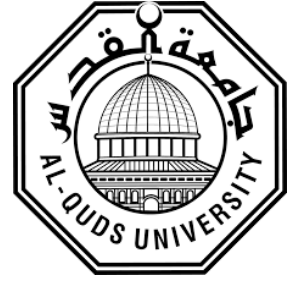


**Deanship of Graduate Studies**

**Al – Quds University**



**Determinants of Profitability for Banks Operate in Palestine**

**Ibrahim Omar Abdul-Aziz Eriqat**

**M.Sc. Thesis**

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# **Determinants of Profitability for Banks Operate in Palestine**

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A thesis submitted in partial fulfillment of requirement for the degree of Master of Accounting and Taxation.

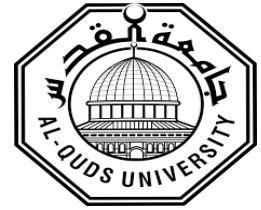
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**2020/1441**

## **Dedication**

I dedicate my dissertation work to my family and friends. A special feeling of gratitude to my loving parents Omar and Suheir for their constant support and encouragements. My thanks extend to my sisters and brothers who have never left my side and are very special.

I also dedicate this dissertation to bank of Palestine family who has supported me throughout my study. I always appreciate all they have done, especially the human resources department who provided me the approval to complete my study. I dedicate this work to Al-Quds University and its overall staff, especially the Economic and Administration Faculty staff, for helping me to develop my academic experience. Special thanks to my classmates for their being with me throughout the entire master program.

**Declaration:**

I Certify that this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed: .....  


**Ibrahim Omar Abdul-Aziz Eriqat**

**Date: 11/01/2020**

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## **Abstract:**

This research aims to study the determinants that impact the profitability of banks in Palestine in two ratios (ROA and ROE) over the periods of (2014-2018). It is crucial to mention that variables in this study are categorized into two groups: firstly, internal (bank specific determinants) which are selected in this study as follows: bank size, capital adequacy ratio (CAR), credit risk (CR), management efficacy (E) and liquidity (L). Secondly, external (macroeconomic determinants) which are the annual growth rate (GDP) and inflation rate.

This study depends on secondary data that published on Palestinian Monetary Authority (PMA) website as data source for banks specific determinants while economic trend, PMA website and Palestinian Central Bureau of Statistics are used to collect information about the annual inflation rate and annual growth rate (GDP).

After collecting data, the study used OLS assumption and two separate regression models, which includes two separate equations in the analyzing phase. Furthermore, as to the effect of internal determinants, the results reflect that all of internal determinants except of capital adequacy ratio are statistically significant and associated to banks profitability. Each of credit risk, management efficiency, and liquidity ratios are negatively associated to profitability, on the other hand the size determinant reflects positive effect on profitability in accordance to ROA ratio measure. In terms of ROE the results showed that only the size ratio and credit risk ratio are significant and associated to profitability. Besides, there is no evidence found that inflation rate and GDP are determinants for profitability, both proxies appear to be insignificant.

This study proposes some recommendations to enhance the profitability of banks in Palestine which can be summarized as follows: 1- Growing in assets must be followed in a full exploited of resources. 2- Banks management need to focus on both of quality and quantity of loans and other granted credits for the purpose to reduce the provisions amount. 3- Banks management should efficiently seek out the optimal cost function to reduce costs as possible. 4- Attracting more deposits enhance banks profitability due to their responsibility about enhancing different banks credit activities that positively related with profits.

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# Chapter One

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## 1. Introduction

### 1.1 Introduction:

Banks are highly regulated in most countries that started in the year 2000 B.C from the very early times of the ancient Greece to modern world. A bank is defined as a financial institution that accepts deposits from the audience and creates credit. This assisted to play crucial role in the financial stability in their countries; such activities can be performed either directly or indirectly through capital market (Pilkington 2014).

Banks are profitable institutions that provide several services and play important roles in supporting countries economics. After viewing several literatures, the most important ratios that are used as a proxy to determine the bank profitability are:

1. Return on average assets (ROAA).
2. Return on average equity (ROAE).

The above mentioned can used as indictors to measure banks profitability (Petria et al., 2014).

In addition to the scales mentioned above, it is worth mentioning that two main factors affect the profitability including:

1. Bank specific factor (industry related factor).
2. Macroeconomic factor.

Bank specific factors consist from profit involve in capital ratio, bank size, lone, deposits, management efficiency, business mix, liquidity risk, credit risk and banking system.

Macroeconomic factors are affected by growth rate, interest rate, inflation (Zhang and Dong, 2011) and other determinants that will be studied and analyzed in Palestine banks market and economy.

During the last year's Palestinian banks market have witnessed significant changes, the Palestinian commercial bank (CPB) has been fully sold and merged to bank of Palestine. On the other hand, the Palestinian Islamic bank (IPB) has been partially sold to bank of Palestine (BOF) by 52% of bank shares (PMA, web). Moreover, during 2015, the National bank acquired on the Union bank according to combination strategic agreement, in addition the recent combination strategy in 2018 conducted between Al-Quds bank and Jordan Kuwait bank at which under it, Jordan Kuwait bank is a new partner to Al-Quds bank by 10 percent. Last but not least the HSBC bank exit from Palestinian banking market and other one entered as a new bank "Al- Safa bank". All of these changes and new strategies lead to shrinking in the number of banks to be fourteen banks only according to 2018 annual reports compared to seventeen working banks at 2014.

It is worthy to highlight the effect of the political situation and Palestinian economic arguments on the monetary policy and banking market, in the absence of local currency Palestinian banks market is lack to independent monetary policy.

## **1.2 Significance of the study:**

Previous empirical researches investigated the determinants of banks profitability on different levels and directions. The main direction of interest of this thesis is to build an effective model that incorporates macroeconomic and bank- specific determinants in unusual business environment. in this regard, the significance of this study lies beneath the uniqueness of the case study giving the fact that Palestine is one of the few places in the world which is under occupation whereas the lack of political stability and sovereignty affects tremendously on the

Palestinian economy. Besides, this study also intensively focused on bank specific determinants, which include five crucial determinants.

The first one is the credit risk which represents one of the largest risks that face banks and restrict their profits. Liquidity is another financial risk that essentially responsible about banks abilities to fulfill its obligations and funding their credit and investment activities. In addition to size, efficacy ratio and capital adequacy ratio which are bank specific variables that will be studied in this research.

This thesis exceeds existing studies in Palestine; whereas no previous studies have considered a comprehensive framework of macroeconomic and bank-specific determinants in Palestinian banking market for the recent period. This study is important for the banks since it can be helpful to create awareness towards improving their profitability, in addition to that this study could be beneficial to policy makers in the Palestinian monetary authority and the Palestinian government since this study is providing some important guidelines and recommendations regarding banking policy.

### **1.3 Problem statement:**

Banks operates under the pressure of several financial, non-financial and operational risks such as credit risk, liquidity risk and so on. Whereas, banks have to bear a degree of risk that could deteriorate banks' earning, in addition there were many of other determinants that will be lately discussed, are highly interdependent with banks profitability. Therefore, analyzing banks profitability becomes a substantial issue for bank management (Chen et al., 2013).

In order to manage the relation between these determinants and bank profitability efficiently, banks should well understand the impact of each determinant on profitability. Furthermore, banks are considered as the most important financial institutions in the country and play crucial role in growth and development of a country economy. Hence, economies with profitable and sound banking sector are more able to face financial crises shocks (Tafri et al., 2009).

The main aim of this study is to identify the factors that determine banks profitability in Palestine by examine the effect of each one of them on profitability, and to provide information about these determinants that influence profitability.

Figure (1.1) shows the trend of banks profitability on dependence on ROA ratio. After viewing the financial reports for Palestinian banking market (PMA) over the period of 2014 to 2018, it was noted that the highest ROA ratio reflected at 2014, while a negative deviation in ROA ratio was noted over the periods between 2015 to 2017, (*review appendix (6.3) page 53 for more details about banks assets*),. Finally in 2018 a minor growth in ROA ratio was showed by 0.04% compared to the prior period as shown in figure (1.1):

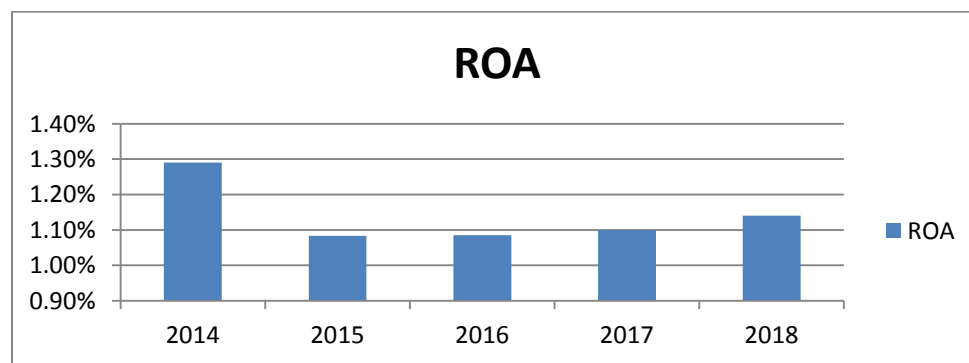


Figure (1.1) ROA trend for the periods of 2014-2018

## 1.4 Study questions:

In order to extend prior researches and to satisfy the purpose of this thesis the following research questions are defined:



**Main question:**

What are the determinants that have a major effect on banks profitability?

Moreover, the relationships between determinants and banks profitability could have been identified during this period. Those impacts and relations also very interesting and valuable, further that the following **sub questions are defined:**

- Bank-specific determinants:

Q1. Does the bank size significantly affect bank profitability?

Q2. Does the credit risk significantly affect bank profitability?

Q3. Dose the liquidity ratio significantly affects bank profitability?

Q4. Dose the capital adequacy ratio significantly affect bank profitability?

Q5. Dose the management efficiency ratio significantly affect bank profitability?

- Macroeconomic determinants:

Q6. Dose the growth rate significantly affect bank profitability?

Q7. Dose the inflation rate significantly affect bank profitability?

**1.5 study objectives:**

The main objective of this thesis is to offer more evidence on which determinants have essential contribution and effect on banks profitability.

**Other specific objectives:**

1. Examine the trend of performance for Palestinian banks over the period of 2014-2018.
2. Examine the internal determinants of banks profitability that affect Palestinian banks.
3. Examine the macroeconomic factors that affect banks profitability.
4. Discuss the singed economic Palestinian arguments and their effects on banking market.
5. Review the Palestinian monetary policy and their effect on banking market.

## Chapter Tow

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### 2. Background

#### 2.1 Palestinian banking system:

In 1994, the Paris protocol was signed by Palestinian Liberation Organization for the purpose to regulate the economic relationship between Israel and Palestine. So the Palestinian monetary authority (PMA) was established to organize Palestinian banking system and the economic relations with Israeli side. In all other world countries, banking system operates under central bank rules and policies, in Palestine with occupation circumstances PMA has less power to monitor banking system and still lack to own its sovereign currency (Awartani, 2016).

In other countries, Central bank plays important roles to maintain sound banking system. The efforts of the central bank are directed to encouraging banking market through increasing transparency between borrowers and lenders, supervision of the financial institution and regulate banks operation to conform with international regulation (Basel convention instructions), advisory role to jurisdictions to formulate macro prudential polices to avoid any negative effect on banking market and local economy that might raise from specific situation like economic depression, and other efforts to keep monetary policy on the right line to achieving desired objectives(Cunningham and Friedrich, 2016). However, PMA trying to fulfills such responsibilities but with limited scope and authorities, the PMA main objective is to maintain financial stability in Palestinian banking sector and local economy, as well as to preparer it with enough ability to face any potential risks that will negatively affect these stability (Association of Palestinian Banks reports, web).

It is worthy to note that stability also subjected to political situation, the first “intifada” in 1987, and second “intifada” in 2000 as well as Gaza wars in 2008, 2012 and 2014 have a huge effect on the Palestinian economy and banking sector. The political situations comprise ongoing threats to bank and investment environment that may cause unexpected hits to Palestinian economy, like the recent one “governmental employees’ salaries crisis” that started from February, 2019.

## **2.2 Establishments of BASEL conventions for banks and capital adequacy ratio (CAR):**

Debt international crisis at the first of the eighties of the last century is the main reason to increase interest about capital adequacy for banks. Technological development, economic development, increasing competition and cross borders financial transaction lead to increase the type and amount of risk that face banks globally, the effects of these crisis highly concentrated at 1974, at which bankruptcy to some banks like “Herstatt bank” in Germany and “Franklin national bank” in the United States lead to damage for banking sector at international manner specially for banks that depend on international transaction (Hamid, 2005).

All of these circumstances increase since for the large countries to take action to rescue their economics from financial losses and crises; as a result Basel committee for banking monitoring was born at 1974, as (Ayash, 2007) noted in his thesis, Basel committee defined as advisory committee that based in its establishment on the decision of the biggest tenth industrial countries central bankers and hold meeting every four years to discuss banks monitoring aspects and issues. This committee was built cornerstone for issuance international framework for monitoring banking system and make cooperation between governments to face credit risks and maintain their economics away from financial crises (Ayash, 2007).

In 1988, the first standard was issued from Basel committee named Cooke ratio or capital adequacy ratio (CAR) for banks to make its ready to face risks that arise from different banking operation like credits, deposits and others (Sardi, 2004).

In the extended period from 1999 to 2004, Basel convention two was conducted, this convention considered as extension to Basel one, to keeping abreast of development in banking sector. Basel two focused on capital adequacy requirements and revision calculation of risk weighted assets for credit risk, on other hand concern for another type of risk that not included on Basel one, was operation risk to support banks abilities to avoid operational losses as much as possible.

Another aspect that have been focused on in Basel two, is increase risk transparency and disclosure, and activate central banks and governments roles to encourage compliance with Basel standards and rules (Kamal, 2007).

Financial crisis that incurred in 2007 is the main reason for emerged international agreement “Basel convention number three”. As (Thakor, 2015) discussed in his article that named “The Financial Crisis of 2007–2009: Why Did It Happen and What Did We Learn?” many pre-crisis condition work as triggers for this crisis, began from U.S housing market, the first sign at early 2007 related to high mortgage risk and risky borrowers, another one at the same period is ABX index that register higher expectation about default risk.

While the real danger alarm was ringed when most people agree that crisis began at august 2007, investors began withdraw their funds from several markets that directly effect on liquidity which made it worse. Furthermore, the housing price bubble has burst during the crisis influenced with large subsequent declining in housing market prices (Thakor, 2015).

In 2009, financial crisis was shrinking with combining efforts and cooperation between countries and their central banks. All of these circumstances shape a hard lesson for the entire world and lead to increase the need to international cover and protection from similar crisis represented in Basel convention three that was hold at September 2010 to regulate international banking system operation.

Basel three focused on three dimensions: first, increase banks compliance with agreement instructions and made modification on banks' capital components. Second, increase capital adequacy ratio to be 13 percent (including new ratio named conservation buffer). Third, liquidity risk and leverage ratio have been added to be concern for the purpose to strengthen capitals for banks and maintain sound banking system (Committee, 2010).

## **2.3 bank profitability:**

Recognizing and understanding the underling concepts and definitions of the factors that influence banks operation and profitability is essential, in order to reach to sufficient results and analyses. Hence, under this title the theoretical frame work, is to describe the indicators that could influence banks profitability.

### **2.3.1 Bank's profitability indicators:**

Financial ratios used as indicators to analyze business profitability, so the user of financial information could use 21 different financial ratios to assess the business profitability. The financial analysts or users can't depend on one ratio in their analysis, at which they will be not able to make decision about company performance; in contrast the using of multiple ratios

provides them enough ability to reflect logical evaluating to company performance (Kantrovich, 2011).

- Return on assets ratio (ROA):

One important financial ratio is return on assets. Return on assets (ROA) could be defined as financial ratio that measures the capability of assets to generate profit. On other words mean how much the amount of profits the company can earn by the assets used. Higher ROA ratio mean higher efficiency for management in their using of assets and shape an indicator about efficient exploitation of resources and cost control, therefore the ratio can give a sign about good or bad management performance, in addition greater ROA is better from investors perspective because that mean they will gain greater return on their investments (Mohd, 2018).

- Return on equity ratio (ROE):

Another financial ratio reflected as profitability indicator is, return on equity (ROE) which measure available income that owners earn due to their invested capital in the company. Therefore, the investors of course will concern to ROE ratio because it reflects the amount of money they will gain, as well as higher ratio is better for them because it means higher income will be received. On the other hand, management needs to use ROE in their decisions and analyses since it represent attractive factor for investors. ROE is flexible to compute and can be calculated as a ratio by dividing pre dividends income on common shareholders (Purnamasari, 2015).

### **2.3.2 Banks profitability and deposits level:**

Deposits form important source of bank capital by which the rivalry among banks will raise to attract customers who have deposits in their accounts, and to encourage other ones to make deposits. According to customers, deposits are investment choice, which directly affected by the following substantial elements: First, the amount of incentives on deposits (interest) where the higher incentives are more attractive. Second, the degree of investment risk is considered another sensitive and attractive factor in investment process, some investors could preferred to makes deposits in banks with minimum return but with less risks (Raza et al., 2017), while the political risks in Palestine could discourage foreign investors to deposit in Palestinian banks.

An interesting study in Nigeria investigated the effect of interest rate and gross domestic product (GDP) on Nigerian deposits. Interest rate was associated to attract investors as we mentioned in previous paragraph and expects to have positive relationship with the amount of deposits, while the GDP reflect the ability of people to save money after their spending. In addition, GDP can have considered as index about general wages rate that of course high GDP will has a positive effect on saving habits for citizens. The results of the study shows that interest rate was not responsible about the amount of deposits and has negative effect, where the researcher discuss the reason of this result to less education to Nigerian people about deposits return (Hassan, 2016).

Further that, it's worth mentioning about the importance of education to investors in their investing choices. The six largest banks pay 0.21 percent less than small and midsize banks on the holding deposits and customers still on their choice to makes deposits in those banks, at this case, the most logical explanation refers to the investor's evaluation of the ability of these banks

to continue as going concern (accounting assumption) when financial crises occur. The key fact about this choice referred to investors which they have sufficient education in analyzing and comparing process to get safer investing environment, instead of pick up more profits by 0.21 percent (Greg Baer, 2018).

### **2.3.3. Banks profitability and loans level:**

At previous section we noted that deposits considered as a major source of fund for banks, at which banks will utilize these funds and other capital recourses in order to generate income that represented in interest received from different credits. Loans are the most important credit type and major source of banks income; moreover loans are categorized according to several factors, as instance: debt term, security requirements, purpose from the lone and others (Radhika, 2016).

facilities department is highly sensitivity because it is responsible about the bank success or failure, that makes this department has a high risk, which required creative management and well monitoring of the lending procedures in order to eliminate risks as possible. This kind of management named Credit Risk Management (CRM). The consequences of negligence systematic guidelines in lending process lead to non-performing loans, which directly will negatively effect on profitability; where this effect is derived from two sides.

First, non-performing loans may lead to bad debt where at this case; the bank will lose a part of its assets. Secondly, non-performing loans may lead to delays in payments, which required to making loans provisions that will raise the costs at this period. Therefore, banks should consider to default risk and pursuit to better loans performance rather than to earn higher interest only (Ahmed and Malik, 2015).



Previous literatures investigate the impact of nonperforming loans on banks profitability, as instance, a study from Tanzania banks. The researcher utilized return on assets to indicate about profitability, where non-performing loans are calculated as a ratio of nonperforming loans to total gross loans, while the study findings show that there was negative relation between the level of nonperforming loans and profitability for Tanzanian banks (Kingu et al., 2018).

### **2.3.4 Bank's profitability and liquidity:**

#### **2.3.4.1 Concepts of liquidity:**

liquidity is simply defined as entity ability to convert assets into cash in short term in which to fulfills its matured obligations, as well the definition has three important aspects: first, is the time that reflect how long the company need to transfer assets into cash, the second one is, the amount of assets that can be converted to liquid cash, finally the third is, the cost of converting that reflect the ability of company to convert assets into cash without or with minimum cost, all of these aspects express about the liquidity definition dependencies (Nikolaou, 2009).

Thus, solvency is a relevant concept to liquidity, which refers to the ability of company to meet its obligation in long term. While the definition indicates about company financial structure, and also related to capital structure at which liabilities in other perception expressing about company costs (Rahman, 2017).

Solvency could be simply computed as the following:  $\text{Solvency ratio} = \text{total assets} \div \text{total liabilities}$ . Several literature utilizing solvency ratio, like (Brindescu and Olariu, 2016) study in Romania, which concerning to providing image about companies performance during frequent bankruptcies.

### 2.3.4.2 Liquidity risk and banks profitability:

Banks are institutions that make loans to several borrowers that funded from depositors and equity supported by bank shareholders (Greenbaum et al., 2007). While Amengor (2010) defined bank as financial intermediation that accept funds from people who have excess money, and lend them to others who need money for the purpose to make profit. The intermediation role of the bank rising the risk of liquidity, which is refer to lack of liquidity that effect on banks' ability to fulfilling its financial obligation, at which this risk can be minimized by holding more liquid assets (Bouwman, 2013).

On the other hand, high level of liquidity sometimes interpreted as low management efficiency, and lower exploitation of resources that negatively related with profitability (Song and Thakor, 2007). To avoid problems of more or less liquidity, banks management need to regulate its cash and to have an appropriate amount of liquid assets, through back to Basel convention standards as we mentioned before about capital adequacy ratio and other standards, in addition to talk the lesson from past financial crises, as instance the following figure show total required reserves and total amount of reserves in billion dollar of the U.S banks for the period (January 1960 – April 2013):

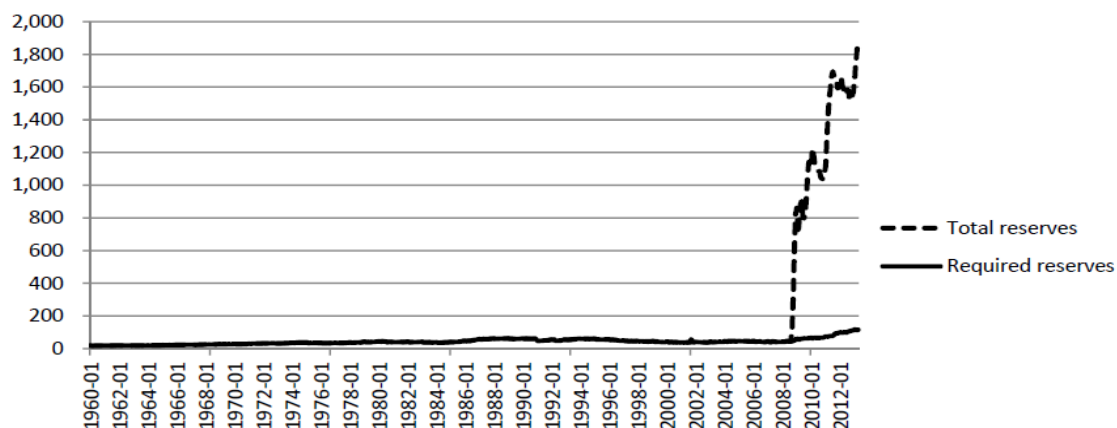


Figure (2.1) the total required reserves and total amount reserves in billion dollar

Data Source: Aggregate Reserves of Depository Institutions and the Monetary Base, Not Seasonally Adjusted.

Liquidity could be quantitatively measure by using several indicators, starting with working capital that mean cash that company needed to meet day to day activities. Managing working capital is a substantial function of a good management, which its required to keep an appropriate amount of using working capital, whereas too much or too little will do harm to the company (Sharma, 2008).

An important tool in measuring liquidity is cash conversion period (CCP), which referred to company time line that required in converting revenue into cash flow from operation at which less time mean more efficiency. The following figure shows the time line of cash flow cycle:

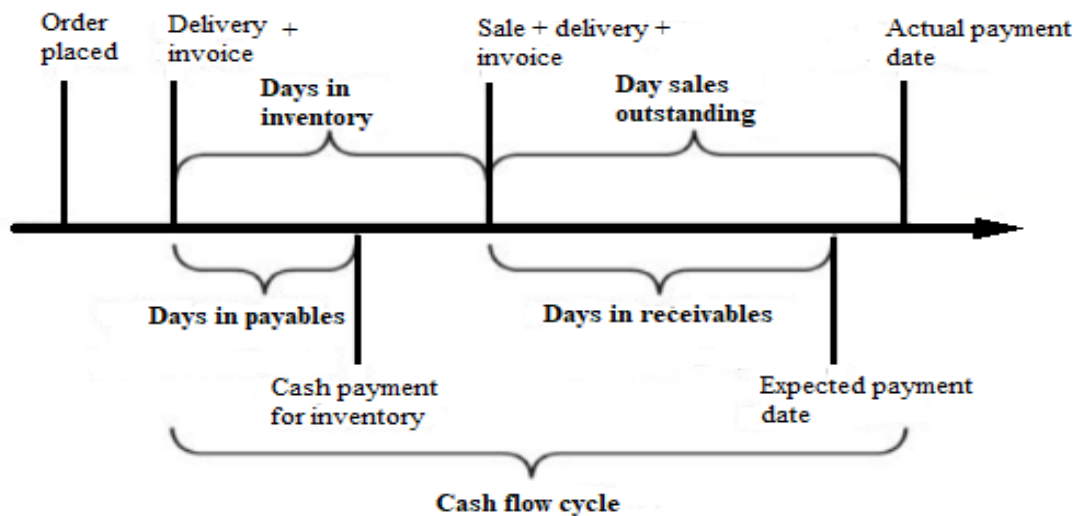


Figure (2.2) the time line of cash flow cycle

Data source: Bwacha & Jing Xi (2018. P.12-13)

Current Ratio and Quick Ratio are other ratios considered as liquidity measure (Canina and Steve, 2008). While in banking sector the most popular ratio is borrowing ratio, which calculated as  $\text{borrowing ratio} = \text{total loans} / \text{total deposit}$  (Bwacha and Xi, 2018).

Many prior studies focused to investigate the relation between liquidity and profitability. As (Lartey et al., 2013) study that found a very weak relation between profitability and liquidity, while according to (Al-Qadi and Khanji, 2018) study in Jordan, which found that profitability influenced by liquidity that represented in current and quick ratios.

### **2.3.5 Bank profitability and bank size:**

Firm's owners, managers or producers in general pursuit to maximizing their profits as possible, while the appropriate way to measure the profitability is by using financial analysis through reflecting it in financial ratios. ROA and ROE are the most ratios were used as profitability indications. Whereas there are many variables could be influencing on profitability, which makes differentiation between companies' profits, an essential one of those variables is firm size.

Theories discussed that large firm is expected to do more profits than the small one, due to three main reasons. First, the company economic of scale that refers to, company ability to reduce its long run average cost as output increased, the second one is large firm ability to get lower prices of raw materials and other resources due to large amount of input purchases, in order for large amount of output, where the large amount of output mean lower fixed cost per unit produced, third, related to specialization that assumes the productivity of labors will rises, when each one of them specialized in a part of work (Pervan and Višić, 2012).

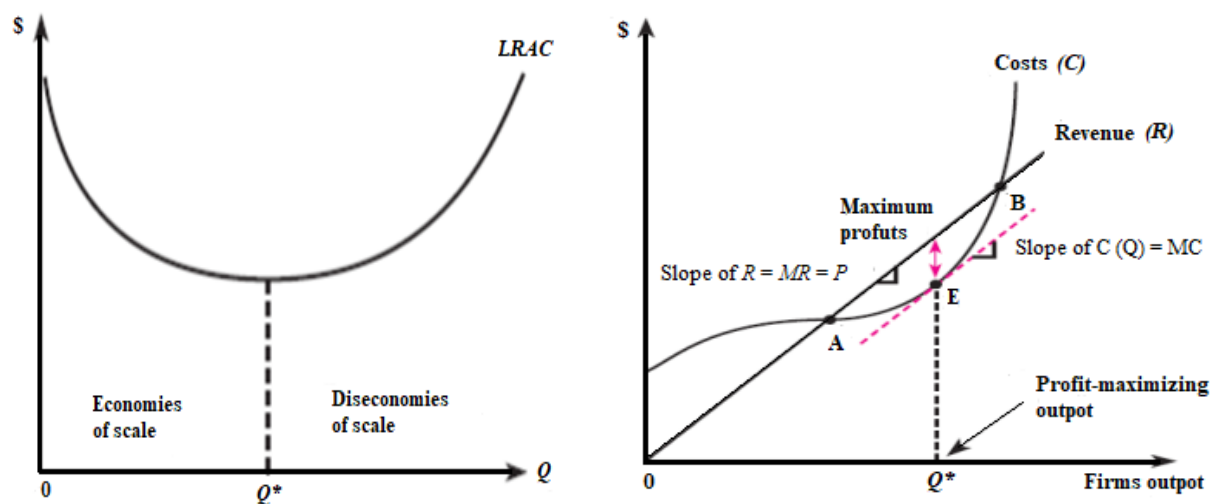
The following figures: figure (2.3) show the firm economic of scale, while figure (2.4) shows the relation between cost and revenue function:

Figure (2.3) the firm economic of scale  
Data source: (Baye et al., 2006) (Sharma 2008)

Figure (2.4) the relation between cost and revenue function

In contrast, other theories suggest that firms with large size required large management with large authorities and control power that maybe lead to conflict of interest between management and business owners, at which business owners always pursuit to gain maximum profit, while management interesting toward more stable work environment, so large firms could be less profitable (Mule et al., 2015).

Prior literatures depend on several factors to measuring of the firm size. As instance, (Doğan, 2013) study in Turkish utilizing the ratio of, total



sales to total employees number, while the results show that there was a positive relation between size and profitability according to the ratio which used. Moreover, (Niresh and Thirunavukkarasu, 2014) study investigated the relationship between firm size and profitability, by using total sales to total assets ratio as size indication.

### 2.3.6 Bank profitability and management efficiency:

All companies need to provide annual report in the form of financial statements as income statement, balance sheet and cash flow, while financial analyses conducted in the dependence on these statements. Moreover, financial analysts will direct their interest toward several financial ratios in order to evaluate the company financial performance such as its efficiency, profitability, liquidity and solvency at which every group of ratios are indicate about one of them.

Management efficiency or named efficiency ratio can refer to efficiently using of firm resources and assets to generate maximum possible profit, as well as poor efficiency will lead to poor profitability (Jamali and Asadi, 2012). Whereas *the following group of ratios can reflect firm efficiency ratio*: “payable turnover ratio, Days Sales Outstanding, Days Inventory, Payables Period , Cash Conversion Cycle, Working capital turnover ratio, Receivables Turnover ratio ,Inventory Turnover ratio ,Fixed Assets Turnover ratio and Asset Turnover ratio” (Boigues, 2016).

Several literatures are discussed the relation between management efficiency ratio and firm profitability by using different indications. (Santosuosso, 2014), study in Italy described many turnover ratios, which used as proxies of efficiency, while return on assets and return on investment used to indicate about firm’s profitability. On the other hand, Boateng (2017) study implemented on banking sector in Morocco, where efficiency ratio calculated through dividing noninterest expenses on net income, for the purpose to measuring banks performance.

### **2.3.7 Relationship between banks profitability, inflation and GDP:**

Inflation referred to overall increase in price levels of goods and services, on other words mean continuous reduction in purchase power that will effect on the important role of money as a medium tool to exchange, with the absence of stability in its purchase power. So that central banks monetary policy always pursuit to maintain stable prices (Akinsola and Odhiambo, 2017).

Inflation rate is the overall increase in prices in percentage scale, whereas theories expect that high inflation rate had an inverse relation with economic growth. To imaging this relation, suggest that a high inflation rate is exist, this rate is directly associated to high increase in prices, which means the per-capita income will decrease, therefore the current income is not equal the past one (before inflation) due to losing in its purchase power. If the gross domestic product (GDP) or named per capita income considered as important indication about economic growth, there is a clear relation between inflation and GDP (Labonte and Makinen, 2008).

According to relationship with profitability, fall in saving and fall in investment will occur due to high inflation that will directly effect on enterprises profitability. While empirical study's findings did not show a specific result about the effect of inflation rate on economic growth, and profitability which referred to different country- specific factors that plays important role in concludes results (Hossain, 2007).

Its worthy to highlight, that inflation could be measured on dependence on several indications, an important one of them referred to GDP deflator or change in GDP, calculated through compare current GDP with GDP-t, where t is a period of time as (Hossain, 2007) study in Bangladesh. While other researchers used consumer price index (CPI) as inflation measure, at which CPI referred to measure weighted average change of prices for different goods that shape

consumption for normal urban consumer “market basket”. Furthermore, the higher CPI reflects increasing in living cost (cost of living index CLI). CPI could be calculated at the following equation:

$$CPI = \frac{\sum \mathcal{P}_t Q_b}{\sum \mathcal{P}_{t-1} Q_b}$$

Where  $\mathcal{P}_t$  is the price of an item multiplied by  $Q_b$  that is the quantity in base year, while  $\mathcal{P}_{t-1}$  is the price of item in past period multiplied by  $Q$  is the quantity of item in the same past period that should compared with base year (Yuan and Li, 2010).



## Chapter Three

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### 3. Literature Review

This chapter review empirical research towards banks' profitability, focusing on macroeconomic and bank-specific determinants. The structure of this chapter is as the followed, first, studies of banks profitability that examine internal and external factors, evidence from different bank markets are discussed. Second, banks profitability studies which conducted at Palestinian banking market are reviewed. The purpose of this review is to give a comprehensive overview of prior findings and to provide understanding of the thesis results.

#### 3.1 Banks profitability (internal and external groups):

Banks profitability has been a popular research topic, where this section will discuss some of prior studies that focused on investigating the determinants that affect the bank profitability, evidence from a single banking market, and integrated banking market. (Căpraru and Ihnatov, 2014) study under the title of "Determinants of banks profitability evidence from EU27 banking system" discussed the indicators returned on assets (ROA) and returned on equity (ROE) that used to measure EU banks behavior. The main purpose of that study was to identify the factors that affected the profitability of EU commercial banks. In addition, this study classified the factors which affect these indicators into two main groups: internal or industry specific group (bank size, credit risk, liquidity risk, management efficiency, capital adequacy, business mix), and external macroeconomic group (banking system concentration, inflation, economic growth). The study also highlighted the effect of European integration on the co-ordination of laws,

regulations and administration of financial institutions and thus the study was conducted under integrated bank market and cross country evidence.

The descriptive research of (Zhang and Dong 2011) focused on analyzing the factors that could influence the U.S bank's profitability, which categorized in two groups internal (industry specific) and external (macroeconomic) factors. In addition, the researchers depend on two equations frame work which ROA and ROE was separately used as profitability indicators and proxy to test the effect of factors on bank profitability. The results show that all bank-specific factors except of the size, were significantly positively related to bank profitability. On other hand, the macroeconomic factors (GDP and interest rate) also have been reflecting significant positive relation with banks profitability. Whereas, (Nuhiu et al., 2017) study in Kosovo aimed to elaborate the factors that influence the profitability of Kosovo commercial banks, through using regression analysis. The study employed each of return on assets (ROA), return on equity (ROE) and net interest margin (NIM) ratios as profitability indication, whereas each of the ratios was analyzed in separate equation. On the other hand, independent variables divided into two groups: first bank specific industry that includes capital adequacy ratio, assets quality, management efficiency and liquidity. Second, is the macroeconomic group, which include growth rate (GDP) and inflation rate. The study findings show that internal factors have significant impact on profitability proxies and insignificant impact for macroeconomic factors. Another empirical study in Vietnam used the same dependant variables (ROA, ROE and NIM) as profitability proxies, and also incorporates macroeconomic and bank- specific factors (Le Thanh et al, 2017).

(Rahman et al., 2015) research extends above mentioned research by using some different macroeconomic and bank specific variables, to investigate their influence on the following financial ratios: ROA, ROE and NIM, which used to measure profitability. While the data

collected from 25 banks in Bangladesh for the period 2006 to 2013. According to the study findings, all of the following variables including capital strength and loan were positively affected on the three profitability measures described above. On the other hand, the GDP has a positive effect only on NIM. In contrast, cost efficiency and off balance sheet activities have negative effect on the three profitability measure. However, other variables such as bank size and credit risk have no impact on profitability measures.

The study of (Kohlscheen et al., 2018) focused on studying banks under the same market characteristic rather than under the same country. The importance of that study is derived from using large sample size, which includes 543 banks from 19 different emerging market economies (EMEs), and the long period over to fifteen years (2000-2018). In line of previous studies, ROA, ROE and NIM were used as profitability proxies and the independent variables were included the two groups described above.

As instance to Arabic studies, (Alshatti, 2016) study in Jordan aimed to investigate the determinants that effect on 13 banks profitability on Jordan over the period (2005-2014) by using financial ratio ROA and ROE as profitability measure. The researcher focuses toward internal-bank specific factors, which contain: assets size, assets structure, assets quality, capital adequacy, capitalization, financial structure, liquidity, leverage ratio. The results show that capitalization, capital adequacy and leverage have a positive effect on ROA ratio while ROE positively affected by capitalization and leverage only, moreover regarding to assets quality and total assets determinants had negative impact on profitability.

### **3.2: Banks profitability studies, evidence from Palestine:**

Abugamea (2018) study which titled “Determinants of Banking Sector Profitability: Empirical Evidence from Palestine” focused on examine the effect of internal -banks specific and major macroeconomic factors on banks profitability in Palestine over the period 1995 - 2015. According to the variables which used, bank size, loans to assets, capitalization and deposit to assets ratios, are considered as internal factors, while the growth rate (GDP) and inflation rate represented as external factors, where ROA, ROE and NIM ratios indicate the profitability. Furthermore, (Alkhatib and Harasheh, 2012) study concern to evaluate the five commercial banks profitability in Palestine over the period (2005-2010). Profitability has been measured by using ROA, Q model (price / equity book value) and economic value added. The determinants were used are bank size, operational efficiency, assets management and credit risk at which all of them have a significant impact on Palestinian commercial banks as results shown.

Another study was conducted in Palestinian banking market related to Abu Zir (2016) master thesis. The study assesses whether there is a relationship between banks profitability and internal- bank specific factors over the periods 2009 to 2014. The internal factors which included loans level, deposit level and size are positively interdependent with bank profitability, whereas the credit risk reflect a negative effect.

Table (3.1) summarizing the variables of prior studies:

Author	Dependent variables	Independent variables	Measure	effect
(Bogdan and Ihatov ,2015)	<b>Profitability:</b> ROA ROE	<b>Bank specific:</b> Size Capital adequacy Credit Risk Efficiency Liquidity Risk Business Mix <b>Macroeconomic:</b> Market Concentration Inflation Economic Growth	Log total assets Equity / Total Assets Impaired Loans(NPLs)/ Gross Loans Cost to Income Ratio Loans/ Customer Deposits Other Op Inc / Average Assets  Herfindhal-Hirschman Index Inflation, GDP deflator (annual %) GDP per capita growth (annual %)	+/- +/- - - - +  +/- +/- +
(Zhang and Dong ,2011)	<b>Profitability:</b> ROA ROE	<b>Bank specific:</b> Capital Size Loan deposits <b>macroeconomic:</b> GDP growth Interest rate	Total equity / total assets Total assets in log Loans / total assets Deposits / total assets  Real GDP growth rate 3 – month yield treasury securities	+ +/- +/- +/-  + -
(Nuhui et al.,2017)	<b>Profitability:</b> ROA ROE NIM	<b>Bank specific:</b> capital adequacy ratio assets quality management efficiency liquidity <b>macroeconomic:</b> GDP growth Inflation	Total capital / risk weighted assets Non-performing loans/total loans Expenditure / income Liquid assets/short term liabilities  Real GDP growth rate Yearly average inflation rate	+ + + -  + +
(Tam and Trang ,2017).	<b>Profitability:</b> ROA ROE NIM	<b>Bank specific:</b> Bank size Growth of total assets Credit risk Risks Management expanses Capital <b>Macroeconomic:</b> GDP growth Population growth Inflation	Log of total assets The ratio of increasing in assets Proxy of provisions for loans Loans / bank equity Log of total expanses Capital/risk weighted assets  Real GDP growth rate Yearly population growth rate Yearly average inflation rate	- + + + +  + + +

(Rahman et al., 2015)	<b>Profitability:</b> ROA ROE NIM	<b>Bank specific:</b> Capital: CAP CAR Risk: NPLTL LIPTL Bank size Ownership structure Non-interest income Cost efficiency Non-traditional activities Liquidity <b>Macroeconomic:</b> Growth in GDP Inflation	Capital/risk weighted assets Equity / total assets Non- performing loans/total loans Loan loss provisions/ total loans Log of total assets Dummy 1 for private and 0, other Non- interest income/ total assets Cost / income Off balance sheet activities/ total assets Total loans/ total assets Growth in annual GDP Annual inflation rate	+/- +/- +/- +/- +/- +/- + - + + +/- +/-
(Abugamea, 2018)	<b>Profitability:</b> ROA ROE NIM	<b>Bank specific:</b> Size Capitalization Loans Deposits <b>Macroeconomic:</b> GDP inflation	Log of total assets Total equity/ total assets Total loans/total assets Total deposits/total assets GDP per capital CPI based	+ + + - Non Non
(Alkhatib and Harasheh, 2012)	<b>Profitability:</b> ROA Tobin's Q model Economic value added	<b>Bank specific:</b> Bank size Credit risk Operational efficiency Assets management	Log total assets doubtful loans/ credit facilities total operating expense/ net income operating income/total assets	+ - - +
(Kohlscheen et al., 2018)	<b>Profitability:</b> ROA NIM	<b>Bank specific:</b> LG Size CAP LIQ E <b>Macroeconomic:</b> GDP SR LR CDS Inflation	Yearly growth in loans Log of total assets Capital to total assets ratio Bank holding of securities / T.A Operational expenses / gross profit Yearly GDP rate Proxy of enter-bank rate 10-years bond yield rate 5-years credit default swap Consumer price index	+ + + +/- +/- Non - + - -

(Alshatti,2016)	<b>Profitability:</b> ROA ROE	<b>Bank specific:</b> Size Assets structure Liquidity CAR Capitalization Financial structure Assets quality Leverage	Log total assets Total loans / total assets Cash and marketable securities/ T.A Capital funds / risk weighted assets Equity / total assets Customers deposits / total liabilities Loans provision / net loan Debt to equity ratio	Non Non Non +/-Non + Non - +
(Abu Zir,2016)	<b>Profitability:</b> ROA ROE NIM	<b>Bank specific:</b> Credit risk Lending rate Deposits level Bank size	Loans provision / total loans Total loans / total assets Total deposits / total assets Log of total assets	+/- +/- +/- +

## Chapter Four

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### 4. Research Methodology

This chapter describes the overall research methodology, and also states the research design, in which an econometric regression model is developed. The independent and dependent variables are selected to empirical analyze of the determinants of banks profitability. Besides, this chapter elaborates the sample and data that are used, moreover hypothesizes the expected sign for the relationship between the independent variables and banks' profitability

#### 4.1 Sample and data source:

The sample includes 14 banks operate in Palestine as shown in table (4.1), based on the banks that still operates according to the final year of analyzing period (2014-2018), where as many of merger and acquisition strategies lead to shrinking in the number of banks to be fourteen banks only according to 2018 annual reports compared to seventeen working banks at 2014, further that other banks will be excluded from the sample. In data collection the study depends on Association of Palestinian banks (APB) published data as a primary source to collect information about internal specific variables and inflation rate, while "trading economics" web is used to collect information about GDP growth rate in macroeconomic variables.

Table (4.1) the list of banks included in the sample:

Bank	Type of bank	Operating date
Bank of Palestine	Commercial	1960
Arab Bank	Commercial	1994
The National Bank	Commercial	2012
Quds bank	Commercial	1995
Arab Islamic Bank	Islamic	1995
Palestine Islamic Bank	Islamic	1995



Cairo Amman Bank	Commercial	1986
Bank of Jordan	Commercial	1994
Palestine investment Bank	Commercial	1994
Housing Bank for Trade & Finance	Commercial	1994
Jordan Ahli Bank	Commercial	1995
Egyptian Arab Land Bank	Commercial	1994
Safa Bank	Islamic	2016
Jordan Commercial Bank	Commercial	1994
<b>Total</b>	<b>14</b>	<b>14</b>

Data source: Association of Palestinian Banks reports (APB) 2018.

## 4.2 Research variables and hypotheses:

### 4.2.1 Dependent variables:

The study depends on the following indicators to measure profitability:

1. Return on assets (ROA): computed as ratio of net income to total assets.
2. Return on equity (ROE): computed as a ratio of net profit divided on total equity.

### 4.2.2 Independent variables:

The independent variables are categorized into two large groups:

Bank-specific (internal) factors: are internal because it is under the bank management control, whereas these factors are selected according to key drivers of profitability which composed from the following factors:

- Bank size
- Capital ratio
- Credit risk
- Liquidity
- Management efficiency

Macroeconomic variables (external): are uncontrollable for banks and hence external, however, there are a several macroeconomic factors that probably affect banks profitability, where as to prior research; the following variables are selected as macroeconomic:

- Inflation rate
- Growth rate (GDP)

Table (4.2) defined the used variables and their expected effect on profitability (hypotheses), where the variables definitions and expectation prepared in dependence on the sum of previous literature.

Table (4.2) variables discretion and expected effect

Variables	Definition	Symbol	Expected Effect	Prior research
<b>Dependent variables:</b>				
Return on assets	Net profit/ Average assets	ROA		(Căpraru and Ihnatov, 2014)
Return on equity	Net profit/Average equity	ROE		(Abugamea, 2018)
<b>Independent variables:</b>				
<b>Bank specific:</b>				
Bank size	Logarithm of total assets	Size	+	(Anbar and Alper, 2011) (Kořak and Ćok, 2008)
Capital adequacy ratio	Equity/ total assets	CAR	+/-	(Kosmidou et al., 2007)
Credit risk	Loans provision/ total loans	CR	-	(Pervan,et al., 2015)
Liquidity	loans/ consumers' deposits	L	-	(Sufian and Habibullah, 2009)
Management efficiency	Cost to income ratio	E	-	(Trujillo- Ponce, 2013) (Le Thanh et al., 2017)
<b>Macroeconomic:</b>				
Growth rate	Yearly growth (GDP) rate	GDP	-	(Nuhiu, et al., 2017) (Dietrich and Wanzenried, 2014)
Inflation rate	Yearly Inflation rate	inflation	+	(Pasiouras and Kosmidou, 2007)

### **4.2.3 Research hypothesis:**

This section presents the hypotheses, by proposing the expected sign of the coefficients, based on academic background and the theoretical literature which recently mentioned in chapter two and three. Then the hypotheses will compare with the thesis actual and empirical results, nevertheless, the study sets out these following hypotheses:

#### ***Bank specific determinants:***

H1: Bank size determinant is expected to reflect a positive impact on profitability.

H2: Capital adequacy ratio is expected to reflect a negative or positive impact on profitability.

H3: Credit risk ratio is expected to reflect a negative impact on profitability.

H4: Liquidity ratio is expected to reflect a negative impact on profitability.

H5: Management efficiency ratio is expected to reflect a negative impact on profitability.

#### ***Macroeconomic determinants:***

H6: Yearly growth rate GDP that refers to growth on overall country industries, is expected to have a positive impact on profitability for banking industry.

H7: Inflation rate to show how the overall price increases affect on banks' profits is expected to reflect a negative impact on profitability.

### 4.3 Research model:

In the methodology, the study used OLS assumption according to pervious research as Zhang and Dong (2011) study for the estimation, to test the empirical effect of internal bank-specific industry and external macroeconomic factors on the Palestinian banks profitability. Furthermore, the method of minimizes the sum of square is used to underlying the minimum deviations between the dependent variables (internal and external) and independent variables (ROA or ROE) in a separate two model.

*Model one: to investigate overall Palestinian operating banks profitability in term of ROA measure:*

$$ROA_{it} = \beta_0 + \beta_1 size + \beta_2 CDR + \beta_3 CR + \beta_4 L + \beta_5 E + \beta_6 GDP + \beta_7 Inflation + \mu$$

**Where:**

**Y:** dependent variable (ROA) that will compute by dividing net income on total assets.

**$\beta_0$ :** is the constant term

**Size:** Logarithm of total assets.

**CAR:** will compute as a ratio of total equity to total assets.

**CR:** total loans provisions to total loans ratio.

**L:** total customers' deposits to total loans ratio.

**E:** total cost to total income ratio.

**GDP:** yearly growth rate.

**Inflation:** yearly inflation rate.

**$\mu$ :** The error term in the equation.

**B:** is the matrix of variable coefficient.

**Model two: to investigate overall Palestinian operating banks profitability in term of ROE measure:**

$$ROE_{it} = \beta_0 + \beta_1 size + \beta_2 CDR + \beta_3 CR + \beta_4 L + \beta_5 E + \beta_6 GDP + \beta_7 Inflation + \mu$$

**Where:**

**Y:** dependent variable (ROE) that will compute by dividing net income on total equity.

**$\beta_0$ :** is the constant term

**Size:** Logarithm of total assets.

**CAR:** will compute as a ratio of total equity to total assets.

**CR:** total loans provisions to total loans ratio.

**L:** total customers' deposits to total loans ratio.

**E:** total cost to total income ratio.

**GDP:** yearly growth rate.

**Inflation:** yearly inflation rate.

**$\mu$ :** The error term in the equation.

**B:** is the matrix of variable coefficient.

## Chapter Five

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### 5. Analyses and Result Dissection

This chapter discusses statistical description of the determinants identified, and their effect on profitability of the banks that operate in Palestine according to analyzing period (2014-2018), and shows the empirical statistical results.

#### 5.1 Multicollinearity problem:

To assess any potential problem in variables as a Multicollinearity problem that refers to a high correlation among variables the study used the following test as shown in table (5.1). Tolerance and variance inflation factor (VIF) represents indications about multicollinearity problem while VIF is a reciprocal to Tolerance measure. However the study depends on less than 0.1 to Tolerance measure that reflected in less than 10 to VIF measure as a common guideline, in order to detecting multicollinearity, while the test show that there was no multicollinearity problem in our estimation (Dormann et al., 2013).

Table (5.1) Collinerity problem test

Variable	Tolerance	VIF
Size	0.301	3.323
CAR	0.131	7.638
CR	0.906	1.104
E	0.276	3.626
LR	0.548	1.826
Growth GDP	0.536	1.867
Inflation rate	0.509	1.964

Table (5.2) Correlation matrix

variables	Size	CAR	CR	E	L	GDP	Inflation
<b>Size</b>	1						
<b>CAR</b>	-0.767	1					
<b>CR</b>	-0.260	0.156	1				
<b>E</b>	-0.372	0.751	0.003	1			
<b>L</b>	-0.315	0.374	-0.004	0.072	1		
<b>GDP</b>	-0.006	-0.058	0.009	0.174	-0.037	1	
<b>Inflation</b>	-0.020	-0.105	0.056	-0.214	-0.061	-0.661	1

The correlation matrix output shows low data correlation between the independent variables which indicate there is no existence of multicollinearity problem that ensures the result of VIF test in table (5.1).

## 5.2 Descriptive statistic:

Table (5.3) represents statistical description of the variables; where N is the number of observations collected from 14 operating banks for 5 years' period of time except of Al-Safa bank; 3 years were depending on due to its starting date at 2016. The mean, minimum and maximum values for ROA is 0.683%, -3.19% and 2.36% respectively, a negative minimum ROA value explained to losses incurred in Egyptian Arab bank at 2015 while the maximum value is 2.36% registered in financial reports of Trading Jordanian bank at 2014. This result represents the highest function of bank assets to generate profits compared to other banks in Palestine (*review appendix (6.3) page 53 for more details about banks assets*), while the average banks profitability from ROA perspective is 0.683%. Furthermore, the maximum value of ROE is

20.3% whereas the minimum is -10.32% that was also referred to Egyptian Arab bank, the most possible explanation that the Egyptian Arab bank existence in Palestine is referred to political objectives. In addition, it's worthy to mentioning that the wider range in profitability among banks according to ROE indication that grades from (-10.36% to 20.3%) compared to ROA one, grades from (-3.19 to 2.36%), reflected due to the fact that banks have a wider deviation in equity values than the bank's assets. However, the average banks profitability from ROE perspective is 6.75 %.

As noted below, table (5.3) shows the descriptive statistic in term of minimum, mean, maximum and standard error for independent variables also.

Table (5.3) statistical description of the variables

<b>Variables</b>	<b>Minimum</b>	<b>Mean</b>	<b>Maximum</b>	<b>Std. error of mean</b>
ROA	-0.0319	0.00683	0.0236	0.0106
ROE	-0.1032	0.0675	0.203	0.4178
Size	7.939	8.816	9.688	0.0641
CAR	0.0772	0.1758	0.836	0.1244
CR	-0.0031	0.005	0.035	0.0065
E	0.4819	0.9623	1.252	1.457
LR	0.294	0.73	3.97	0.461
Growth GDP	-0.002	0.024	0.047	0.0178
Inflation rate	-0.022	0.002	0.0173	0.0139
Total number of observations (N)	68	68	68	68



### 5.3 Fit of the models:

To assess how the significance level of the models is, the following table explains the models degree of significance:

Table (5.4) interpret significance of the models

ANOVA						
Model		Sum of squares	DF	Mean square	F	Sig
1.ROA	Regression	0.006	7	0.001	24.205	0.000 <sup>b</sup>
	Residual	0.002	60	0.000		
	Total	0.008	67			
2.ROE	Regression	0.199	7	0.028	22.328	0.000 <sup>b</sup>
	Residual	0.077	60	0.001		
	Total	0.276	67			

The study utilized two separate models to each dependent variable ROA and ROE, while to know if predictor variables (independent) predict ROA and ROE its necessary to evaluate the significance of the models, at which from the table above the two models are statistically significant at 5 percent level of significance, where p- value (0.000) is less than 0.05 in addition F value at (7, 60) as shown in table (5.4), equal 24.205 and 22.328 for the two models respectively. Moreover, the following table shows how much the variance in dependent variable explained by independent ones:

Table (5.5) the percentage of variance in DV due to change in IV

Models summary			
Model	R squire	Adjusted R squire	St error of the estimate
Model 1 (ROA)	0.738	0.708	0.00576260
Model 2 (ROE)	0.723	0.690	0.35713749

According to table (5.5) above, adjusted R square equal 70.8% for model one (ROA) and 69% for model two (ROE), which reflect that overall independent variables explain 70.8% of the variance in ROA and 69% of the variance in ROE.

## 5.4Regression results:

Table (5.6) shows OLS regression analysis results for the effect of internal bank-specific determinants and external macroeconomic determinants on the profitability that reflected into two ratios return on assets (ROA) and return on equity (ROE), while the coefficients expresses about the size and the sign of each variable on profitability:

Table (5.6) Regression results

Variables		Coefficients				
	Model 1 (ROA)	T test	Sig	Model 2 (ROE)	T test	Sig
(Constant)	-0.055 (0.029)	1.921	0.059	-0.854 (0.179)	4.769	0.000
<b>Bank-specific (internal) factors:</b>						
Size	0.009 (0.003)	2.793	0.007	0.108 (0.019)	5.668	0.000
CAR	0.015 (0.016)	0.933	0.933	0.011 0.097	0.109	0.914
CR	-0.563 (0.114)	4.960	0.000	-2.036 0.006	2.894	0.005

<b>E</b>	-0.004 (0.001)	4.023	0.000	-0.003 (0.006)	0.614	0.542
<b>L</b>	-0.010 (0.002)	5.419	0.000	-0.020 (0.011)	1.832	0.072
<b>Macroeconomic (external) factors:</b>						
<b>GDP</b>	-0.097 (0.053)	1.822	0.073	-0.148 (0.330)	0.438	0.663
<b>Inflation</b>	-0.045 (0.069)	0.649	0.519	0.011 (0.426)	0.027	0.979

Starting with the Size variable, when ROA used as a measure of banks profitability, the bank size showed a positive statistical significant effect at 5% level of significance, while the size of coefficient indicate that ROA will positively effected by 0.09% due to 1% change in the size variable. Moreover according to ROE measure, the bank size have a highly positive statistical significant effect at 5% level of significance whereas the size of coefficient indicate that ROE will positively affected by 10.8% due to 1% change in size. This empirical finding support the hypothesis that large banks are more likely to be more profitable. This result reinforces the findings in some previous studies. For example Sufian and Habibullah (2009), found that Chinese largest banks are more profitable as they and take advantage of the large economic of scale. Additionally, Van Roy (2008) argued that the large bank is more able to diversification its investment portfolio thus the risk from credit will decrease, that will effect on profitability in the positive way.

The ratio of total equity to total assets (CAR) result reflects a positive influence on profitability that subjected to measured by ROA and ROE proxies, while the effect is statistically

insignificant effect in term of ROA and ROE according to 5% level of significance. This empirical result supports (Petria et al., 2015) study that conducted on 27 EU banks results in case of CAR which reflects insignificant effect on ROE and significant effect on ROA, while (Akbas, 2012), study in Turkish banks show insignificant effect of CAR on both of ROA and ROE.

The result shows a negative statistically significant effect of CR on profitability according to both of ROA and ROE ratios at 5% level of significance, as expectation the high CR ratio mean more risks in lending processes and more default loans, which means some of the bank assets become worthless that will negatively effect on profitability. The size of coefficient in fact is a very large, - 56.3 % and -203.6% changes in ROA and ROE respectively due to 1% of change in CR, while this result consistent with previous literature as (Davydenko, 2010), and (Ramlall, 2009), results which reflects strong negative significant effect.

Regarding to the coefficient of the efficiency ratio (E), results show a negative and high statistical significant effect on ROA at 5% level of significance as shown in table (5.6). The result consistent with the proposed hypothesis about the ratio of total cost to total income (E), which derived the negative E and profitability relation, from the nature of the relation between cost and revenue. However, the coefficient size reflect that ROA will negatively affected by - 0.04% if 1 percent increasing in E ratio, on the other hand in term of ROE the result reflect an insignificant effect. Many of other studies use cost to income ratio as indication about management efficiency and show there effect on profitability proxies as (Alexiou and Sofoklis, 2009), (Athanasoglou et al., 2008), and (Mujeri and Younus, 2009) studies where their findings show the negative effect of E ratio on profitability.

Finally, the last internal determinant which used in this thesis is liquidity ratio (L), while the effect of (L) coefficient shows a negative and high statistical significant on profitability in term of ROA according to 5% level of significance. Moreover, the coefficient size indicates that each 1% of changes in liquidity ratio reflect 1% change in ROA. The liquidity ratio (L) is hypothesized to provide a negative impact, where the higher loans to deposits ratio indicate to lower liquidity, which mean the profitability is running out from cash that will reduce the bank lending capacity, and the ability to meet short term obligations, which reflects a negative impact on a bank profits. However, model one (ROA) result is consistent with this hypothesis, while in the term of ROE the coefficient result of L was register an insignificant effect. Other researchers as (Al Nimer et al., 2015) and (Saleem and Rehman, 2011) found that the firms with inadequate liquid assets will have deteriorates in their performance, in addition (Alshatti, 2016), study in Jordanian banks found that liquidity has no impact on banks profitability that consistent with us in term of ROE indicator (*see appendix (6.1) page, 52 banks specific factors details*).

Microeconomic determinants were also included in this thesis, which represented in GDP growth rate to assess the impact of total economic growth in the country on the banking industry, and inflation rate for the purpose to show how the overall price increases affects banks' profits. As to coefficient sign, GDP has a negative influence on the both of profitability proxies (ROA and ROE), while the impact of inflation was reflecting a negative and positive impact on profitability proxies ROA and ROE respectively. Furthermore the result shows that both of macroeconomic factors have an insignificant effect on profitability where these result does not match the hypotheses, but supports the findings of (Nuhiu et al., 2017), study that showed an insignificant impact of macroeconomic (GDP and inflation) variables on banks profitability.

## Chapter Six

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### 6. Conclusion and Recommendations

Sound banking system plays significant role in maintaining stability in the countries economics, especially banks shape a major financial institution that facilitate several economic transactions, further that its necessary for these banks to work under professional criteria and strategies who can gives it an appropriate performance to makes profits and continue as going concern.

#### 6.1 Results summarizing:

This thesis interested to the determinants that influence banks' profitability in Palestinian banking market according to ROA and ROE measures, analyzed by using two separate multiple regression model and the panel data set over the period (2014-2018). The study also categorized the determinants into two main groups:

1. Internal-banks specific determinants.
2. External-macroeconomic determinants.

As to internal determinants each of (Size, CAR, CR, E and L) are used, where the results reflect that all of internal determinants except of CAR and Size have a negative significant impact on banks profitability in term of ROA. Moreover, the size variable has positive significant effect, while insignificant effect associated to CAR. On the other hand, the Size and CR variables are significantly associated to profitability, where the rest of internal determinants are not significant that is according to ROE indication. Hence, it's worth mentioning that banks have an opportunity to improve their performance and to be more profitable throw focuses on improving these determinants (*see appendix (6.2) page, 52 banks profit details*).

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As to external-macroeconomic determinants, yearly GDP growth rate and yearly inflation rate are used, where the results showed that macroeconomic determinants have a limited and insignificant impact on profitability.

## **6.2 Study limitations:**

This thesis found some limitations while investigate the relationships between several factors and banks profitability. First, important derivers of profitability as the amount of risk taking for a bank, adopted credit procedures, and the market risk of the large trading transactions are not incorporated in the model; where there is no measurement tool have availability to reflect these derivers. Besides to corporate governance mechanism such as, board size, board compensation and audit committee could have a significant influence on profitability, were not included in the model, current research may depend on other database to representing these factors.

Second, many recent changes in the Palestinian banking sector effect on the sample selection, where the excluded banks could indirectly influence the profitability of banks which included in the study.

## **6.3 Conclusion and recommendations:**

According to the results the study concludes and recommends the following points for banks management, Palestinian monetary authority, future researchers and other interested parties:

- 1- There recent growth in assets had a positive impact on profitability as results showed, but the result cannot be generalized that the increase in the assets volume is always profitable. Excessive asset growth may lead to an excess of assets due to less utilizing of

these assets. In order to achieve profitable growth in assets (*for more information about yearly assets growth, review appendix (6.1) page, 52*), the study recommend that growth in assets must be accompanied with efficient exploited of resources and take capacity level in consideration.

- 2- The quantity and quality of granted loans are two complementary elements for the efficiency of banks loans departments, where at prior period, it can note that the banks management focused on the amount of loans to maximize their profits at which the CAGR of loans for studied period was 7.36 % (*more details about total loans growth represented in appendix (6.1) page, 52*). From a superficial perspective it seems a very good improvement but unfortunately the quality of granted loans was fall down, the CAGR of loans provision was represented in 28% at the recent five years which indicate that the amount of nonperforming loans was increased. However, at this case we recommend that banks managements and PMA should adopts credit policies performed with adequate abilities to investigate financial risks as default risk, on the other hand, not to adopt a complicated credit policy, it must to select an appropriate one to keep balance and grants well performing loans (*review appendixes (6.5) and (6.7) page, (54, and 55) which includes detailed results about loans market share and geographical distribution of loans in Palestine*).
- 3- Banks could be more profitable and have an opportunity to reflect better results, if the banks management efficiently manages their cost. The interested result of management efficiency shows that banks management on average spent 96.23% of their total income under the name of “costs” required to generate that income. However, Palestinian banking market included 14 banks that provide banking services to a large number of



customers, further that it could be classified as monopolistic competition market that mean there is a no single bank has enough power to influencing market price, then the banks management pricing strategies if not exactly as a market price, it's of course around it. Hence the cost still the only controllable side for a one separate bank management to maximizing its profits and take a competitive advantage according to other competitors, so the study recommend that banks management should efficiently seek out the optimal cost function (*look at appendix (6.1) page, 52. That describe more detailed information about total cost indicator*).

- 4- Attracting deposits are another implication emerged to enhancing banks profitability, as noted before, deposits considered as a major source of fund whereas increase in deposits enhance different banks credit activities which is positively related with profits. Banks can adopt several policies to expand their deposits portfolio throw wide advertisements strategies, incentives on deposits, higher deposits compensations and so on (*see appendixes (6.4) and (6.6) page, (53, and 54) for more data about deposits results*).

#### **6.4: Further Research:**

Further interested study related to banking sector in Palestine, is to investigate about banks profitability that subjected to merger and acquisition strategies. Especially in the recent few years Palestinian banking market has witnessed to several merger and acquisition cases among banks in Palestine. Our future research plan is to reach to empirical results about the effect of merger and acquisition on banks performance in Palestine. On the other hand, investigate the influence of corporate governance factors on banks performance is another important research topic, which could be conducted on Palestinian banking market.

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## Appendices:

### Appendix (6.1) trend of overall banks indicators:

Years	2014	2015	2016	2017	2018	CAGR
<b>Profit:</b> USD million	146.20	134.00	150.20	170.40	176.30	
<i>Growth</i>		-8.34%	12.08%	13.44%	3.46%	5.16%
<b>Deposits:</b> USD million	8639.30	9382.40	10530.80	11881.50	12192.80	
<i>Growth</i>		8.60%	12.24%	12.83%	2.62%	9.07%
<b>Loans:</b> USD million	4460.00	4652.00	6750.50	7878.70	8189.60	
<i>Growth</i>		4.30%	4.51%	16.71%	3.95%	7.36%
<b>Loans provisions:</b> USD million	14.75	20.84	25.00	41.83	34.84	
<i>Growth</i>		41.28%	19.96%	67.30%	-16.70%	28.00%
<b>Assets:</b> USD million	10907.50	11853.50	13640.00	15236.60	15478.80	
<i>Growth</i>		8.67%	15.07%	11.70%	1.58%	9.25%
<b>Total cost:</b> USD million	303.20	340.60	371.65	449.53	478.36	
<i>Growth</i>		11.00%	9.20%	21.00%	6.40%	12.00%

Data source: Association of Palestinian Banks reports (APB) 2018

### Appendix (6.2) net profit market share per bank:

Bank / year	2014	2015	2016	2017	2018
Bank of Palestine	27.50%	32.21%	33.90%	30.55%	27.25%
Arab bank	34.28%	35.93%	30.37%	33.37%	33.98%
The National Bank	3.03%	4.06%	4.73%	5.21%	9.70%
Al-Quds bank	4.95%	5.98%	6.69%	6.32%	5.84%
Arab Islamic Bank	2.82%	3.88%	3.98%	3.62%	3.58%
Palestine Islamic Bank	5.15%	7.49%	8.05%	8.22%	7.62%
Cairo Amman Bank	6.77%	5.61%	5.36%	4.87%	2.32%
Bank of Jordan	3.87%	-1.81%	2.46%	4.11%	3.84%
Palestine investment Bank	1.93%	1.28%	2.17%	2.22%	2.19%
Housing Bank	4.74%	5.75%	3.04%	3.27%	3.51%
Jordan Ahli Bank	2.56%	2.03%	1.89%	1.16%	1.24%
Egyptian Arab Land bank	-0.31%	-3.45%	-2.19%	-2.62%	0.16%
Safa Bank	0.00%	0.00%	-1.38%	-1.40%	-1.42%
Jordan Commercial Bank	2.70%	1.04%	0.94%	1.12%	0.21%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Data source: Association of Palestinian Banks reports (APB) 2018

### Appendix (6.3) assets market share per bank:

Bank / year	2014	2015	2016	2017	2018
Bank of Palestine	22.19%	23.50%	28.54%	30.10%	26.39%
Arab bank	28.28%	26.77%	23.81%	21.56%	21.27%
The National Bank	6.39%	6.92%	6.63%	6.65%	12.49%
Al-Quds bank	6.13%	6.78%	6.65%	6.63%	6.87%
Arab Islamic Bank	5.14%	5.49%	5.48%	6.42%	6.02%
Palestine Islamic Bank	5.45%	5.70%	5.61%	6.23%	6.26%
Cairo Amman Bank	7.67%	7.03%	6.77%	5.98%	5.38%
Bank of Jordan	5.19%	4.79%	4.10%	3.85%	3.45%
Palestine investment Bank	2.94%	2.77%	2.44%	2.73%	2.58%
Housing Bank	5.26%	4.86%	4.19%	3.98%	3.76%
Jordan Ahli Bank	2.47%	2.41%	2.60%	2.54%	2.26%
Egyptian Arab Land bank	1.36%	1.22%	1.08%	1.05%	1.01%
Safa Bank	0.00%	0.00%	0.60%	0.79%	0.94%
Jordan Commercial Bank	1.53%	1.76%	1.50%	1.50%	1.31%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Data source: Association of Palestinian Banks reports (APB) 2018

### Appendix (6.4) customer deposits market share per bank:

Bank / year	2014	2015	2016	2017	2018
Bank of Palestine	23.87%	23.90%	28.18%	29.73%	26.78%
Arab bank	30.95%	28.78%	26.35%	23.85%	22.25%
The National Bank	4.79%	5.74%	5.88%	6.38%	12.31%
Al-Quds bank	5.98%	6.90%	6.97%	6.75%	6.88%
Arab Islamic Bank	4.93%	5.51%	5.60%	6.24%	6.08%
Palestine Islamic Bank	5.28%	5.72%	5.84%	6.39%	6.49%
Cairo Amman Bank	7.17%	6.68%	6.00%	5.67%	5.21%
Bank of Jordan	5.55%	5.13%	4.42%	4.07%	3.52%
Palestine investment Bank	2.31%	2.22%	2.19%	2.35%	2.18%
Housing Bank	5.17%	5.07%	4.33%	4.11%	3.89%
Jordan Ahli Bank	2.12%	2.20%	2.30%	2.37%	2.16%
Egyptian Arab Land bank	0.93%	0.85%	0.81%	0.81%	0.84%
Safa Bank	0.00%	0.00%	0.09%	0.21%	0.53%
Jordan Commercial Bank	0.96%	1.31%	1.04%	1.07%	0.87%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

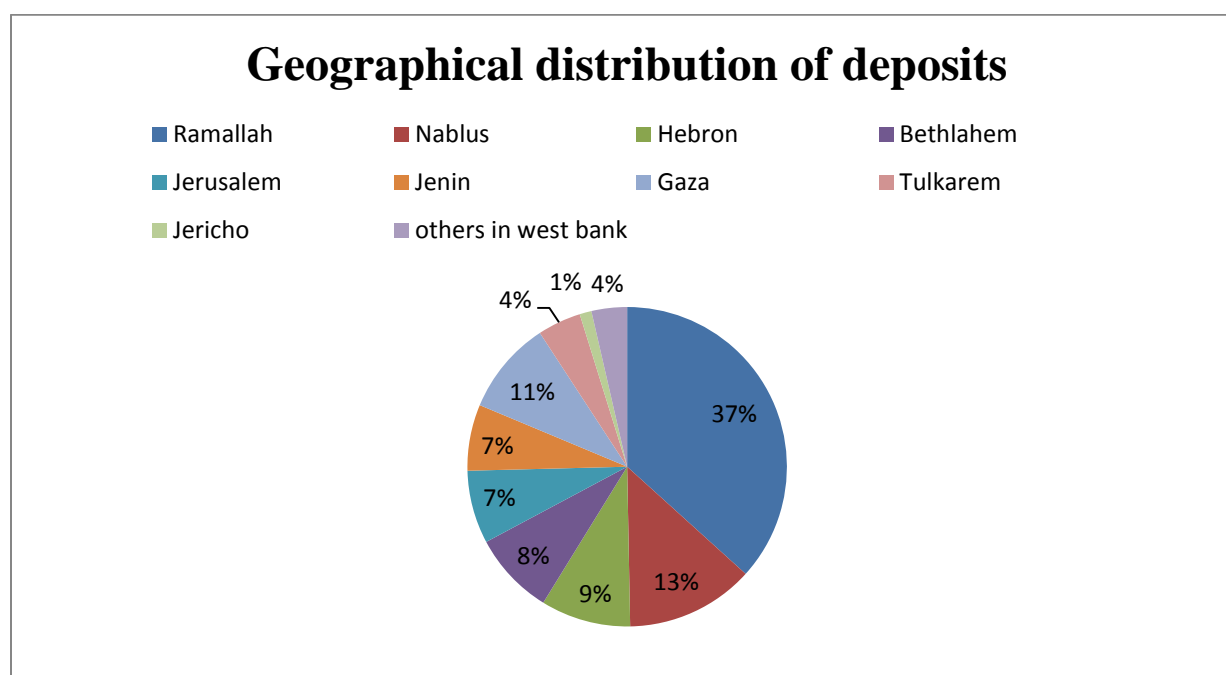
Data source: Association of Palestinian Banks reports (APB) 2018

### Appendix (6.5) loans market share per bank:

Bank / year	2014	2015	2016	2017	2018
Bank of Palestine	24.72%	24.92%	30.87%	29.84%	28.13%
Arab bank	27.20%	26.71%	21.08%	21.15%	19.16%
The National Bank	6.41%	7.21%	7.24%	7.75%	13.89%
Al-Quds bank	7.21%	7.76%	8.60%	7.80%	7.31%
Arab Islamic Bank	5.30%	5.59%	5.85%	6.65%	7.14%
Palestine Islamic Bank	7.57%	8.01%	7.53%	7.34%	7.12%
Cairo Amman Bank	6.37%	5.45%	5.33%	5.74%	5.24%
Bank of Jordan	3.03%	3.48%	2.97%	3.30%	2.79%
Palestine investment Bank	2.19%	2.54%	2.53%	2.50%	2.28%
Housing Bank	4.44%	3.17%	2.68%	2.47%	2.07%
Jordan Ahli Bank	2.54%	2.31%	2.63%	2.36%	1.95%
Egyptian Arab Land bank	1.85%	1.57%	1.40%	1.25%	1.15%
Safa Bank	0.00%	0.00%	0.06%	0.62%	0.91%
Jordan Commercial Bank	1.17%	1.28%	1.22%	1.25%	0.86%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

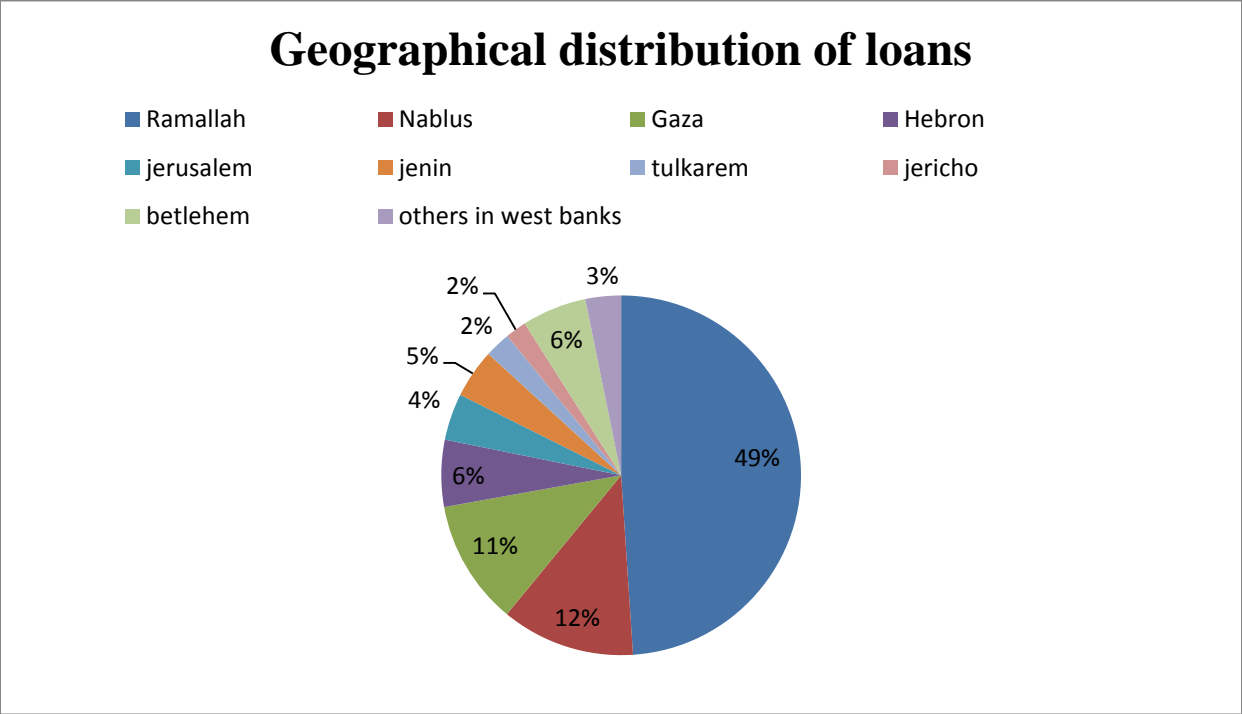
Data source: Association of Palestinian Banks reports (APB) 2018

### Appendix (6.6) Geographical distribution of banks deposits:



Data source: Association of Palestinian Banks reports (APB) 2018

**Appendix (6.7) Geographical distribution of banks facilities:**



Data source: Association of Palestinian Banks reports (APB) 2018

1

<sup>1</sup> Appendixes calculated according to modified consolidated financial statements which subjected to banks that included in the sample (fourteen banks).

## محددات الربحية للبنوك العاملة في فلسطين

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الدكتور المشرف: الدكتور ساهر عقل

### المخلص

وضحت الدراسة محدّدات الربحية للبنوك العاملة في فلسطين خلال الفترة ما بين (2014-2018)، و لتحقيق اهداف الدراسة تم اختيار مجموعة من المتغيرات و التي قسمت الى متغيرات البنك الداخلية و المتغيرات الاقتصادية الخارجية, حيث ان كل من: حجم البنك, نسبة معدل كفاية راس المال, مخاطر الائتمان و السيولة صنفت على انها متغيرات البنك الداخلية و ذلك لتوضيح مدى اثرها على ربحية البنوك و التي مثلت في كل من نسبة العائد على الاصول و نسبة العائد على حقوق الملكية, اما بالنسبة للعوامل الاقتصادية الخارجية فان كل من معدل التضخم و معدل النمو في الناتج المحلي الاجمالي تم دراستها للتوضيح عن مدى اثرها على القطاع المصرفي الفلسطيني.

اعتمدت الدراسة على تقارير البنوك السنوية و المنشورة على موقع سلطة النقد كمصدر اساسي للمعلومات حول المتغيرات الداخلية للبنوك, في حين انه تم الاعتماد على الجهاز المركزي للإحصاء الفلسطيني و موقع الاتجاه الاقتصادي و تقارير سلطة النقد المتعلقة بالتضخم و النمو للحصول على المعلومات عن معدل التضخم و النمو في الناتج المحلي الاجمالي.

باستخدام برنامج التحليل الاحصائي تم تحليل المعلومات من خلال انشاء معادلتين منفصلتين لكل متغير مستقل للوصول الى نتائج الدراسة, حيث اشارت النتائج الى وجود علاقة ذات دلالة احصائية لكل المتغيرات الداخلية باستثناء متغير نسبة معدل كفاية راس المال مع الربحية, حيث ان طبيعة العلاقة كانت عكسية لكل من متغير كفاءة الادارة و السيولة و مخاطر الائتمان , في حين ان العلاقة بين الربحية و متغير الحجم طردية و ذلك بالاعتماد على معدل العائد على الاصول كاداة لقياس الربحية, اما بالاعتماد على معدل العائد على حقوق الملكية كاداة لقياس للربحية, فانه يوجد علاقة عكسة ذات دلالة احصائية بين الربحية و مخاطر الائتمان و علاقة ايجابية بين الربحية و الحجم, في حين انه لا يوجد علاقة بين الربحية و المتغيرات الداخلية الاخرى, اما بخصوص العوامل الاقتصادية الخارجية فان نتائج الدراسة اشارت لوجود علاقة ضعيفة و محدودة لكل من معدل التضخم و معدل النمو.

بالاعتماد على النتائج جاءت توصيات الدراسة كالآتي: 1- يجب ان يكون معدل نمو الاصول في البنك بالتناغم مع حجم النمو بالعمليات التشغيلية بحيث تكون الاصول مستغلة بشكل فعال. 2- الكمية و النوعية للتسهيلات المختلفة يجب ان تاخذ بعين الاعتبار من قبل مختلف البنوك و عدم التركيز على الجانب الكمي فقط بهدف تحسين جودة التسهيلات الممنوحة. 3- على البنوك التركيز على جانب الكفاءة في ادارة المصاريف التشغيلية و تقليلها قدر الامكان. 4- العمل على جذب الودائع المختلفة لما لها من اثر ايجابي في تعزيز المحفظة الراسمالية للبنك.