

Soundness of Palestinian Banks- 10 Years Based Analysis

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Abstract: *The purpose of this paper is to evaluate Palestinian banks soundness based on CAMEL approach for ten years (2008 to 2017) then ranked Palestinian banks overall performance accordingly. Furthermore, we compared the performance between conventional and Islamic banks according to CAMEL indicators. Particularly, as a soundness performance; we find that from 2008 to 2017 the Palestinian banks have committed to Basel and national standards in terms of capital adequacy level, from 2010 to 2017 all banks have had a declining trend of impaired loans level and from 2011 to 2017 all banks have had a stable profitability. While, as a decline in management performance; we find that from 2011 to 2017 all banks have had an increasing trend of interest expenses level and from 2008 to 2017 all banks have had a declining trend of liquid assets level. Additionally, using FGLS and OLS regression analysis, we find that conventional banks have higher (better) capital adequacy levels than Islamic banks, while Islamic banks have lowest (better) interest expense levels than conventional banks. Furthermore, the results show that as a bank's size increases the capital adequacy level, the impaired loans level and the liquidity level decrease, while the earning ability increases. Importantly, we find that Palestinian banks during war times made prudent policies by maintaining relatively high liquidity levels during disturbance times. Finally, based on the composite ranking indicator "overall performance" Palestine Investment Bank has got place number 1. Arab Islamic Bank has got place number 2. Palestine Islamic Bank has got place number 3. Bank of Palestine and National Bank have got place number 4. Finally, Quds Bank has got place number 5.*

Keyword: *Banks soundness, commercial banks, Islamic banks, CAMEL, Palestine*

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I. Introduction

It is known that Banks play a major role in development of a country's economy, thus the assurance of a strong, solid and steady banking sector is of the highest importance for all participants such depositors, employees, governments, and shareholders to the economic life. Starting from this importance, the international and national regulatory bodies have deepened their interest on evaluation and analysis of soundness of financial system and in particular soundness of banking sector within a country (Romana&Sargu, 2013).

Performance of banking sector is an effective indicator to check economy's performance. In other words, banking sector's performance is considered as an image of country economic' activities (Misra&Aspal, 2013). Accordingly, several models and techniques were developed to evaluate and analyze banks' efficiency and performance in order to capture complexity and risk exposure to banking system properly, responsibly, beneficially and sustainably. Therefore, it is of great importance to evaluate the overall performance of banks by implementing a regulatory banking supervision framework. One of such measures of a supervisory information system is the CAMEL rating system. Officially, it is known as Uniform Financial Institutions Rating System. It is an international supervisory rating system originally developed in U.S. and adopted by the Federal Financial Institution Examination Council on 1979 in the Basel accord in order to classify bank's overall condition (Barr et al., 2002; Gupta, 2014; Mekonnen et al, 2015). Importantly, International Monetary Fund and World Bank recommend usage of CAMEL system as the measure of financial soundness of banking sector (Romana&Sargu, 2013).

CAMEL Framework

CAMEL rating system comprises of fifth dimensions of indicators which are: Capital Adequacy, Assets Quality, Management Quality, Earnings Ability and Liquidity Ability. These components are used to reflect financial performance, operating soundness and regulatory compliance of financial institutions; it is elaborated in methodology section.

Palestine has witnessed continuous conflicts due to Israel occupation. In fact, Israel controls the airspace, ports and border crossings of Palestine and thus controls people, goods and money movement. Furthermore, within the last 10 years, Israel imposes a strict siege on Gaza Strip-Palestine since 2007 until now as well as

three wars have been launched on Gaza Strip-Palestine in 2009, 2012 and 2014. Accordingly, the aforementioned events have adversely affected the political, social and economic conditions of Palestinian economy and thus the Palestinian banking sector. Therefore, this study aims to evaluate the performance of Palestinian banking sector for the last ten years (2008 – 2017) using the CAMEL framework, which helps to identify strengths and vulnerabilities of Palestinian banks in particular within disturbance environment as is the case in Palestine, as well as to create a fair snapshot for regulators to improve and increase Palestinian banks soundness. As well as, this study compares between conventional and Islamic banks based on CAMEL indicators using FGLS and OLS regression analysis. Finally, we ranked the overall performance of Palestinian banks according to CAMEL composite indicator.

II. Literature Review

In Romania, Romana&Sargu (2013) analyze the financial soundness of the commercial banks using CAMELS framework; they find that Banca Comerciala Romana among the best five performing banks in terms of management quality and earning indicators, yet this bank had weak result in terms of liquidity indicators. In addition, they find that all banks have well capital adequacy level. Misra&Aspal (2013) examine the financial soundness of state bank group in India by CAMEL approach, they conclude that SBBJ and SBP were at the top position, while SBI got the lowest rank in terms of banks capital adequacy. SBBJ held the top rank while SBI held the lowest rank In terms of banks asset quality. Under management efficiency; it is observed that SBT got the top rank and SBBJ has got the lowest rank. In terms of earning quality, SBM has got the top rank while SBP was in the lowest position. Under banks liquidity, SBI has got the top position while SBM has got the lowest position. However, despite different ranks of the different banks, they conclude that the difference between banks is statistically insignificant. In other words, the overall performance of State bank group in India is the same. Using data from Turkey, Erol et al. (2014) compare the performance of Islamic and conventional banks according to CAMELS method for the period 2001 to 2009; they find that Islamic banks perform better in profitability, asset management and foreign currency liquidity ratios, while conventional banks show better performance in capital adequacy, sensitivity to market risk and domestic currency liquidity ratios. Kouser& Saba (2012) compare the performance between Pure Islamic banks, conventional banks and mixed banks “which have Islamic and conventional branches”. They find that Pure Islamic banks have adequate capital and good asset quality when compared to mixed and conventional banks, as well they find that Pure Islamic banks, in general, have good management competency in comparison to conventional banks. Yet, the earnings of mixed banks are better than Pure Islamic and conventional banks. Also, Dincera et al. (2011) analyze Turkish banking sector based on CAMELS approach through global economic crisis time 2002 to 2009. Particularly, banking sector is analyzed under three categories as “state-owned, privately owned and foreign Banks”. They find that positive developments were seen in terms of the performance of state-owned, privately-owned and foreign banks after 2001 and 2008 crisis. Ferrouhi (2014) examines the performance of major Moroccan financial institutions for the period 2001-2011 using CAMEL approach; he finds that CDM bank is the best-ranked bank with an average of 4.4 followed by CAM, BMCE, BCP, AWB and BMC with an average 4, 3.4, 3.4 and 2.2, respectively. In the light of prior literature, it is proven that CAMEL as supervisory approach system is an effective way of supervisory monitoring of banks’ conditions.

III. Research Methodology

Study Design: The study adopts an analytical research design based on CAMEL approach; CAMEL method consists of five components as follow;

Capital adequacy: this dimension determines the financial strength of a bank. As for the Capital adequacy ratio, it is the ratio which determines the capacity of a bank in terms of meeting time liabilities and other risks such as credit risk, market risk and operational risk. Given that this ratio has a positive relationship with the financial soundness of the bank, while it is negatively related to a possible failure (Dincera et al., 2011).

Asset quality: quality of banks assets is related to the left side of its balance sheet. Usually, top management of bank is concerned mostly with the quality of loans they provided to their customers, as it generates earnings to bank. Assets quality and loan quality are two words that have the same meaning, but most often they are used interchangeably (Masood et al., 2016).

Management quality: this dimension indicates the effectiveness of management in dealing with their deposits and advances. Yet it is not just dependent on the current financial performance. This component consists of a large range of issues such as education level and expertise of management. Thus, it is the hardest one to measure when compared to others (Dincera et al., 2011). However, to determine the effectiveness of management we adopted interest expense (deposit interests) to total expense ratio. The lower the ratio the better is for the bank since it shows that management has a good ability to handle bank operations (Fethi and Pasiouras, 2010).

Earningsability: this dimension checks the ability of a bank to earn consistently and to determine a bank’s profitability. These kinds of indicators are positively related to the financial performance of bank and negatively related to the possibility of failure (Dincera et al., 2011; Masood et al., 2016).

Liquidityability: liquidity is the ability of a bank to convert its financial assets into cash most rapidly or in a quick succession. In other words, it is the availability of funds to pay off all banks’ financial obligations when they become due (Masood et al., 2016). Given that, these kinds of indicators can be both negatively and positively related to banks’ performance (Dincera et al., 2011).

Table 1 shows the adopted ratios which have been widely used in literatures and its relationship to banks’ soundness.

Table 1 CAMEL parameters

CAMEL parameters	Ratios	Calculation method	Relationship with bank’ soundness
Capital Adequacy	Capital Adequacy Ratio	= (Tier I +Tier II) /risk-weighted assets	Positive
Asset Quality	Impaired loans Ratio	= Non-performing Loans/Total Loans	Negative
Management Quality	Deposit interest expense ratio	= Interest Expense / Total Expense	Negative
Earnings Ability	ROAA	= Net Income / Average Total Assets	Positive
Liquidity Ability	Liquid Assets Ratio	= Liquid Assets / (Deposits + Non-Deposit Funds)	Can be negatively or positively

After calculating each CAMEL parameter of Palestinian Banks, we ranked Palestinian Banks position “overall performance” based on composite ratio. Moreover, we examined the difference between Islamic and conventional banks based on CAMEL parameters using regression analysis. Particularly, since our data are pooled time-series cross-section data (TSCS), we used feasible generalized least squares (FGLS) to run our model models. (FGLS) technique controls heteroscedasticity across panels and autocorrelation within panels (Podestà, 2002). In addition, we used ordinary least square (OLS) with correction of standard errors using the Newey–West procedure in order to mitigate the potential effect of autocorrelation and heteroscedasticity (Gujarati, 2009).

Objective of the study: The main objective of this paper is to evaluate Palestinian banks soundness based on CAMEL approach for ten years (2008 to 2017) then ranked Palestinian banks overall performance accordingly. The second objective is to compare performance between conventional and Islamic banks according to CAMEL indicators.

Data Collection:The study mainly based on secondary data drawn from the annual reports of banks, this data is related to 10 years (2008 to 2017). Banks those included in the study are all listed banks on Palestine Stock Exchange Market (<http://www.pex.ps>). Total listed banks are 6 banks, two of them are classified as Islamic banks and the rest are conventional banks see Table 2.

Table 2 listed banks in Palestine

Bank Name	Type of Bank	Branches
Arab Islamic Bank	Islamic	11
Palestine Islamic Bank	Islamic	23
Bank Of Palestine	Conventional	57
Quds Bank	Conventional	31
Palestine Investment Bank	Conventional	15
The National Bank	Conventional	11

Source: banks annual reports (2017).

IV. Results & Discussion

The performance of Palestinian banks is analyzed based on the CAMEL framework for the period 2008 to 2017, and then we used the related statistical methods to test the difference between Islamic and conventional banks. Finally, we ranked the overall performance of Palestinian banks according to CAMEL composite indicator.

Table 3 capital adequacy ratio for banks

N.	Banks	Capital Adequacy Ratio =(Tier I +Tier II)/risk-weighted assets										Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
1	Arab Islamic Bank	0.185	0.203	0.203	0.242	0.221	0.189	0.155	0.142	0.142	0.159	0.184	5
2	Palestine Islamic Bank	0.169	0.359	0.367	0.301	0.298	0.217	0.164	0.135	0.135	0.127	0.227	3
3	Bank Of Palestine	0.225	0.165	0.129	0.136	0.132	0.140	0.131	0.145	0.147	0.147	0.150	6
4	Quds Bank	0.287	0.258	0.231	0.220	0.222	0.237	0.170	0.163	0.139	0.130	0.206	4
5	Palestine Investment Bank	0.440	0.406	0.273	0.317	0.316	0.355	0.346	0.323	0.291	0.269	0.333	1
6	The National Bank	0.414	0.323	0.336	0.191	0.205	0.163	0.204	0.175	0.144	0.160	0.231	2

Capital adequacy; it is represented by capital adequacy ratio, as this ratio increases the financial strength and thus the financial soundness of a bank increases. Table 3 presents the results of computing capital adequacy ratio of banks.

Table 3 shows that capital adequacy ratio for each bank over the ten years is higher than 8% as benchmark required by Basel Committee as soundness indication of banks capital adequacy as well as it is higher than 12% as benchmark required by Palestine Monetary Authority (PMA). Indicating that, all Palestinian banks are committed to international and national standards of minimum capital adequacy ratio. Noted that, as this ratio increases as the financial strength and thus the financial soundness of a bank increases.

Based on the average of capital adequacy ratio of ten years, the top two ranked banks are Palestine Investment Bank and The National Bank with average capital adequacy ratio 33.3 and 23.1 % respectively, while in the middle level is Palestine Islamic Bank and Quds Bank with average capital ratio 22.7 and 20.6 % respectively, while the lowest level banks are Arab Islamic Bank and Bank of Palestine with average capital ratio 18.4 and 15 % respectively.

Moreover, trend analysis for average capital adequacy ratio is performed for all banks as well as based on bank type (i.e. conventional, Islamic bank) for the ten years, and the results are presented in table 4 and figure 1.

Table 4 capital adequacy ratio for all banks and based on bank type.

N.	Banks	Capital Adequacy Ratio =(Tier I +Tier II)/risk-weighted assets										Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
1	Islamic Banks	0.177	0.281	0.285	0.271	0.260	0.203	0.159	0.139	0.138	0.143	0.206	2
2	Conventional Banks	0.342	0.288	0.242	0.216	0.219	0.224	0.213	0.201	0.180	0.176	0.230	1
	Average for all Banks	0.287	0.286	0.256	0.234	0.232	0.217	0.195	0.180	0.166	0.165		

It is clear that conventional banks have higher average capital adequacy ratio than Islamic banks, thus the conventional banks are ranked at the first place with 23%, while Islamic banks are ranked at the second place with 20.6%.

Figure 1 average capital adequacy ratio for all banks and based on bank type

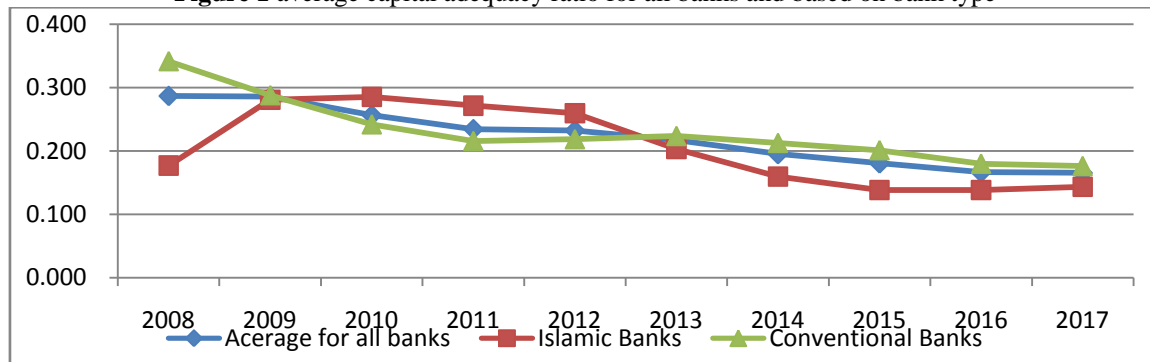


Figure 1 shows that all banks (i.e. conventional and Islamic banks) generally have a declining trend of Capital Adequacy Ratio through time while keeping the minimum international and national required regulations 8 and 12%, respectively. In addition, Islamic banks after the international financial crisis particularly

from 2009 to 2012 increased their capital adequacy level, and then from 2013 to 2017, they are having a descending path as similar to conventional banks.

In addition, we conducted a regression analysis to test our null hypothesis regarding the difference between Islamic and conventional banks in terms of capital adequacy level, whether it is statistically different or not;

H 1-Null= There is no difference between Islamic and conventional banks in terms of capital adequacy level.

Using this model;

$$CAR_{it} = \beta_0 + \beta_1 BANK_D_{it} + \beta_2 SIZE_{it} + \beta_3 WAR_{it} + e_{it} \quad (1)$$

CAR is bank’ capital ratio, *BANK_D* is a dummy variable; takes the value of one if a particular bank is a conventional bank and zero otherwise. In addition, we control banks’ size “*SIZE*” using natural logarithm of total assets, and we control war times wherein this study covers the time from 2008 to 2017, and through this period Israeli occupation launched three wars in 2008, 2012 and 2014 which, in turn, inevitably affected business works and thus data of these years. Accordingly, this study controls war times by using a dummy variable representing such effect.

The results of model (1), using FGLS and OLS techniques, are presented in table 5.

Table 5 CAR analysis for difference between Islamic and conventional banks

Variable	Column 1 FGLS	Column 2 OLS	VIF
BANK_D	0.061** (2.72)	0.043* (2.23)	1.02
SIZE	-0.168*** (-6.35)	-0.182*** (-7.26)	1.10
WAR	-0.001 (-0.09)	0.012 (0.94)	1.08
Adjusted- R ²	0.596	0.596	
Wald chi ²	43.11	---	
F-value	---	19.30	
p-value	0.0000	0.0000	
n	60	60	

Notes:

Coefficients of the intercept are suppressed for expositional convenience.

Z-statistics for FGLS and T-statistics for OLS are in parentheses. *, **and***denote 10, 5 and 1 percent significance levels, respectively (two-tailed).

Table 5 shows that the variance inflation factor (VIF) for each variable is less than the thumb rule of 10 (Gujarati, 2009), which lessens multicollinearity concerns. Table 5 in column 1 we present FGLS results, and column 2 includes OLS results. All regression models have significant explanatory power that Wald chi² for FGLS and F-value for OLS analysis are significant at 1 percent level or better.

In terms of the explanatory factor, “*BANK_D*”; bank type is significantly and positively (in all models) related to capital adequacy level. Consequently, H 1-Null is rejected. This significant positive relationship suggests that conventional banks have higher capital adequacy levels than Islamic banks. In addition, we find that banks size has a significant negative relationship with bank capital adequacy level. In other words, as banks’ size increases the capital adequacy level decreases.

Assets quality; it is represented by an impaired loans ratio, as this ratio increases the banks’ soundness decreases. Table 6 presents the result of computing impaired loans ratio of banks.

Table 6 impaired loans ratio for banks

N.	Banks	Impaired loans Ratio = Non-performing Loans/Total Loans										Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
1	Arab Islamic Bank	0.010	0.013	0.036	0.022	0.015	0.011	0.013	0.008	0.007	0.007	0.014	1
2	Palestine Islamic Bank	0.084	0.079	0.036	0.031	0.027	0.016	0.012	0.012	0.014	0.022	0.033	4
3	Bank Of Palestine	0.024	0.012	0.012	0.018	0.016	0.026	0.026	0.020	0.023	0.027	0.020	3
4	Quds Bank	0.075	0.075	0.044	0.023	0.002	0.038	0.026	0.020	0.016	0.022	0.034	5
5	Palestine Investment Bank	0.028	0.015	0.108	0.094	0.082	0.060	0.069	0.038	0.023	0.026	0.054	6
6	The National Bank	0.009	0.008	0.048	0.027	0.020	0.012	0.016	0.014	0.013	0.023	0.019	2

Generally, there is no international or national role of thumb regarding the level of impaired loans ratio. However, as it is smaller it indicates good performance. Accordingly, the top two ranked banks based on the average of impaired loans ratio of ten years are Arab Islamic Bank and The National Bank with average impaired loans ratio 1.4 and 1.9 % respectively, while in the middle level is Bank of Palestine and Palestine Islamic Bank with average impaired loans ratio 2 and 3.3 % respectively, while the lowest level banks are Quds Bank and Palestine Investment Bank with average impaired loans ratio 3.4 and 5.4 % respectively.

Moreover, trend analysis for average impaired loans ratio is performed for all banks as well as based on bank type (i.e. conventional, Islamic bank) for the ten years, and the results are presented in table 7 and figure 2.

Table 7 impaired loans ratio for all banks and based on bank type.

N.	Banks	Impaired loans Ratio = Non-performing Loans/Total Loans											
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average	Rank
1	Islamic Banks	0.047	0.046	0.036	0.026	0.021	0.014	0.012	0.010	0.010	0.014	0.024	1
2	Conventional Banks	0.03	0.027	0.053	0.041	0.030	0.034	0.034	0.023	0.019	0.024	0.032	2
	Average for all Banks	0.038	0.034	0.047	0.036	0.027	0.027	0.027	0.019	0.016	0.021		

It is clear that Islamic banks have smaller average impaired loans ratio than conventional banks, thus the Islamic banks are ranked at the first place with 2.4%, while conventional banks are ranked at the second place with 3.2%.

Figure 2 average impaired loans ratio for all banks and based on bank type

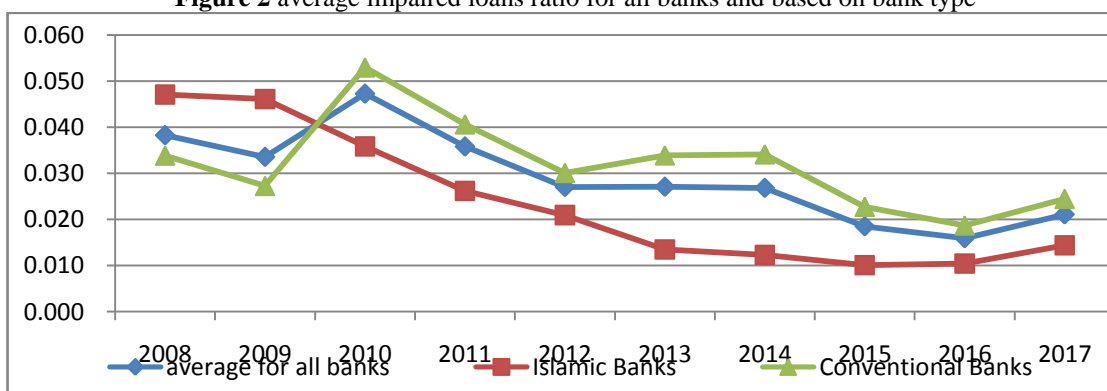


Figure 2 shows that Islamic banks generally have a declining trend of impaired loans level through time indicating good performance, given that providing loans in Islamic banks are considered lesser importance and quantity in compared with conventional banks. Conventional banks from 2008 to 2010 had fluctuation level of its impaired loans. Particularly it is sharply increased in 2010. Our explanation is that it might be resulted in Israeli war 2009 on Gaza Strip-Palestine which adversely affected the borrower’s ability to repay their loans and thus reflected as increasing in impaired loans level of conventional banks in 2010. Then from 2010 to 2012, it had a descending path. While since 2013 to 2014 it increased again. Also, our explanation is that it might be resulted in Israeli war 2012 and 2014 on Gaza Strip-Palestine which adversely affected the borrower’s ability to repay their loans and thus reflected as increasing in impaired loans level of conventional banks in 2013 and 2014. Then, in 2015 it starts to decline again. Bearing in mind, the lower the impaired loans level the better banks’ soundness. Moreover, it is concluded that conventional banks are more adversely affected by Israeli wars than Islamic banks in terms of the impaired loans level because the volume of provided loans by commercial banks exceeds Islamic banks.

In terms of the impaired loans level of all banks together (Islamic and conventional banks), generally since 2010 they have had a declining trend of impaired loans level through time indicating soundness performance.

In addition, we performed a regression analysis to test our null hypothesis regarding the difference between Islamic and conventional banks in terms of impaired loans level, whether it is statistically different or not; H_2 -Null= There is no difference between Islamic and conventional banks in terms of impaired loans level.

Using this model;

$$ILR_{it} = \beta_0 + \beta_1 BANK_D_{it} + \beta_2 SIZE_{it} + \beta_3 WAR_{it} + e_{it} \quad (2)$$

ILR is bank’ impaired loans ratio, $BANK_D$ is a dummy variable; takes the value of one if a particular bank is a conventional bank and zero otherwise. In addition, we control banks’ size “ $SIZE$ ” using natural logarithm of total assets, and we control war times WAR using a dummy variable representing such effect.

The results of model (2), using FGLS and OLS techniques, are presented in table 8. Only OLS has significant explanatory power wherein probability of F-value is lower than 5 percent, while FGLS is not valid. Thus, we test our hypothesis based on OLS.

Table 8 ILR analysis for difference between Islamic and conventional banks

Variable	Column 1 FGLS	Column 2 OLS	VIF
BANK_D	0.01 (1.67)	0.008 (1.65)	1.02
SIZE	-0.013 (-2.14)	-0.017** (-2.74)	1.10
WAR	-0.003 (-1.33)	-0.002 (-0.59)	1.08
Adjusted- R ²	0.153	0.1528	
Wald chi ²	6.37	---	
F-value	---	3.04	
p-value	0.095	0.036	
n	60	60	

Notes:

Coefficients of the intercept are suppressed for expositional convenience.

Z-statistics for FGLS and T-statistics for OLS are in parentheses. *, **and***denote 10, 5 and 1 percent significance levels, respectively (two-tailed).

Table 8 shows that the variance inflation factor (VIF) for each variable is less than the thumb rule of 10 (Gujarati, 2009) which lessens multicollinearity concerns.

In terms of the explanatory factor, based on OLS results in column 2, “BANK_D”; bank type is insignificant to explain variation on banks impaired loans level. Consequently, H 2-Null cannot be rejected. In other words, statistically, there is no difference between Islamic and conventional banks in terms of impaired loans level. In addition, we find that banks size has a significant negative relationship with bank impaired loans level. In a sense, as banks’ size increases the impaired loans level decreases.

Management quality; it is represented by interest expense (deposit interests) to total expense ratio, as this ratio increases the management efficiency decreases and thus bank soundness decreases. Table 9 presents the result of computing interest expense to total expense ratio of banks.

Table 9 interest expense to total expense for banks

N.	Banks	Interest Expense/Total Expense											
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average	Rank
1	Arab Islamic Bank	0.240	0.038	0.015	0.079	0.033	0.059	0.057	0.079	0.105	0.125	0.083	1
2	Palestine Islamic Bank	0.501	0.064	0.041	0.123	0.151	0.167	0.124	0.109	0.136	0.132	0.155	2
3	Bank Of Palestine	0.294	0.135	0.099	0.155	0.190	0.249	0.239	0.212	0.256	0.267	0.210	4
4	Quds Bank	0.282	0.214	0.199	0.178	0.219	0.296	0.232	0.256	0.277	0.300	0.245	5
5	Palestine Investment Bank	0.584	0.195	0.124	0.146	0.067	0.082	0.181	0.152	0.140	0.181	0.185	3
6	The National Bank	0.498	0.261	0.194	0.275	0.444	0.548	0.615	0.527	0.537	0.538	0.444	6

Generally, there is no international or national role of thumb regarding the level of interest expense ratio. However, as it is smaller it indicates good performance of management as well as of banks soundness. Accordingly, the top two ranked banks based on the average of interest expense ratio of ten years are Arab Islamic Bank and Palestine Islamic Bank with average interest expense ratio 8.3 and 15.5 % respectively, while in the middle level is Palestine Investment Bank and Bank of Palestine with average interest expense ratio 18.5 and 21 % respectively, while the lowest level banks are Quds Bank and The National Bank with average interest expense ratio 24.5 and 44.4 % respectively.

Table 10 interest expense ratio for all banks and based on bank type.

N.	Banks	Interest Expense/Total Expense											
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average	Rank
1	Islamic Banks	0.371	0.051	0.028	0.101	0.092	0.113	0.091	0.094	0.120	0.128	0.119	1
2	Conventional Banks	0.414	0.201	0.154	0.188	0.230	0.294	0.317	0.287	0.303	0.321	0.271	2
	Average for all Banks	0.40	0.15	0.11	0.16	0.18	0.23	0.24	0.22	0.24	0.26		

Moreover, trend analysis for average interest expense ratio is performed for all banks as well as based on bank type (i.e. conventional, Islamic bank) for the ten years, and the results are presented in table 10 and figure 3.

Table 10 shows that Islamic banks have smaller average interest expense ratio than conventional banks, thus the Islamic banks are ranked at the first place with 11.9%, while conventional banks are ranked at the

second place with 27.1%. This result is not surprising being that conventional banks mainly recruit deposits and pay interest for these deposits, while Islamic banks have different perspective wherein such activity “deposit interest” for depositors is not allows according to Islamic law “Sharia”, therefore it is expected to find that interest expense ratio “deposit interest” in conventional banks is higher than Islamic banks where most financial dealings are based on trading (profit sharing).

Figure 3 average interest expense ratio for all banks and based on bank type

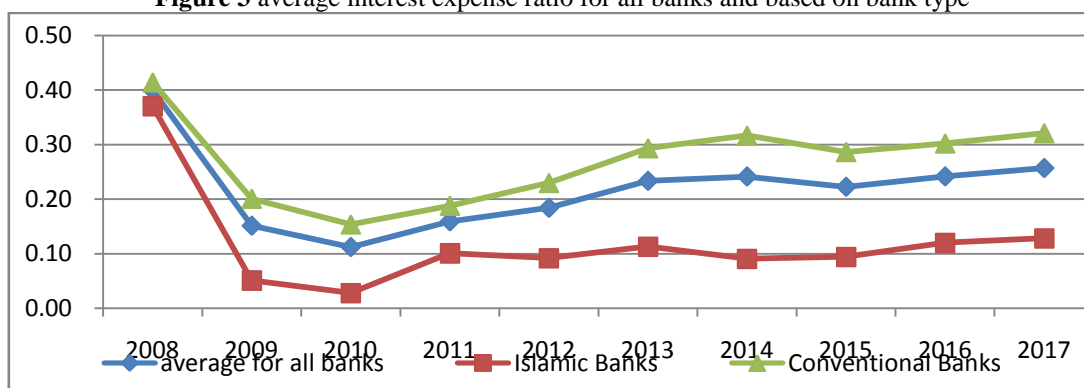


Figure 3 shows that since 2008 until 2010 both “Islamic and conventional banks” had a declining trend of interest expenses level indicating good performance of management of that period. Then since 2011 until 2017 both “Islamic and conventional banks” generally have had an increasing trend of interest expenses level indicating a decline in management performance.

In addition, we performed a regression analysis to test our null hypothesis regarding the difference between Islamic and conventional banks in terms of interest expense level, whether it is statistically different or not; H_3 -Null= There is no difference between Islamic and conventional banks in terms of interest expense level.

Using this model;

$$IER_{it} = \beta_0 + \beta_1 BANK_D_{it} + \beta_2 SIZE_{it} + \beta_3 WAR_{it} + e_{it} \quad (3)$$

IER is bank’ interest expense ratio, $BANK_D$ is a dummy variable; takes the value of one if a particular bank is a conventional bank and zero otherwise. In addition, we control banks’ size “ $SIZE$ ” using natural logarithm of total assets, and we control war times WAR using a dummy variable representing such effect.

The results of model (3), using FGLS and OLS techniques, are presented in table 11.

Table 11 shows that the variance inflation factor (VIF) for each variable is less than the thumb rule of 10 (Gujarati, 2009) which lessens multicollinearity concerns. Table 11 in column 1 we present FGLS results, and column 2 includes OLS results. All regression models have significant explanatory power that Wald χ^2 for FGLS and F-value for OLS analysis are significant at 1 percent level or better.

In terms of the explanatory factor, “ $BANK_D$ ”; bank type is significantly and positively (in all models) related to interest expense level. Consequently, H_3 -Null is rejected. This significant positive relationship suggests that conventional banks have higher interest expense “deposit interests” levels than Islamic banks.

Table 11 IER analysis for difference between Islamic and conventional banks

Variable	Column 1 FGLS	Column 2 OLS	VIF
BANK_D	0.142*** (3.73)	0.151*** (3.96)	1.02
SIZE	-0.025 (-0.52)	0.006 (0.12)	1.10
WAR	-0.001 (0.972)	0.041 (1.37)	1.08
Adjusted- R ²	0.201	0.201	
Wald χ^2	14.16	---	
F-value	---	7.67	
p-value	0.003	0.000	
n	60	60	

Notes:

Coefficients of the intercept are suppressed for expositional convenience.

Z-statistics for FGLS and T-statistics for OLS are in parentheses. *, **and***denote 10, 5 and 1 percent significance levels, respectively (two-tailed).

Earnings ability; it is represented by return on average total assets “ROAA”, as this ratio increases the financial strength and thus the financial soundness of a bank increases. Table 12 presents the result of computing ROAA of banks.

Table 12 ROAA for banks

N.	Banks	= Net Income / Average Total Assets											Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017			
1	Arab Islamic Bank	0.017	0.003	-0.007	0.003	0.002	0.008	0.008	0.009	0.009	0.009	0.007	0.006	5
2	Palestine Islamic Bank	-0.009	0.001	0.005	0.011	0.014	0.014	0.014	0.016	0.017	0.017	0.016	0.010	2
3	Bank Of Palestine	0.025	0.023	0.021	0.021	0.021	0.019	0.017	0.017	0.017	0.015	0.012	0.019	1
4	Quds Bank	-0.023	0.009	0.012	0.010	0.007	0.009	0.012	0.011	0.012	0.012	0.011	0.007	4
5	Palestine Investment Bank	0.013	0.013	0.006	0.011	0.007	0.007	0.009	0.005	0.010	0.010	0.010	0.009	3
6	The National Bank	-0.034	0.014	0.001	0.002	0.007	0.008	0.007	0.007	0.008	0.009	0.009	0.003	6

Generally, there is no international or national role of thumb regarding the level of ROAA. However, as it is higher it indicates good performance. Accordingly, the top two ranked banks based on the average of ROAA of ten years are Bank of Palestine and Palestine Islamic Bank with average ROAA 1.9 and 1 % respectively, while in the middle level is Palestine Investment Bank and Quds Bank with average ROAA 0.9 and 0.7 % respectively, while the lowest level banks are Arab Islamic Bank and The National Bank with average ROAA 0.6 and 0.3 % respectively.

Moreover, trend analysis for average ROAA is performed for all banks as well as based on bank type (i.e. conventional, Islamic bank) for the ten years, and the results are presented in table 13 and figure 4.

Table 13 ROAA for all banks and based on bank type.

N.	Banks	= Net Income / Average Total Assets											Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017			
1	Islamic Banks	0.004	0.002	-0.001	0.007	0.008	0.011	0.011	0.012	0.013	0.011	0.008	2	
2	Conventional Banks	-0.005	0.015	0.010	0.011	0.011	0.011	0.011	0.010	0.011	0.011	0.010	1	
	Average for all Banks	-0.002	0.011	0.006	0.009	0.010	0.011	0.011	0.011	0.012	0.011			

It is clear that conventional banks have higher average ROAA than Islamic banks, thus the conventional banks are ranked at the first place with 1 %, while Islamic banks are ranked at the second place with 0.8 %.

Figure 4 average ROAA for all banks and based on bank type

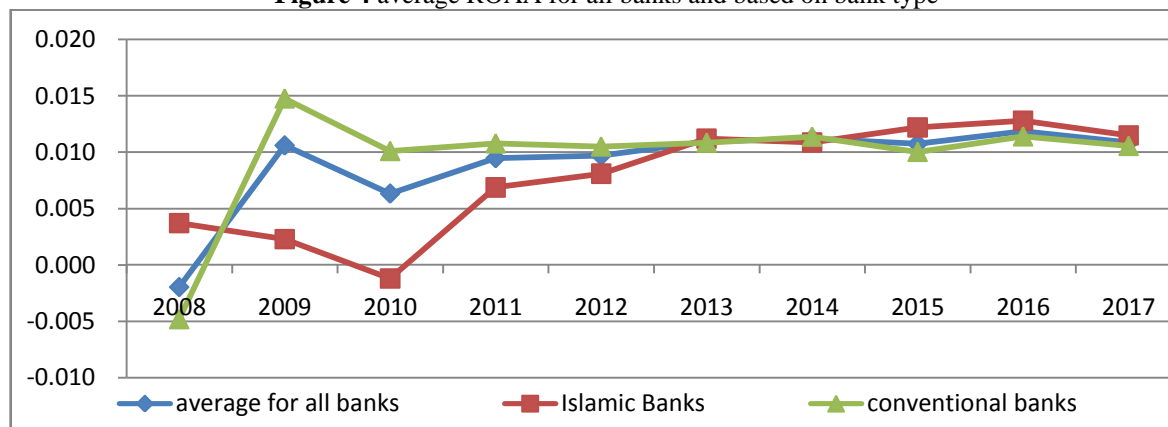


Figure 4 shows that in 2008 conventional banks had negative ROAA. Our explanation is that likewise all over the world, it might be that this negative ROAA due to international financial crises that adversely affected all banks in the world. In 2009 ROAA of conventional banks sharply increased then decreased slightly in 2010. Then since 2011 until 2017 the ROAA of conventional banks have had a stable trend of profitability. However, in 2008 -international financial crises time- Islamic Banks had better ROAA. Thus, one can conclude that the profitability of Islamic banks was less influenced by international financial crises. Then ROAA of Islamic banks had a decreasing trend from 2009 to 2010 and particularly Islamic banks had negative ROAA in 2010. Our explanation is that; it might be that the profitability of Islamic banks is influenced by Israeli wars

during that time. Then from 2011 until 2017 generally Islamic banks have had a positive increasing trend of profitability. Generally, since 2011 until 2017 Palestinian banks (Islamic and conventional banks) have had stable profitability.

In addition, we performed a regression analysis to test our null hypothesis regarding the difference between Islamic and conventional banks in terms of earnings ability, whether it is statistically different or not; H_4 -Null= There is no difference between Islamic and conventional banks in terms of earnings ability level.

Using this model;

$$ROAA_{it} = \beta_0 + \beta_1 BANK_D_{it} + \beta_2 SIZE_{it} + \beta_3 WAR_{it} + e_{it} \quad (4)$$

ROAA is bank' return to average assets, BANK_D is a dummy variable; takes the value of one if a particular bank is a conventional bank and zero otherwise. In addition, we control banks' size "SIZE" using natural logarithm of total assets, and we control war times WAR using a dummy variable representing such effect.

The results of model (4), using FGLS and OLS techniques, are presented in table 14.

Table 14 shows that the variance inflation factor (VIF) for each variable is less than the thump role of 10 (Gujarati, 2009) which lessens multicollinearity concerns. Table 14 in column 1 we present FGLS results, and column 2 includes OLS results. All regression models have significant explanatory power that Wald chi² for FGLS and F-value for OLS analysis are significant at 1 percent level or better.

In terms of the explanatory factor, "BANK_D"; bank type is insignificant (in all models) to explain the variation of ROAA. Consequently, H 4-Null cannot be rejected. In other words, statistically, there is no difference between Islamic and conventional banks in terms of earnings ability level. In addition, we find that banks size has a significant positive relationship with bank's earning ability level. In a sense, as banks' size increases the earnings ability increases.

Table 14 ROAA analysis for difference between Islamic and conventional banks

Variable	Column 1 FGLS	Column 2 OLS	VIF
BANK_D	0.002 (0.76)	0.001 (0.01)	1.02
SIZE	0.013*** (4.12)	0.016*** (3.76)	1.10
WAR	0.001 (0.52)	0.001 (0.20)	1.08
Adjusted- R ²	0.307	0.307	
Wald chi ²	19.58	---	
F-value	---	5.57	
p-value	0.000	0.002	
n	60	60	

Notes:

Coefficients of the intercept are suppressed for expositional convenience.

Z-statistics for FGLS and T-statistics for OLS are in parentheses. *, **and***denote 10, 5 and 1 percent significance levels, respectively (two-tailed).

Liquidity ability; it is represented by liquid assets to deposits and non-deposit funds ratio. Since the Palestinian environment is uncertainty "risky" environment due to Israeli occupation, thus as this ratio increases the banks' soundness increases. Table 15 presents the result of this ratio of banks.

Table 15 liquid assets to deposits and non-deposit funds ratio for banks

N.	Banks	Liquid Assets/(Deposits + Non-Deposit Funds)										Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
1	Arab Islamic Bank	0.609	0.682	0.659	0.726	0.518	0.568	0.547	0.495	0.407	0.407	0.562	3
2	Palestine Islamic Bank	0.694	0.759	0.545	0.534	0.531	0.471	0.399	0.310	0.316	0.369	0.493	5
3	Bank Of Palestine	0.696	0.622	0.514	0.471	0.541	0.565	0.547	0.515	0.459	0.483	0.541	4
4	Quds Bank	0.487	0.622	0.489	0.343	0.347	0.421	0.460	0.433	0.306	0.351	0.426	6
5	Palestine Investment Bank	0.942	0.781	0.686	0.696	0.716	0.755	0.812	0.633	0.520	0.570	0.711	1
6	The National Bank	0.607	0.729	0.780	0.663	0.745	0.563	0.574	0.503	0.376	0.339	0.588	2

Generally, there is no international or national role of thumb regarding the level of banks' liquidity. However, banks' liquidity is among the most crucial issues particularly within uncertainty environment as is the case in Palestine. Palestine is under Israeli occupation which adversely affects the economic and political situation. In fact, Israel controls the airspace, ports and border crossings of Palestine and thus controls people, goods and money movement. Furthermore, within the last 10 years, Israel imposes a strict siege on Gaza Strip-Palestine since 2007 until now as well as three wars have been launched on Gaza Strip-Palestine in 2009, 2012 and 2014. Therefore, in such an environment, it is of importance to have relatively high levels of liquidity as a kind of precautionary measure. Therefore banks which have higher levels of liquidity would have higher ranks.

Accordingly, the top two ranked banks based on the average of liquid assets ratio of ten years are Palestine Investment Bank and The National Bank with average liquid assets ratio 71.1 and 58.5 % respectively, while in the middle level is Arab Islamic Bank and Bank Of Palestine with average liquid assets ratio 56.2 and 54.1% respectively, while the lowest level banks are Palestine Islamic Bank and Quds Bank with an average liquid assets ratio 49.3 and 42.6 % respectively.

Moreover, trend analysis for average liquid assets ratio is performed for all banks as well as based on bank type (i.e. conventional, Islamic bank) for the ten years, and the results are presented in table 16 and figure 5.

Table 16 liquid assets ratio for all banks and based on bank type.

N.	Banks	Liquid Assets/(Deposits + Non-Deposit Funds)										Average	Rank
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
1	Islamic Banks	0.652	0.720	0.602	0.630	0.524	0.519	0.473	0.403	0.361	0.388	0.527	2
2	Conventional Banks	0.683	0.688	0.617	0.544	0.587	0.576	0.598	0.521	0.415	0.436	0.567	1
	Average for all Banks	0.673	0.699	0.612	0.572	0.566	0.557	0.556	0.482	0.397	0.420		

It is clear that conventional banks have higher average liquid assets ratio than Islamic banks, thus the conventional banks are ranked at the first place with 56.7 %, while Islamic banks are ranked at the second place with 52.7 %.

Figure 5 average liquid assets ratio for all banks and based on bank type

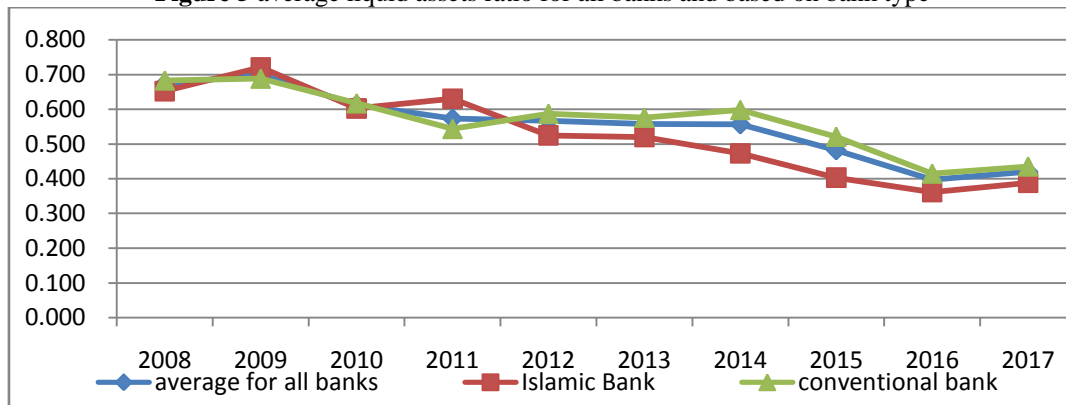


Figure 5 shows that generally, all banks (i.e. conventional and Islamic banks) have had a declining trend of its liquid assets ratio through time.

In addition, we performed a regression analysis to test our null hypothesis regarding the difference between Islamic and conventional banks in terms of liquid assets level, whether it is statistically different or not; $H5-Null = \text{There is no difference between Islamic and conventional banks in terms of liquid assets level.}$

Using this model;

$$LAL_{it} = \beta_0 + \beta_1 BANK_D_{it} + \beta_2 SIZE_{it} + \beta_3 WAR_{it} + e_{it} \quad (5)$$

LAL is bank' liquid assets ratio, $BANK_D$ is a dummy variable; takes the value of one if a particular bank is a conventional bank and zero otherwise. In addition, we control banks' size "SIZE" using natural logarithm of total assets, and we control war times WAR using a dummy variable representing such effect.

The results of model (5), using FGLS and OLS techniques, are presented in table 17.

Table 17 LAL analysis for difference between Islamic and conventional banks

Variable	Column 1 FGLS	Column 2 OLS	VIF
BANK_D	0.081 (1.85)	0.06 (1.63)	1.02
SIZE	-0.193*** (-3.70)	-0.201*** (-3.81)	1.10
WAR	0.040** (2.25)	0.078** (2.65)	1.08
Adjusted- R ²	0.361	0.361	
Wald chi ²	23.30	---	
F-value	---	7.66	
p-value	0.000	0.000	
n	60	60	

Notes:

Coefficients of the intercept are suppressed for expositional convenience.

Z-statistics for FGLS and T-statistics for OLS are in parentheses. *, ** and *** denote 10, 5 and 1 percent significance levels, respectively (two-tailed).

Table 17 shows that the variance inflation factor (VIF) for each variable is less than the thumb rule of 10 (Gujarati, 2009) which lessens multicollinearity concerns. Table 17 in column 1 we present FGLS results, and column 2 includes OLS results. All regression models have significant explanatory power that Wald chi² for FGLS and F-value for OLS analysis are significant at 1 percent level or better.

In terms of the explanatory factor, “BANK_D”; bank type is insignificant (in all models) to explain the variation of banks liquidity level. Consequently, H 5-Null cannot be rejected. In other words, statistically, there is no difference between Islamic and conventional banks in terms of liquidity level. In addition, we find that banks’ size has a significant negative relationship (in all models) with banks liquid level, suggesting that as banks’ size increases the liquidity level decreases. Moreover, we find a significant positive relationship between banks liquidity level and wars times. Suggesting that, banks in war times maintain relatively high liquidity levels compared to normal times, indicating soundness’ practice of Palestinian banks within disturbance times.

Composite Ranking (overall performance)

In order to assess the overall performance of Palestinian banks, we calculated the overall composite rating indicator of banks based on CAMEL computed indicators for the period of (2008 to 2017). Particularly, the overall composite rating indicator equals the average of capital adequacy, asset quality, management quality, earning ability and liquidity ability ranks simultaneously. Given that, the less the “average” composite the better the bank’ soundness is. The results are presented in table 18.

Table 18 composite ranking based on CAMEL indicators

N.	Banks	Composite Ranking CAMEL (2008-2017)						Rank
		CA Table 3	AQ Table 6	MQ Table 9	EA Table 12	LA Table 15	Overall Composite indicator “Average”	
1	Arab Islamic Bank	5	1	1	5	3	3	2
2	Palestine Islamic Bank	3	4	2	2	5	3.2	3
3	Bank Of Palestine	6	3	4	1	4	3.6	4
4	Quds Bank	4	5	5	4	6	4.8	5
5	Palestine Investment Bank	1	6	3	3	1	2.8	1
6	The National Bank	2	2	6	6	2	3.6	4

Accordingly, it is found that under the “average” composite indicator that Palestine Investment Bank has got place number 1. Arab Islamic Bank has got place number 2. Palestine Islamic Bank has got place number 3. Bank of Palestine and National Bank have got place number 4. While Quds Bank has got place number 5.

V. Conclusion

Banks have an important role to develop state economy, yet within uncertainty environment, as is the case in Palestine, banks performance might be exposed to fluctuations and thus the state economy will be adversely affected. Therefore, this study aims to evaluate banks’ soundness based on CAMEL evaluating system for the ten years (2008 to 2017), then based on CAMEL analysis results we ranked the overall performance of Palestinian banks. Moreover, we examined the difference between Islamic and conventional banks based on CAMEL parameters using FGLS and OLS regression analysis. Bearing in minds, CAMEL parameters include capital adequacy, assets quality, management quality, earnings ability and liquidity ability.

First, capital adequacy represented by capital adequacy ratio; it is found that Palestinian banks are committed to Basel and national standards by keeping, at least, 8 and 12 %, respectively, of capital adequacy level over the past 10 years. Furthermore, the top two ranked banks with a highest average capital adequacy ratio of ten years are Palestine Investment Bank and The National Bank. And generally, all banks (i.e. conventional and Islamic banks) have had a declining trend of capital adequacy level through time. Moreover, using FGLS and OLS techniques, we find that conventional banks have higher capital adequacy levels than Islamic banks. Also, we find that as banks' size increases the capital adequacy level decreases.

Second, assets quality represented by impaired loans ratio; the top two ranked banks with a lowest average impaired loans ratio of ten years are Arab Islamic Bank and The National Bank. Generally, Islamic banks have had a declining trend of impaired loans level through time indicating good performance, given that, providing loans in Islamic banks are considered lesser importance and quantity in compared with conventional banks. However, conventional banks from 2008 to 2010 had fluctuation performance of impaired loans. This fluctuation might be caused by Israeli war, and then from 2010 to 2012 they had a descending path "soundness performance" of impaired loans. While in 2013 and 2014 the impaired loans level of conventional banks has been increased. This increasing might be due to Israeli wars in that time which adversely affected the borrower's ability to repay their loans and thus reflected as increasing in impaired loans level of conventional banks. Then, in 2015 it starts to decline. Generally, since 2010 all banks (i.e. Islamic and conventional banks) have had a declining trend of impaired loans level through time indicating soundness performance. Moreover, using OLS technique, we find that there is no difference "statistically" between Islamic and conventional banks in terms of impaired loans level. Also, we find that as banks' size increases the impaired loans level decreases.

Third, management quality represented by interest expense (deposit interests) ratio; the top two ranked banks with the lowest average interest expense ratio of ten years are Arab Islamic Bank and Palestine Islamic Bank. And generally, from 2008 to 2010 both "Islamic and conventional banks" had a declining trend of interest expenses level indicating soundness performance of management for that period. Then from 2011 to 2017 both "Islamic and conventional banks" generally have had an increasing trend of interest expenses level indicating a decline in management performance. Moreover, using FGLS and OLS techniques, we find that conventional banks have higher interest expense "deposit interests" levels than Islamic banks. Our explanation is that conventional banks mainly recruit deposits and pay interest for these deposits, while Islamic banks have different perspective wherein such activity "deposit' interest" for depositors is not allowed according to Islamic law "Sharia". Therefore, it is expected to find that interest expense level "deposit interest" in conventional banks is to be higher than Islamic banks.

Fourth, earnings ability represented by ROAA; the top two ranked banks with highest average ROAA of ten years are Bank of Palestine and Palestine Islamic Bank. However, conventional banks had negative ROAA in 2008. This negative ROAA might be caused by international financial crises that adversely affected all banks all over the world. In 2009 ROAA of conventional banks sharply increased then decreased slightly in 2010. Then, from 2011 to 2017 the conventional banks have had a stable trend of ROAA. However, Islamic Banks had better "positive" ROAA in 2008 -international financial crises time. Then from 2009 to 2010 the Islamic banks had a decreasing trend of ROAA and particularly Islamic banks had negative ROAA in 2010. This negative ROAA might be caused by Israeli wars in that time. Accordingly, one can infer that earning ability of Islamic banks is more influenced by internal disturbances (e.g. Israeli wars) than conventional banks. Then, from 2011 to 2018 the Islamic banks generally have had an increasing trend "soundness performance" of profitability. Generally, from 2011 to 2018 Palestinian banks (Islamic and conventional banks) have had a stable profitability. Moreover, using FGLS and OLS techniques we find that there is no difference "statistically" between Islamic and conventional banks in terms of earnings ability level. Also, we find that as banks' size increases the earnings ability level increases.

Fifth; liquidity ability represented by liquid assets ratio; the top two ranked banks with highest average liquid assets ratio of ten years are Palestine Investment Bank and The National Bank. However, all banks (i.e. conventional and Islamic banks) have had a declining trend of liquid assets ratio through time. Moreover, using FGLS and OLS techniques we find that there is no difference "statistically" between Islamic and conventional banks in terms of liquidity ability level. In addition, we find that as banks' size increases the liquidity level decreases. Also, we find that Palestinian banks in war times maintain relatively high liquidity levels compared to normal times, indicating soundness' practice of Palestinian banks during disturbance times.

Finally, the overall performance of Palestinian banks represented by the composite ranking indicator; it is found that under the composite indicator that Palestine Investment Bank has got place number 1. Arab Islamic Bank has got place number 2. Palestine Islamic Bank has got place number 3. Bank of Palestine and National Bank have got place number 4. While Quds Bank has got place number 5.

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