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LIQUIDITY AND PROFITABILITY ANALYSIS IN THE PALESTINIAN BANKING SECTOR

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Abstract:
This study aims to examine the relation between liquidity and profitability in the Palestinian banking sector to contribute to the development of the financial sector. The relation between liquidity and profitability between the years 2010-2016 was examined by using normal distribution test, ANOVA, T test and F test. Regression was performed with SPSS 24.0 program. As a result, there is the existence of a positive and meaningful relation between return on assets (ROA) and return on equity (ROE) and monetary liquidity ratio, there is a negative and significant relation between return on assets (ROA) and return on equity (ROE) and loan to deposit ratio (LTD).

Keywords:
Liquidity, Profitability, The Palestinian banking sector.

1. Introduction
Palestine is different from other countries because it is under Israeli occupation. Israel is benefiting from all sources, including financial resources in Palestine. The Palestinian banks have played an important role in influencing financial policies to serve the Palestinians financially and to diversify the national economy and the available financial resources.
The banking sector in all countries as a sector perform an important function in the development of the financial system and it is working to improve the quality of service and profit maximization. For this reason, the banking sector is affected by various factors such as long-term and short-term credits. They support a balance between the amount of liquidity available and the profitability in order to fulfill the bank's obligations.
The liquidity indicators and profitability ratios of the banks used in the study were tested empirically. The financial activity of the Palestinian banking sector and its components has been analyzed.

2. Literature
Kenaan (2002) examined the effect of liquidity and profitability in Jordan's commercial banks during 1985-1999 period. As a result, it is concluded that there is a statistically significant negative relation between the liquidity ratio and the return on equity and that there is a positive relation between the equity portfolio profitability ratio and the securities portfolio.
Ebu Zaiter's (2006) study, the factors affecting the profitability of commercial banks operating in Palestine examined the profitability of commercial banks operating in Palestine and the indicators used to measure them. It is concluded that there is a statistically significant correlation between the return rate of assets and the return on equity. There is also a significant relation between the cash and the profitability ratio measured by the profitability ratios of assets.
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Nuri's (2009) study, the profitability of banks was evaluated using liquidity indicators. Conducted a comparative study between two banks in Iraq during 1997-2001 period. The most important result is that the liquidity indicators of both banks are weak and insignificant on the banking profit indices, but the liquidity is an index other than the legal reserves.

Bordeleau & Graham (2010) study, the effect of liquidity on the profitability of the bank was examined for the banks of Canada and USA between 1997 and 2009, as a result, the existence of a non-linear relation that increases the profitability of banks with certain liquid assets and the fact that raising the liquidity of assets to a certain level is contrary to the profitability of the banks.
Wambu (2013) studied the relation between the profitability and liquidity of commercial banks in Kenya between 2008-2012. As a result, it is having a positive relation between liquidity and profitability, and have found that liquidity is one of the determinant of the profitability of commercial banks.
Lartey, Antwz & Boadi (2013) studied the relation between banks' liquidity and profitability in Ghana between 2005 and 2010, the existence of a weak positive relation between the liquidity and profitability in listed banks in study.
Alshatti (2014) studied the impact of liquidity management on profitability in Jordan's commercial banks for the period (2005-2012). Empirical results show that the rapid increase in the rate of existing mutual funds leads to an increase in profitability, and an increase in the ratio of capital and liquid assets leads to a decrease in profitability.
Ali Han and Ali (2016) examined the effects of liquidity on commercial banks' profitability in their work during 2004-2013 and as a result show that liquidity has a positive relation with profitability and has a significant effect on the profitability of commercial banks in Pakistan.
Ahmed (2016) carried out a research on the relation between Pakistan Standard Chartered Bank Liquidity and Profitability between 1997 and 2009. As a result, the result of the study is that there is a positive relation between profitability and liquidity. There is a negative relation between flow rate and profitability. There is a positive relation between net operating capital and profitability.
Dabiri, Rosylin & Norazlina (2017) conducted an empirical analysis for the years 2005-2015 on the Profitability and Liquidity of Islamic Banks in the United Kingdom. As a result of the study, it is concluded that the liquidity has a negative and significant effect on short and long cycle work and there is not found negative and bidirectional causal relation between liquidity and profitability.

3. Data & Method

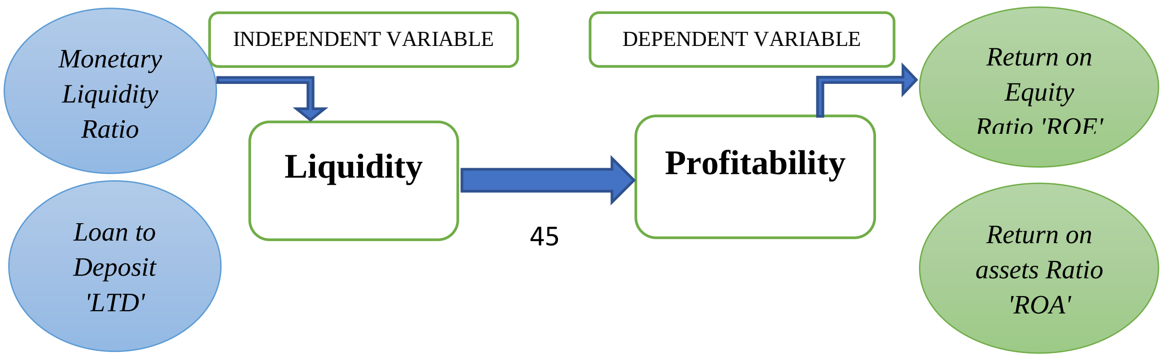
Several The financial statements of the banks analyzed in order to investigate the profitability and liquidity in the Palestinian banking sector were accessed through the web sites of Palestinian banks, the website of the Palestinian Monetary Authority , the website of the Palestinian Stock Exchange and the website of the Bankers' Association in Palestine . The accuracy of the data has been checked and verified. The banks used in the analysis are listed in Annex 1.
The required financial data were collected, classified and analyzed from the bank's balance sheet and income statements. The following ratios were calculated to obtain the rates required for the study.
Liquidity Ratios;

- Monetary Liquidity Ratio = The Funds Cash / Total Customer Deposits * 100%
- Loan to Deposit 'LTD' = Credit Facilities / Total Customer Deposits * 100%

Profitability Ratios;

- Return on Equity Ratio 'ROE' = Net Profit After Tax / Equity * 100%
- Return on assets Ratio 'ROA' = Net Profit After Tax/ Assets * 100%

Research Model:
To investigate the relation between liquidity ratios as independent variable and profitability ratios as a dependent variable, the model of the research was constructed as seen in the following figure.



Profitability is a dependent variable affected by various factors such as liquidity. The liquidity and profitability ratios used to investigate the relation between liquidity and profitability in Palestinian banks in the given period are given in Table 1. Liquidity ratios as independent variables and profitability ratios as dependent variables were used in the study.

Table 1: Liquidity and Profitability Ratios Used in the Study

Liquidity Ratios	**Symbol**	**Type**	**Profitability Ratios**	**Symbol**	**Type**
Monetary Liquidity Ratio	X1	Independent	Return on Equity Ratio 'ROE'	Y1	Dependent
Loan to Deposit 'LTD'	X2	Independent	Return on assets Ratio 'ROA'	Y2	Dependent

The hypothesis of the research is summarized as follows.

Hypothesis 1:

H0: There is no relation between monetary liquidity ratio and return on equity in Palestinian banks.

H1: There is a relation between monetary liquidity ratio and return on equity in Palestinian banks.

Hypothesis 2:

H0: There is no relation between monetary liquidity ratio and return on asset ratio in Palestinian banks.

H1: There is a relation between monetary liquidity ratio and return on asset ratio in Palestinian banks.

Hypothesis 3:

H0: There is no relation between loan to deposit ratio and return on equity ratio in Palestinian banks.

H1: There is a relation between loan to deposit ratio and return on equity ratio in Palestinian banks.

Hypothesis 4:

H0: There is no relation between loan to deposit ratio and return on asset ratio in Palestinian banks.

H1: There is a relation between loan to deposit ratio and return on asset ratio in Palestinian banks.

In figure 1 below, the profitability ratios used in the study between 2010 and 2016 are shown. the ratio of both the return on assets (ROA) and return on equity (ROE) has decreased in the last 7 years.

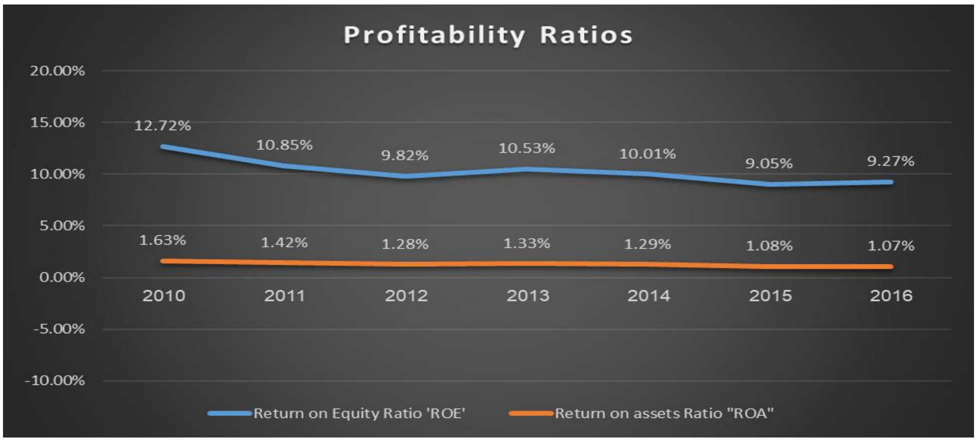


Figure 1: Profitability ratios in the Palestinian banking sector during 2010-2016

Figure 2 below shows the liquidity ratios used in the research in 2010-2016. Both the monetary liquidity ratio and the loan to deposit ratio LTD value have decreased in the last seven years.

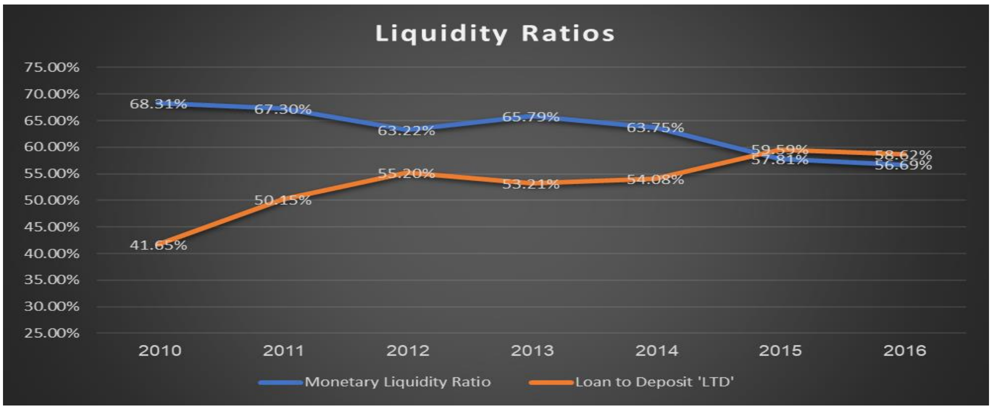


Figure 2: Liquidity ratios in the Palestinian banking sector during 2010-2016

4. Analysis Findings

Skewness and kurtosis normality test were applied to the data. It has been determined that the skewness and kurtosis values in the test result are within the reference values . In addition, the Shapiro-Wilk test was used and the following hypotheses were tested to see that the data had normal distribution ;

H0: The data do not have normal distribution.   H1: The data have normal distribution.

Table 2: Normality Tests Shapiro-Wilk Test

Ratios	Statistic	df	Sig.
Return on Equity Ratio 'ROE'	0.898	7	0.319
Return on assets Ratio 'ROA'	0.935	7	0.593
Monetary Liquidity Ratio	0.927	7	0.362
Loan to Deposit 'LTD'	0.903	7	0.353

Test results are given in Table 2. The data were tested and consequently the alternative hypothesis (H1) was accepted and the data were found to have normal distribution since the value of the tests was greater than 0.05. Accordingly, the correlation coefficient and the variance coefficient can be tested and the regression line equation can be extracted and the values of "F" and "T" are tested.

Table 3: Correlation Analysis between Liquidity and Profitability

		Return on Equity Ratio 'ROE'	Return on assets Ratio 'ROA'	Monetary Liquidity Ratio	Loan to Deposit 'LTD'
Return on Equity Ratio 'ROE'	Pearson Correlation	1	.971**	.855*	-.995-**
	Sig. (2-tailed)		0.000	.014	0.000
	N	7	7	7	7
Return on assets Ratio 'ROA'	Pearson Correlation	.971**	1	.942**	-.981-**
	Sig. (2-tailed)	0.000		0.002	0.000
	N	7	7	7	7
Monetary Liquidity Ratio	Pearson Correlation	.855*	.942**	1	-0.697
	Sig. (2-tailed)	.014	0.002		0.082
	N	7	7	7	7
Loan to Deposit 'LTD'	Pearson Correlation	-.995-**	-.981-**	-0.697	1
	Sig. (2-tailed)	0.000	0.000	0.082	
	N	7	7	7	7
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Source: SPSS

Correlation analysis results show that the values close to 0 are linear and weak between the two variables, while the values close to 1 indicate a linear and strong relation between the variables . According to the correlation test results in Table 3; there is a positive bidirectional and strong relation between return on equity ratio "ROE" and monetary liquidity ratio (r = 0.855), there is negative bidirectional and very strong relation between return on equity ratio "ROE" and loan to deposit ratio 'ltd' (r = -0,995), there is positive bidirectional and very strong relation between return on assets ratio "ROA" and monetary liquidity ratio (r = 0.942) and there is negative bidirectional and very strong relation between return on assets ratio "ROA" and loan to deposit ratio 'ltd' (r = -0,981).

All relations were statistically significant at the level of 0,01 and 0,05. Liquidity and Profitability in the Palestinian Banking Sector ANOVA Test The findings are as in table 4 in follows. we can subtract the regression level and calculate the value at an indicator (0.05). If the F test is higher than the F table (4.28), we can conclude that the test is good and the regression equation can be written and statistically significant.

Table 4: Regression Analysis between Liquidity and Profitability Using ANOVA Test

Regression		Sum of Squares	df	Mean Square	F	Sig.
Return on Equity Ratio 'ROE'	Monetary Liquidity Ratio	6.656	6	6.656	13.561	.014
	Loan to Deposit 'LTD'	9.024	6	9.024	519.456	.000
Return on assets Ratio 'ROA'	Monetary Liquidity Ratio	0.138	6	0.138	8.021	.002
	Loan to Deposit 'LTD'	0.215	6	0.215	125.477	.000

Source: SPSS

a. Return on Equity "ROE and Monetary Liquidity Regression Line Equation Findings;

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-4.497	4.033		-1.115	0.315
	Monetary Liquidity Ratio	0.234	0.064	0.855	3.683	0.014

a. Dependent Variable: Return on Equity Ratio 'ROE'

Source: SPSS

The equation of regression line between return on equity ratio 'ROE' and monetary liquidity ratio can be written as follows;

$$Y1=(0.234)X1 - 4.497$$

The value of T (2.001) is statistically significant as it is greater than the value of T (2.015). According to the regression coefficients; the level of the relation between return on equity and monetary liquidity is significant ($p < 0.05$). Monetary liquidity contributes to the coefficient of 0,855 in the formation of return on equity. So, as the monetary liquidity coefficient increases, the return on equity will also increase. Also; monetary liquidity predicts the return on equity as 73% (r2) in the positive direction.

b. Return on Assets "ROA" with Monetary Liquidity Regression Line Equations Findings

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-1.261	0.410		-3.080	0.027
	Monetary Liquidity Ratio	0.040	0.006	0.942	6.265	0.002

a. Dependent Variable: Return on Assets "ROA"

Source: SPSS

The regression line equation between return on assets "ROA" and monetary liquidity can be written as follows:

$$Y2=(0.04)X1 - 1.261$$

The value of T (6.265) was statistically significant as it was larger than the T-table (2.015). Also; the level of the relation between return on assets and monetary liquidity is significant ($p < 0.05$). Monetary liquidity in the formation of profitability of assets contributes to the coefficient of 0,942. So, as the monetary liquidity coefficient increases, the return on assets will also increase. Also; monetary liquidity predicts return on assets at 88.7% (r2) in the positive direction.

c. Return on Equity "ROE" With Loan to Deposit 'LTD' Regression Line Equations Findings

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	21.154	.478		44.265	.000
	Loan to Deposit 'LTD'	-.204-	.009	-.995-	-22.792-	.000

a. Dependent Variable: Return on Equity Ratio 'ROE'

Source: SPSS

The equation of regression line between return on equity "ROE" and loan to deposit 'LTD' can be written as follows;

$$Y1=(-0.204)X2 + 21.154$$

The value of T (22.8) is statistically significant because it is larger than the T-table (2.015). The level of the relation between return on equity and Loan to Deposit ratio is significant ($p < 0.05$). The Loan to Deposit ratio in the formation of return on equity is in the coefficient of -0,995. Therefore, as the Loan to Deposit ratio coefficient increases, the return on equity will decrease. Also; Loan to Deposit ratio predicts return on equity at 99% (r2) in the negative direction.

d. Return on Assets "ROA" with Loan to Deposit 'LTD' Regression Line Equations Findings

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.973	.150		19.787	.000
	Loan to Deposit 'LTD'	-.031-	.003	-.981-	-11.202-	.000

a. Dependent Variable: Return on Assets "ROA"

Source: SPSS

The equation of regression line between return on assets "ROE" and loan to deposit 'LTD' can be written as follows;

$$Y2=(-0.031)X2 + 2.973$$

The value of T (11.2) is statistically significant because it is larger than the T-table (2.015). The level of the relation between return on assets and Loan to Deposit ratio is significant ($p < 0.05$). The Loan to Deposit ratio in the formation of return on assets is in the coefficient of -0,981. Therefore, as the Loan to Deposit ratio coefficient increases, the return on assets will decrease. Also; Loan to Deposit ratio predicts return on assets at 96% (r2) in the negative direction.

5. Conclusion

This study aimed to examine the relation between profitability and liquidity of banks in the Palestinian banking sector between 2010 and 2016 using the liquidity ratios of banks and profitability ratios.
In other words, how banks could maintain the balance between liquidity and profitability was researched and based on the results of the research, In the Palestinian banking sector, there is a relation between liquidity and profitability measured by return on equity (ROE) and return on assets (ROA). There has been found to have a positive and meaningful relation between return on assets (ROA) and return on equity (ROE) with monetary liquidity ratio. There has been found to have a significant negative relation between return on equity (ROE) and return on assets (ROA) with loan to deposit ratio.
In order to ensure sufficient liquidity for Palestinian banks to efficiently run their businesses, it was necessary to adopt a general framework of liquidity management and to evaluate the banks statistically in order to balance the resources of the banks and the use of funds. Under the sudden economic and political conditions that Palestinian banks may face, it is necessary to identify the strengths and weaknesses of banks in terms of liquidity.
As a result of the econometric analysis of the study, we can summarize the relation between the profitability and liquidity of the Palestinian banking sector in order;
There is a strong positive and statistically significant relation between monetary liquidity ratio and the return on assets 'ROA'. There is a strong, negative, and statistically significant relation between the loan to deposit 'LTD' and the return on assets 'ROA'. There is a strong, positive and statistically significant relation between the monetary liquidity ratio and the return on equity 'ROE'. There is a very strong, negative and statistically significant relation between the loan to deposit 'LTD' and the return on equity 'ROE'. All liquidity ratios and profitability ratios can be formulated in a linear equation.
overall, liquidity has been seen as one of the most powerful factors affecting the profitability of Palestinian banks.

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Annex 1:

Banks	Total Assets $	Year established in Palestine	Web Site
Bank of Palestine	4,118,629,230	1960	https://www.bankofpalestine.com/
Arab Bank	3,436,077,174	1994	https://www.arabbank.com/
Cairo Amman Bank	976,959,109	1986	http://www.cab.jo/en/
Quds Bank	960,070,324	1995	http://www.qudsbank.ps/eng/
TNB Bank	957,088,864	2006	https://www.tnb.ps/en/
Palestinian Islamic Bank	809,082,569	1997	https://islamicbank.ps/en/
Arab Islamic Bank	791,442,161	1996	http://www.aibnk.com/english/
Housing Bank for Trade and Finance	604,369,186	1995	https://www.hbtf.com/en/
Bank of Jordan	591,577,993	1994	http://www.bankofjordan.com/
Jordan National Bank	374,510,987	1995	http://ahli.com/en/
Palestine Investment Bank	352,712,692	1995	https://www.pibbank.com/en/
Jordan Commercial Bank	216,342,708	1994	https://www.jcbank.com.jo/en

Arab Egyptian Bank	155,565,959	1994	https://en.aqaribank.jo/
Jordan Kuwait Bank	125,165,800	1995	https://www.jkb.com/
Al_Safa Bank	87,038,490	2016	https://www.safabank.ps/