



# The Impact of Bank Liquidity on the Profitability of Commercial Banks: An Applied Study on Jordanian Commercial Banks for the Period (2013/2017)

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## ABSTRACT

The study aims at showing the effect of banking liquidity on the profitability of commercial banks in Jordan for the period 2013-2017. The liquidity was measured by the variables of (liquidity, legal liquidity, employment ratio) as well as the profitability of commercial banks as a return on equity and assets (liquidity ratio, legal liquidity ratio, employment ratios) on the return on assets of Jordanian commercial banks. In addition, it was found that there is an effect of bank liquidity (liquidity ratio, legal liquidity ratio) On the return on equity of the Jordanian commercial banks for the period 2013-2017. It also found that the impact of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the profitability of commercial banks for the period 2013-2017 is attributable to the size of the bank. The study recommends that commercial banks should consider banking liquidity because it is of great importance in two ways. First, in the face of withdrawals from deposits, in order to avoid destabilizing the trust between the two parties, the bank and the depositors, thus leading to harm the shareholders. The second aspect is satisfying the needs of individuals with credit facilities. Therefore, commercial banks are required to measure bank liquidity and satisfy their needs because they have a negative impact on the size of bank liquidity, if it is large and with low profits, and on the other hand, the size may be low leading to bankruptcy of the bank.

**Keywords:** Bank Liquidity, Return On Assets, Return On Equity, Size Of The Bank

**JEL Classifications:** G2, G21

## 1. INTRODUCTION

### 1.1. Introduce the Problem

Commercial banks are characterized by their distinct features from other financial institutions, namely liquidity, profitability and safety. Commercial banks seek to profit by investing cash resources in lending and diversified investments and providing liquidity to be able to meet cash withdrawals by depositors. So, the correlation between liquidity and profitability must be harmonized.

Due to the importance of liquidity, banks should conduct studies on an ongoing and accurate basis to estimate the appropriate liquidity ratio of the bank, based on the type, amount and behavior of deposits, low liquidity means inability to meet its

obligations towards depositors. (Stephen, 2000 p104-105) In addition, the increase in the liquidity ratio of the bank and its non-exploitation means the loss of profit opportunities for the bank, ie the non-employment of the bank's money and the entry of guaranteed and profitable investments contribute to the impact on the amount of profits achieved, hence the ratio of liquidity available in banks in the appropriate amount is very important because of the different effects on the activities and functions of the bank. In light of this, the subject of the study was the study on the effect of banking liquidity on the profitability of Jordanian commercial banks for the period 2010-2017. The retention of liquidity makes it possible for the bank to meet obligations such as depositors' withdrawals and borrowing requests. Retention reflects negatively on the levels of fundraising and hence

low levels of profitability. The bank must match the liquidity levels and the fundraising process so that the bank can meet its obligations and achieve high profitability levels.

### 1.2. Explore Importance of the Problem

Banking liquidity and its management are among the most important challenges facing the banking sector in general, as banks have difficulty in matching and matching the liquidity requirements to be maintained in the bank on the one hand and the profitability considerations it seeks to achieve on the other. Indicates the weak ability of the bank to enter the various investments, which consequently affect the profits achieved, in contrast, the lack of liquidity to the appropriate extent of the bank contributes to the impact on the reputation of the bank by losing the confidence of customers thereby contribute to damage the banking system and financial as a whole.

### 1.3. Describe Relevant Scholarship

Bank liquidity may have an impact on profitability, and many researchers have found that the relationship between liquidity and profitability is as positive as the study of (Ibrahim, 2017, p119) on Iraqi banks for the period (2005-2013). The variables identified as independent liquidity variables (loan deposit ratio, ratio of the assets of deposits and the percentage of cash deposits) while the return on assets (ROA) as a variable of profitability, the study found that any increase in liquidity ratios will lead to an increase in ROA. Based on this study, it may be better for Iraqi banks to maintain the balance between liquidity Profitability, and another study conducted by (Ahmad, 2016, p81) on a bank in Pakistan for the period 2004-2013. The relationship was measured by current ratios, quick ratio and net capital, which resulted in a positive relationship between liquidity and profitability, whereas (Rehman and Khokhar 2015, p171) found that the current liquidity ratio has a positive impact on the ROA of listed Saudi companies with 99 companies for the period 2008-2012. Several studies on Kenya such as (Macharia, 2013, p36) have been conducted on 44 banks in Kenya for the period 2008-2012 to discuss The relationship between liquidity and profitability that was positive, and the liquidity was confirmed as one of the determinants of the profitability of commercial banks in Kenya. Another study conducted by (Nyamasege et al., 2014, p150) confirmed the positive relationship for the period 2009-2013, and (Khan and Ali, 2016, p58) applied to commercial banks in Pakistan to investigate the relationship between liquidity and profitability commercial banks for the period 2008-2014, which has raised a significant positive relationship.

On the other hand, bank liquidity may have a negative impact on profitability, and many researchers have proved it as the study of (Dahiyat, 2016, p39) who found that liquidity has a negative effect on profitability and there is no impact on the profitability of banks listed on the Amman Stock Exchange (ASE) of 15 banks for the period 2012-2014. (Kanaan, 2002, p110) found that there is an inverse relationship between the total and actual liquidity ratios and the ratio of the statutory cash reserve and the rate of return on equity in a sample of seven Jordanian commercial banks for the period (1985-1999). (Jeevarajasingam, 2014, p171) pointed out in his study on the impact of liquidity on the

profitability of the banking sector in Sri Lanka during the period (2008-2012), he found that liquidity did not have a significant impact on the profitability of the banking sector in Sri Lanka. (Shafana, 2015: 589) examined the degree and pattern of liquidity determinants on the profitability of financial institutions in Sri Lanka for the period (2009-2013), he found that liquidity has a negative impact on the profitability of financial institutions in Sri Lanka.

Studies have also been conducted to clarify the relationship between liquidity and profitability noting that bank liquidity has an impact on profitability but is not clear. Some believe that it can be positive or negative as in the study of (Al Nimer et al., 2015, p 232) that was conducted for the period (2005-2011), for 15 Jordanian banks listed in (ASE). The study revealed that there is a significant liquidity effect (measured in terms of liquidity) on ROA (profitability) and another study conducted by (Lartey et al., 2013) for listed companies in Ghana who tested the relationship between liquidity and profitability where he found that there is a very weak positive relationship.

Despite several studies conducted to test the relationship between liquidity and profitability, they found no correlation between liquidity and profitability, such as the study of (Rehman and Khokhar 2015, p 171) who found no significant correlation between the ROA, the liquidity ratio (LQR) and the liquidity ratio (CHR) in their study conducted on 99 companies listed in the Saudi Stock Exchange for the period 2008-2012, (Al Obaid and Ali, 2015) noted that there is no relationship between liquidity and legal liquidity as well as the profitability of Islamic banks measured by (ROA) to study the case of Islamic banks operating in Syria, (Rahma and Sreen, 2009) also didn't find any relationship between the liquidity and the rate of return measured by the return on equity and ROA of the Palestinian commercial banks for the period 2002-2008. The study of (Olawejun and Adeyemi, 2015) seeks to test the causal relationship between liquidity and profitability in deposit banks in Nigeria, the study concluded that there is no causal relationship between liquidity and profitability.

Liquidity may be one of the factors influencing the profitability of commercial banks such as the study of (Hirindu and Kushani, 2017, p215), which examined the factors affecting the profitability of local commercial banks in Sri Lanka, it found that the liquidity factor has a negative impact on profitability. As for (Almazar, 2014, p 125) he found a comparison between the profitability of Saudi and Jordanian banks for the period 2005-2011, he noted that there is a significant positive correlation between the capital return of Saudi banks, TEA, TIA and LQR variables, as well as negative correlation with NCA, CDR CIR and SZE variables. At the same time, there is a significant positive correlation between ROA from Jordanian banks with variables LQR, NCA, TEA and CDR, there is also a negative correlation of ROA with CIR, TIA and SZE. (Bourke, 1989; Molyneux and Thornton, 1992; Williams and Thornton, 1994) classified liquidity as internal determinants that could be controlled by management.

### 1.4. State Hypotheses and Their Correspondence to Research Design

The main hypothesis is that there is no statistically significant effect on the profitability of commercial banks in Jordan for the period 2013-2017 at the level  $\alpha \leq 0.05$  for bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios).

The following main hypotheses are derived from the first hypothesis:

First Hypothesis: There is no statistically significant effect at the level  $\alpha \leq 0.05$  for bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the ROA of Jordanian commercial banks for the period 2013-2017

Second Hypothesis: There is no statistically significant effect at the level  $\alpha \leq 0.05$  for bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the return on equity of Jordanian commercial banks for the period 2013-2017

The second main hypothesis: There is no statistically significant effect at the level  $\alpha \leq 0.05$  of the bank liquidities (liquidity ratio, legal liquidity ratio, employment ratios) on the profitability of the commercial banks of Jordan for the period 2013-2017 attributed to the size of the bank.

The second hypothesis is derived from the main hypothesis:

First Hypothesis: There is no statistical significance at the level  $\alpha \leq 0.05$  for bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the ROA of Jordanian commercial banks for the period 2013-2017 attributed to the size of the bank

Second Hypothesis: There is no statistically significant effect at the level  $\alpha \leq 0.05$  of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the return on equity of Jordanian commercial banks for the period 2013-2017 attributed to the size of the bank.

## 2. METHODS

### 2.1. Study Community

The study community consists of the Jordanian banks listed in ASE, according to the Banks Directory from the official website of the ASE.

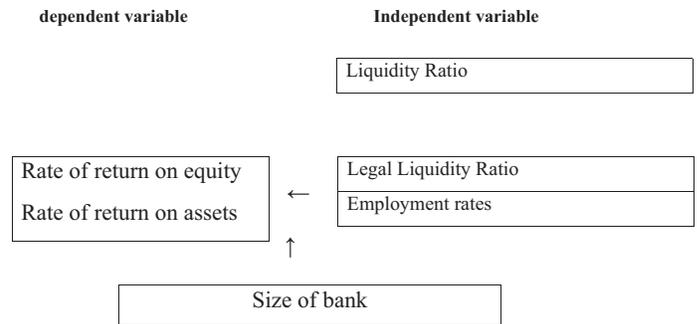
### 2.2. Study Sample

All Jordanian banks are included, and banks that do not meet the following conditions are excluded:

1. Banks shall be traded in the financial market during the study period
2. The bank shall not be subject to compulsory or voluntary liquidation
3. The Bank has all the necessary data to calculate the variables of the study for the variables of the study sample for the period (2013-2017).

Following the application of the mentioned conditions to all Jordanian banks, the study sample was limited to (14) Jordanian banks.

### 2.3. Study Sample



## 3. RESULTS

This part of the study will present the test of the variables of the study. All variables were subjected to multiple regression analysis, as follows:

Results in Table 1 show that the value of the coefficient of determination ( $0.263 = R^2$ ) means that the independent variables have interpreted 26.3% of the variance in the ROA, with other factors remaining constant. The value of (F) was (7.858) at the confidence level (Sig. = 0.000) and this confirms the significance of the regression at the level ( $\alpha \leq 0.05$ ).

The table of transactions showed that the value of B at (cash flow ratio) reached (-0.389) and the value of t is (-3,891) and the level of significance (Sig. = 0.006), indicating that the effect of this variable is negative. The value of B at (legal liquidity ratio) reached (0.002) and the value of t is (0.934) and the level of significance of (Sig. = 0.354), indicating that this variable is not affected. The value of B at (the employment ratio) was 0.0001 and the value of t is 0.074 and the significance level is (Sig. = 0.942), indicating that this variable is not affected.

Based on the above, it was found that there is a statistically significant effect at the level of ( $\alpha \leq 0.05$ ) of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the ROA of Jordanian commercial banks for the period 2013-2017.

Table 2 shows that the value of the coefficient of determination ( $0.167 = R^2$ ) means that the independent variables have interpreted 16.7% of the variance in the ROE, with the remaining other factors constant. The value of (F) has reached (4.426) at the level of confidence (Sig. = 0.000) and this confirms the significance of the regression at the level ( $\alpha \leq 0.05$ ).

The table of transactions showed that the value of B at (7.83) was 7.83 and that the value of t is (-1.53) at a significant level (Sig. = 0.13), indicating that this variable is not affected. The value of B at (legal liquidity ratio) is (-1.57) and the value of t is (2.28) and the level of significance of Sig. = 0.00, indicating that the effect of this variable is not affected. The value of B at (the employment ratio) was 0.06 and the value of t is -0.50 and at a significance level (Sig. = 0.62), indicating that this variable is not affected.

Based on the above, he pointed out that there is a statistically significant effect at the level of ( $\alpha \leq 0.05$ ) for bank liquidity

(liquidity ratio, legal liquidity ratio, employment ratios) on the return on equity of Jordanian commercial banks for the period 2013-2017.

Table 3 showed that the change in the change 2/R-square change to the effect of the bank size was (0.004) and that the value of (F) reached (0.313) at the level of confidence (0.000) which confirms the significance of the regression at the significance level ( $\alpha \leq 0.05$ ), which means that the size of the bank has contributed to improving the impact of banking liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the ROA of Jordanian commercial banks for the period 2013-2017.

In addition, Table 4 indicated that the Change 2/R-square Change of the Bank's effect was (0.013) and that the value of (F Change) was (1.021) at the confidence level (0.000) which confirms the significance of the regression at the level of significance ( $\alpha \leq 0.05$ ), which means that the size of the bank has contributed to improving the effect of banking liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the return on equity of Jordanian commercial banks for the period (2013-2017).

## 4. DISCUSSION

The results of the study on the effect of bank liquidity on the profitability of commercial banks showed that an effect of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the ROA of Jordanian commercial banks for the period 2013-2017. This was confirmed by the study of (Ibrahim, 2017) which was contradicted with the study of (Rahma and Sreen, 2009). In addition, it was found that the effect of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the return on equity of Jordanian commercial banks for the period 2013-2017. This is also was in contrast to the results of (Rahma and Sreen, 2009). It also found that the impact of bank liquidity (liquidity ratio, legal liquidity ratio, employment ratios) on the profitability of Jordanian commercial banks for the period 2013-2017 is attributable to the size of the bank, which also contrasts with the study of (Almazar, 2014).

The study recommends that commercial banks should consider banking liquidity because it is of great importance in two ways. First, in the face of withdrawals from deposits, in order to avoid

**Table 1: Test results of the first sub-hypothesis of the first main hypothesis**

Dependent variable*	Coefficients table				
	Statement	B	Standard mistake	T calculated	*Significant t level Significance
ROA	Liquidity ratio	-0.389	0.100	-3.891	0.000
	Legal liquidity ratio	0.002	0.002	0.934	0.354
	Employment rate	0.0001	0.002	0.074	0.942
R2 Selection Factor			0.263		
Correction coefficient of AdjR			0.230		
F value calculated			7.858		
Sig. F*			0.00		
D-W			1.057		

**Table 2: Test results of the second sub-hypothesis of the first main hypothesis**

ROE	Coefficients table				
	Statement	B	Standard mistake	T calculated	*Significant t level Significance
ROE	Liquidity ratio	7.83	2.27	-1.53	0.13
	Legal liquidity ratio	-1.57	1.03	2.28	0.03
	Employment rate	0.06	0.03	-0.50	0.62
R2 Selection Factor			0.167		
Correction coefficient of AdjR			0.130		
F value calculated			4.426		
Sig. F*			0.007		
D-W			1.019		

**Table 3: Test results of the first sub-hypothesis of the second main hypothesis**

ROA	Coefficients table				
	Statement	B	Statement	T calculated	Statement
ROA	Liquidity ratio	-0.38	0.10	-3.63	0.00
	Legal liquidity ratio	0.0001	0.0001	0.85	0.40
	Employment rate	0.0001	0.001	0.02	0.98
	Bank size	0.06	0.11	0.56	0.58
R2 Selection Factor			0.267		
Correction coefficient of AdjR			0.222		
R square change			0.004		
F value calculated			5.910		
F change			0.313		
Sig. F*			0.000		
D-W			1.032		

**Table 4: Test results of the second sub-hypothesis of the second main hypothesis**

ROE	Coefficients table				
	Statement	B	Statement	T calculated	Statement
ROE	Liquidity ratio	-1.32	1.06	-1.24	0.22
	Legal liquidity ratio	0.05	0.03	2.14	0.04
	Employment rate	-0.01	0.02	-0.59	0.56
	Bank size	1.18	1.17	1.01	0.32
R2 selection factor			0.18		
Correction coefficient of AdjR			0.13		
R square change			0.013		
F value calculated			3.576		
F change			1.021		
Sig. F*			0.011		
D-W			0.964		

destabilizing the trust between the two parties, the bank and the depositors; thus, leading to harm the shareholders. The second aspect is satisfying the needs of individuals with credit facilities. Therefore, commercial banks are required to measure bank liquidity and satisfy their needs because they have a negative impact in the event of a large volume of bank liquidity with low profits. On the other hand, the size of the bank may lead to bankruptcy.

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