DETERMINANTS OF BANKING SECTOR PROFITABILITY: EMPIRICAL EVIDENCE FROM PALESTINE

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ABSTRACT

The objective of this study is to examine the impact of bank-specific and major macroeconomic factors on the profitability of banking sector of Palestine by using the aggregate bank balance sheet data over the time period 1995-2015. This paper employs the Ordinary Least Square method to investigate the effect of bank's asset size, capital, loans, deposits, economic growth and inflation on key bank profitability indicators, i.e., return on assets (ROA), return on equity (ROE) and net interest margin (NIM), separately. The main findings show that size has positive impact on ROE. Capital is positively related to ROA. Loans are positively correlated with both ROA and ROE. Deposits are negatively related to both ROA and ROE. Also, it is found that neither internal nor external factors have significant impact on NIM, despite the fact that overall internal and external factors have a significant effect as denoted by F-statistics value. Moreover, banking sector has not benefited significantly from both the inflationary environment and economic growth. These findings are of value to both academicians and policy makers.

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BANKACILIK SEKTÖRÜNDE KARLILIĞININ BELİRLEYİCİLERİ: FİLİSTİN ÖRNEGİ

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MAKALE BİLGİSİ

ÖZ

Bu çalışmanın amacı, bankalara özgü ve büyük makroekonomik faktörlerin, Filistin Bankacılık sektörünün kârlılığı üzerindeki etkisini, toplam banka bilanço verileri kullanılarak, 1995-2015 dönemine göre incelemektir. Çalışmada, banka'nın aktif büyüklüğü, sermayesi, kredileri, mevduat, ekonomik büyüme ve enflasyonun temel banka kârlılığı göstergelerine, yani aktif karlılık (ROA), özsermaye karlılığı (ROE) ve net faiz marjı (NIM) üzerindeki etkisinin ayrı ayrı araştırılması için Sıradan En Küçük Kareler Yöntemi (OLS) kullanılmıştır. Ana bulgular, büyüklüğün ROE üzerinde pozitif etkisi olduğunu göstermektedir. Sermaye, ROA ile pozitif ilişkilidir. Krediler hem ROA hem de ROE ile pozitif korelasyonludur. Mevduatlar hem ROA hem de ROE ile negatif ilişkilidir. Ayrıca, içsel ve dışsal faktörlerin F-istatistik değeri ile belirtildiği gibi önemli bir etkiye sahip olmasına rağmen, ne iç ne de dış faktörlerin NIM üzerinde önemli bir etkisinin olmadığı bulunmuştur. Ayrıca, bankacılık sektörü hem enflasyon ortamından hem de ekonomik büyümeden önemli ölçüde fayda sağlamamıştır. Bu bulgular hem akademisyenlere hem de politika yapıcılara değer vermektedir.

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With the establishment of the Palestinian National Authority in 1994, the Palestinian Monetary Authority emerged, providing the opportunity to open the Palestinian banking sector once again after a blockade that extended since 1967. By 2015 the banking sector comprises 16 banks of which 7 are local and 9 are foreign banks.

As in most developing countries, the Palestinian banking sector dominates the financial sector. Banks are generally in sound financial condition and products are well developed as is the regulatory infrastructure. However, the sector remains vulnerable due to its dependence on the Jordanian banking system and from operational point of view on the Israeli one.

Over time, the Palestinian banking sector has achieved a steady growth in terms of assets size, deposits and lending to the private sector. Notwithstanding, the sector plays a limited role in financing of the Palestinian economy due to the cautiousness of banks which reflects several structural problems such as the lack of suitable collaterals and the uncertainty of the outcome in debt (World Bank, 2012).

Recently, a number of studies have examined internal factors affecting bank performance or efficiency in Palestine by using data over limited periods of time and a sample comprising of leading commercial banks only (e.g., Alkhatip (2012) and Abadi and Abu Rub (2012)). Whilst other studies in the neighboring countries of Egypt, Jordan and Lebanon examined both internal and external determinants of banking sector profitability (Hashem, 2016; Azar et al., 2016; Ramadan et al., 2011).

Motivated by these studies, we extend the analysis to Palestine by covering about two decades of time period and by using data for the whole banking sector. It aims to investigate the impact of bank-specific and main macroeconomic factors on banking sector profitability. The main findings show that banking sector profitability is positively related to size, loan and capital in cases of ROA or ROE but inversely related to deposits, while the main macroeconomic factors do not significantly drive the banking profitability.

This paper organized as follows: Section 2 presents an overview of selected literature. Methodology, data and descriptive statistics of the employed variables are explained in Section 3. Next, Section 4 covers empirical results. Finally, Section 5 discusses the main findings of the paper.

LITERATURE REVIEW

The determinants of banks profitability are usually classified into internal and

external factors. Various studies specify return on assets (ROA), return of equity (ROE) and net interest margin (NIM) as dependent variables while considering the bank's internal and external factors as independent variables. Here, we select a number of studies from a rich literature in this track of research.

Among the earlier strand of studies, Molyneux and Thornton (1992) examined the profitability of banking sector in 18 European countries over the 1986-1989 period and found a significant positive association between the return on equity and the level of interest rates, bank concentration and government ownership. In addition, Miller and Noulas (1997) examined a sample of large commercial banks during the late 1980's with the aim to identify the determinants of profitability of the American banks, using both cross section and pooled time series cross section regression. The authors found a negative relationship between the credit risk and profitability. This showed that greater risk linked with loans and higher the level of loan loss supplies resulted in a trouble at the profit maximizing strength of a bank.

Also, Demirgüç-Kunt and Huizinga (1999) used bank level data from 80 countries over the period from 1988 to 1993 and showed that differences in interest margins and bank profitability depend on a variety of determinants related to bank-specific characteristics and macro-economic conditions. It shows that after controlling for differences in bank activity, leverage and the macroeconomic environment, the larger bank assets to GDP ratio and lower market concentration ratio lead to lower margins and profits.

Naceur (2003) investigated the impact of bank's characteristics, financial structure and macroeconomic indicators on banks' net interest margins and profitability in the Tunisian banking industry during the 1980-2000 period. The key findings suggest that individual bank characteristics explain a substantial part of the within country variation in bank interest margins and net profitability. High net interest margin or profitability tend to be associated with banks that hold a relatively high amount of capital, large overheads and with loans. The size has a negative and significant coefficients against the net interest margin. However, such macroeconomic indicators as inflation and growth rates have no impact on bank's interest margins and profitability.

Further, Athanasoglou et al. (2006) tested the effect of banks-specific and macroeconomic factors on banking performance, using an unbalanced panel dataset comprising of South Eastern European credit institutions over the period of 1998-2002. The estimation results indicated that with the exception of liquidity, all the banks-specific determinants significantly affect bank profitability. The macroeconomic environment has a direct impact on the aggregate performance of the sector.

Similarly, Sufian and Habiballah (2009) examined the performance of 37 Bangladeshi commercial banks during the period from 1997 to 2004. The authors suggest that bank-specific characteristics, in particular loans intensity, credit risks and costs have positive and significant impact on bank performance, while non-interest income exhibits negative relationship with bank profitability. Also, results suggest that size has a negative impact on return on equity, while the opposite is true for return on assets and net interest margin. As for the effect of macroeconomic indicators, they concluded that the variables have no significant impact on bank profitability, except for inflation which is negatively related to bank profitability.

The recent study of Gul et.al (2011) examined the impact of bank-specific and macroeconomic characteristics on bank profitability by using data of top 15 Pakistani commercial banks over 2005-2009 period. They used the pooled ordinary least square estimation method to investigate the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators, i.e., return on asset (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM). The empirical results found a strong evidence that both internal and external factors have a strong influence on the profitability.

Also, Alper and Anbar (2011) examined the bank- and country-specific factors driving the banks' profitability in Turkey over the time period of 2002-2010. The bank profitability is measured by ROA and ROE as a function of bank internal and external determinants. Using a balanced panel data set, they showed that both asset size and non-interest income have a positive and significant effect on bank profitability, while size of credit portfolio and loans have a negative and significant impact on a banking performance. Among the macroeconomic variables only the real interest rate significantly affects the performance of banks.

Shaher et al. (2011) assessed the major factors that affect the commercial banks' performance in the Middle Eastern region. The study based on factor analysis technique found that the following six factors are the key determinants of bank's performance: 1) bank characteristics (size, size and duration of deposits, size and duration of loans, net charge of loans, bank capital, bank operation cost, concentration in lending activity), 2) the competition environment, 3) the economic indicators, 4) the regulation-legal environment, 5) country risk and 6) other factors (religion believes and awareness of bank performance). The results revealed that the first internal factors (banks' characteristics) are the most important determinants of banks' performance. On the contrary, the sixth factor (other factors) is considered the least important factor that influences commercial banks' performance in the Middle East. The

results suggest that commercial banks in the region should concentrate on these six factors, mainly focusing on the variables from the first factor, in order to improve their performance and compete efficiently with global commercial banks.

Acaravci and Çalim (2013) examined the bank-specific and macroeconomic factors that influence the profitability of commercial banks from Turkish banking sector. They used a data-set consisting of three biggest state-owned, privately-owned and foreign banks for the period 1998-2011. This study used ROA, ROE and NIM as proxies of profitability of banks and employed Johansen and Juselius cointegration test approach to determine factors affecting the profitability of commercial banks. The significant bank-specific determinants of bank profitability are ratios of credits to assets, deposits to assets, liquid assets to assets, assets, wages and commission expenses to assets and equity to assets ratio. Also, empirical findings showed that real gross domestic product and real exchange rate are significant macroeconomic determinants of bank profitability.

Rahman et al. (2015) also used ROA, ROE and NIM as proxies for the profitability of banks and applied the pooled regression estimation method. They tested whether capital strength, credit risk, ownership structure, bank size, non-interest income, cost efficiency, off-balance sheet activities, liquidity are among the potential bank-specific determinants in addition to macroeconomic factors such as growth of gross domestic product and inflation. The sample consists of 25 commercial banks from Bangladesh over the period of 2006-2013. Results showed that capital strength and loan intensity have positive significant impact on profitability, whereas cost efficiency and off-balance sheet activities have significant but negative impact on profitability. Non-interest income, credit risk and GDP growth are found as significant determinants for NIM. Size has positive impact on ROA while inflation is negatively and significantly related to ROA and ROE.

There is a strand of literature which examined factors affecting bank performance in Palestine using regression estimation method and correlation analysis procedures. Alkhatip (2012) evaluated the financial performance of five Palestinian commercial banks listed on Palestine Security exchange (PSE) over the period from 2005 to 2010. Financial performance is measured using three indicators: i) internal measure of performance proxied by ROA, ii) market measure of performance measured by Tobin's Q model (Price/Book value of Equity) and iii) economic measure of performance proxied by economic value added. The study revealed that there exists statistically significant effect of bank size, credit risk, operational efficiency and asset management on financial performance of Palestinian commercial banks.

Abbadi and Abu Rub (2012) assessed the effect of capital structure on the bank efficiency measured by using two indicators: accounting one measured by ROE and market one measured by Tobin's Q. Total deposits to assets, total loans to assets and total loans to deposits were used to measure capital structure. The study employed a dataset for eight commercial banks listed on Palestine Security Exchange during the period 2007-2010. Mainly, it was found that leverage (total deposits to total assets) has a negative effect on bank profits (ROE), an increase in each ROA and deposits to assets increases bank efficiency (Tobin's Q). Leverage has a negative effect on market value measured by Tobin's Q. It was also found that there were a positive and strong relationships between market value and ROA and bank deposits to total assets as well as a weak correlation between loans and return on equity and loans and market value.

In the regional context, other studies examined internal or both internal and external determinants of banking sector profitability. Ramadan et al. (2011) investigated the nature of the relationship between the profitability of banks and the internal and external factors of ten banks in Jordan by using a balanced panel data set over the period 2002-2010. Two measures of bank's profitability utilized – ROA and ROE. Results showed that the Jordanian bank's internal factors explain a significant part of the variation in bank profitability. High bank profitability tends to be associated with well capitalized banks, high lending activities, low credit risk and the efficiency in cost management. Also, the estimation results indicated that the effect of size did not support the significant scale economies for Jordanian banks. However, the results showed the individual effects on profitability wherein some of the differential slope coefficients are statistically significant. Moreover, results showed a positive but insignificant impact of the macroeconomic determinants such as inflation and economic growth (RGDP) on ROA and ROE. Study suggested that due to the inability of banks to accurately predict the level of inflation, the banks lost the opportunity to benefit from inflationary environment to increase profits and the banks did not benefit from economic growth due to a more intense competition coexisted with entrance of more banks.

Hashem (2016) examined the determinants of banking sector profitability in Egypt by using quarterly data over the period of 2004-2014. Study used cointegration procedure to investigate the long-run relationship between ROE and several bank-specific variables (liquidity, capital adequacy, and percentage of non-performing loans). The author used vector error correction model to explore the short-term dynamics of the model and the speed of adjustment to long run equilibrium. It mainly concluded that banking sector profitability was inversely related to capital adequacy, the percentage of loan

provisions and the ratio of deposits to total assets. On the other hand, it positively related to the size of the banking sector implying that the sector exhibited economies of scale. Also, the vector error correction model showed that about four percent of the disequilibrium was corrected each quarter to reach the long run equilibrium. In addition, all bank-specific factors were found to be related to bank profitability in the long run.

Azar et al. (2016) modeled the income of commercial bank in Lebanon. The model identified eight internal exogenous factors to the profitability of banks: net interest margin, cost to income, credit risk, capital adequacy, liquidity, provisions, non-performing loans, and non-interest income. Study used yearly panel dataset of 39 banks over the period 2003-2014 and utilized the panel least squares and fixed-random effects. The dependent variable is measured by the return on average total assets (ROAA). Four out of the eight factors were found to be statistically highly significant, explaining about 50 percent of the variation in ROAA. These were the interest rate spread, the capital adequacy, the cost to income ratio, and the ratio of non-interest income to total assets.

In view of this background, this study aims to investigate the relationship between bank-specific and key macroeconomic characteristics and overall banking sector profitability. It advanced over studies which tackled the Palestinian case in numerous aspects. It uses data set of overall banking sector for two decades period of time. Also, it is extending its analysis to include the impact of both internal and external macroeconomic factors on bank profitability and hence it gives a better forecasting of banking sector profitability.

METHODOLOGY AND DATA

The determinants of banks profitability are usually divided into internal and external factors. Internal factors include such bank-specific factors as bank size, capital, loans and deposits, while external factors consist of such macroeconomic variables as economic growth and inflation.

Our objective is to test the effect of internal and external factors on the bank's profitability. Based on the objective, the present study seeks to test the following hypotheses:

• H1: There is a direct relationship between internal factors and bank's profitability

• H2: There is a direct relationship between external factors and bank's profitability

The basic estimation procedure is to use a comprehensive dataset of the whole banking sector and apply the Ordinary Least Square on the time series data. That is, the analysis will be conducted using the following model:

Profitability$_t$ = β0 + β1InternalFactors$_t$ + β2ExternalFactors$_t$ + u$_t$ (1)

Where: Profitability represents Return on Assets (ROA), Return on Equities (ROE) or net interest margin (NIM). InternalFactors$_t$ include bank size, capitalization, loans-to-assets and deposits-to-assets and ExternalFactors$_t$ are economic growth and inflation rate. t represents the time observation and u is an error term.

Data

The bank-specific data is extracted from the Palestine Monetary Authority (PMA) statistics publications, while the data for GDP per capita in constant prices (US dollars) and inflation in percentages are obtained from Economic and Social Monitor publications. The data for all the employed variables covers the time period from 1995 to 2015, except for the NIM which is available from year 2001 only. Table (1) describes the variables employed in this study.

Table 1. *The Description of the Variables Employed in this Study*

Category	Variable	Description	Source
Dependent Variable	ROA	Return on Assets = Net Income / Total Assets	PMA
	ROE	Return on Equity = Net Income / Total Equity	
	NIM	Net Interest Margin = Net Interest Income / Total Assets	
Independent Variables: Internal Factors	Size ($\Delta lnx1$)	Bank Size = Natural Logarithm of Total Assets	
	Capital ($\Delta x2$)	Capitalization = Total Equity / Total Assets	
	Loans ($\Delta x3$)	Financial Leverage = Total Loans / Total Assets	
	Deposits (x4)	Liquidity = Total Deposits / Total Assets	
Independent Variables: External Factors	GDP (x5)	Economic Development = GDP per capita in constant prices (USD)	ESM
	Inflation (x6)	CPI-based	

The model includes the list of bank's internal and external factors commonly used in the literature. The description of variables is as follows:

A. Dependent variable: Profitability as measured by ROA, ROE and NIM.

• **ROA** is a ratio of the net income over total assets. It measures the profit earned per dollar of assets and reflects how well bank management uses the bank's investment resources to generate profits (Naceur, 2003).

• **ROE** measures the rate of returns on the ownership interest (shareholders' equity) of the common stock owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity. Returns on equity is the ratio of net income to total equity (Fraker, 2006).

• **NIM** is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest earning) assets. The NIM variable is defined as the net interest income divided by total assets. It represents the profit earned by banks on interest activities (Berger, 1995; Barajas et al., 1999; and Naceur and Goaied, 2001).

B. Independent variables: The internal (bank–specific) factors:

• **Size** is used to capture the fact that larger banks (banking sector) are (is) better placed than smaller ones in taking advantage of economies of scale in transactions to the plain effect that they will tend to enjoy a higher level of profits. Accordingly, a positive relationship is expected between size and profits. Molyneux and Thornton (1992), Bikker and Hu (2002) and Goddard et al. (2004) find that size is positively related to profitability.

• **Capital** is the ratio of equity to total assets. It is expected that greater capital level drives the profitability higher since by having more capital, a bank can easily adhere to regulatory capital standards so that excess capital can be provided as loans (Berger, 1995). We also expect that the higher is the equity to asset ratio, the lower is the need for external funding and therefore higher profitability. It is also a sign that well capitalized bank face lower costs of going bankrupted and the cost of funding is reduced.

• **Loan** is the main source of income of a bank which is expected to have a positive impact on bank performance. Other things held constant, the more deposits are transformed into loans, the higher is the interest margin and profits. However, if a bank tends to increase risk by having a higher loans-to-assets ratio, it may negatively affect the profits.

- **Deposits** is the ratio of total deposits to total assets which is another liquidity indicator which falls on the liability side of a balance sheet. Deposits is the main source of bank funding, hence it is expected to have a significant impact on the profitability of banks.

C. Independent variables: External factors include GDP and inflation

- **GDP** is represented by GDP per capita to denote level of economic development. Here, we expect a growth in GDP and GDP per capita to generate direct positive impacts on profitability of banking sector (Demirguç–Kunt and Huizinga, 1999).

- **Inflation** affects banks pricing behavior, and hence if banks expect general inflation to be higher in the future, they may believe that they can increase their prices without experiencing a decline in demand for their output (Driver and Windram, 2007).

In this research we limited our model to the above mentioned internal factors and two external factors to preserve a sufficient number of degree of freedom in econometric analysis.

Due to the behavior of variables over time period of study as shown in descriptive statistics as well as for OLS to be stable, we convert size, capital and loans into growth form, while others remain in the level form.

$$Y_t = \beta_0 + \beta_1 \Delta lnx_{1t} + \beta_2 \Delta x_{2t} + \beta_3 \Delta x_{3t} + \beta_4 x_{4t} + \beta_5 x_{5t} + \beta_6 x_{6t} + u_t \quad (2)$$

We believe that such a stable regression procedure better serves the objective of the study towards forecasting the profitability of banking sector in Palestine.

EMPIRICAL RESULTS

Descriptive Statistics

Figure (1) suggests that ROA, ROE, NIM, Deposits, Inflation and GDP to a large extent exhibit a stable pattern meanwhile the variables Size, Capital and Loans show an increasing trend.

Figure 1. *The Behavior of the Employed Variables over the Time Period 1995-2015*
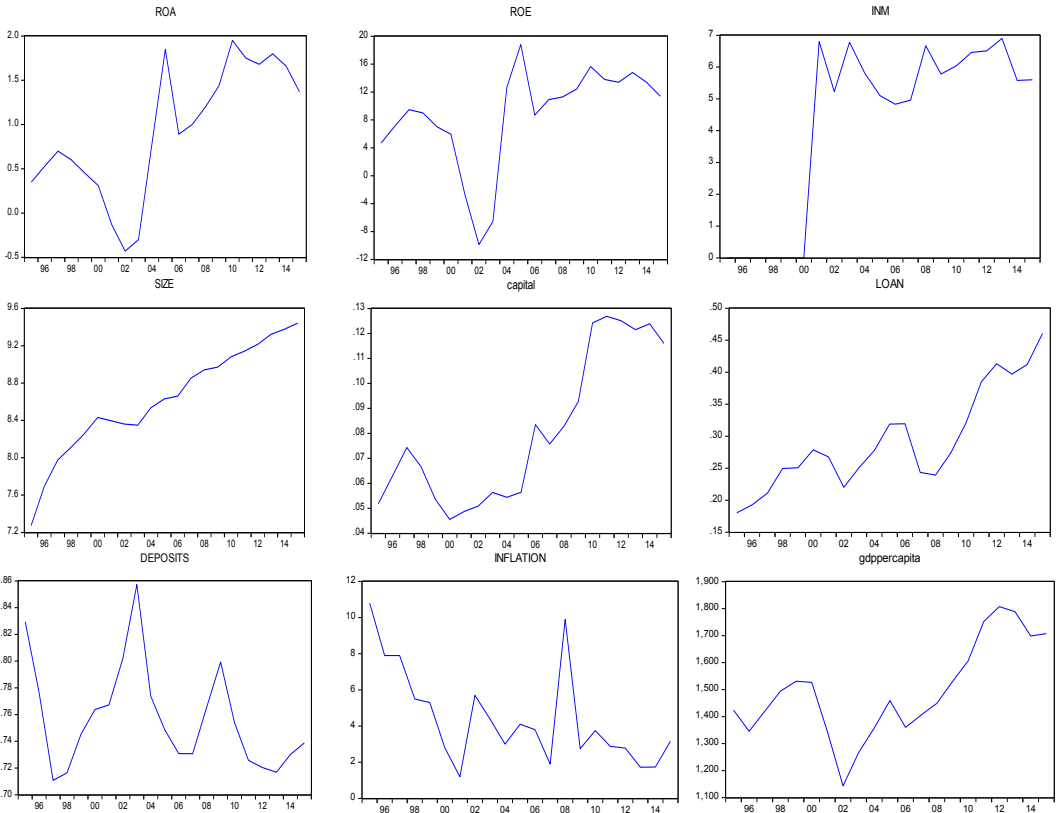

Table (2) shows descriptive statistics for all the variables employed. The ROA, ROE and NIM all have a positive mean values (0.959, 9.232 and 5.936, respectively). Variations in standard deviation of the variables reflect the behavior of the banking sector variables and their determinants along the period of study. Low standard deviations for these variables imply the consistency of the data set, i.e. their values are close to their mean values. Taking the ratio of Mean to Standard Deviation as a measure for variation shows that the highest variation per unit of standard deviation are for NIM, Deposits and GDP.

Table 2. *Descriptive Statistics*

	ROA	ROE	NIM	Size	Capital	Loan	Deposits	Inflation	GDP
Mean	0.959	9.232	5.936	0.108	0.003	0.014	0.757	4.428	1496.205
Median	0.930	10.900	5.800	0.090	0.002	0.020	0.748	3.750	1459.400
Maximum	1.950	26.970	6.900	0.423	0.320	0.064	0.857	10.800	1807.500
Minimum	–0.430	–9.860	4.830	–0.036	–0.013	–0.076	0.711	1.200	1143.700
Std.Dev.	0.758	8.078	0.717	0.108	0.011	0.033	0.039	2.690	177.663
Mean/Std.Dev.	1.265	1.143	8.279	1.000	0.273	0.424	19.41	1.646	8.422
Obs.	21	21	15	20	20	20	21	21	21

The relationships between the variables used in the model are also examined using correlations. Correlations between the potential determinants of the banking sector performance and the profitability of banks (ROA, ROE and NIM) are shown in Table (3).

Table 3. *Correlations with ROA, ROE and INM*

Variables	ROA	ROE	NIM
Size	–0.0006	0.2837	–0.6774★★
Capital	0.3091	0.0623	0.2074
Loans	0.3546★	0.3872★	–0.0427
Deposits	–0.5795★★	–0.5711★★	0.2105
Inflation	–0.2655★	–0.1330	–0.431★
GDP	0.7154★★	0.5848★★	0.1834

★ and ★★ denote t–statistic values, significance at 10 % and 5 %, respectively

In the first column, the correlation analysis shows that loan and GDP have a positive and significant relationship with ROA, whereas deposits and inflation are negatively related to ROA. The second column shows that loan and GDP have a positive correlation with ROE, while deposits is negatively associated with ROE. It is worth noticing a negative relationship between deposits and both ROA and ROE, which potentially implies the unexploited opportunity of deposits volume growth in the Palestinian banking sector. Finally, the third column shows that size and inflation are negatively related to NIM.

Empirical Analysis

Table (4) below presents the regression estimations for each of ROA,

ROE and NIM, respectively. In case of ROA and ROE models, we include all internal factors but one external factor to preserve a sufficient number of degree of freedom, meanwhile in NIM case we include only internal factors because it has limited number of observations.

In Table (4), all models have noticeable explanatory power with R–squared ranging between 68% and 87% and with adjusted R–squared ranging between 56% and 81%. The Durbin–Watson statistics with values close to 2 shows that models to a large extent free of serial correlation and the F-statistics with probability value shows the significance of these models.

The results suggest that capitalization and loans-to-assets have significant positive relation with ROA. These results are similar to that found for Jordanian market by Ramadan et al. (2011). Moreover, results related to the effect of loans-to-assets is similar to that found for the Bangladeshi banking sector (Sufian and Habiballah, 2009), Pakistani commercial banks (Gul et al., 2011) and Tunisian banking sector (Naceur, 2003). However, deposits-to-assets have significant negative effect on ROA. This result is confirmed by Abadi and AbuRub (2012) and also found for Lebanese banking sector by Azar et al. (2016). Further, size has a positive but insignificant effect on ROA which implies that banking sector does not exhibit economies of scale. This result is in line with the findings of Ramadan et al. (2011).

Columns (1) and (2) denote insignificant negative impact of inflation and insignificant positive impact of economic growth on ROA. The findings on the effect of inflation are found to be similar to that of Bangladesh banking sector investigated by Sufian and Habibalah (2009) and Rahman et al. (2015). Results related to the effect of economic growth are consistent with the studies of Turkey, (Acaravci and Çalim, 2013) and Jordan (Ramadan et al., 2011) meanwhile result related to the effect of inflation is similar to that of Jordan (Ramadan et al., 2011).

Moreover, both size and loans have significant positive impact on ROE, while capital has insignificant negative effect on ROE, whereas deposits are negatively related to return on equity. Results of size implies that banking sector exhibits economies of scale. This result is similar to that of Egyptian banking sector (Hashem, 2016). Also, results of the effect of loan found comparable to that of Jordan (Ramadan et al., 2011) while finding on the effect of deposits are in line with that of Egypt (Hashem, 2016).

Table 4. *OLS Estimation Result*

	ROA		ROE		NIM
	1	2	3	4	5
Constant	6.63610★	1.96440	52.16545	75.76210★	1.46370
C	(2.0191)	(3.6404)	(56.0777)	(32.0717)	(9.8841)
	(3.2866)	(0.5396)	(0.9302)	(2.3623)	(0.1481)
Size	1.14360	0.73150	38.9859★	41.30300★	–6.88269
Δlnx1	(1.0609)	(1.0730)	(18.4933)	(18.2005)	(5.3711)
	(1.0779)	(0.6817)	(2.1081)	(2.2693)	(1.2814)
Capital	12.8085★	17.7309★	–32.44750	–57.46000	14.7710
Δx2	(6.7602)	(7.9727)	(134.58)	(119.183)	(32.403)
	(1.8947)	(2.2239)	(–0.2411)	(–0.4821)	(0.4558)
Loans	5.42580★	2.16685	77.4247★	94.40950★	–7.74390
Δx3	(2.3045)	(3.1319)	(49.128)	(36.5491)	(11.375)
	(2.354)	(0.6919)	(1.5759)	(2.5831)	(0.6808)
Deposits	–7.35620★	–5.32580★	–80.7602★	–92.88300★	5.96160
x4	(2.6609)	(2.8733)	(48.200)	(42.214)	(13.108)
	(–2.7545)	(–1.8535)	(–1.6755)	(–2.2003)	(0.4548)
					–0.02288
					(0.1820)
Inflation	–0.01920			–0.05080	
x5	(0.0319)			(0.5226)	(0.1258)
	(–0.6012)			(–0.0971)	
GDP		0.00190	0.00950		
					0.0026
					(0.0069)
x6		(0.00135)	(0.0187)		(0.3718)
		(1.4719)	(0.5112)		
Diagnostics					
R2	0.85020	0.87960	0.73850	0.73260	0.68520
Adjusted R2	0.79030	0.81940	0.60770	0.59890	0.56410
F-Statistic (Prob.Value)	12.3041★	14.616★	5.6477★★	5.4787★★	5.6586★
	(0.0002)	(0.00007)	(0.0054)	(0.0061)	(0.0055)
D.W. Statistic	1.78200	1.72010	1.91590	2.00980	2.34700

Notes: The values in the parenthesis are standard errors and t–statistics values, respectively.
★ and ★★ denote t-statistic values, significance at 10 % and 5 %, respectively.

Again results of the effect of inflation and economic growth on ROE in columns (3) and (4) are found similar to that in case of ROA. This may suggest

that due to the inability of banks to accurately predict the level of inflation, they miss the opportunity to benefit from inflationary environment to increase profit, and banks seems to have not benefited from economic growth (Ramadan et al., 2011).

We notice a negative relationship between deposits and both measures of profitability - ROA and ROE, which was also shown in correlation analysis. These results may imply that deposits are not substantially converted into loans, so larger growth rates of deposits can depress profitability implying having inactive or idle money (Hashem, 2016).

Also, Neither internal nor external factors have significant impact on NIM, despite the fact that overall internal and external factors have a significant effect as denoted by F-statistics value.

Thus, overall results show that size, loan and capital are the key factors affecting the profitability of the Palestinian banking sector as proxied by ROA or ROE. It confirms that banks with large size, capital and loan achieve a higher ROA or ROE. The bank profitability is inversely related to deposits. By reconciling between results of the effect of size on both ROA and ROE it could be concluded that this effect supports the significant scale economies of banking sector partially. Also, banking sector not benefited significantly from both inflationary environment and growth cycle. Furthermore, the overall internal and external factors can be taken as the main determinants of the profitability proxied by NIM.

CONCLUSIONS

This study investigates the effect of banks' internal and external factors on the profitability of banks from the Palestinian banking sector over the 1995-2015 period. The empirical results have found strong evidence that internal factors (size, capital, loan and deposits) are significant determinants of the profitability measured by both ROA and ROE. This confirms that banking institutions with large size, capital and loan can achieve a higher ROA or ROE. The main findings show that size has positive impact on ROE. Capital is positively related to ROA. Loans are positively correlated with both ROA and ROE. Deposits are negatively related to both ROA and ROE. . Also, it is found that neither internal nor external factors have significant impact on NIM, despite the fact that overall internal and external factors have a significant effect as denoted by F-statistics value. Moreover, such external factors as inflation and economic growth have no significant effect on the profitability of banking sector .

Results imply a number of policy implications which includes: banks should maintain sizable volume of lending activities to increase profits, banks should seek to channel deposits into profitable investment and to diversify their portfolios by entering new markets and increase their managed risk taking activities to benefit from inflation and economic growth.

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