

# Roles and Determinants of Banking Concentration in Jordanian Commercial Banks Profitability

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## Abstract

This study aimed to measure the effect of concentration to achieve the banking goal in each of (deposits and loans) on the profitability of the Jordanian commercial banks, which have been measured by using ratio of profitability (ROE). The study was conducted on Jordanian commercial banks. Also the study covered period between 1993 to 2013. The researcher used in this study descriptive analytical method and used statistical program (E-VIEWS) also data were analyzed by using simple linear regression method to test hypotheses of the study. The results showed that there was no statistically significant effect of the concentration of each of the banking (deposits and loans) on the profitability of commercial banks in Jordan. The study recommended the demand of Jordanian commercial banks to diversify the services provided by them and to rely on efficient and effective management of its reliance on more concentration to get market share.

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**Index terms**— concentration, deposits, loans, banks, Jordan.

## 1 Introduction

he banking sector (banks) has the most important role in any country that poses a significant economic force in the State. Due to the developments in the countries and cutting-edge technology very quickly, banks are racing with times as far as possible upgraded, so the banking industry try to be able to achieve a significant economic force in the market, also with these developments o increase degree of competition in the banks so as to enter the openness markets and the possibility of entry of all financial markets, in turn to led a large number of banks conducting mergers among themselves and strengthen their positions globally competitive either by taking advantage of the size and economic power or by reducing the risk of banking operations and further expansion with growth. It is known that in the event concentration number of banks which leads to alliances and control in the banking industry, the imposition of price competitive leads to achieve high levels of performance which is influencing the interest rates on deposits and loans under the structures of interest rates floating that affecting on savings and investment. This gives us an insight on the status of banks in any state Department of Banking and Finance -Faculty of Business and Finance Administration. Al al-Bayt University -Jordan. in terms of dominance and power in the market and its ability to compete and survive in the face of challenges, The Jordanian banks as part of the global banking system, it must deal with the world situation seriously and responsibility to prove its strength in the global market, so it had a total of incentives by the central bank for its mergers and dominance in the market, however, the competition Jordanian law may impose restrictions to prevent the emergence of a strong monopoly in the market and a negative impact on citizens and small businesses.

## 2 II.

### 3 Importance of the Study

The importance of the study stems from the importance of the banking sector and its role in economic growth and play a pivotal role of banks that influence in the money supply and the demand for it, also its interaction with monetary policy which it must followed by the central bank to arrange the banking activities, which affects the real sector of the economy. The importance of study appears from an effect of concentration of banking on the effectiveness of monetary policy, as it has many pros such as economic stability and reduce the banks risk, which increased by focusing high of negatives such as the lack of effective competition, as well as control of the Price. Also, this study concedes one of few studies in this area.

## 4 III.

### 5 Objectives of the Study

The study aims mainly to arrive at the extent of effect for concentration of the Jordanian banking profitability by calculating the concentration ratio for the top three banks in the banking sector during period 1993-2013, which have been studied through the following:

1. To indicate the extent of the concentration effect of loans on banks' profitability during the study period
2. To indicate the extent of the concentration effect of deposits on banks' profitability during the study period.

### 6 Problem of the Study

The problem with the study of concentration in the banking problem and the extent of the effect of concentration of loans and deposits in banks on the T

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Volume XIV Issue V Version I Year ( ) profitability of banks, this problem can be formulated through the study of the following questions. 1. Is an increase in the concentration of loans increases the profitability of the banks? 2. Is an increase in the concentration of deposits increases the profitability of the banks?

Hypotheses of the study 1. No statistically significant effect of banking concentration on profitability of loans for Jordanian commercial banks (1993\_2012).

2. No statistically significant effect of banking concentration on the profitability of deposits in Jordanian commercial banks (1993\_2012).

Variables of the study 1. Independent variables: concentration of deposits and loans. 2. Dependent variables: the profitability of the commercial banks represented by (ROE)

Form (1) Variables of the study V.

## 8 Methodology of the Study

It was used descriptive and analytical method, the researcher using descriptive in exposure to literature study and describe the phenomenon of the study, the analytical methodology was also used to test the hypotheses of the study through using statistical analysis software (E-VIEWS).

## 9 VI.

## 10 Previous Studies

Study Awartani (1997), entitled "Following concentration in commercial banks on economic variables". This study dealt with subject of monopolistic concentration in the banking sector that aimed to show these concentrations on different economic variables, he had used of static and mobile metrics to measure the evolution of the structure for banking market in Jordan. Also he has been used of multiple regression analysis to determine the impact of concentration on the variables of economic performance and profitability, in particular, with estimating distributional effects, the result was loss in welfare as a result of all concentration. The results showed that big banks and the degree of competition in the sector is strong. The study also showed that banks in Jordan has been able to exploit the monopoly power to achieve higher profits. Study of Muhammad Mustafa (2002), entitled" Structure of the banking market and the performance of Jordanian banks (1990 -2001)", the results showed support for both hypotheses in the Jordanian banking market, also the results showed the presence of effect for concentration in the banking market, on the other hand the results showed the existence of effect for variable banks efficiency in revenues This result was existence of concentration for evident in the Jordanian banking market through the influence of large banking institutions and control, in contrast, there are indications supporting the existence of efficiency in the banking market , the most important emergence of additional large size, and the solvency of banks, in addition to mergers and acquisitions witnessed by the Jordanian banking market.

Study Khryosh (2002), entitled "Factors affecting the profitability of Jordanian commercial banks". The study aimed to identify the factors affecting the profitability of Jordanian commercial banks for the period 1991-2000, and to achieve this goal the researcher collected data about banks that listed in Amman Stock Exchange and statistically analyzed the behavior of the dependent variable "profitability" of commercial banks and the independent variables "size of property, size of the bank as measured by assets, the total debt ratio, the proportion of cash surpluses and expenses of advertising and the age of the bank". To achieve this model was built to measure the relationship between the independent variables and the dependent variable based on linear regression equation. The study found a total of results are as follows: a positive relationship statistically significant were differences between profitability of the commercial banks and the following factors: property rights, the debt ratio, the proportion of cash surpluses, cash expenses and advertising. Also the absence of a direct correlation statistically significant differences between profitability of the commercial banks, the total assets and the age of the bank, and finally the existence of a negative relationship between bank profitability and total assets. Study ??ayoumi and Awad (2003), entitled ("The relationship between market concentration and the performance of Jordanian banks, An Empirical Study". Which aimed to examine the relationship between market concentration and performance in the Jordanian banking sector; where sample included 13 banks for the period from 1993 to 1999, they were using a regression model compound for all banks and all years, that measured market concentration of assets. The performance measured by yield, CR for the three largest banks 3 on equity before taxes, also the study included a range of internal banks factors (expenses: salaries and wages, the proportion of equity to assets and liquidity of the bank) also a range of external economic factors as (interest rate, the growth of financial markets and the rate of inflation). The study results indicated a statistically significant relationship between return on equity and market concentration ratio, results also indicate that the size of bank was the most important factors that have affected on control of Jordanian banks in profitability during the study period. Study Ezzedine Alcor (2011), entitled "Impact of concentration and market share on the performance of Jordanian Commercial Banks". The aim of this study was to test the effect of concentration of assets, according to the model of the structure-conduct-performance, market share of deposits, according to the efficiency hypothesis for conventional in the performance of Jordanian commercial banks which measured by Return on Assets (ROA). The study sample included fourteen commercial banks for the period 1993 -2006, the implementation of the multi regression to test the hypotheses of the study, it was exclude the hypothesis of the alliance between the most banks concentrated, also the results do not provide support for the hypothesis of conventional efficiency, which states that more organizations efficiency check rates of high performance and get higher profitability. Which leads us to believe that the concentration market of commercial banks, mainly due to social factors and political, in addition to the advantage of early entry into the market, which contributed to a small number of banks to have a high market shares, however, and as a result legislation and laws that have worked to strengthen and raise the levels of competition, the most concentrated market power on the prices in Jordanian commercial banks. Study Hamdan, Shaheen and Anaswah ( ??011)) ("The relationship between market structure and profitability in the Jordanian and Palestinian". The aim of this study was to test the relationship between market structure and profitability for Jordanian and Palestinian banks, were represented sample of the study in all local banks operating during period 2005 -2010, (the number (24) banks), that included the assumption of market power, these hypotheses were tested using multiple linear regression, through test the relationship between the profitability for banks and measurements of both concentration and market share. The results showed refute the hypothesis of the structure -conductperformance in Jordanian banks, as well as the efficiency of conventional hypothesis, also the results of analysis showed general support for the hypothesis structure -conduct -performance which explained the relationship between market structure and profitability in Palestinian banks. The recommendation was essential for this study to decision makers in the banking system in Jordan and Palestine to expand operations in the liberalization of the market in order to reduce concentration and enhance the competitiveness. Mishan Aldvery study (2013), entitled "concentration effect on the profitability of the Kuwaiti commercial banks for the period ??1996) ??1997) ??1998) ??1999) ??2000) ??2001) ??2002) ??2003) ??2004) ??2005) ??2006) ??2007) ??2008) ??2009) ??2010) ??2011). The study aimed to measure the effect of deposits and loans concentration on the profitability of Kuwaiti commercial banks. The researcher found that there was no statistically significant effect of the concentration on the profitability of the commercial banks in Kuwait. The researcher also recommended the demand to the attention of Kuwaiti banks managing to concept of efficiency and effectiveness more than concentration. Polius, T. and Samuel. W. study ??2000), entitled "Banking Efficiency in the Eastern Caribbean Currency Union". That progress in implementation of the model (SCP) structure-conduct-performance and efficiency on the premise data (44) commercial banks in the Eastern Caribbean Union (ECCU) for the period 1990 -1999. And a model study included some independent variables which represented in the proportion of operating expenses to average assets, the ratio of net interest income to average assets, the ratio of interest earned on loans to average loans, the ratio of administrative expenses to total expenditure and market share. The performance of banks expressed by return on assets. and results of the study supported the affected profitability for commercial banks performance; where the metrics that act on behalf of efficiency in the study model were variables are statistically significant in its relationship with the performance of banks as opposed to the variables that act on behalf of market power. Laderman study (2003), entitled "good news on twelfth district banking market concentration". The paper discussed the economic developments to the Fed in san Francisco that took place on the concentration of banking in the United States over the past 18 years through the division of the

American banking market to 12 branches follow the Federal Reserve System. The paper raised the question of whether there is concentration in banking activity depending on the quality of the States, the different levels of economic activity, population growth and the amount of urbanization in these states. The researcher also discussed the total of other factors that affect the concentration of banks such as financial crises which occurred during the period of the eighties and an increasing in demand for banking services in the single market, compared with other markets. He also discussed factors of self-correction for the American market occurred as a result of concentration of banking so that the concentration theoretically lead to higher profits and thus tempted many investors to enter the

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Volume XIV Issue V Version I Year ( ) market, which means necessarily attract a number of customers from other banks and thus reduce the market share of banks earlier. ??ogan study (2004), entitled "Banking Concentration In The UK" The aim of this study is to measure the concentration banking within a range of banking activities in the United Kingdom, where the study sample included a total of commercial banks in the United Kingdom accredited researcher on the data available in the database of the England Banks , he was wondering about the impact of the merger on the concentration of banking particular in United Kingdom and Europe through a big wave of mergers in the nineties of the last century, where the study was divided into five parts, the first part of the study focused on using of statistical data to determine the amount of concentration in banks while the second part of the study, the amount of concentration in loans and deposits in the small banks and changes amount concentration in the banking business during the last 15 years, while taking third part of the study concentrated banking across various economic sectors, especially small banks compared to large banks. The study found a total of results where it appears that most of the deposits of non-financial private sector in the possession of a small number of banks in British banks while enjoying the largest share of deposits in the United Kingdom.

Al-Jarrah study (2010),entitled "The Relationship between Market Structure-Profit in Jordanian Banking Industry" Which aimed to test the relationship between market structure and profitability of Jordanian banks for the period 2001 -2005 .The study results were supportive of the hypothesis structure -conductperformance (SCP), hypothesis explained the relationship between market structure and profitability, and provided limited support for the efficiency hypothesis (MS), and then try the surgeon to provide support for the results of the previous study, so the study of competitiveness in the Jordanian banking sector during his studies, which showed that the market for Jordanian banks cannot be described competitive nor monopoly; In other words, the Jordanian banks operating in conditions of monopolistic competition; and then reap profits conditions similar to the conditions of monopolistic competition, also the study showed that large banks operating in competitive conditions higher of the circumstances in which they operate their counterparts from small banks. Ahmad study, (2012), study "Market Concentration and Profitability in Indian Banks: Does Size Matter in the Impact of Bad Loans and Bank Capital?" This study examined the raised market concentration and the determinants of profitability for the Indian banking sector for the period 2004-2011, he had usined of model behavior performance, traditional hypothesis that aimed of assessing the extent which performance of the bank market structure, also the study examined whether the effect of credit risk and capital adequacy on profitability linked to the size of banks or not, the results indicated that the concentration of the market has a positive effect on the performance of Indian banks, which indicates that the big banks still dominate the whole banking industry and earn higher profits than normal through the settings price non-competitive, also the study found that the size of the bank reduces the negative impact of bad loans on profitability.

### 12 a) Society and the Study Sample

The community and the study sample represents the Jordanian banking sector (Jordanian commercial banks), also includes the study period (1993-2012).

### 13 b) Methods of Data Collection

The researcher has been relying on data collection for this study on two main sources: Secondary Data: to determine the theoretical framework for this study were obtained through previous studies represented by Arab and foreign books , periodicals and articles related to the subject of study. The analysis of budgets and records of the banking sector through the statistical data posted on the Central Bank, Amman Stock Exchange Website. and Primary data: refers to people with experience and competence.

### 14 c) Operational Definitions of The Variables

To clarify the meaning of variables in the hypotheses of the study, it has been the definition of procedural variables as follows:

First, the dependent variable .The goal of any financial institution is to maximize the value of its stock and to achieve profits usually measured the ability of the institution to achieve profits as a whole lineage of socalled (profitability ratios). This is the lineage of the most important groups in the financial analysis ratios being confirms the results of the business, and profitability ratios measure the level of returns that achieved by the

company in a given year compared to asset sales and capital. Profitability ratios are divided into a total of percentages are as follows:

Gross margin: This ratio is measured by dividing sales minus the cost of goods sold to sales. Operating Profit Margin: This ratio is measured by dividing operating profit (profit before interest and taxes), on sales. Net profit margin: this ratio is measured by dividing the net profit after tax and interest on sales. Earnings per share: measured by dividing the net profit after tax and interest on the number of shares. Return on Total Assets: measured by dividing the net profit after interest and taxes to total assets. Return on Equity: measured by dividing the net profit after interest and taxes on property rights. ratio of dividends per share: measured by dividing the dividend on the actual number of shares. The independent variable (concentration ratio) which Refers to what represents the proportion of the largest number of banks for the total market share that could take a larger share of three banks for the total market (CR3) or can take a greater proportion of four institutions (CR4) which indicate this percentage to the market shape, for example: when there is a single bank take the entire market share, it means that the (CR = 100%) and this is called a complete market monopoly. The concentration ratio of the banks are the percentage of market share for the largest banks in the banking sector.  $CR_m = \sum_{i=1}^n Si$

Where: CR m : The concentration ratio of the banking Si = market share of the facility and deposit for bank i Thus:

? Concentration of deposits is measured by dividing the total deposits of the three largest banks in terms of liabilities to total deposits of the banking system.

? Concentration of loans is measured by dividing the total loans of the three largest banks in terms of assets on the total loans of the banking system.

Data analysis and hypothesis testing Methods of statistical analysis of the data: To test hypotheses program (Eviews 7) was used by the following statistical treatments: -Averages and standard deviations for each of the financial ratios for study during the period (1993-2012). -Use simple regression analysis (Linear Regression) to focus the impact of each of the loans and deposits on profitability.

View Results. This section contains analytical presentation of the results of the study, which aimed to identify the impact of the concentration on the banking profitability for Jordanian commercial banks (ROE) during the period 1993-2012, the results will be depending on the hypotheses of the study. In Table (1) ? The arithmetic mean concentration of loans in commercial banks of Jordan during the period ??1993) ??1994) ??1995) ??1996) ??1997) ??1998) ??1999) ??2000) ??2001) ??2002) ??2003) ??2004) ??2005) ??2006) ??2007) ??2008) ??2009) ??2010) ??2011) ??2012) ranged between (0.61-0.78), where it was the highest concentration of loans in the year (1993), followed by years of ??1998) ??1999) ??2000), where (0.77), it was the lowest concentration of loans in the year (2012). The results also showed that there was a decrease in the volume of loans in the Jordanian commercial banks with advancing years and this is a positive indicator. ? The arithmetic mean concentration of deposits in commercial banks during the period ??1993) ??1994) ??1995) ??1996) ??1997) ??1998) ??1999) ??2000) ??2001) ??2002) ??2003) ??2004) ??2005) ??2006) ??2007) ??2008) ??2009) ??2010) ??2011) ??2012) ranged between (0.66-0.80), where it was the highest concentration of deposits in year (1997), followed by years of ??1998) ??1999) ??2000), where (0.79), it was the lowest concentration of deposits in the year (2011). The results also showed that there was a

## 15 Loans

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Volume XIV Issue V Version I Year ( ) ?? (2) Shown:

Table 2 is a summary of the results of the descriptive analysis of the study, where views can be seen from the table that the standard deviation of views concerning the dependent variable (profitability ROE) amounted to 0.04 while the independent variable (focusing deposits) 0.05, while the independent variable focus loans 0.06.

It is known that the greater the amount of the standard deviation of the greater dispersion of data about the middle of the arithmetic and if the size of the views down whenever the effect of outliers large, and therefore the impact on the value of the standard deviation, and statistical data used by the researcher to note that the size of the standard deviation reached its highest value in concentration of loans in the banks, and this shows the size difference of the lending process between the bank and the last while was less for focusing deposits, and explains the researcher that relatively to the degree of loyalty among depositors in banks are the biggest ones to borrowers who are trying mostly to get the best deals for the financing needs cash regardless of which bank they deal with him.

## 17 Test Hypotheses Of the Study

There are two main hypotheses concentration of the impact of banks' deposits and loans focused on the performance:

a) The first hypothesis H01: No statistically significant effect of concentration on the profitability of loans (ROE) of Jordanian commercial banks for period ??1993) ??1994) ??1995) ??1996) ??1997) ??1998) ??1999) ??2000) ??2001) ??2002) ??2003) ??2004) ??2005) ??2006) ??2007) ??2008) ??2009) ??2010) ??2011) ??2012).

To examine this hypothesis, the correlation coefficient between the concentration of loans and profitability (ROE), the researcher used the simple regression analysis (Linear Regression) to detect the effect of concentration of loans on the profitability for Jordanian commercial banks (ROE) period (1993-2012), and the tables below illustrates this. ?? Shown that the correlation coefficient between the concentration of loans and profitability (ROE) in Jordanian commercial banks for period (1993\_2012) has reached (0.062) in terms of the statistical (0.27), which is a very low value and not statistically significant, there is no correlation deposits concentration contributes only by 0.001 of change in the revenues of banks, this percentage is very low, according to the coefficient of determination by R<sup>2</sup>. Even after adding some variables control remains the relationship is statistically significant very weak, and this supports the results of a test of the correlation coefficient, which showed a lack of correlation relationship between the concentration of deposits and profitability index in Jordan, and this is due as I mentioned earlier that banks in Jordan do not operate in monopolistic environment. The legislation and Jordanian laws played a major role in the interpretation of these results as they contribute to the promotion of competition in the banking market of Jordan, this is consistent with the study Ezzedine ??lcor (2011).

In a study researcher Logan, (2004)) researcher stressed that although the concentration of bank loans was larger than concentration of deposits in commercial banks slightly British, however, that profitability was not affected by concentration during the 15-year study period. The study confirmed Mishan (2013), that there is no effect of the concentration of loans and deposits in Kuwaiti commercial banks.

## 18 VIII.

## 19 Results

The results indicate the presence of a high concentration ratio of the three largest banks in Jordan during the study period, and this shows that more than half of the banking business managed by a slice of big banks. The results showed that the concentration ratios tended to decrease with advancing years during the study period and this shows an increase in the banks' response to other segments of the threats resulting from the depth of the gaps between them and the major banks in the slides. The lack of effect for concentration of loans on the profitability (ROE) for Jordanian commercial banks (1993\_2012), as a result of Jordanian banking legislation which works to increase competition and prevent monopoly by banks to the most concentrated. The lack of concentration effect on the profitability (ROE) by deposits for Jordanian commercial banks for the period (1993\_2012). The researcher attributed this to Jordanian banking legislation which working to increase competition and prevent monopoly by the banks to the most concentrated.

## 20 IX.

Recommendations ? Paying more attention on managing of the Jordanian commercial banks to be their resources more efficiently and effectively from its dependence concentration to get the market share to minimize operating expenses, such as ease of working to increase their profits.

? Take care of services diversification that provided by banks and the expansion of these services in order to serve the public and works to maintain the market share of banks. ? The requirement to study and constant follow-up by the Jordanian banks of the economy nature in order to increase growth and to take advantage of market trends to maintain its market share. ? The importance role of the central bank and relevant government agencies to help small banks to attract deposits and increase its credit. ? Further studies to identify the effect of concentration on the profitability.

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Figure 1: ROE Concentration of deposits and loans 2 Global

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Arithmetic means and Standard deviation

Figure 2: Table 1 :

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Variable	Standard deviation	Arithmetic means
Conc. Of Loans	0.06	0.72
Conc.of Dep.	0.05	0.74
ROE	0.04	0.11

Figure 3: Table 2 :

Figure 4: Table

4

Year		
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search C Volume XIV Issue V Version I ( ) ( )		
statistically significant	Correlation	Independent
	coefficients	variable
0.27	0.06	Concentration of
		loans

Figure 5: Table 4 :

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Figure 6: Table (



## .1 Author:

relationship between concentration of loans and profitability of commercial banks. Results of regression analysis through the following equation  $ROE_t = 0.141675 - 0.044901 \cdot \text{Concentration}_t + \epsilon_t$  (1.190328) (0.270960) The results of regression analysis as in table (5) Shown an acceptance the zero hypothesis, which means that there is no statistically significant effect of the concentration of loans on the profitability of Jordanian commercial banks (ROE) for period (1993\_2012), also the results shown in the equation a negative relationship and statistically significant between concentration of loans and return on equity. The change in value of loans concentration contributes only by 0.004 of change in the revenues of banks and this percentage is very low, according to the coefficient of determination  $R^2$ . This supports the results of a test for correlation coefficient, which showed a lack of correlation relationship between the concentration of loans and profitability index, this means that the banks do not operate in monopolistic environment that allows it to impose price, which contributes to impose also interest rates on high Loans and deposits, the most concentrated and pushed into high levels of profit and non-competitive. That means accepting the zero hypothesis and reject the alternative hypothesis that the concentration of any deposits in Jordan does not affect the profitability index during the study period, one can say that the concentration increases the profitability of commercial banks in case the banks' ability to lead the pricing banking services, loans and thus obtain the greatest benefit possible from its dominance, this is unlikely in the market for full competition and interference by the authorities concerned, also this is consistent with what came to study (Laderman, 2003).

b) The second hypothesis H02: No statistically significant effect of the concentration on the profitability of deposits in Jordanian commercial banks for the period (1993\_2012). To examine this hypothesis, the correlation coefficient between the concentration of deposits and profitability (ROE), research the used of simple regression analysis (Linear Regression) to detect the effect of concentration of deposits on Jordanian commercial banks earnings (ROE) for period (1993\_2012), the table below illustrate this. Table (6) shows that the correlation coefficient between the concentration of deposits and profitability (ROE) in Jordanian commercial banks for the period (1993\_2012) has reached (0.042) in terms of the statistical (0.179), which is a very low value and not statistically significant, there is no correlation relationship between the concentration of deposits and profitability for commercial banks. Results of regression analysis through the following equation  $ROE_t = 0.134953 - 0.034306 \cdot \text{Concentration}_t + \epsilon_t$  (0.947886) (0.179035) Table (7) Shown the results of the regression analysis that accepted the zero hypothesis, which means that there is no statistically significant effect for the concentration of deposits on (ROE) Jordanian

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