Faculty of Business and Economics

محددات ربحية البنوك: دروس من البنوك الفلسطينية

Determinants of banks' profitability: Lessons from Palestinian banks

Prepared By:
Myassar Abu Zir

"Thesis submitted in partial fulfillment of the requirements for the degree of Master in Business Administration in the Faculty of Graduate Studies at Birzeit University, Palestine"

Committee:

Dr. Bayan M. Arqawi (supervisor)

Dr. Nidal Sabri

Dr. Monther Nijim

August, 2016

ABSTRACT

The thesis investigates the impact of banks' internal characteristics on profitability of banks operating in Palestine over the period 2009-2014. The study is motivated by the peculiarity of the Palestinian context and aims to explain the continuous profitability trends of the banking sector.

The results of the OLS regression show that Palestinian banks' profitability is positively associated with deposit to asset ratio, lending rate and bank size. However, high exposure to credit risk decreases the level of profitability.

The findings imply that banks can adopt policies to attract deposits at low cost to reduce the costs associated with other sources of funds. Since lending rate is positively associated with profits, banks can maximize the use of available funds by granting loans to boost profitability. The presence of information dissemination institutions, public credit registries and private credit bureau enhances the screening process for banks in assessing potential borrowers, which essentially enhances the loan quality and reduces the default rates. This eventually improves banks performance. Furthermore, an ample horizon exists for banks operating in Palestine to grow and expand in terms of asset base, branch network and customer portfolio. This expansion enables banks to reap the benefits of larger size as a result of economies of scale.

Table of Contents

List of Tables

List of Figures

Appendixes

Chapter One

Introduction

Banks perform a key role in economic development as they mobilize savings into investments through facilitating the flow of capital to various sectors of the economy (Arif, Khan and Iqbal, 2013). The Palestinian banking sector experienced a rapid development due to technological changes, competition, liberalization, and restructuring introduced by the Palestinian Monetary Authority (PMA) to improve the regulatory framework and ensure the well-being of the banking sector (World Bank, 2014).

The banking sector is exposed to liquidity, credit and market risks (Keramati and Shaeri, 2014). In addition to these risks, banks operating in Palestine face additional challenges due to the peculiarity of the country's political and economic situation. First, banks operating in Palestine are exposed to the risk of lending to the public sector. The Palestinian Authority (PA) is incapable of issuing government securities to cover its continuous budget deficit. This in turn creates dependency on both tax refunds, which are usually blocked by the Israeli government, and foreign aid which is sensitive to the political situation. These unique circumstances cause the PA to rely on bank loans to cover its budget deficit.[1] The accumulation of government loans affects its ability to meet its obligations.[2]

PA debt from local and foreign banks increased from USD 639.3 million in 2009 to USD 1,114.6 million in 2014 marking a rise of %74.3 in five years (PMA, 2014). This increase in government debt is due to low tax collection post 2000 as a result of the second "Intifada" (Riyahi and Samarah, 2014).

[1] The sources of PA government revenues for 2014 were as follow: 20.2% domestic and non tax revenues, 42.2% clearance revenues from Israeli government, and 37.6% grants and donations (PMA, 2014).

[2] The total government debt in 2015 accounts for 41.1% of GDP and represents the maximum allowed limit as stated in the Public Debt Law No. (24) for the year 2005, which stipulates that the outstanding balance of public debt should not exceed 40% of GDP at any given time.

Second, consumer loans represent a significant portion of credit facilities where 29.7% of the total loans granted to private sector in 2014 are consumer oriented. The fact that loans are directed towards consumption will definitely limit society's ability to accommodate any major turmoil, as a large portion of people will be restricted to debt obligations for extended years; especially if this significant financial flow is not designed to develop production structures. Jaber and Sayrafi (2014) argue this approach has arose after the second intifada where Western countries provided a full-fledged review of access to funds and project implementation mechanisms to ensure more "discipline" in confrontation of a society in revolt As a result, liberal economic patterns have been introduced with a view to "individualize" the development process.

Several challenges affect the banking sector in Palestine including uninformed competition between banks, the desire for quick profits and the negligence of credit ratings (Riyahi and Samara, 2014). In the context of competition, capitalists are eager for profits, therefore banks began to extend their services to a large number of borrowers. This comes at the expense of customers who are quick to take loans even though they are ignorant of their repayment ability.

The profitability of banks operating in Palestine has increased during the study period. Net profit for the banking sector increased from USD 102 million in 2009 to USD 147 million in 2014 representing a compound annual growth rate (CAGR) of 8%. The increase in profitability was mainly driven by the increase in loans from USD 2,095 million in 2009 to USD 4,801 million in 2014 with a CAGR of 18%. Deposits rose from USD 6,173 million in 2009 to USD 8,864 million in 2014 with a CAGR of 8%. Consequently, the following question arises: What drives this notable bank performance despite the hardships facing the Palestinian economy?

This thesis examines the internal determinants of banks profitability. In particular, it explains the extent to which discrepancies in banks' profitability are due to variations in internal factors that are under the control of bank's management. Analyzing the underlying factors that influence banks'

profitability is essential for the stability of the financial system and the development of the economy (Levine, 1998).

The political and economic unrest in Palestine subjects banks to high levels of credit risk and default incidences. Moreover, banks profitability is largely affected by deposits and rate of lending, both of which are subject to ample fluctuations due to the economic and political conditions in Palestine. Four internal characteristics are examined as determinants of banks' profitability: credit risk; lending rate; deposits; and, bank size. The sample consists of panel data for 15 banks operating in Palestine for the period 2009-2014.

The literature in the Palestinian context lacks a comprehensive econometric modeling that provides empirical evidence on the drivers of banks' profitability. Both Bayyoud and Sayyed (2015) and Al Khatib (2012) use underspecified models without taking other critical factors documented in prior literature. The former uses credit risk only as an independent variable whereas the latter uses bank size. Using these specifications yields estimates that are biased and inconsistent. Additionally, Al Khatib (2012) uses a small sample size of five banks which affects the generalizability of the results.

The objective of this thesis is to empirically investigate the impact of bank's internal drivers on the profitability of banks operating in Palestine. To achieve this objective, this thesis aims to:

1. Document the performance trend of banks operating in Palestine over the period 2009-2014.
2. Document the distribution of credit facilities and deposits by geographic area and economic sector.
3. Examine the concentration of loans and deposits by constructing Herfindahl Indexes.
4. Compare the financial characteristics of local and foreign banks operating in Palestine.
5. Empirically examine the internal determinants of bank's profitability.

The remainder of the thesis is organized as follows: Chapter two presents a background of the Palestinian banking sector; Chapter three provides a review of the theoretical and empirical literature related to banks' profitability; Chapter four illustrates the research design; Chapter five discusses the univariate, bivariate and multivariate results. Finally, Chapter six concludes by summarizing the overall findings and discussing the implications.

Chapter Two

Background

The financial sector in Palestine has emerged since the signing of the Oslo Accord in 1993 and the Paris Protocol in 1994 which allowed the PA to administer monetary and financial affairs. According to the Palestinian Central Bureau of Statistics (PBS), the contribution of the financial sector to GDP amounted to 2.1% in 1996 and increased to 5.1% in 2011 (PBS, 2011).

The Palestinian banking sector is dependent on both the Jordanian and the Israeli banks (IMF, 2011) due to the lack of local currency, absence of independent monetary policy, and the fact that the Palestinian economy is donor-dependent. Further, the considerable presence of Jordanian banks poses challenges to the Palestinian banking sector in case of a crisis in Jordan due to the limitations of direct linkages to the global financial market.

The Palestinian banking sector is regulated by the PMA which is an independent public institution responsible for the formulation and implementation of monetary and banking policies. PMA operates under Act number (2) of the Palestine Legislative Council Law for the year 1997 and the Banking Law number (9) for the year 2010. PMA obliges banks operating in Palestine to follow the international standards set by Basel Accords which are designed to increase the safety of the international banking system to cope with potential risks.[3] Basel I is currently applied by the banks operating in Palestine while Basel II is soon to replace it.[4]

[3] Basel I (1988) sets the minimum capital adequacy ratio at 8% to ensure that banks do not expand their businesses without having adequate capital.

[4] Basel II provides approaches that are more comprehensive to risks than Basel I. It maintains both the definition of total capital and the minimum requirement of 8% of capital to risk weighted assets. The credit risk includes measure for operational and market risk. Basel III is planned to be introduced in Palestine over the period 2013-2018. Basel III includes reforms to strengthen the banking sector's ability to absorb shocks arising from financial and economic stress. The accord involves significant changes in capital structure and risk management that involves improvement in quality of capital, introduction of countercyclical buffers, liquidity and leverage ratios and counterparty risks.

Table 1 lists the banks operating in Palestine and their general characteristics. As of 2014, a total of sixteen banks operate in Palestine, seven of which are local and nine are foreign banks. The total number of bank branches is 238 employing 5,703 personnel, half of which work for local banks. Fourteen banks are commercial private corporations listed in either Palestine or Jordan. Egyptian Arab Land Bank is a commercial public corporation listed in Egypt while HSBC Middle East is a private corporation listed in the United Kingdome. HSBC Middle East ceased to operate in Palestine by the end of 2015 due to continuous losses; it is excluded from the sample because it did not offer credit facilities.

Table 1 List of banks operating in Palestine

Bank name	Bank type	Public or private	Listing market	# of branches	# of employee
Bank of Palestine	Commercial	Private	Palestine	54	1,280
Arab Bank	Commercial	Private	Jordan	27	887
AlQuds Bank	Commercial	Private	Palestine	27	561
Cairo Amman Bank	Commercial	Private	Jordan	21	557
Palestine Islamic Bank	Islamic	Private	Palestine	19	416
Bank of Jordan	Commercial	Private	Jordan	17	323
Palestine Investment Bank	Commercial	Private	Palestine	14	235
Housing Bank	Commercial	Private	Jordan	13	249
Arab Islamic Bank	Islamic	Private	Palestine	11	314
National Bank	Commercial	Private	Palestine	9	293
Palestine Commercial Bank	Commercial	Private	Palestine	7	170
Egyptian Arab Land Bank	Commercial	Public	Egypt	6	134
Jordan Ahli Bank	Commercial	Private	Jordan	5	147
Jordan Commercial Bank	Commercial	Private	Jordan	5	91
Jordan Kuwait Bank	Commercial	Private	Jordan	2	32
HSBC Middle East	Commercial	Private	United Kingdom	1	14
Total	**16**			**238**	**5,703**

Source: Association of Banks in Palestine. Available at http://www.abp.ps/, access date: 19/6/2016.

An analysis over the period 2009-2014 indicates that the number of branches grew by 25% (see Appendix 1) whereas the number of employees increased by 23% (see Appendix 2). Currently, Bank of Palestine employs 1,280 personnel in 54 branches, while Jordan Kuwait Bank has 32 employees working in two branches only. The PMA seeks to decrease the number of population per bank

branch in order to increase the quality of the services provided to customers.

Table 2 reports the profit, deposits, loans and assets for the banks operating in Palestine over the period 2009-2014.

Table 2 Bank indicators

Year	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	***CAGR***
Profit (USD million)	102	146	131	124	144	147	
Growth		*43%*	*-10%*	*-5%*	*16%*	*2%*	*8%*
Deposits (USD million)	6,173	6,691	6,886	7,391	8,228	8,864	
Growth		*8%*	*3%*	*7%*	*11%*	*8%*	*8%*
Loans (USD million)	2,095	2,806	3,471	4,097	4,297	4,801	
Growth		*34%*	*24%*	*18%*	*5%*	*12%*	*18%*
Assets (USD million)	7,599	8,493	8,955	9,555	8,335	11,310	
Growth		*12%*	*5%*	*7%*	*-13%*	*36%*	*8%*

Source: Thesis analysis.

Profit of the banking sector amounted to USD 102 million in 2009 and grew by a CAGR of 8% to reach USD 147 million in 2014. The decline in profits for the years 2011 and 2012 is due to the fact that the increase in revenues was lower than the increase in expenses for these two years. For instance, in 2011 revenues increase by 5% to reach USD 416 million while expenses increased by 12% to reach USD 252 million, it is notable that 87% of the expenses are operating in nature and directed towards employees salaries (ABP, 2011). The year 2012 witnessed a similar decline in profits. In 2012, the increase in revenues was 4% while the increase in expenses was 5%. Moreover, the Gaza war in 2012 affected the performance of Gaza branches negatively (ABP, 2012). Interest revenue is the main source of income and accounts for 73% of revenues. Appendix 3 reports the profit share per bank. The profit of Arab Bank (USD 50 million) and Bank of Palestine (USD40 million) represent 61% of the banking sector's profits in 2014. Arab Bank's share of profit increased from 34.44% in 2009 to 53.55% in 2010 and then dropped to 33.91% in 2014. The profits for the two Islamic banks operating in Palestine increased sharply from USD 1,372 million in 2009 to USD

11,667 million in 2014 with compound annual growth rate of 53.10%. This increase in Islamic banking profits reflects the growing demand for Islamic financial products in Palestine.[5]

The success of a bank depends on its ability to attract deposits, particularly time deposits as it can be used for lending, financing or long term investing. The level of deposits for the banking sector in Palestine amounted to USD 6,173 in 2009 and grew by 8% to USD 8,864 in 2014. The PMA attributes this increase in deposits to the branching policy. Opening bank branches in villages and rural areas has enhanced customers' ability to complete their financial transactions. The number of branches increased from 189 in 2009 to 237 in 2014. The main component of banks' deposits is customers' deposits, it accounts for 92.5% of the total liabilities of the banking sector, other components of deposits are; PMA deposits, deposits from local banks and deposits from foreign banks outside Palestine which account for 1.4%, 5.2% and 0.9% of total deposits, respectively (PMA,2015). In 2014, deposits denominated in USD, Jordanian Dinar, Israeli Shekel and other currencies accounts for 40%, 30%, 25% and 5%, respectively.

Appendix 4 reports deposit share per bank. Deposits of both Arab Bank and Bank of Palestine represent 53.43% of the total deposits. Deposits growth per bank has been volatile. While some banks have positive growth in deposits, other banks suffered a decline which reflects the fierce competition between banks to attract deposits. The compound annual growth rate in National Bank's deposits in 2014 was 39.22% whereas Cairo Amman share's of market deposits has dropped from 9.78% in 2009 to 6.99% in 2014 with CAGR of 0.52%. Overall, all banks have a positive CAGR in deposits during 2009-2014 except for Bank of Jordan and Egyptian Arab Land Bank where deposits CAGR are -1.06% and -0.11%, respectively.

[5] All banks generated positive profits except for HSBC Middle East which experienced a series of losses throughout the past years due to the fact that the bank has not offered credit facilities.

Loans granted by the Palestinian banking sector amounted to USD 2,095 million in 2009 and increased during the period to reach USD 4,801 million in 2014. The CAGR for loans is 18% compared to 8% for deposits over the period 2009-2014. This growth in loans is triggered by Instruction number (5) for the year 2008 which lowered foreign investment from 65% to 55% of total deposits. Moreover, the development of a credit registry in 2009 is the major driver behind the growth of credit facilities. This system tracks bounced checks and assesses borrowers' credit worthiness and thus reduces credit risk. Furthermore, classification system of returned checks was developed in 2010 to add more information on clients' repayment abilities. The system reveals the amounts of outstanding checks and the maturity dates and classifies the banks' clients based on the number of returned checks.

The market share of loans per bank, presented in Appendix 5, shows the prevalence of both Arab Bank and Bank of Palestine where they both account for 50.39% of the credit market in 2014. The highest CAGR is 58.82% for Jordan Kuwait Bank, while the lowest is 4.72% for Palestine Investment Bank.

The assets of the Palestinian banking sector have increased from USD 7,599 million in 2009 to USD 11,310 million in 2014. (PMA, 2014) The decline in assets value in 2013 was due to the decline in loans as loans represent 41.4% of the total banking sector assets. Banks use assets for granting loans and investing. On the other hand, foreign investments grew by 8% in 2014 to reach USD 3,823 million which represents 34% of total banks assets (PMA, 2015). Appendix 6 reports the share of assets by bank. The highest CAGR of assets is for the National Bank followed by Palestine Commercial Bank. National Bank's assets have grown by 33.12% over 2009-2014 which is due to mergers and acquisitions. A series of mergers and acquisitions occurred in accordance with PMA Instruction number (7) for the year 2009 which requires banks to raise their minimum paid-in capital to USD 50 million in order to strengthen banks position in face of local and foreign competition and

minimize the effect of potential risks that arise due to Palestine special economic and political situation. For instance, in 2010 Palestine Islamic bank purchase Al-Aqsa bank; later in 2012 The National bank has been formed as a result of a merger between AL- Rafah bank and Arab Palestinian Investment bank.

Table 3 provides comparative mean values of bank characteristics. Arab Bank has the highest mean profit of USD 54 million while the lowest mean profit of USD 1 million is for the Egyptian Arab Land Bank. The mean value of deposits is USD 491 million with a max value of USD 2,527 million for Arab Bank and a minimum value for Jordan Kuwait Bank. The mean value of loans is USD 239.2 million with a max value of USD 1,107 million for the Arab Bank as it has 27 branches and high value of paid in capital that enables the bank to take risks and grant more loans. The mean value of assets is USD 628 million. The Arab Bank reports the highest mean value of assets of USD 2,942 million followed by Bank of Palestine with a value of USD 1,876 million. The smallest bank in terms of assets is the Jordan Kuwait Bank. As for banks' equity, the mean value of equity is USD 93 million with a maximum value of USD 280 million for Bank of Palestine and a minimum value of USD 36 million for Palestine Commercial bank. The variation among banks equity is due to each bank paid in capital amount, total reserves and retained earnings (ABP, 2012).

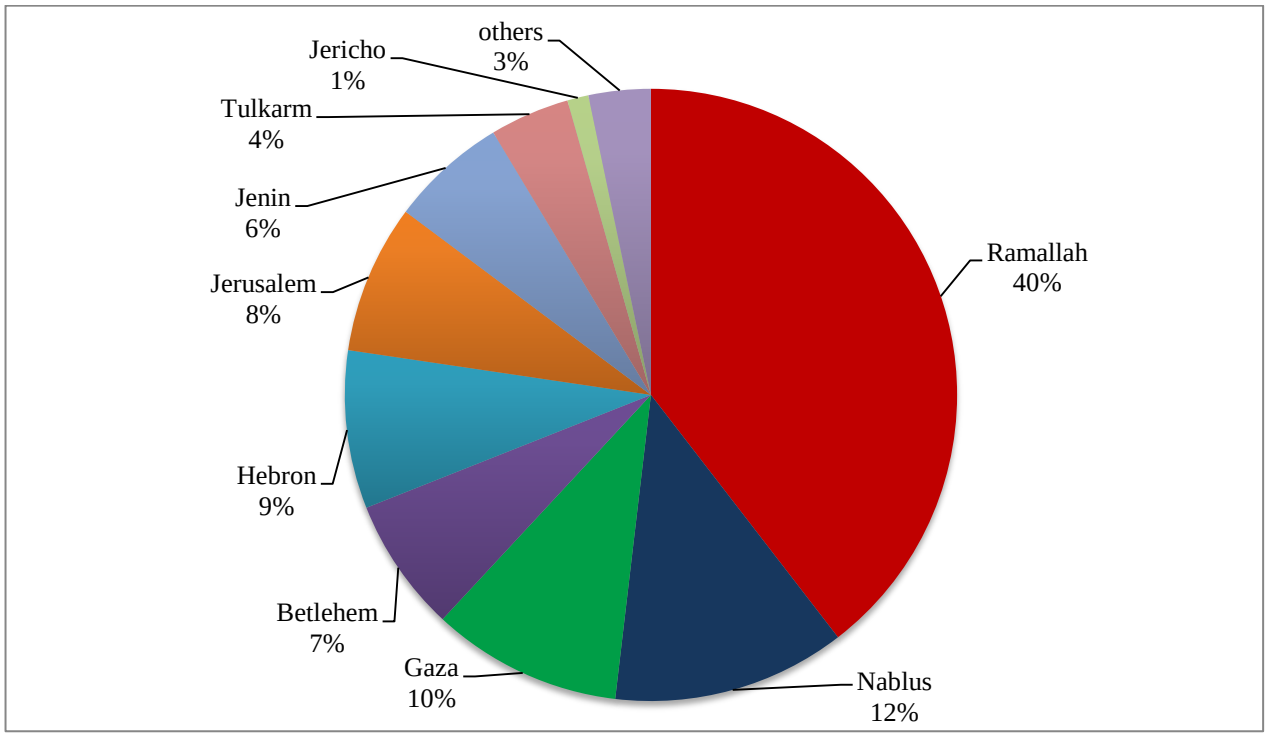
Table 3 Mean values by bank (2009-2014)

Bank	**Profit**	**Deposits**	**Loans**	**Assets**	**Equity**
	(million USD)	(million USD)	(million USD)	(million USD)	(million USD)
Bank of Palestine	35	1,488	791	1,876	280
Al-Quds Bank	4	358	254	484	70
Palestine Investment Bank	2	159	91	270	68
National Bank	2	203	139	354	80
Palestine Commercial Bank	1	127	73	195	36
Arab Bank	54	2,527	1,107	2,942	264
Cairo Amman Bank	8	619	253	789	86
Bank of Jordan	5	492	139	574	74
Housing Bank	4	380	166	490	80
Jordan Ahli Bank	3	169	86	241	64
Jordan Commercial Bank	2	62	40	149	58
Jordan Kuwait Bank	1.5	51	7	109	52
Egyptian Arab Land Bank	1	80	77	144	54
Arab Islamic Bank	2	304	152	380	67
Mean	628	491	72.5	239.2	93

Source: Thesis analysis.

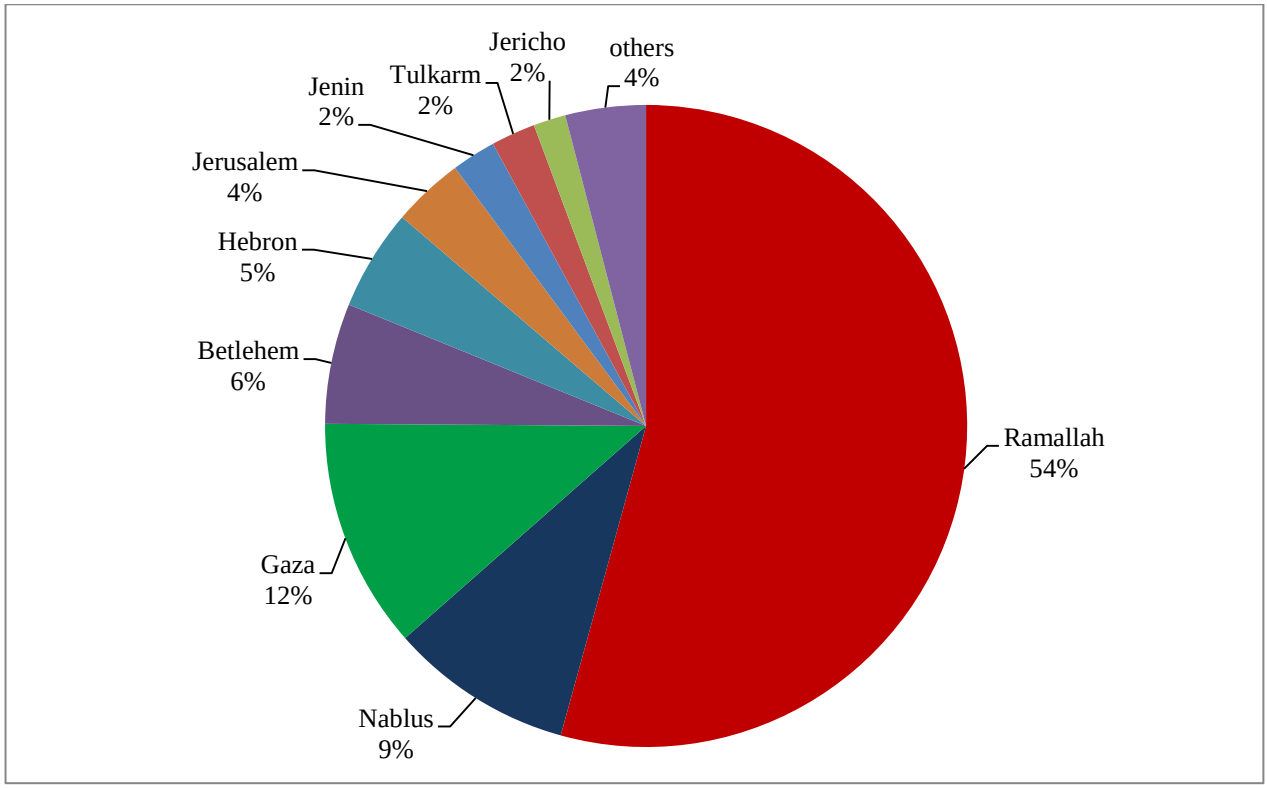
Figure 1 presents the distribution of deposits by geographic area. Ramallah has the largest portion of the deposits (40%) followed by Nablus (12%). The distribution of deposits is parallel to that of credit facilities. Figure 2 shows the geographic distribution of credit facilities. The majority of loans granted are in Ramallah (57%) followed by Gaza strip (12%) and Nablus (10%) (Association of Banks in Palestine, 2014). Ramallah's significant portion of credit facilities is attributed to the movement restrictions imposed on Palestinians by the Israeli occupation and the fact that most government and NGO offices are centered in Ramallah. These factors result in a significant clustering of public and private sector employees settling in the city of Ramallah (Riyahi and Samara, 2014). This in turn increases the demand for consumer goods, real estate and services, bids up the prices and consequently, the need for financing becomes a must.

Figure 1 Geographic distribution of deposits



Source: Association of Banks in Palestine. Available at http://www.abp.ps/, access date: 20/1/2016.

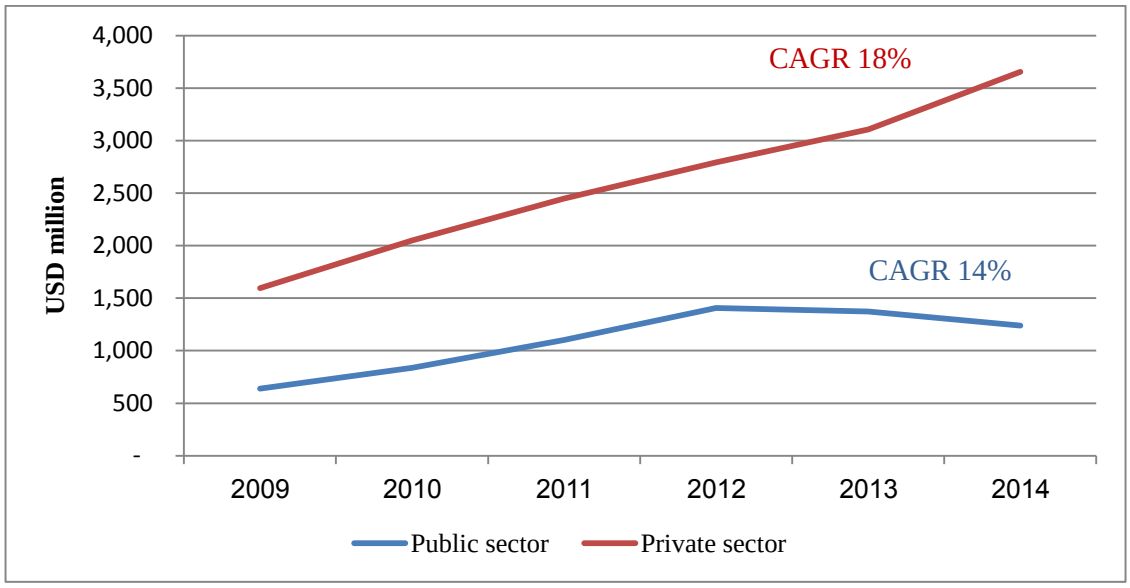
Figure 2 Geographic distribution of credit facilities



Source: Association of Banks in Palestine. Available at http://www.abp.ps/, access date: 20/1/2016.

Figure 3 shows the trend of public and private loans provided by the banking sector. Both public and private loans have increased with a CAGR of 14% and 18%, respectively.

Figure 3 Public and private loans



Source: PMA database. Available at: http://www.pma.ps/, access date: 10/1/2016.

Table 4 shows the distribution of credit by economic sector. Credit to the public sector accounts for nearly 30% of the total credit in the banking sector. The exposure of the banking sector in Palestine to government debt adds a unique risk that is not present in other countries where governments are able to issue securities instead of directly borrowing from the banking sector.

Credit to private sector represents nearly 70% of total loans and has been heavily tilted towards consumption loans in recent years. Credit to private sector has increased from USD 1,596 million in 2009 to USD 3,655 million in 2014 with CAGR of 18%. This growth can be explained by the neoliberal policies of the PMA where money becomes the object of desire, greed and lust; it is the ultimate representation of social power in the capitalist society (Harvey, 1997).

Instruction 5/6/1 for the year 2008 states that banks are not allowed to concentrate credit to one economic sector and the loans granted to one economic sector should not exceed 20% of each bank

credit facilities. Banks loans are concentrated in consumption and real estate, which are the preferred choices as they entail low risk and high guarantee of loan repayment. By the end of 2014, consumer loans; which are represented by cars and vehicles finance and consumptions loans, accounted for 30% of total loans. Real estate loans, on the other hand, accounted for 22% of the loans granted to private sector. Real estate and construction loans grew from USD 221 million in 2009 to nearly USD 800 million in 2014. Jaber and Sayrafi (2014) note that real estate credit provides long repayment time, which reach up to 20 years, with some employees granted loans up to 30 times as much as their salaries. This increases the demand in the real estate market and eventually bids up the prices especially in Ramallah. As of 2013, the new constructed areas in Ramallah account for 330,000 square meters compared to only 54,000 square meters for old buildings (Ramallah Municipality, 2013).

Table 4 Credit by economic sector

Sector	2009	2010	2011	2012	20=3	2014
Total loans	**2,233.90**	**2,885.80**	**3,550.70**	**4,199.30**	**4,480.10**	**4,895.10**
Total public sector loans	**637.40**	**837.20**	**1,101.10**	**1,407.40**	**1,373.70**	**1,239.80**
Total private sector loans	**1,596.50**	**2,048.60**	**2,449.60**	**2,791.80**	**3,106.4**	**3,655.30**
Real estate and constructions	221.50	331.60	411.50	589.50	650.40	790.10
Land development	44.70	76.70	29.70	41.70	57.10	41.00
Mining and manufacturing	184.80	257.90	303.70	173.80	222.20	257.20
Local and foreign trade finance	341.30	392.20	489.60	503.20	612.30	744.60
Agricultural and food processing	38.60	45.30	33.70	35.10	38.30	46.50
Tourism, hotels, restaurants and swimming	39.30	47.90	50.00	57.90	58.90	59.90
Transportation	24.80	19.00	22.60	22.70	21.80	30.20
Financial services	73.20	76.20	26.80	20.50	15.20	27.00
Other public services	327.70	381.30	268.50	246.90	226.80	347.30
Securities purchasing and carrying	56.20	52.40	66.30	61.30	50.20	29.00
Cars and vehicles finance	57.00	85.70	111.40	113.80	130.50	165.10
Consumptions (credit cards, personal loans, others)	76.60	144.30	415.20	783.00	885.60	921.70
Others in private sector	110.90	138.10	220.70	142.50	136.90	195.70

Source: PMA database. Available at: http://www.pma.ps/ , access date: 2/4/2016.

Production loans are less preferred as they entail high default risk because the loans repayment is linked to cash flow from the production and the selling of goods at the business units. For instance, loans granted to agricultural and food processing sector by the end of 2014 represented only 1.3% of private credit. The reluctance of banks to provide production loans casts doubts about banking sector's role in the economic development of Palestine.

Table 5 shows the Herfindahl-Hirschman index (HHI) for both deposits and loans to analyze the concentration of banking sector in Palestine. This is essential on order to understand the source of growth and competitive advantage for banks.

The HHI is calculated by squaring the market share of each bank competing in the market and then summing the resulting numbers, so it takes into account the relative size distribution of the banks in a market. As a result, the index increases both as the number of firms in the market decreases and as the disparity in size between those firms increases (White, 1987). Brodley (1990) states that a market with a result of less than 1,000 is a competitive marketplace. A result of 1,000-1,800 indicates that the market is a moderately concentrated marketplace, while a result of 1,800 or greater indicates that the market is highly concentrated.

The HHI for deposits ranges from 3500-5700 indicating a heavy concentration with two banks denominate more than the half of the market deposits. In 2014, the market share of deposits for Arab Bank and Bank of Palestine were 30% and %23, respectively, and the remaining share is distributed between the 13 other banks in the market. On the other hand, the values of HHI for loans indicate a moderate concentration with values less than 1800. Arab Bank and Bank of Palestine, however, dominate the market for loans with market shares of 26.40% and 23.99% respectively as of the end of 2014.

The concentration of loans and deposits in Palestinian has consequences on banks' risk exposure. Boyd and De Nicolo (2005) in the portfolio model argue that, as deposit markets become more concentrated, banks use their market power to become more profitable. Resultantly, they become less eager to seek high return outcomes. Any direct effect of loan market competition is ignored. In another model; the contracting model, banks compete in both deposit and loan markets. Less competition means more rents earned in deposit markets, but also means more rents earned in loan markets. Obviously, higher loan rates are charged to bank customers as concentration increases. Higher loan rates imply higher default rates for borrowers, but the loan market risk channel is further enhanced by moral hazard on the part of borrowers. Borrowers, confronted with higher loan rates charged by banks, optimally adjust their investment policies in favor of more risk.

Table 5 HHI for deposits and loans for the banking sector

HHI	2009	2010	2011	2012	2013	2014	Average
Deposits	3,624	4,547	4,826	4,623	5,097	5,788	4,751
Loans	1,622	1,722	1,743	1,673	1,510	1,434	1,617

Source: Thesis analysis.

Table 6 compares the internal characteristics of local and foreign banks operating in Palestine. The mean values of the preceding variables are similar with precedence to local banks for the four variables. When running a t-test for the four variables mentioned in the table the results indicate values of 0.68, 0.87, 0.87, and 0.15 for Assets, deposits, Profit, and loans, respectively. The mean values of the loans are 18.38% for foreign banks, while 18.91% to local banks. The minimum value of the loans is 14.06% for foreign banks and 17.28% for local banks. This may be explained by the fact that Bank of Palestine, one of the two main banks that dominate the banking industry, is local; while the other, Arab Bank, is a foreigner bank.

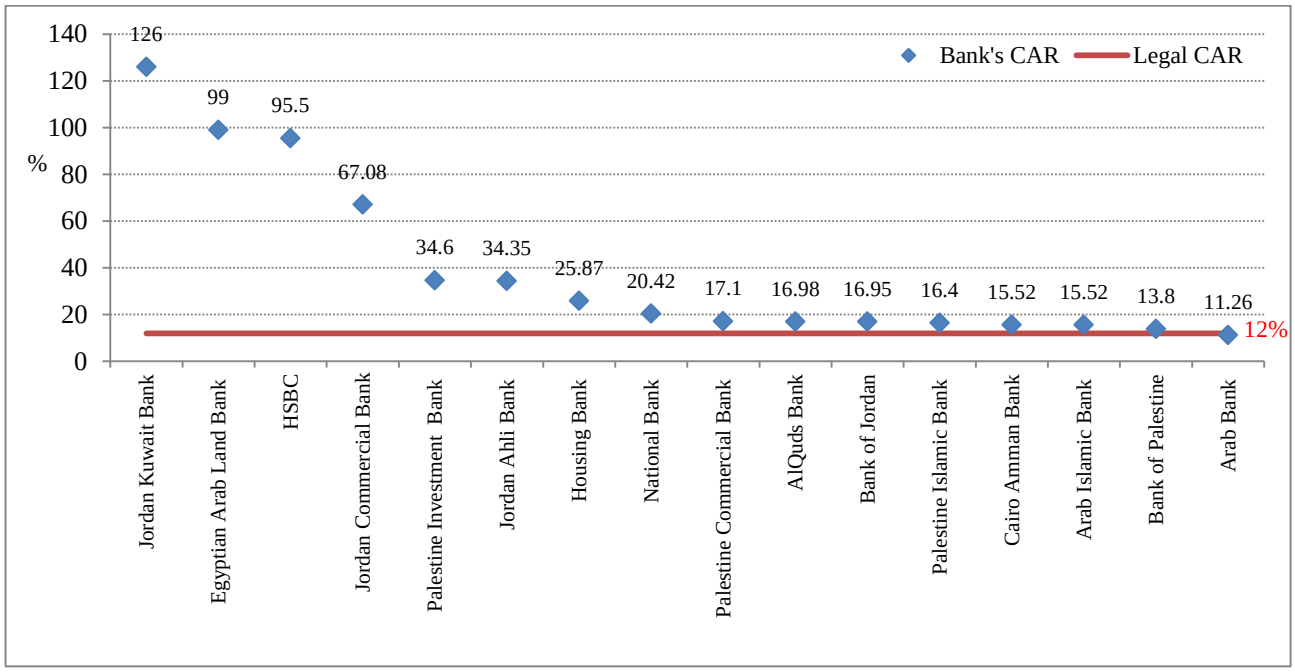
Table 6 Descriptive statistics by bank type

Bank type	Descriptive Statistics	Profit	Deposits	Loans	Assets
Foreign banks	*Mean*	15.16%	19.31%	18.38%	19.73%
	Maximum	18.17%	21.72%	20.96%	21.86%
	Minimum	10.39%	17.64%	14.06%	18.31%
	Standard deviation	1.57%	1.27%	1.50%	1.04%
Local Banks	*Mean*	14.82%	19.48%	18.91%	19.84%
	Maximum	17.51%	21.44%	20.86%	21.61%
	Minimum	11.03%	18.18%	17.28%	18.69%
	Standard deviation	1.48%	82.01%	0.87%	73.00%

Source: Thesis analysis.

Since 2008, PMA has introduced institutional reforms to support the performance of the banking sector including setting required minimum reserve ratios, capital requirements and liquidity ratios, and imposing limits on credit concentration, outside placements, and currency exposure. According to PMA Instruction Number (5) for the year 2015, banks operating in Palestine are required to keep a minimum capital adequacy ratio (CAR) of 12%. This ratio is to be adjusted according to bank size and potential risks. According to the Association of Banks in Palestine, banks keep CAR at the required rate with variations based on size of operations, lending rate and the value of risk weighted assets. Jordan Kuwait Bank and Egyptian Arab Land Bank operate with high CAR of 127% and 99%. Higher CAR reflects less risky weighted assets and indicates inefficient use of resources. However, at 13% and 11.2% respectively, Bank of Palestine and Arab Bank operate with low CAR due to the significant lending portfolio for the two banks. Figure 4 represents the values of CAR for the banks operating in Palestine as of 2014.

Figure 4: Capital adequacy ratio (2014)



Source: Thesis analysis.

Further, Instruction number (7) for the year 2009 requires banks to raise their minimum paid-in capital from USD 35 million to USD 50 million. Later on, Instruction number (6) for the year 2015 raised the minimum paid in capital to USD 75 million to be implemented during the coming three years. Raising the minimum capital requirement is a step towards the restructuring of the Palestinian banking sector in order to increase the competitive position of Palestinian banks and to add a buffer against financial crises and unexpected risks.

Chapter Three

Literature Review

This chapter discusses two different theories of bank behavior, the expected utility and the classic financial intermediation theories. Next the chapter provides a review of the empirical literature on the profitability of banks.

3.1. Theories of banks' behavior

The banking sector plays a fundamental role in economic growth as it channels funds from lenders to borrowers (Imbierowicz and Rauch, 2014). This intermediation function is carried out by ensuring that the deployment of liabilities will be at a rate higher than the costs. Working towards this end, banks maintain profitability by borrowing short to incur lower costs and lending long to achieve higher yields.

The expected utility theory posits that banks seek to maximize either expected profit or expected utility of profits. Pyle (1971) models the relationship between cash loans and deposits. If the rates on deposits and loans were independent, intermediation exists whenever a positive premium for loans and a negative premium for deposits are present. Ho and Saunders (1981) criticize Pyle's model arguing that banks are utility maximizers. They argue that Pyle determines the needed conditions for the existence of financial intermediation without attempting to analyze the factors determining the size of these premiums or how the model could be adjusted to changes in market interest rates.

Ho and Saunders (1981) develop the financial intermediation theory stressing that intermediation is the main role of banks. The bank is viewed as a dealer between lenders and borrowers as it demands deposits and supplies loans. The intermediation theory views banks as seeking to match the maturities of assets and liabilities in order to avoid the reinvestment or refinancing risks that arise if

assets are either too short or too long. This function entails uncertainty and increases the cost that arises from the fact that deposits inflows occur at different times from loans outflows.

Ho and Saunders (1981) find that interest margin has two basic components; the degree of market competition and the interest rate risk. The model suggests that banks' margin depends on four factors; the degree of marginal risk aversion, the size of transactions, the market structure and the variance of interest rate. Further, the model suggests that asset-liability structure must be analyzed due to the interrelation between these two components particularly in an uncertain environment.

Several studies extend Ho and Saunders' (1981) model. Allen (1988) adjusts the model for different types of risks and deposits. Angbazo (1997) considers credit risk and interest rate risk. Saunders and Schumacher (2000) apply Ho and Saunders' model suggesting the importance of trade-off between bank solvencies and lowering the cost of financial services to clients. That is, high protection against credit risk tends to erode banks profitability.

Maudos and De Guevara (2004) extend Ho and Saunders' (1981) model by identifying the major elements that affect banks margins: operating costs; interest risk; competitiveness; and, credit risk. Firstly, banks with high average operating costs need to operate with higher margins to offset their high transformation costs. On, the other hand, interest rate risks, which results from fluctuations in interest rates, causes mismatches in terms of bank deposits and loans. As for market risk, the researchers stipulate that firms that assume high levels of market risk and credit risk have higher interest margins. Hanweck and Kilcollin (1984) argue that the profitability of banking increases as interest rate increases since banks' profits are generated from the marginal difference between the yields banks generate on loans and the interest banks pay out to customers. However, when rates rise, this spread increases as extra income positively affects earnings.

3.2. Banks' profitability

The literature divides the determinants of bank profitability into external and internal factors. External determinants of banks' profitability are those variables that are part of the environment in which banks operate.[6] However, internal determinants of bank profitability are those specific factors that are affected by the bank's management decisions and policy actions which eventually affect profitability. This thesis addresses four internal determinants of banks' profitability: credit risk, lending rate, deposits and bank size. External factor, however, are controlled for, since the study is conducted in one country.

An exposure to credit risk is normally associated with a decrease in a bank's profitability. Consequently the quality of loans granted is more important than the volume of loans. Miller and Noulas (1997) note that banks exposed to high risk loans witness an increase in the accumulation of unpaid loans, and thus, their profitability decreases. Risky loans require higher provisions and consequently lower income. Valverde and Fernandez (2007), Molyneux and Thronton (1992) and Kosmidou, Pasiouras and Tsaklanganos (2007) find a negative association between loan loss provisions (LLP) and banks' profitability.

However, Angbazo (1997) reports a positive association between LLP and net interest margin (NIM). Angbazo (1997) argues that banks with riskier loans select higher net interest margins to offset high levels of risk. Similarly, Berger and DeYoung (1997) use skimping hypothesis to explain the positive relationship between provisions for loan losses and bank's profitability. The skimping hypothesis states that banks, in order to maximize long run profits, choose to have lower costs in the short run by skimping on the resources devoted to underwriting and monitoring loans. However, banks bear the consequences of greater loan performance problems. Under the skimping hypothesis

[6] External factors include financial market structure, financial development and other macroeconomics variables that include inflation and GDP growth (Pasiouras and Kosmidou, 2007).

non-performing loans (NPL) are associated with low costs by choosing to exert less effort into loan monitoring and control procedures (Harker and Zenios, 2000).

Lending rate; which is the extent to which banks grant loans relative to their assets is another internal factor that affects bank's profitability. Gul, Irshad and Zaman (2011) find a negative relationship between loan to asset ratio and profitability arguing that banks are exposed to a higher risk when they operate with a high loan to asset ratio which ultimately negatively affects profits. Staikouras and Wood (2003) argue that loans to assets ratio is inversely related to banks' return on assets. These findings imply that banks with a large non-loan earning assets are more profitable than those depending heavily on loans as the main earning asset.

On the other hand,Chaudhry et al. (1995), Chirwa (2003), Angbaso (1997) and Olson and Zoubi (2011) find a positive relationship between lending rate and profitability. Since loans provide the highest return compared to other bank assets; this ratio has a positive effect on banks profitability, as long as the bank is not taking high level of risk.

Naceur and Omran (2011) explain the positive impact of loans over total assets on profitability by arguing that banks cover their greater exposition to risk by increasing margins as loans are the type of assets with the highest operational cost in a bank portfolio; especially in the case of non-performing loans. Louzis et.al (2012) argue that by continuing to hold nonperforming loans or assets that do not generate income, banks are could potentially lose the returns that they would have earned if the loans were collected. The existence of non-performing loans can lead to efficiency problems as banks will be enforced to lend less than what was demanded, this is along other costs that include generating, servicing and monitoring banks loans. Similar results reported by Abreu and Mendes (2001) arguing that banks are able to maintain low levels of non-performing loans, thereby increasing profits and margins. Bourke, (1989) states that a larger share of loans to total asset should imply more interest revenue because of higher risk. Graham and Bordeleau (2010) argue that

profitability is improved for banks holding some liquid assets, however, there is a point at which holding further liquid assets diminishes a bank's profitability.

Customers' deposit mobilization is the first step in the financial intermediation process. Sources of banks' funds include deposits, shareholder equity, and debt instruments. Deposits are the primary and least expensive source of funds. Banks pay interest on deposits, and in return use deposits for revenue-generating operations. Dermine (1986) argues that the financial intermediation theory views banks as pools of liquidity which provide both depositors and borrowers with readily available cash. Loans are the major income generating asset whereas deposits are the major liability. Interest paid on deposits account for a large portion of the banks' expenses. Diamond and Rajan (1999) state that banks perform valuable activities on either side of the balance sheet. Banks make loans to illiquid borrowers and aim to earn an adequate return while maintaining a comfortable surplus of assets beyond liabilities. This tradeoff between bank assets and liabilities has a direct impact on banks' profitability.

Valverde and Fernandez (2007) argue that the effect of deposits on profitability is either positive or negative based on its effect on interest margin. Deposits are a loss product if the bank pays customers an interest rate that is higher than the rate generated from utilizing these deposits into loans. Alternatively, deposits are a leader product if it is efficiently transformed to generate more profit margins.

Abreu and Mendes (2001) find a negative relation between banks' profitability and deposits to assets ratio. The higher the loans relative to deposits, the lower the liquidity required to meet demands from depositors and borrowers. Lower liquidity reduces the flexibility of banks to fulfill their cash obligations when due but yields opportunities for higher profitability. However, higher liquidity increases the cost of funds as banks attract more deposits and that will negatively affect profits.

Deposits have a low interest cost. However, deposits are costly in terms of the required branching network. This liability category does not significantly affect the net interest variable, although there is evidence that it lowers bank profitability. Banks that rely largely on deposits for their funding are less profitable since deposits apparently entail high branching and other types of expenses (Demirgüç -Kunt and Huizinga, 1999).

According to previous literature there is a relation between deposits level and the degree of banks liquidity. The higher the loans relative to deposits, the lower the liquidity, as banks will have insufficient cash to meet random demands from their depositors or borrowers. However, if a bank selects to operate with higher costs by paying higher interest to depositors; especially for the long term time deposits, profitability will decline. This, in fact, is highly presented in Palestine's case where the ratio of deposits to loans reached 56% by the end of 2014; given the increased competition, banks bear high costs as they demand more deposits to achieve higher interest margins. Moulyneux and Thornton (1992) find a negative and significant relationship between liquidity and profitability levels. The fewer the funds tied up in liquid investments, the higher the profitability (Eichengreen and Gibson 2001).

Empirical evidence suggests that bank size accounts for cost differences and risk diversification. Size is found to be positively associated with banks' profitability [Akhavein, Berger, and Humphrey (1997); Bourke (1989); Molyneux and Thornton (1992); Bikker and Hu (2002)]. Other researchers conclude that marginal cost savings can be achieved by increasing bank size (Berger, Hanweck, and Humphrey,1987; Miller and Noulas 1997). Pasiouras and Kosmidou (2007); and Naceur and Goaied (2008) suggest that the effect of banks' size on profitability is positive up to a certain limit; beyond this point the effect of size is negative due to bureaucracy.

A negative relationship between size and profitability may exist if larger size is associated with banks portfolio diversification which leads to lower risk and thus lower returns according to risk-

return trade off (Athanasoglou, Brissimis, and Delis, 2008). Berger (1995) argues that the increase in bank size will not significantly reduce bank costs implying that large banks face scale inefficiencies. Naceur and Goaied (2008) find that size is negatively associated with net interest margin suggesting that inefficiency of large banks adversely affect their performance. Heffernan and Fu (2008) find insignificant relationship between bank size and profitability for 96 Chinese banks over the period 1999-2006.

Table 4 provides a summary for the variables used and results found in the literature concerning the internal determinants of banks' profitability. The literature findings provide the bases for model and variable selection in the next chapter.

Table 7 Summary of the literature findings

Research paper	Sample	Dependent variable	Measure	Independent variable	Effect
Olson and Zoubi (2012)	83 banks/ MENA region	ROA ROE	Size	Ln (Total assets)	+
			Loan specialization ratio	Net Loans / Total Assets	+
			Credit risk	LLP / Net Loans	-
Demirgüç -Kunt and Huizinga (1999)	80 banks/ Europe	ROE	Capitalization	Equity / Assets	+
			Loans to assets ratio	Total Loans / Total Assets	+
				LLP / Net Loans	-
			Credit risk	Deposits / Assets	-
Athanasoglou, et al (2008)	21 banks/ Greece	ROA ROE	Size	Ln (Total Assets)	+
			Liquidity	Loans / Total Assets	+
			Credit risk	LLP / Net Loans	+
Tan and Floros (2012)	101 banks / China	ROA NIM	Size	Ln (Total Assets)	-/+
			Liquidity	Loans / Total Assets	+
			Credit risk	LLP / Total Loans	-/+
			Capitalization	Equity / Assets	+
			Cost efficiency	Overhead Expenses / Total Assets	+
Naceur and Goaied (2008)	10 banks/ Tunisia	ROA NIM	Size	Ln (Total Assets)	-
			Liquidity	Loans / Total Assets	+
			Credit risk	LLP / Total Loans	+
			Capitalization	Equity / Assets	+
Alomar and Almutairi (2008)	7 banks/ Kuwait	ROA	Size	Ln (Total Assets)	+
			Credit risk	Loans / Total Assets	-
			Equity ratio	Equity / Assets	+
			Non interest asset ratio	Non-interest Asset / Total Assets	-
Alkhatib (2012)	5 banks/ Palestine	ROA	Bank size	Log (Total Assets)	+
			Credit risk	Reserves for Doubtful Loans / Total Assets	-
			Operational efficiency	Operating Expenses / Net Interest Income	-
				Operating Income / Total Assets	-
Bayyoud and Sayyad (2012)	14 banks/	ROE	Credit risk	Non-performing Loans	No

	Palestine				effect

Source: Thesis analysis.

Chapter Four

Research design

This chapter identifies the sample, presents the model specification and estimation, and defines the variables used in this analysis.

4.1. Sample

The sample is the population of the 15 banks operating in Palestine that are supervised by PMA; HSBC is excluded from the sample because it did not offer credit facilities (see Table 1). The dataset is a balanced panel over the period 2009 to 2014. Secondary data is collected from the PMA regulation database, the Association of Banks database, the financial statements and notes to financial statements disclosed in banks' annual reports.

4.2. Model

The model examines the internal determinants of banks' profitability as specified in Equation 1.

$$Profitability_{it} = \beta_0 + \beta_1 Credit\ Risk_{it} + \beta_2 Lending\ Rate_{it} + \beta_3 Deposits_{it} + \beta_4 Size_{it} + \epsilon_{it}$$

Equation 1

The dependent variable $Profitability_{it}$ is the profitability of bank i in year t. Three proxies of profitability are used: return on assets (ROA_{it}); return on equity (ROE_{it}); and, net interest margin (NIM_{it}). Four internal bank characteristics are used as the independent variables: credit risk; lending rate; deposits; and, size. Credit risk is measured by loan loss provision (LLP_{it}). Lending rate is measured by asset utilization ratio (AU_{it}). Deposit is measured by the level of deposits to assets ($DEPOSITS_{it}$). Size is measured by bank's assets ($ASSETS_{it}$). β_0 is the constant term. $\beta_1, \beta_2, \beta_3 and\ \beta_4$ are the parameters to be estimated. ϵ_{it} is the error term. Independent variables are

lagged one year when appropriate. Equation 1 is estimated using pooled ordinary least squares (OLS) method.

4.3. Variables

The literature used three indicators of bank profitability; ROA, ROE, and NIM. ROA considers the returns generated from the assets. Pasiouras and Kosmidou, (2007) and Van Horen (2007) argue that ROA is the most useful measure of profitability since assets have a direct effect on both income and expenses. The literature advocates using ROA because it shows the profit earned per unit of assets and reflects management's ability to utilize banks' financial resources to generate profit (Hassan and Bashir, 2003). Furthermore, Rivard and Thomas (1997) argue that ROA is not distorted by higher equity multipliers. ROA in this thesis is defined as profit to total assets.

ROE reflects the capability of a bank in utilizing its equity to generate profits. Though it isn't used as widely as ROA, it is a typical indicator employed in comparing financial performance among banks. Demirgüç -Kunt and Huizing (1999) state that ROE is an equally important measure of profitability. However, Chaudhry, Chatrath and Kamath (1995) note that ROE gives limited insight about a bank's profit and performance, as the true benefit of a high return on equity comes from a company's earnings being reinvested into the business or distributed as a dividend. A bank with a higher equity ratio will have a higher return on assets and a lower return on equity than a bank with a lower equity ratio (Demirgüç -Kunt and Huizinga,1999).In this thesis, ROE is defined as profit over total equity.

NIM measures the profits earned on lending, investing and funding activities. Angbazo (1997) argues that NIM is a function of interest rate risk and an institutional factor which systematically affects bank interest prices as it takes into account the demand for loans and the supply of deposits. Thus NIM reflects both the value and the mix of assets and liabilities required to cover the costs of intermediation. NIM in this thesis is defined as net interest income over average assets.

Credit risk is measured by LLP which is measured by dividing loan provisions over net loans. LLP is expected to be negatively related to profitability since banks that are highly exposed to risky loans witness an increase in the accumulation of unpaid loans and thus their profitability will decrease (Miller and Noulas, 1997). If banks incur higher interest costs in order to have more deposits that are transferred to loans, the interest spread margin will decrease and profits will decrease as well.

Lending rate is measured by AU.[7] This ratio shows the extent to which a bank utilizes its assets to generate interest income. Asset utilization is measured by dividing net loans over total assets and it is expected to be positively related to profitability, since loans provide the highest return compared to other types of assets.

Deposits level shows the value of banks deposits in relation to assets. It is measured by deposits to assets ratio (DEPOSITS) and it is expected to be positively related to profitability, as banks with high deposits value have the advantage of low cost source of funds and accordingly, a source for more interest income if it is used to grant loans. Size, measured by a bank's total assets (ASSETS), is expected to affect profitability either positively or negatively depending on the bank's efficiency in managing larger size. Table 5 summarizes the variables used in the thesis.

Table 8 List of variables

	Variable	Ratio	Notation	Definition
Dependent variables	**Profitability**	Return on assets	ROA	Profit divided by total assets.
		Return on equity	ROE	Profit divided by total equity.
		Net interest income	NIM	Net interest income divided by average assets.
Independent variables	**Credit risk**	Loan loss provision	LLP	Loan provisions over net loans.
	Lending rate	Asset utilization	AU	Total loans over total assets.
	Deposits level	Deposits to assets	DEPOSITS	Total deposits over total assets.
	Bank size	Ln assets	ASSETS	Natural logarithm of total assets.

[7] it is sometimes referred to as liquidity ratio or specialization ratio

Source: Thesis analysis.

Chapter Five

Analysis

This chapter provides descriptive statistics and empirical results. Section 5.1 describes the distribution of the variables and the correlation matrix. Section 5.2 presents the empirical results for the multivariate regressions that examine the impact of banks' internal characteristics on profitability. In all tables ***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

5.1. Descriptive statistics

Table 9 provides summary statistics for the variables. The mean values for ROA, ROE and NIM, are 10.88%, 7.45% and 16.19%, respectively. The values for the three profitability indicators are comparable to banks operating in Jordan. For example, in 2014 the average of the ROE for the banks operating in Palestine was 10.40% compared to 11.10% for banks operating in Jordan. The standard deviation values for ROA, ROE and NIM are 1.16%, 6.64% and 1.15%, respectively. The minimum values for the preceding profitability indicators ranges from -1.02% for ROE to 13.16% for NIM, while the maximum values ranges from 5.03% for ROA to 38.01% for ROE. A possible explanation for the high differences among banks profitability in terms of ROE compared to ROA is the fact that there is a wide range among banks' equity compared to banks assets; equity values range from USD 36 million to USD 280 million, while assets' values range from USD 3 million to USD 124 million.

Table 9 Descriptive statistics

Variable	Min	Mean	Median	Max	Standard deviation
ROA	-0.35%	1.06%	0.98%	5.03%	0.76%
ROE	-0.88%	7.45%	6.26%	38.01%	6.64%
NIM	13.16%	16.19%	14.22%	20.26%	1.15%
LLP	0.00%	2.90%	1.79%	38.00%	4.79%
AU	1.42%	35.65%	34.92%	62.00%	12.93%
DEPOSITS	29.04%	69.27%	73.04%	89.74%	14.66%
ASSETS (USD million)	11.31	19.78	18.89%	29.86	81.38%

Source: Thesis analysis.

As for independent variables, the mean LLP is 2.90% with a standard deviation of 4.79% which is below the regional averages. By the end of 2014, LLP of the Palestinian banking sector amounted to 2.51% compared to 5.62% in Jordan. The mean value of AU is 35.65% with a standard deviation of 12.93%. The average of loan to asset ratio for the Palestinian banking sector in 2014 (42.20%) is close to that in the Jordanian banking sector (43.50%) (ABP,2015). The mean for DEPOSITS is 69.27% with a standard deviation of 14.66%, showing that deposit values are positioned closely around the mean despite the presence of market concentration in deposits market .The mean size of banks operating in Palestine is USD 19.78 million. There are wide variations in banks' sizes as it is evident from the standard deviation of 81.38%.

The correlation between the variables is presented in Table 10. LLP is positively correlated with ROA at 10% level of significance. However, the correlation coefficients between LLP and both ROE and NIM are negative but statistically insignificant. The correlation coefficient between DEPOSITS and ROA is positive but statistically insignificant. However, DEPOSITS is positively related to both ROE and NIM at 1% and 5% levels, respectively. This implies that as banks utilize deposits in granting more loans the interest income generated will be higher since deposits are considered one of the lowest sources of banks funds. Although not statistically significant, AU is positively related to ROA, ROE and NIM. The presence of a positive relationship is expected as loans account for a high portion of banks assets and are the main source of banks interest income. The three profitability variables are all positively correlated with ASSETS at 1% level of significance which is expected as marginal cost savings can be achieved by increasing the size of the bank (Miller and Noulas 1997).

Table 10 Correlation matrix

	ROA	ROE	NIM	LLP	AU	DEPOSITS	ASSETS
ROA	1						
ROE	0.65***	1					
NIM	0.23**	0.42	1				
LLP	0.19*	-0.08	-0.09	1			
AU	-0.06	0.09	0.16	0.12	1		
DEPOSITS	0.04	0.49***	0.22**	-0.16*	0.23**	1	
ASSETS	0.38***	0.85***	0.50***	-0.14	0.15*	0.50*	1

Source: Thesis analysis.

5.2. Regression results

The OLS regression results for the effect of banks' internal characteristics on profitability are presented in Table 11. The standard errors, reported in parentheses, are adjusted to correct for heteroskedasticity and clustered to account for the correlation within banks.

Table 11 Regression results

Independent variable	ROA	ROE	NIM
LLP	0.05***	0.19***	-1.18*
	(0.01)	*(0.04)*	*(0.57)*
AU	-0.01	-0.08**	1.37***
	(0.01)	*(0.03)*	*(0.38)*
DEPOSITS	-0.02***	-0.08**	0.40
	(0.01)	*(0.03)*	*(0.36)*
ASSETS	0.01***	0.07***	1.07***
	(0.00)	*(0.01)*	*(0.08)*
Constant	-0.10***	-1.31***	-5.88***
	(0.02)	*(0.15)*	*(1.42)*
Time effects	*No*	*No*	*No*
N	90	90	90
R^2	30%	75%	92%

Source: Thesis analysis.

When ROA and ROE are used as proxies for profitability, contrary to expectations the coefficients on LLP are positive and statistically significant from zero at 1% level. The size of the coefficients implies that a 1% increase in LLP leads to a 0.05% and 0.019% increase in ROA and ROE, respectively. This finding is consistent with skimping hypothesis of Berger and DeYoung's (1997) which states that banks maximize the long run profits by choosing to have lower costs in the short run. This is achieved by skimping on the resources devoted to underwriting and monitoring loans. However, banks bear the consequences of greater loan performance problems. Another explanation for the positive relationship between LLP and profitability arises from the fact that provisions

accounts for only a small portion of total loans. The percentage of nonperforming loans to the total loans in Palestine for 2014 is 2.6% compared to 6.5% in the MENA region (PMA, 2014).

However, when NIM is used as the dependent variable, the coefficient on LLP is negative and statistically significant at 10% level. This finding is consistent with Kosmidou et al. (2007) and Millar and Noulas (1997). When financial institutions are exposed to high risk loans, the perceived increase in the accumulation of unpaid loans, and consequently the higher the provisions, will lead to lower profits.

The coefficient on AU is statistically insignificant from zero when ROA is the dependent variable. However, the coefficient on AU is negatively associated with ROE at 5% level of significance. The size of the coefficient indicates that for each 1% increase in AU, ROE decreases by 0.08%. Contrary to expectations, the negative sign of this variable reveals that a higher loan-to-total assets ratio may not necessarily lead to a higher level of profits.

When NIM is used as the dependent variable, the coefficient on AU is positive and statistically significant from zero at 1% level. The size of the coefficient implies that each 1% increase in AU is associated with 1.37% increase in NIM. This result is consistent with expectations as loans are the main source of banks interest income. However, this association may reflect incautious lending processes and thus banks seem to be able to maintain low levels of non-performing loans, thereby increasing profits and margins [Abreu and Mendes (2001), Nacuer (2003) and Bourke (1989)].

Contrary to expectations, DEPOSITS are negatively associated with banks' profitability when measured by ROE and ROA. The coefficients indicate that for each 1% increase in deposits to assets, ROE and ROA decrease by 0.08% and 0.02%, respectively. This result link banks' profitability with liquidity levels; as more deposits are tied into loans, lower liquidity is introduced. Although lower liquidity yields opportunities of higher profits, it still limits banks ability to cover unforeseen fund

requirements. This result is consistent with Arebu and Mendes (2001). However, DEPOSITS has insignificant impact on NIM which is inconsistent with Baum et.al (2008).

The results show a positive and a statistically significant relationship between bank size and profitability. The coefficients on ASSETS are positive and statistically significant from zero at 1% level, indicating that for each 1% increase in size, ROE and ROA will increase by less than 1% while NIM will increase by 0.0107%. This result is consistent with expectations as larger size enables banks to exercise the benefits of economies of scale, marginal cost savings and risk diversification [Akhavein et al. (1997); Bourke (1989); Molyneux and Thornton (1992); Bikker and Hu (2002); and Goddard et al (2004)].

The value of the R^2 using ROA as the dependent variable is 30% while the other two models proved to be more predictive in explaining the variations in ROE and NIM across banks with R^2 values of 75% and 92%, respectively.

Chapter Six

Conclusion

Policy makers have interest in maintaining a stable banking sector as banks play a key role in economic growth through facilitating the flow of funds towards various sectors of the economy. Stability requires sufficient banking profitability. A prerequisite to formulating effective banking policies is thus to understand the determinants of bank profitability.

Using bank-level data for fifteen banks operating in Palestine over the period of 2009–2014, the thesis examines the effect of banks' internal characteristics on profitability. In particular, the thesis assesses the extent to which credit risk, lending rate, deposits and bank size affect banks' profitability as measured by ROA, ROE and NIM.

The results of pooled OLS regression suggest that deposits, rate of lending, and bank size are positively related to banks' profitability. However, high exposure to credit risk negatively affects banks' profitability.

Based on these results, several implications emerge for enhancing the performance of banks in Palestine. Banks can adopt policies to attract deposits at lower costs to reduce the costs associated with other sources of funds. As higher lending rates are associated with higher profits; banks need to select the optimal level of credit to boost their profitability. Credit registries are essential for banks' ability to assess loan quality. Banks can improve their ability to manage credit risk by adopting risk mitigation techniques to reduce the percentage of nonperforming loans. Further, banks operating in Palestine could penetrate the market further by expanding their branching network to widen their customers' portfolio which enables banks to exercise the benefits of larger size as a result of economies of scale.

Limitations of this thesis are associated with sample size, and data unavailability. The database of PMA and ABP cover post 2009. Longer periods are associated with better regression estimates and more generalizable results. The absence of data prior to 2009 hinders the examination of the impact of the Instruction number (5) for the year 2008 which limits foreign investment on banks' performance. Further, any published data before the year 2009 is available in the form of aggregate figures. The data on public sector loans is published as a total of loans granted to Palestinian authority and its ministries without specifications about the amount of loans targeted to public sector employees in each economic sector. The absence of such data impedes necessary analysis on the impact of public lending on the performance of banks operating in Palestine.

This study paves the way for further research analyzing bank performance. A regional perspective that incorporates internal and external determinants of banks operating in the Middle East is warranted. The current analysis focuses primarily on earnings as a measure of performance. A broader view of the performance that considers market measures adds further evidence on the determinants of banks' performance. Further, the effect of foreign ownership on the performance of domestic banking is critical given that 56% of banks operating in Palestine are foreign.

Appendixes

Appendix 1 Number of branches per bank

Bank	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	42	46	48	48	54	29%
AlQuds Bank	17	21	22	22	27	59%
Palestine Investment Bank	13	13	13	13	14	8%
National Bank	5	6	6	7	9	80%
Palestine Commercial Bank	6	6	6	7	7	17%
Arab Bank	22	24	26	26	27	23%
Cairo Amman Bank	18	21	21	21	21	17%
Bank of Jordan	13	14	15	16	17	31%
Housing Bank	12	12	12	12	13	8%
Jordan Ahli Bank	5	5	5	5	5	0%
Jordan Commercial Bank	3	4	4	4	5	67%
Jordan Kuwait Bank	2	2	2	2	2	0%
Egyptian Arab Land Bank	6	6	6	6	6	0%
Arab Islamic Bank	10	10	10	10	11	10%
Palestine Islamic Bank	15	15	15	16	19	27%
Total	**189**	**205**	**211**	**167**	**237**	**25%**

Source: Thesis analysis.

Appendix 2 Number of employees per bank

Bank	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	943	1,061	1,139	1,212	1,280	36%
AlQuds Bank	353	448	450	468	561	59%
Palestine Investment Bank	221	234	227	218	235	6%
National Bank	111	156	208	247	293	164%
Palestine Commercial Bank	137	143	148	165	170	24%
Arab Bank	753	849	839	846	887	18%
Cairo Amman Bank	588	573	571	572	557	-5%
Bank of Jordan	396	338	339	345	323	-18%
Housing Bank	254	239	232	241	249	-2%
Jordan Ahli Bank	121	128	134	134	147	21%
Jordan Commercial Bank	47	60	69	76	91	94%
Jordan Kuwait Bank	32	32	33	32	32	0%
Egyptian Arab Land Bank	125	128	129	134	134	7%
Arab Islamic Bank	224	243	253	264	314	40%
Palestine Islamic Bank	345	320	349	397	461	34%
Total	**4,650**	**4,952**	**5,120**	**5,351**	**5,734**	**23%**

Source: Thesis analysis.

Appendix 3 Profit market share per bank

Bank	2009	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	27.59%	20.62%	25.78%	30.91%	27.92%	27.21%	7.23%
AlQuds Bank	2.60%	3.01%	3.48%	2.63%	3.27%	4.89%	21.99%
Palestine Investment Bank	2.85%	1.07%	1.94%	1.47%	1.35%	1.91%	-0.68%
National Bank	1.80%	0.14%	0.43%	1.63%	2.49%	3.00%	19.08%
Palestine Commercial Bank	1.95%	1.23%	0.45%	0.05%	0.08%	0.81%	-9.75%
Arab Bank	34.44%	53.55%	42.54%	37.75%	40.67%	33.91%	7.19%
Cairo Amman Bank	5.74%	6.78%	8.93%	6.69%	5.17%	6.69%	10.89%
Bank of Jordan	7.58%	3.25%	4.34%	5.12%	3.45%	3.83%	-6.19%
Housing Bank	3.42%	2.14%	2.39%	3.91%	4.50%	4.69%	14.50%
Jordan Ahli Bank	2.24%	2.29%	1.67%	3.14%	2.50%	2.53%	10.20%
Jordan Commercial Bank	4.46%	1.23%	3.11%	0.82%	0.96%	2.67%	-2.92%
Jordan Kuwait Bank	-0.31%	1.31%	0.15%	0.59%	0.70%	0.27%	-204.42%
Egyptian Arab Land Bank	4.31%	0.74%	1.06%	0.06%	0.02%	-0.31%	-163.54%
Arab Islamic Bank	0.97%	1.55%	0.67%	0.52%	2.42%	2.79%	32.74%
Palestine Islamic Bank	0.36%	1.09%	3.06%	4.70%	4.51%	5.10%	82.66%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Source: Thesis analysis.

Appendix 4 Deposit market share per bank

Bank	2009	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	16.50%	18.70%	18.83%	21.03%	21.21%	23.27%	15.15%
AlQuds Bank	3.52%	4.60%	4.91%	4.78%	5.11%	5.83%	18.95%
Palestine Investment Bank	2.13%	2.34%	1.98%	2.06%	2.21%	2.25%	8.70%
National Bank	1.28%	1.20%	1.88%	2.92%	3.68%	4.67%	39.22%
Palestine Commercial Bank	1.43%	1.66%	1.67%	1.67%	1.90%	1.91%	13.93%
Arab Bank	36.70%	35.97%	36.77%	34.61%	33.18%	30.16%	3.37%
Cairo Amman Bank	9.78%	9.74%	9.07%	8.04%	7.55%	6.99%	0.52%
Bank of Jordan	8.19%	7.69%	7.04%	6.37%	6.07%	5.40%	-1.06%
Housing Bank	5.41%	5.16%	5.08%	5.14%	5.19%	5.03%	5.97%
Jordan Ahli Bank	2.57%	2.47%	2.33%	2.32%	2.19%	2.06%	2.86%
Jordan Commercial Bank	0.77%	0.76%	0.80%	0.88%	0.90%	0.93%	11.80%
Jordan Kuwait Bank	0.81%	0.68%	0.75%	0.68%	0.66%	0.63%	2.15%
Egyptian Arab Land Bank	1.31%	1.27%	1.10%	1.02%	1.03%	0.91%	-0.11%
Arab Islamic Bank	4.76%	3.46%	3.43%	3.93%	4.27%	4.80%	7.72%
Palestine Islamic Bank	4.85%	4.30%	4.38%	4.54%	4.85%	5.14%	8.79%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Source: Thesis analysis.

Appendix 5 Loan market share per bank

Bank	2009	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	16.39%	19.42%	20.74%	23.83%	23.59%	23.99%	27.39%
AlQuds Bank	5.78%	7.09%	8.31%	7.15%	6.69%	7.00%	22.64%
Palestine Investment Bank	3.87%	3.40%	2.27%	2.32%	2.31%	2.13%	4.72%
National Bank	2.19%	1.53%	2.20%	3.49%	5.31%	6.22%	45.47%
Palestine Commercial Bank	1.53%	1.76%	1.63%	1.81%	2.31%	2.68%	32.12%
Arab Bank	34.58%	34.63%	34.81%	31.00%	28.01%	26.40%	11.83%
Cairo Amman Bank	9.00%	8.49%	7.60%	6.49%	6.25%	6.18%	9.51%
Bank of Jordan	5.13%	4.58%	4.53%	3.38%	3.81%	2.94%	5.61%
Housing Bank	6.33%	4.40%	3.22%	5.12%	5.01%	4.31%	9.28%
Jordan Ahli Bank	3.15%	2.19%	1.77%	2.41%	2.59%	2.46%	12.41%
Jordan Commercial Bank	1.13%	0.85%	1.15%	1.25%	1.14%	1.13%	18.12%
Jordan Kuwait Bank	0.06%	0.08%	0.10%	0.35%	0.32%	0.27%	58.82%
Egyptian Arab Land Bank	2.22%	2.71%	2.44%	2.10%	1.96%	1.79%	13.08%
Arab Islamic Bank	4.40%	2.78%	3.84%	4.19%	4.45%	5.15%	21.80%
Palestine Islamic Bank	4.24%	6.10%	5.40%	5.11%	6.26%	7.35%	31.76%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Source: Thesis analysis.

Appendix 6 Assets market share per bank

Bank	2009	2010	2011	2012	2013	2014	CAGR
Bank of Palestine	16.87%	18.19%	18.47%	20.98%	28.17%	21.44%	13.60%
AlQuds Bank	4.34%	5.02%	5.22%	5.03%	6.38%	5.92%	15.18%
Palestine Investment Bank	3.23%	3.12%	2.72%	2.71%	3.46%	2.84%	5.49%
National Bank	2.14%	1.86%	2.76%	3.67%	6.35%	6.01%	33.12%
Palestine Commercial Bank	1.74%	2.02%	1.88%	1.95%	2.85%	2.47%	16.17%
Arab Bank	33.61%	33.05%	34.55%	31.30%	37.44%	27.32%	3.88%
Cairo Amman Bank	10.30%	9.37%	8.62%	7.89%	9.55%	7.41%	1.36%
Bank of Jordan	7.58%	6.98%	6.28%	5.85%	7.11%	5.01%	-0.30%
Housing Bank	5.34%	4.98%	4.87%	5.47%	6.98%	5.08%	7.18%
Jordan Ahli Bank	2.71%	2.75%	2.59%	2.53%	3.17%	2.39%	5.58%
Jordan Commercial Bank	1.32%	2.02%	1.55%	1.67%	1.87%	1.48%	10.77%
Jordan Kuwait Bank	1.18%	1.31%	1.15%	1.18%	1.40%	1.10%	6.63%
Egyptian Arab Land Bank	1.84%	1.75%	1.59%	1.44%	1.78%	1.32%	1.32%
Arab Islamic Bank	3.86%	3.36%	3.35%	3.91%	5.64%	4.97%	13.86%
Palestine Islamic Bank	3.94%	4.21%	4.38%	4.43%	6.03%	5.26%	14.75%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	

Source: Thesis analysis.

References

Abreu, M., and Mendes, V. (2001). Commercial bank interest margins and profitability: Evidence for some EU countries. Pan-European Conference IEFS-UK and University of Macedonia Economic and Social Sciences, Thessaloniki, Greece.

Arif, A. and Nauman A. (2012). Liquidity risk and performance of banking system. Journal of Financial Regulation and Compliance, 20(2), 182-195.

Akhavein, D., Berger, N., and Humphrey, B. (1997). The effects of megamergers on efficiency and prices: Evidence from a bank profit function. Review of industrial Organization, 12(1), 95-139.

Alomar,H. and Almutairi, A. (2008), Banks specific determinants of profitability: The case of Kuwait. Journal of Economic and Administrative Sciences, 24(2), 20-34.

Alkhatib A., (2012). Financial performance of Palestinian commercial banks. International Journal of Business and Social Science, 3(3), 175-184.

Allen, L. (1988). The determinants of bank interest margins: A note. Journal of Financial and Quantitative analysis, 23(02), 231-235.

Angbazo, L. (1997). Commercial bank net interest margins, default risk, interest-rate risk, and off-balance sheet banking. Journal of Banking and Finance, 21(1), 55-87.

Association of Banks in Palestine, (http://www.abp.ps/).

Athanasoglou, P., Brissimis, N., and Delis, D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. Journal of International Financial Markets, Institutions and Money, 18(2), 121-136.

Baum, F., Caglayan, M., Schäfer, D., and Talavera, O. (2008). Political patronage in Ukrainian banking. Economics of Transition, 16(3), 537-557.

Bayyoud, M. and Sayyad, N. (2015). The relationship between credit risk management and profitability between investment and commercial banks in Palestine. International Journal of Economics and Finance, 7(11), 12-24.

Basel Committee on Banking Supervision. (2001), The new Basel capital accord: An explanatory note. BCBS, available at: www.bis. org/publ/bcbsca01.pdf

Basel Committee on Banking Supervision (2004). Internal convergence of capital measurement and capital standards: A revised framework. BIS, available at: www.bis.org/publ/bcbs107a.pdf

Basel committee on banking supervision (2006). International convergence of capital measurement and capital standards: A revised framework. BIS, available at: www.bis.org/publ/bcbs107a.pdf

Berger, N., Hanweck, A., and Humphrey, B. (1987). Competitive viability in banking: Scale, scope, and product mix economies. Journal of Monetary Economics, 20(3), 501-520.

Berger, N., and Mester, L., (1997). Inside the black box: What explains differences in the efficiency of financial institutions. Journal of Banking and Finance, 21(1), 895–947.

Berger, N. (1995). The relationship between capital and earnings in banking. Journal of Money, Credit and Banking, 27(2), 432-456.

Berger, N., and DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. Journal of Banking and Finance, 21(6), 849-870.

Bikker, A., and Hu, H. (2002). Cyclical patterns in profits, provisioning and lending of banks and procyclicality of the new Basel capital requirements. Banca Nazionale del Lavoro Quarterly Review, 55(221), 143-145.

Bourke, P. (1989). Concentration and other determinants of bank profitability in Europe, North America and Australia. Journal of Banking and Finance, 13(1), 65-79.

Boyd, H., and De Nicolo, G. (2005). The theory of bank risk taking and competition revisited. Journal of Finance, 60(3), 1329-1343.

Brodley, F. (1990). Antitrust law and innovation cooperation. Journal of Economic Perspectives, 4(3), 97-112.

Chaudhry, M., Chatrath, A., and Kamath, R. (1995). Determinants of bank profitability. American Journal of Business, 10(1), 41-46.

Dermine, J. (1986). Deposit rates, credit rates and bank capital: The Klein-Monti model revisited. Journal of Banking and Finance, 10(1), 99-114.

Demirgüç-Kunt, A., and Huizinga, H., (1999). Determinants of commercial bank interest margins and profitability: Some international evidence. World Bank Economic Review, 13(5), 379–408.

Diamond, W., and Rajan, G. (1999). Liquidity risk, liquidity creation and financial fragility: A theory of banking (No. w7430). National Bureau of Economic Research.

Gul, S., Irshad, F., and Zaman, K. (2011). Factors affecting bank profitability in Pakistan. Romanian Economic Journal, 39(14), 61-89.

Hanweck, A., and Kilcollin, E. (1984). Bank profitability and interest rate risk. Journal of Economics and Business, 36(1), 77-84.

Harker, T., and Zenios, A. (2000). Performance of financial institutions: Efficiency, innovation, regulation. Cambridge University Press, 15-19.

Harvey, D. (1989). The condition of postmodernity an enquiry into the origins of cultural change, Blackwell publishers, Cambridge MA and Oxford UK, 101-121.

Heffernan, S. and Fu, M., "The Determinants of Bank Performance in China", SSRN working paper series, 25th August 2008.

Ho, S., and Saunders, A. (1981). The determinants of bank interest margins: Theory and empirical evidence. Journal of Financial and Quantitative analysis, 16(4), 581-600.

Imbierowicz ,B and Rauch,C. (2014). The relationship between liquidity risk and credit risk in banks. Journal of Banking and Finance, 40(1), 242-256.

International Monetary Fund, (2011). Regional Economic Outlook: Middle East and Central Asia, World Economic and Financial Surveys (Washington).

Kosmidou, K., Pasiouras, F., and Tsaklanganos, A. (2007). Domestic and multinational determinants of foreign bank profits: The case of Greek banks operating abroad. Journal of Multinational Financial Management, 17(1), 1-15.

Louzis, P., Vouldis, T., and Metaxas, L. (2012). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. Journal of Banking and Finance, 36(4), 1012-1027.

Maudos, J., and De Guevara, F. (2004). Factors explaining the interest margin in the banking sectors of the European Union. Journal of Banking and Finance, 28(9), 2259-2281.

Miller, M., and Noulas, G. (1997). Portfolio mix and large-bank profitability in the USA. Applied Economics, 29(4), 505-512.

Molyneux, P., Thornton, J., (1992). The determinants of European bank profitability: A note. Journal of Banking and Finance, 16(1), 1173-1178.

Naceur, B. and Omran, M., (2011). The effects of bank regulations, competition, and financial reforms on banks' performance. Emerging Market Review, 12(2), 1-20.

Naceur, B., and Goaied, M. (2008). The determinants of commercial bank interest margin and profitability: evidence from Tunisia. Frontiers in Finance and Economics, 5(1), 106-130.

Palestinian Bureau of Statistics, (http://www.pcbs.gov.ps).

Palestine Monetary Authority, (http://www.pma.ps).

Pasiouras, F., and Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. Research in International Business and Finance, 21(2), 222-237.

Pyle, H. (1971). On the theory of financial intermediation. Journal of Finance, 26(3), 737-747.

Ramallah Municipality, (http://www.ramallah.ps/).

Saunders, A., and Schumacher, L. (2000). The determinants of bank interest rate margins: an international study. Journal of International Money and Finance, 19(6), 813-832.

Staikouras, C., and Wood, G. (2003). The determinants of bank profitability in Europe. European Applied Business Research Conference, Venice (Vol. 913).

Valverde, S and Fernandez, F., (2007). The determinants of bank margins in European banking. Journal of Banking and Finance, 31(19), 2043-2063.

Van Horen, N. (2007). Foreign banking in developing countries; origin matters. Emerging Markets Review, 8(2), 81-105.

White, L. J. (1987). Antitrust and merger policy: A review and critique. Journal of Economic Perspectives, 1(2), 13-22.

Tan, Y. and Floros C., (2012), Bank profitability and inflation: The case of China, Journal of Economic Studies, 39 (6), 675-696.