the regression coefficient is equal to (0.423), which means that an increase in total assets by one unit will lead to an increase in net profit by (0.423) when the values of the rest of the variables are fixed, and the effect of the variable (X2) on the variable (y) It is a non-significant effect because the significance value of the variable (X2) is (0.985), and the variable (X3) has the value of the regression coefficient equal to (0.516), which means that an increase in total deposits by one unit will lead to an increase in net profit by (0.516). When the rest of the variables are held constant, And the effect of the variable (X3) on the variable (y) is a significant effect, because the moral value of the variable (X3) is (0.000), and the variable (X4) has the value of the regression coefficient equal to (0.626), which means that the increase in investment by one unit One will lead to an increase in net profit by (0.626) when the values of the rest of the variables are fixed, and the effect of the variable (X4) on the variable (y) is a significant effect, because the value of the significance of the variable (X4) is (0.000), and also the variable (X5) has The value of the regression coefficient is equal to (0.834), which means that an increase in cash credit by one unit will lead to an increase in net profit by (0.834) when the values of the rest of the variables remain constant. And the effect of the variable (X5) on the variable (y) is a significant effect, because the moral value of the variable (X5) is (0.000), and also the variable (X6) has the value of the regression coefficient equal to (2.415), which means that the increase in shareholders' equity by One unit will lead to an increase in the net profit by (2.415) when the values of the rest of the variables are fixed, and the effect of the variable (X6) on the variable (y) is a significant effect, because the significance value of the variable (X6) is (0.001), while the variable (X7) It has a regression coefficient value equal to (2.815), and this means that an increase in the number of branches by one unit will lead to an increase in net profit by (2.815) when the values of the rest of the variables remain constant, and that the effect of the variable (X7) on the variable (y) is insignificant and that Because the significance value of the variable (X7) is (0.756).

Through the above results, we find that there are (5) independent variables that had a significant effect on the variable net profit and the value of the Pseudo-R square, we will reject the first sub-null hypothesis due to the existence of a statistically significant effect relationship for five of the independent variables on the dependent variable at the quintile level (0.15).

***Second Level: Quintile Regression at Level (0.30)***

**Table (3)** Coefficients Estimation of quartile regression at quintile level $\theta_2 = (0.30)$

| **quintile level = 0.30** | | | |
|---|---|---|---|
| **Explanatory variables** | **Coefficients** | **T value** | **Sig** |
| **Intercept** | 1.251 | 1.264 | 0.685 |
| **$x_1$: Capital** | 1.421 | 6.542 | 0.0000 |
| **$x_2$: Total Assets** | 0.911 | 1.535 | 0.5671 |
| **$x_3$: Total deposits** | 2.324 | 4.534 | 0.004 |
| **$x_4$: investment** | 0.833 | 7.144 | 0.0000 |
| **$x_5$: cash credit** | 0.621 | 5.823 | 0.005 |
| **$x_6$: Shareholders Equity** | 1.216 | 4.862 | 0.008 |
| **$x_7$: Number of branches** | **0.726** | **6.646** | **0.000** |
| **Pseudo-R square** | **= 0.7846** | | |

**Source:** Prepared by the researcher based on the program - R-

We note from Table (3) that the value of (Pseudo-R square) is (0.7846), this means that the independent variables (x1, x2, x3, x4, x5, x6, x7) can explain 78.46% of the changes that occur in the dependent variable (y) This is an indication of the strength of the divisive regression model in representing the data at the level (0.30), and we find that the variable (X1) has the value of the regression coefficient equal to (1.421), This means that an increase in capital by one unit will lead to an increase in net profit by (1.421) when the values of the rest of the variables are fixed, and that the effect of variable (X1) on variable (y) is a significant effect, because the moral value of the variable (X1) is ( 0.0000), and the variable (X2) has a regression coefficient value equal to (0.911), which means that an increase in total assets by one unit will lead to an increase in net profit by (0.911) when the values of the rest of the variables remain constant. And the effect of the variable (X2) on the variable (y) is not significant, because the significance value of the variable (X2) is (0.5671), and the variable (X3) has the value of the regression coefficient equal to (2.324), and this means that an increase in the total Deposits by one unit will lead to an increase in net profit by (2.324) when the values of the rest of the variables are fixed, and the effect of the variable (X3) on the variable (y) is a significant effect, because the significance value of the variable (X3) is (0.004), while the variable (X4) has a regression coefficient value equal to (0.833), This means that an increase in investment by one unit will lead to an increase in net profit by (0.833) when the values of the rest of the variables are fixed, and that the

effect of variable (X4) on variable (y) is a significant effect, because the significance value of the variable (X4) is (0.000 ), as well as the variable (X5) has a regression coefficient value equal to (0.621), which means that an increase in cash credit by one unit will lead to an increase in net profit by (0.621) when the values of the rest of the variables remain constant, and the effect of the variable (X5) on the variable ( y) is a significant effect, because the significance value of the variable (X5) is (0.005), and also the variable (X6) has the value of the regression coefficient equal to (1.216), This means that an increase in shareholders' equity by one unit will lead to an increase in net profit by (1.216) when the values of the rest of the variables are fixed, and that the effect of the variable (X6) on the variable (y) is a significant effect, because the moral value of the variable (X6) is ( 0.008), and the variable (X7) has the value of the regression coefficient equal to (0.726), which means that increasing the number of branches by one unit will lead to an increase in net profit by (0.726) when the values of the rest of the variables are fixed, and the effect of the variable (X7) on the variable (y) is a significant effect, because the significance value of the variable (X7) is (0.000).

Through the results, we find that there are (6) independent variables that had a significant effect on the net profit variable and the value of the Pseudo-R square, so we will reject the second sub-null hypothesis because there is a statistically significant influence relationship for six of the independent variables on the dependent variable (net income) when quintile level (0.30).

***Third Level: Quintile Regression at Level (0.50)***

**Table (4)** Coefficients Estimation of quartile regression at quantile level $\theta_3 = (0.50)$

| **quintile level = 0.50** | | | |
|---|---|---|---|
| **Explanatory variables** | Coefficients | T value | Sig |
| **Intercept** | 3.545 | 2.004 | 0.545 |
| **$x_1$: capital** | 0.852 | 8.451 | 0.000 |
| **$x_2$: Total assets** | 1.024 | 4.451 | 0.007 |
| **$x_3$: total deposits** | 1.527 | 5.624 | 0.002 |
| **$x_4$: Investment** | 2.634 | 8.857 | 0.000 |
| **$x_5$: cash credit** | 0.867 | 5.934 | 0.002 |
| **$x_6$: Shareholders Equity** | 1.875 | 8.234 | 0.000 |
| **$x_7$: Number of branches** | **1.245** | **6.725** | **0.000** |
| **Pseudo-R square** | **= 0.8167** | | |

**Source:** Prepared by the researcher based on the program - R-

We note from Table (4) that the value of (Pseudo-R square) is (0.8167), this means that the independent variables (x1, x2, x3, x4, x5, x6, x7) can explain 81.67% of the changes that occur in the dependent variable (y) This is an

indication of the strength of the quotient regression model in representing the data at the level (0.50), and we find that the variable (X1) has the value of the regression coefficient equal to (0.852), and this means that an increase in capital by one unit will lead to an increase in net profit by an amount (0.852) when the values of the rest of the variables are stable, and the effect of the variable (X1) on the variable (y) is a significant effect, because the significance value of the variable (X1) is (0.000), and the variable (X2) has the value of the regression coefficient equal to ( 1.024), which means that an increase in total assets by one unit will lead to an increase in net profit by (1.024) when the values of the rest of the variables remain constant, and that the effect of the variable (X2) on the variable (y) is a significant effect, because the significance value of the variable (X2) ) is (0.007), while the variable (X3) has a regression coefficient value equal to (1.527), which means that an increase in total deposits by one unit will lead to an increase in net profit by (1.527) when the values of the rest of the variables are stable, and the effect of the variable (X3) on the variable (y) is a significant effect, because the significance value of the variable (X3) is (0.002), while the variable (X4) has the value of the regression coefficient equal to ( 2.634), and this means that an increase in investment by one unit will lead to an increase in net profit by (2.634) when the values of the rest of the variables are fixed, and that the effect of the variable (X4) on the variable (y) is a significant effect, because the value of the significance of the variable (X4) It is (0.000), as well as the variable (X5) has the value of the regression coefficient equal to (0.867), and this means that the increase in cash credit by one unit will lead to an increase in net profit by (0.867) when the values of the rest of the variables are fixed, and the effect of the variable (X5) On the variable (y) it is a significant effect, because the significance value of the variable (X5) is (0.002), and also the variable (X6) has the value of the regression coefficient equal to (1.875), and this means that increasing the shareholders' equity by one unit will lead to an increase The net profit amounted to (1.875) when the values of the rest of the variables were fixed, and the effect of the variable (X6) on the variable (y) is a significant effect, because the value of the special morale The variable (X6) is (0.000), and the variable (X7) has a regression coefficient value equal to (1.245), and this means that increasing the number of branches by one unit will lead to an increase in net profit by (1.245) when the values of the rest of the variables are stable, and that The effect of the variable (X7) on the variable (y) is a significant effect, because the significance value of the variable (X7) is (0.000).

Through the above results, we find that there are (7) independent variables (all independent variables) that had a significant effect on the dependent variable and from the value of the Pseudo-R square, we will reject the third sub-null hypothesis due to the existence of a statistical effect relationship for all the independent variables on the dependent variable at the quintile level (0.50).

***Fourth Level: Quintile Regression at Level (0.75)***

**Table (5)** Coefficients Estimation of quartile regression at quintile level $\theta_4 = (0.75)$

| **quintile level = 0.75** | | | |
|---|---|---|---|
| **Explanatory variables** | **Coefficients** | **T value** | **Sig** |
| **Intercept** | 4.283 | 4.675 | 0.025 |
| **$x_1$: capital** | 1.568 | 6.854 | 0.000 |
| **$x_2$: Total assets** | 0.694 | 4.937 | 0.004 |
| **$x_3$: total deposits** | 2.783 | 6.457 | 0.000 |
| **$x_4$: Investment** | 1.753 | 7.067 | 0.000 |
| **$x_5$: cash credit** | 1.561 | 4.756 | 0.009 |
| **$x_6$: Shareholders Equity** | 0.762 | 7.755 | 0.000 |
| **$x_7$: Number of branches** | **1.742** | **5.645** | **0.000** |
| **Pseudo-R square** | **= 0.8482** | | |

**Source:** Prepared by the researcher based on the program - R-

We note from Table (5) that the value of (Pseudo-R square) is (0.8482), which means that the independent variables (x1, x2, x3, x4, x5, x6, x7) can explain 84.82% of the changes that occur in the dependent variable This net profit is an indication of the strength of the quotient regression model in representing the data at the level (0.75), and we find that the variable (X1) has the value of the regression coefficient equal to (1.568), which means that an increase in capital by one unit will lead to an increase in net profit by ( 1.568) when the values of the rest of the variables are fixed, and the effect of the variable (X1) on the variable (y) is a significant effect, This is because the significance value of the variable (X1) is (0.000), and the variable (X2) has a regression coefficient value equal to (0.694), and this means that an increase in total assets by one unit will lead to an increase in net profit by (0.694) when the values of The rest of the variables, and the effect of the variable (X2) on the variable (y) is a significant effect, because the significance value of the variable (X2) is (0.004), and the variable (X3) has the value of the regression coefficient equal to (2.783), and this means that Increasing the total deposits by one unit will lead to an increase in the net profit by (2.783) when the values of the rest of the variables are fixed, and the effect of the variable (X3) on the variable (y) is a significant effect, because the significant value of the variable (X3) is (0.000), As for the variable (X4), the value of the regression coefficient is equal to (1.753), which means that an increase in investment by one unit will lead to an increase in net profit by (1.753) when the values of the rest of the variables are fixed, and the effect of the variable (X4) on the variable (y) is moral effect, This is because the significance value of the variable (X4) is (0.000), and also the variable (X5) has the value of the regression coefficient equal to (1.561), and this means that the increase in cash credit by one unit will lead to an increase in net profit by (1.561) when the values of The rest of the variables, and the effect of the variable (X5) on the

variable (y) is a significant effect, because the significance value of the variable (X5) is (0.009), and also the variable (X6) has the value of the regression coefficient equal to (0.762), and this means that Increasing shareholders' equity by one unit will lead to an increase in net profit by (0.762) when the values of the rest of the variables are fixed, and the effect of the variable (X6) on the variable (y) is a significant effect, because the moral value of the variable (X6) is (0.000), As for the variable (X7), the value of the regression coefficient is equal to (1.742), which means that increasing the number of branches by one unit will lead to an increase in net profit by (1.742) when the values of the rest of the variables are fixed, and the effect of the variable (X7) on the variable (y) It is a significant effect, because the significance value of the variable (X7) is (0.000).

Through the above results, we find that there are (7) independent variables (all the independent variables) that had a significant effect on the net profit variable, and from the value of the Pseudo-R square, we will reject the fourth sub-null hypothesis because there is a statistically significant impact relationship for all the independent variables on the dependent variable is at quintile level (0.75).

***Level 5: Quintile Regression at Level (0.95)***

**Table no (6)** Coefficients Estimation of quartile regression at quantile level $\theta_5 = (0.95)$

| **quintile level = 0.95** | | | |
|---|---|---|---|
| **Explanatory variables** | **Coefficients** | **T value** | **Sig** |
| **Intercept** | **7.243** | **3.846** | **0.087** |
| **$x_1$: capital** | **0.938** | **5.348** | **0.005** |
| **$x_2$: Total assets** | **1.462** | **6.345** | **0.000** |
| **$x_3$: total deposits** | **1.864** | **7.375** | **0.000** |
| **$x_4$: Investment** | **0.891** | **5.534** | **0.004** |
| **$x_5$: cash credit** | **1.485** | **4.756** | **0.000** |
| **$x_6$: Shareholders Equity** | **1.835** | **8.685** | **0.000** |
| **$x_7$: Number of branches** | **0.831** | **4.645** | **0.006** |
| **Pseudo-R square** | **= 0.8961** | | |

**Source:** Prepared by the researcher based on the program - R-

We note from Table (6) that the value of (Pseudo-R square) is (0.8961), this means that the independent variables (x1, x2, x3, x4, x5, x6, x7) can explain 89.61% of the changes that occur in the dependent variable This net profit is an indication of the strength of the Qasimi regression model in representing the data at the level (0.95), and we find that the variable (X1) has the value of the regression coefficient equal to (0.938), which means that increasing the capital by one unit will lead to an increase in net profit by (0.938) when the values of the rest of the variables are stable, and that the effect of the variable (X1) on the variable (y) is a significant effect, This is because the significance value of the variable (X1) is (0.005), while the variable (X2) has the value of

the regression coefficient equal to (1.462), which means that an increase in total assets by one unit will lead to an increase in net profit by (1.462) when the values of The rest of the variables, and the effect of the variable (X2) on the variable (y) is a significant effect, because the significance value of the variable (X2) is (0.000), and the variable (X3) has the value of the regression coefficient equal to (1.864), and this means that Increasing the total deposits by one unit will lead to an increase in the net profit by (1.864) when the values of the rest of the variables remain constant, and the effect of the variable (X3) on the variable (y) is a significant effect, This is because the significance value of the variable (X3) is (0.000), and the variable (X4) has the value of the regression coefficient equal to (0.891), and this means that an increase in investment by one unit will lead to an increase in net profit, which will increase by (0.891) when it remains stable. The values of the rest of the variables, and the effect of the variable (X4) on the variable (y) is a significant effect, because the significance value of the variable (X4) is (0.004), and also the variable (X5) has the value of the regression coefficient equal to (1.485), which means Increasing the cash credit by one unit will lead to an increase in net profit by (1,485) when the values of the rest of the variables are fixed, and the effect of the variable (X5) on the variable (y) is a significant effect, because the moral value of the variable (X5) is (0.000) , Likewise, the variable (X6) has a regression coefficient value equal to (1.835), which means that an increase in shareholders' equity by one unit will lead to an increase in net profit by (1.835) when the values of the rest of the variables are fixed, and the effect of the variable (X6) on the variable (y) It is a significant effect, because the significance value of the variable (X6) is (0.000), and the variable (X7) has the value of the regression coefficient equal to (0.831), which means that increasing the number of branches by one unit will lead to an increase in net profit by (0.831). ) When the values of the rest of the variables are stable, and that the effect of the variable (X7) on the variable (y) is a significant effect, because the significance value of the variable (X7) is (0.006).
Through the above results, we find that there are (7) independent variables (all the independent variables) that had a significant effect on the dependent variable and from the value of the Pseudo-R square, we will reject the fifth sub-null hypothesis due to the existence of a statistically significant effect of the independent variables on the dependent variable when quintile level (0.95).

Through the results of the segmental regression model, we note the existence of a statistically significant effect relationship for the independent variables on the dependent variable at the five levels of the model, and thus we reject the main null hypothesis of the research, which states (there is no statistically significant influence relationship for the independent variables on the dependent variable)

## CONCLUSIONS:

The factorial regression model is one of the good models in representing the data under the phenomenon because this model provided a detailed description of the impact of the relationship between the independent variables on net profit, as well as the existence of a statistically significant impact relationship for the independent variables (capital, total assets, total deposits, investment,

credit cash, stockholders' equity) over net income. Especially the last three levels, and despite the positive impact of both paid-up capital and shareholders' equity on the net profit, it is difficult for the research sample banks to increase them easily, and the research sample banks focus on short-term bank deposits significantly as a primary source of funding, which reduces the Long-term investment opportunities, as well as the existence of a discrepancy in the volume of lending for the sample banks, due to the difficulty of investing most bank deposits in granting cash credit.

**RECOMMENDATIONS:**

Relying on the factorial regression model in studying the relationship between assets, liabilities and net profit, as it provides a detailed description of the nature of the relationship.

Focusing on increasing the volume of deposits, increasing investment and granting more cash credit because these variables have the greatest impact on the net profit.

The need to pay attention to managing the balance sheet of the banks, the research sample, in a way that leads to the investment of funding sources, the best investment, which maximizes the return

Working to diversify the uses of money, which is reflected positively on the net profit of the banks in the research sample.

The research sample banks should plan for assets and liabilities, that is, not to leave interest time gaps between them.

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