

# **Determinants of Small Business lending in Palestine**

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## **ABSTRACT**

Palestine is a land which 80% economy is occupied with small and medium enterprises. The aim of this paper is to determine the factors that drive banks or other financial institutions' decisions to provide loans to small and medium enterprises' owners specifically in Palestine. In order to achieve the study aim six banks and four micro finance institutions have been chosen. Loan guarantee fund programs and donations, business size and inflation were used as independent variables that influence banks or MFIs lending decision. The collected data was for the period of 6 years (2008-2013). Regression analysis is used as an effective tool to drive final results. The findings illustrate that selected variables such as asset size have higher impact on both banks and MFIs lending decision, while inflation have no any significant impact on banks but negative impact on MFIs. The funding programs and donations have positive impact on banks and MFIs respectively. The study also comprises the detail review of the SMEs role in Palestine and previous researches. The study is equally useful for SMEs and bank owners to understand the factors influence on SMEs loans.

**Keywords:** SMEs, SMEs' issues, determinants of SMEs lending, SME financing.

## ÖZ

Filistin ekonomisi %80'i küçük ve orta ölçekli işletmelerden oluşan bir ülkedir. Bu çalışmanın amacı bankaların ve diğer finansal kuruluşların küçük ve orta ölçekli işletmelere hangi faktörler sayesinde borç verme kararını verdiğini incelemektir. Bu çalışmayı gerçekleştirmek için altı banka ve dört mikro finans şirketi seçilmiştir. Bankaların ve mikro finans şirketlerinin borç verme kararlarını etkileyen kredi garanti fonu, bağışlar, işletme büyüklüğü ve enflasyon bağımsız değişkenler olarak kullanılmıştır. Elde edilen veriler 6 yılı (2008-2013) kapsamaktadır. Regresyon analizi ise kesin sonuçları bulmak için ivedilikle kullanılmıştır. Bulgular, seçilen değişkenlerden, aktif büyüklüğünün, borç verme kriterlerinde pozitif bir etki sağlarken, enflasyonun bankalar üzerinde önemli bir etkisi olmadığı, ama mikro finans şirketlerinde ters orantılı bir etkisi olduğunu öngörmektedir. Finansman programlarının ve bağışların hem bankalar hem de mikro finans şirketleri üzerinde negatif bir etkisi olduğu görülmektedir. Bu çalışma aynı zamanda KOBİ'lerin Filistin üzerindeki etkisi ve daha önceki literatürdeki yerini de irdelemektedir. Bu çalışma aynı zamanda KOBİ'lerin ve bankalar KOBİ kredileri hangi faktörlerin etkilediğini anlamasını sağlayacaktır.

**Anahtar Kelimeler:** KOBİ'ler, KOBİ sorunları, KOBİ'lerin kredi, KOBİ finansmanı belirleyicileri.

**To my beloved Family**

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# **Chapter 1**

## **INTRODUCTION**

SMEs has direct impact on the growth of a country, not just in terms of increasing funds for business owners, but also it reduces poverty, increase employment and support goods export. It balances economy traits by allocating resources more efficiently. The main source of SMEs development is financing, which is an important constraint on their success. Therefore, the basic aim of this study is to investigate and analyze the factors that influence the bank's and micro-financial institution's decision when they lent money to small enterprises in Palestine.

In order to achieve objectives of the study most active banks and MFI's of Palestine, are taken into account. The money lending policies of these banks and MFI's would be reviewed to analyze the real scenario. Due to the current situation of war most of people need to borrow money from banks to establish small businesses. Thus, it encouraged me to research on those determinants as my final study.

The study actually indicates all the determinants involve in the process of small business borrowing specifically in Palestine. This document will emerge as a guide for small business owners in Palestine when they borrow money and will help to avoid constituents that influence a bank's decision in the lending process in future.

## **1.1 Background**

Small businesses have a vital role in economic stability and growth. They create new job opportunities and fulfill a goods and services' need of the local public. Statistics of developing countries reveal that small businesses have a prominent share in their GDP and accelerate the economic growth as well. Capital considered as a fleshing blood for business and in case of small business borrowing money from bank is one of the main sources of capital. Beside its significance, small business owners are facing a major obstacle in getting loans from banks. Due to the conventional approach of banks and restricted regulatory standards made it more difficult for small business owners to get a loan. It is widely observed that small business owners are troubled to meet the collateral requirement of banks for lending money (K. Dietrich, 2003).

As at one side where it is essential to develop small businesses in a country while on other hand financing these enterprises is a critical and main issue. Small business owners always need capital support that can only be done by bank and other financial institution loans. It is not an easy for SMEs to borrow money from banks. Banks usually hesitate to provide money to business starters, young owners and an enterprise that assures the highest return but at certain risks. The factors that influence banks' decisions include borrowers' history, economic situation and other external issues. Palestine is a country where political and economic condition fluctuates rapidly. Due to war business owner's thinks twist to invest money in Palestine, and people mostly prefer to start small business and for that they need loans from banks. Beside such circumstances SMEs owners all around the world usually face difficulty in borrowing money from the bank (K. Dietrich, 2003).

Recently a survey has been conducted in Palestine in which 37% of business owners quoted finance as a major issue in their business growth. Various microfinance institutions in Palestine are serving small businesses. However, other obstacles, including partial legal framework, conservatively designed lending policies, and lack of awareness among business owners regarding financial and credit services. A patchwork of Jordanian, Egyptian, British and Ottoman Mandate laws have built a system with numerous contradictions and gaps.

Commercial banks in Palestine normally need loans to be more than 100% pledge with land or personal guarantees, a requirement that often does not allow businesses to borrow the amount of capital necessary to expand business. It is also due, however, to over-reliance on reputation and unfamiliarity with cash-flow-based analysis methods that assess a business' ability to repay a loan based on the net cash inflows rather than simply their collateral.

Moreover, when there is any issue among financial institutions, small business owners themselves try to resolve the problem. Many SMEs' owners due to improper accounting and record keeping do not provide complete information about their business. The partial knowledge of common financial terms and conditions means that businesses often do not understand the available options (Timothy Nourse, 2009).

## **1.2 Problem statement**

There is no doubt that small business plays an important role in the economic development of a country but when they go through the process of borrowing money from banks, it becomes so difficult for them to meet with money return policies of

the bank. Thus, this research presents the issues that small business owner faces in the borrowing process from banks. It will also highlight the banks fear and considerations when they lend money to small business owners.

### **1.3 Statement of Purpose**

The purpose of the study is to examine and elaborate the issues that small businesses are facing when they borrow money from banks and MFI's in Palestine. Banks have a rigid attitude toward assurance of getting money back that why they have set specified criteria of terms. Especially in the current situation of Palestine it becomes so difficult for small business owners to borrow money for infusion and the survival of their business. Hence, this study also aims to provide some recommendations to avoid future influences.

### **1.4 Research Methodology**

To get the real facts and figures, qualitative cum quantitative research approach is used. In this account an intense study of genuine cases is done. Electronic journals, articles and previously done researches are also considered to broaden the knowledge and vision. Also, statistical analysis called regression analysis is done for the final findings.

### **1.5 Structure of the study**

The entire study is categorized in six sections, after the introduction a detailed review of Palestine banks, their funding system and obstacles during lending money to small business owners is discussed in section 2. Section 3 presents overview of SME's, lending sources & constraints. Section 4 describes the collected data and research approach/methodology. Section 5 presents findings and data analysis. Finally, section 6 consists on the final conclusion and recommendations.

## **1.6 Implications & Results**

The driven result identifies the factors influence small business lending decision of banks and MFI's in Palestine. It also classifies which factors have a significant impact that is presented with the help of statistical analysis.



## **Chapter 2**

### **LITERATURE REVIEW**

The study aims to provide the solutions to the asymmetrical arrangement of information issues faced by the banks in providing loans to the local small companies or to the people who want to initiate the new business in Palestine. The findings of the study depict that there is a similar kind of strong externality related to the decisions of SMEs lending. The basic aim of the study is to gather the required data which are useful for the Palestinian banks to come to know about the borrowing capacity of SMEs and their ability to bear the risk. Another major problem prevailing in Palestine is the confusion about the size of banks who lend money to smaller organizations.

Different researchers have conducted research and wrote a number of articles related to the ability of banks to provide loans to small organizations on the basis of their size. Many of these existing researches suggest that the impact of bank consolidation can be known if we study about the bank's ability (depending upon their size) to provide loans to small companies. Economists in Palestine seem busy in knowing the lending actions taken by banks before and after acquisition for finding the relationship between sizes of financial institutes i.e. banks and loans to SMEs.

Barr (2005) explained about the impact which can be on the credit gaining the capability of borrowers in "thin" market due to the information externalities. He said

that the information externalities can cause some obstacles to for small corporations to borrow the money. According to him, “Thin market” is the considered to be a marketplace where lower levels of economic actions take place as compared to the other markets. He also added that it is difficult, but sometimes impossible to borrow the money in the form of mortgage loans for the neighborhoods whose income is low due to absence home revenues in these “thin” markets. Furthermore, Barr explained that due to the issues related to information, a situation arises when the creditors entry into low-income markets after huge delay. The markets where revenue is lower, can face problems because of low volume as well as money liquidity blockage.

Berger (2001) stated that the banks with a larger size do not take interest in providing loans to the small businesses because they possess less equity. The smaller banks can lend finance to the small corporations at a lower cost as compared to the larger banking institutes. If large banking institutes have to bear the higher costs against the relationship lending then the new banking institutes incorporated after an acquisition or merger should provide fewer financial loans to small business organizations.

According to Berger et al. (1998) the new bank offers less lending to the small corporations in comparison with the independent banking institutes before a merger. He was of the view that Small banks are more advantageous in lending finance small business concerns in comparison with the other banking institutes because they focus on fair and efficient lending technologies which takes help from ‘soft’ qualitative data. On the other hand, large banking institutes are experts in providing

financial lending to the big corporations and focuses on the technologies which uses the 'hard' quantitative data. As per the view of (Nakamura L. I., 1994), small banking institutions are appropriately in providing financial borrowings to small companies at the national level. These institutions provide a loan as they are capable of monitoring the small companies and due to strict hierarchical arrangements, small banks more focus upon the resulted information.

## **2.1 Small Medium Enterprises in Palestine**

According to (DeVair, 2009), Palestine economy is entirely occupied by small and medium enterprises that cover the 99% establishments and 82% employments in Palestine. The employment ratio itself describes the importance of SMEs in Palestine's economy. More than 90% of private organizations have 5 maximum no of employees, while only 1% of organizations hardly have more than 20 employees. Yet even these are the figures for only formal or registered ones, there are a lot more firms that are unregistered and unfortunately the quantity of unregistered or informal enterprises are increasing dramatically. According to the Palestinian Central Bureau of Statistics Establishment Registrar the number of informal or unregistered small firms is three times higher than the formal ones. Therefore, Palestine is a not a home for large businesses, it is mostly occupied by the small business entrepreneurs. In situations when Israel has posed too many challenges for Palestinians, small enterprises are much suitable for them, specially a business based on just family members have more ease to shift their business somewhere else. One more advantage that SMEs' owners have is that during an uncertain situation by government, politics or the military, they can copy other's strategies for example decreasing expenditures and saving capital. The drawback of SMEs is the low rate of productivity it is not comparable what large firms can produce. Thus, SMEs have

more importance in Palestine, it is a rapidly growing sector, but informally which is indicating to an unhealthy economy.

## **2.2 Entrepreneurs of Palestine**

Omar Hassan, 2014 in his article “Entrepreneur skills and small business” talked about the Global Entrepreneurship Monitor (GEM) that indicates Palestine’s initial entrepreneurship rate. In the early days, entrepreneurship activity has been just 9%. People in Palestine were possessed with knowledge but not skills of business that was due to the less effective education system and many other reasons. However the scenario totally differs now after lots of awareness and training sessions. Palestine land is an entrepreneurs’ land by nature, it is just affected by political situation, business climate, cultural and personal factors. Despite this all, Palestine entrepreneurs share many other characteristics and chances for success with other entrepreneurs around the world.

Finance is required by every organization to run its operations. The major sources of finance consist of seed money as well as venture capital, but these are not enough to run the business operations smoothly. In Palestine and Diaspora, an effective organizational structure or network is essential so that the steps of financing cycles can be finished effectively. In 2011, MAS recommended in a study that the three areas have to be focused upon for betterment in MSMEs. These three areas are:

- The legal environment
- Access to finance
- Access to related support services

According to the study conducted in 2007, entrepreneurship as well as innovation in Palestine has to be improved by making effective changes in the educational system of Palestine. The changes may be focusing on learning by actions as well as on innovative or critical-thinking methods (Omar H. , 2014).

Palestinians are of the view that, knowledge-based economy has to be maintained so that development, better economical, improved social life and betterment of society can be done. Such economic system can be built by focusing on education, innovation as well as research in micro, small along with medium enterprises (MSMEs). European Investment Bank and the United Nations Economic and Social Commission for Western Asia are of the view that knowledge as well as innovation is helpful in delivering value and in gaining the economic development. Innovation cannot only be achieved through technology, research and development, but can be gained via effective management along with usage of effective business models as well as in through other societal aspects etc.

Different acceleration programs, activities, as well as actions have been taken in Palestine so that its big and small business firms can be developed effectively. The effect and return on investment of such activities or initiatives are not too much higher as well as are intangible in nature. The number of jobs provided as well as the SME support is not satisfactory. If the management wants to implement the effective strategic plan for Palestinian SMEs then it is mandatory to build a clear vision at first (Omar H. , 2013).

### **2.3 Small Business Financing in Palestine**

In “Access to Finance” (Khoury, 2009) described about the SMEs role and issues in Palestine. He defined SMEs as the major business type in Palestine, although the Palestine is a small market with a struggling economy, but this is also true that SMEs are the backbone of economic growth and job opportunities in Palestine. The main issue with SMEs is limited finance that doesn't let SMEs' owners to expand their business. The 3Fs (friends, family and fools) are usually the policy of banks while finances small businesses. The Palestinian people are so much disappointed due to this conservative behaviour of banks, but banks are not individually responsible for that. As banks are bound with their policy to protect their customer's money, so they need to carefully make sure the making and return of loans. Palestine is a country with an unpredictable environment that's why banks are afraid of risks and become conservative while financing to small business owners. As the business owners have adapted the business environment and learned to maintain the stability of their businesses, banks also need to be flexible with their credit rules and merit basis of SMEs business plans and cash flow. Banks solely cannot take all responsibility, business owners requires to disclose completely accurate information about their finances and earning to gain banks' trust. Financial transparency and promotion is not an easy process mainly due to the tax system held in the Israeli occupation. Hence the bottom line of all this is that business owners should communicate with banks in finance language otherwise banks would ask you for thousands of money back guarantees.

## **2.4 SMEs financing in Palestine Vs Other countries**

Bank loans to SMEs in Palestine show only 6% of total loans in 2010. On the other hand, it was 24% in Morocco and 16% in Lebanon. Some of the benchmarking tools for Palestine are:

- The Report on the Implementation of the Euro-Mediterranean charter for enterprise by the European commission.
- The Organization for Economic Cooperation and Development.
- The European Investment Bank.
- European Training Foundation.

The report formulated with the help of an assessment conducted by Europe Charter for Enterprise on the basis of implementation of the Small Business Act (SBA) for Europe in 2013 showed that benchmarking platform and improvements made during the last five years in Palestine and its comparison with Mediterranean countries. 10 dimensions were included in the assessment and it was observed that Palestine ranked very low in Dimension Eight which was “Promoting Skill Upgrade and Innovation.” It was due to the fact that there was a lack of policy framework for SME innovation and the absence of related national systems, rules, policies, regulations, and strategies (Omar H. , 2014).

Global Innovation Index 2013 is considered to be an important tool. Israel has been ranked at 14<sup>th</sup> number out of 142 i.e. highest among (NAWA) countries and is considered to be the highly innovative country in the region. The United Arab Emirates ranked 38, Tunisia at 70<sup>th</sup> number and Jordan at 61<sup>th</sup> while Palestine was nowhere in the ranking list. The Knowledge Economy Index (KEI) of the World

Bank is considered to be another useful tool for monitoring and comparison. Innovation is considered to be the important pillar of Knowledge Economy (KE) and a sub-index of the KEI. No rank is given to under KEI 2012 ranking. On the other hand, Israel ranked 25<sup>th</sup> out of 145 and is the highly innovative economy. Other countries like Jordan, Bahrain and Tunisia were ranked 75 43 and 80 respectively.

On the basis of the above-mentioned tools, methods and strategies (Omar H. , 2014) , recommended that there is a need for revising the whole business and innovation system in Palestine. These systems include the social, economic as well as educational systems. The private sector, national business angels as well as the government of Palestine has to play an important role in the play. Coordination is required at various sectors in the region. Palestine requires clear vision, national strategies as well as agendas to become successful.

In this study, researcher evaluates the performance of microfinance institutions of Cameroon. The study put light on the importance of micro finance institutions in a country's development and various factors' impact on MFIs performance and lending decisions. The study actually examines how much impact business size has over the performance of MFIs, specifically on MFIs lending decision to small firm owners. The business size can be noticed with its total number of assets, thus if any MFI has sufficient number of assets than its operational cost, would be more able to provide loans to SMEs owners. In order to see either Cameroon's MFIs are capable to support SMEs or not? six major institutes of Cameroon been chosen. They first covered microfinances' detailed scenario in Cameroon and various concepts of



small business funding. Moreover, a conceptual framework that demonstrates numerous rating techniques to analyze and provide a clear picture of MFIs performance. The rating analysis was as follows:

- Cameroon MFIs' return on assets was low.
- The return on equity was not sufficient enough to support operations.
- The revenue and profit were also less that can't even help to survive their business.
- Expenses were not that much higher as compared to their benchmark.
- Management was totally relied on risk, as they are going through too many risky situations, such as there was no difference between loan loss and write off ratio.
- The Financial structure also found with higher risk management.

The driven results revealed that these financial institutes are at risk due to having low cost approach, because they are more concern about minting money than helping small business owners. Thus, many rating techniques have been used to collect authentic data about MFIs performance. The mix market database approved as one of the reliable database for MFIs. Beside these all factor, it has been concluded that Cameroon adopted a distinct management model for its various MFIs. From an outreach perspective, there were a limited number of institutions. As a final point of view Cameroon doesn't concern about risk and operating their MFIs without a strong strategy (Bilge, 2012).

## **2.5 Palestine Monetary Authority and SMEs**

According to Wazir (2009), The Palestine Monetary Authority (PMA) is helpful in the emergence of the Central Bank in Palestine. Its basic aim is to help the country in the remaining stability of the Palestinian financial system as well as bettering of sustained economic and financial aspects in Palestine. This can be done via:

- Effective and transparent regulation and management of banks.
- Making specialized lending institutions.
- Money changers operating in Palestine.
- Developing the monetary policy for attaining price stability.
- Monitoring of the implementation and operation of innovative and effective payment systems.

MSMEs in Palestine have been facing the problem of limited access to finance so The PMA has enabled the banks to branch to operate in rural and under-banked areas by opening branches so that financial services can be provided to all Palestinians. With the help of IMF, a credit bureau was developed in Palestine so that repository can be served and database of the amount and status of credit facilities granted to clients can be maintained. The bureau will enable the availability of credit with the help of following means:

- Encouraging the banks and lending institutions to take effective credit decisions
- Minimizing the cost and time required for taking useful credit decisions
- Minimizing the number and size of delinquent loans
- Reducing the cost of investigation
- Offering a more effective risk pricing

- Accepting the large volumes of credit requests by involving lower risks
- Enhancing profits and revenues
- Reducing the borrowing costs
- Aiding prediction of customers' future behavior by assessing their past performance
- Improving the economic growth as well as living styles and standards
- Making improvements in risk-assessment procedures

The basic aim of this regulation is to preserve the dignity and effectiveness of the financial institutions lending finance to the business concerns. Secondly, to make sure that these lending companies or institutions are helpful in attaining the economic development, effective management, organization, supervision as well as transparency according to the policies and regulations in the Palestinian financial sector (Wazir, 2009).

## Chapter 3

### OVERVIEW OF SMES, LENDING SOURCES & CONSTRAINTS

This section of the study covers several discussions that include: number of SMEs, sources such as banks, financial institutions and NGOs that finance SMEs in Palestine, challenges faced by SMEs while borrowing money and also the constraints that influence banks' lending decisions.

#### 3.1 Small Medium Enterprises in Palestine

Palestinian Central Bureau of Statistics, 2013 in the Labor Force Survey conducted on December, 2012 categorized Palestine enterprises, according to the number of personnel they have. Employees from 1 to 9 called small enterprise, the enterprise with 10 to 19 called medium one and enterprises consists of more than 20 employees called Large enterprise. The below mention table shows the size of SMEs operating in Palestine under different sectors (PCBS, 2014):

Table 1: Number of SMEs in Palestine (PCB, 2014)

Economic Activity	Employment Size Group			Total
	Small	Medium	Large	
	1-9	10-19	20+	
Agriculture	119	2	0	121
Industry	3354	314	53	3721
Construction	171	34	6	211
Services	3121	333	65	3519
<b>Total</b>	6765	683	124	7572

SMEs constitute 99% of the Palestinian private sector by number of enterprises. SMEs employ >80% of the workforce. SMEs are the basis for employment and productive activity in all productive sectors. In all regions of the country, SMEs are key providers of inputs and services to larger industries. The following table shows the turnover of SMEs in a year (Rajab, 2014).

Table 2: SMEs annual turnover ratio (MAS, 2013)

<b>Enterprises</b>	<b>Annual Turnover (USD)</b>	<b>Registered Capital (USD)</b>
Micro	Up to 20,000	Up to 5,000
Small	From 20,0001 to 200,000	From 5,001 to 50,000
Medium	200,001 to 500,000	From 50,001 to 100,000

### **3.2 Sources of SMEs financing in Palestine**

There are a number of banks, NGO's and financial institutions in Palestine that provide loans to small business owners. Various banks of Palestine initiate some SMEs funding programs with the help of foreign banks, such as, Bank of Palestine, Quds bank, Arab bank and National bank of Palestine. Palestine central bureau (Ministry of Finance) has also made some agreements with foreign financial institutions in order to support SMEs. The main sources and some external sources are mentioned below:

#### **3.2.1 Banks**

Seventeen banks (local and foreign) are operational in Palestine. The ratio of loans to private sector deposits is low in West Bank and Gaza in comparison with neighboring countries. The growth in public deposits in 2013 was accompanied by a clear growth in lending. Regarding SME financing, the share of bank credit to SMEs

was only 6% of total bank loans, while the average for the MENA region (excluding GCC countries) was more than 13%. Personal contributions generally constituted the primary source of financing for around 80% of SMEs while bank credit accounted only for 8.2%. This low rate of bank lending prevails despite the fact that 60% of enterprises surveyed stated that they need external sources of financing. Thus, banks have Very Conservative Lending Policies: Due to the unstable political climate, banks are very conservative and demand excessive collateral (often up to 130% - 200%) (Palestine Banking Association, 2013). The figure below shows the loan granted to SMEs in 2013 from banks:

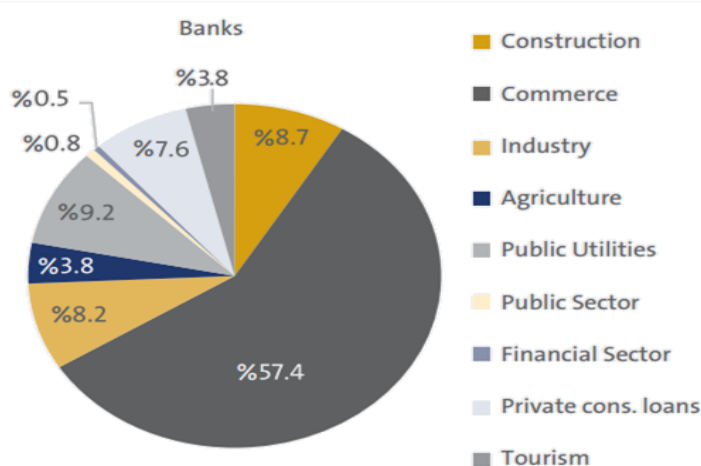


Figure 1: Banks loan ratio for SMEs (PMA, 2013)

### 3.2.2 Micro finance Institutions

Microfinance sector in Palestine is still dominated by NGOs, funded by grants and donations, with only a few commercial banks providing microfinance services. No. of Microfinance Institutions and Programs Under Sharakeh is 11, Total Outstanding Portfolio \$74,698,065.9, No. Of Active clients 43,131, No. of Women Borrowers 23,294 = 54%, and Average Loan size is \$1,732.

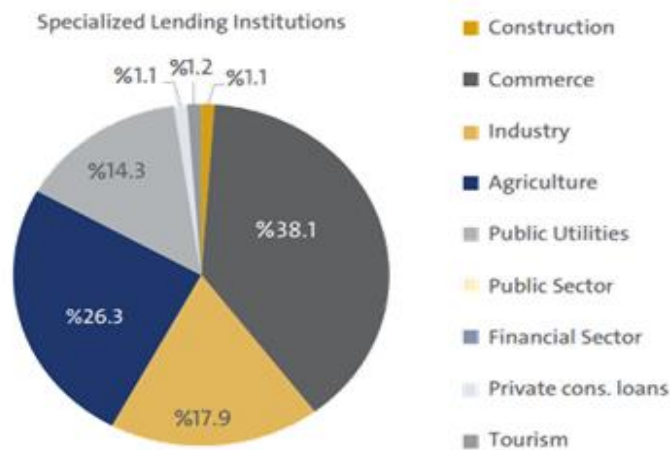


Figure 2: MFI loan ratio to different industries (PMA, 2013)

### 3.2.3 Loan guarantees Programs

- **Palestinian Loan Guarantee Facility**

In 2007, MEII launched a ten-year Loan Guarantee Facility (LGF) in the West Bank. The main objective of this program was to support SMEs growth by guarantees loans primarily ranging from \$10,000-\$500,000 and may, on exceptional cases, consider larger loans. LGF's average loan size of \$125,000 and a cumulative loss rate of 2.1% is indicative of its success (MEII, 2007).

- **Private Sector Support Program**

The Italian Ministry of Foreign Affairs and the Palestinian Liberal Organization started "Private Sector Development Program" to Support (SMEs) through the Palestinian Banking System" in the value of Euro 25 million soft loan. The program objective was to provide soft loans for Palestinian SMEs to finance purchasing equipment and services of Italian origin to develop their current production lines. The loan amount were: Minimum Euro 50,000 and Maximum Euro 500,000 with 5% interest rate, and repayment period was 5 years (Palestine Authority, 2005).

- **European Palestinian Credit Guarantee Fund:**

European Palestinian Credit Guarantee Fund (EPCGF)/ KFW to support SME project Working in co-operation with 9 partner banks. 3,000 loan guarantees for a cumulative amount of USD 104 million (EUR 77 million).

- **PIF, OPIC and the Aspen Institute through MEII's Loan Guarantee Facility:**

Palestine Investment Fund, OPIC and the Aspen Institute through MEII's Loan Guarantee Facility, Partnerships with nine banks (2013), 446 loan guarantees for approximately USD 85 million (EUR 63 million) to SMEs (2012). Source: Small Business Act

### **3.2.4 PMA's role in supporting SMEs**

The PMA has dedicated special attention to the SMEs sector, given its role as a key agent for: the development of the national economy, the generation of job opportunities, the diversification of income resources, and the promotion of entrepreneurship. The PMA established an advanced SMEs database center. The centre will serve lending institutions by offering a comprehensive and up-to-date database on SMEs; it will also help SMEs by facilitating their borrowing, thereby enhancing their activities and performance. The value of facilities granted to SMEs in 2013 amounted to around USD 715 million, of which USD 540 million remain outstanding. Out of this total, the banks contributed USD 631 million, while specialized lending institutions provided USD 84 million (Palestine Monetary Authority, 2013).

### **3.2.5 Other sources of finance**

International finance corporation conducted a survey that shows the credit sources that provide loans to small business owners. In terms of formal sources, MFIs (6%)



has a higher penetration rate than banks (2%). Suppliers are by far the largest source of credit (54%) compared to family or friends (8%). All the participants in the qualitative interviews indicated they preferred to borrow money from relatives, as shown below in diagram (International Finance Coporation, 2007).

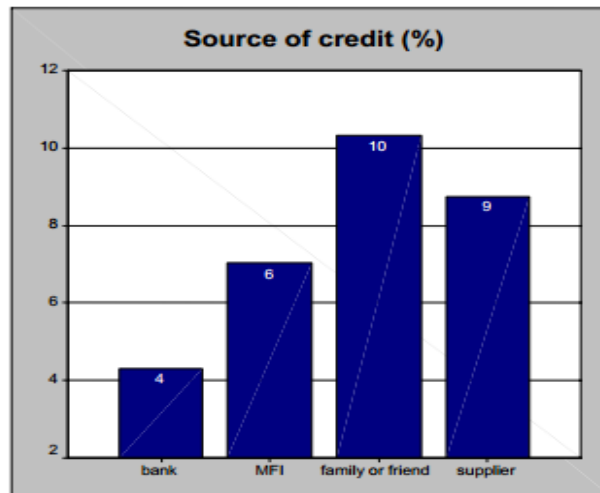


Figure 3: SMEs funding sources in Palestine (IFC, 2007)

### 3.3 Challenges and constraint faced by SMEs while borrowing

#### Money

SMEs have consistently suffered in accessing source of finance due to lack or insufficient collaterals accepted by banks (Najjar, 2009). In a recent survey of Palestinian business owners, 37 percent cited finance as a major constraint to their business growth. The combination of an incomplete legal framework, conservative lending practices, and financial illiteracy among business owners constrains business access to financial services, especially credit (Nourse, 2014).

**Unstable Political Environment and Bank's policies:** Banks have very conservative lending policies, due to the unstable political climate, banks are very conservative and demand excessive collateral (often up to 130% - 200%) (Planet

Finance, 2007). Commercial banks in Palestine generally require loans to be more than 100 percent collateralized with land or personal guarantees, a requirement that often does not allow businesses to borrow the amount of capital necessary for business expansion (Nourse, 2014).

**Young Owners:** Access to suitable finance is heavily constrained for young people in Palestine, unable to provide guarantees or not employed (Planet Finance, 2007).

**Loan Size:** most SMEs innovation lack access to capital and financing from local finance institutions estimates of unmet SME credit demand exceed \$400 million. Most SMEs are generally unable to satisfy lender collateral requirements, resulting in no credit access or insufficient loan sizes that do not meet the capital needs of borrowers. SMEs are generally obliged to struggle with inadequate and poorly structured credit (MAS, 2010).

**Absence of Finance Law:** In the financial sector, where critical laws regarding leasing, mortgage finance, and the collateralization of loans (secured transactions) are missing, constraining the ability of financial institutions to offer many types of finance to the small-business sector.

**Inefficient registry system:** Many businesses, especially small and medium size, are unregistered, this show the lack of a registry system and clear seizure. These processes also inhibit the lending to SMEs in Palestine.

**Insufficient Information:** Poor accounting and record keeping mean that many businesses cannot provide to financial institutions the minimum amount of information necessary to complete a loan application.

**Lack of Financial knowledge:** In addition, insufficient knowledge of common financial terms and conditions means that businesses often do not understand the options available and how best to use them (Nourse, 2014).

The diagram below shows a result of survey conducted by MAS in 2010 that demonstrate the causes of loan rejection to SMEs owners:

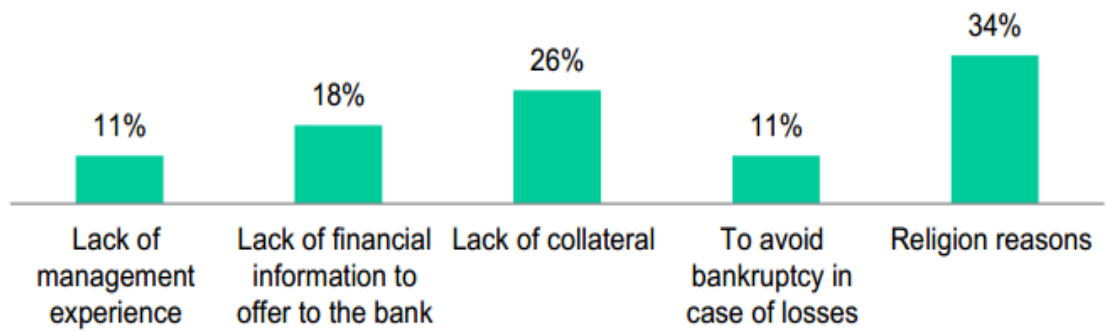


Figure 4: Reasons of loan rejection for SMEs (MAS, 2010)

## Chapter 4

### DATA & METHODOLOGY

This section will cover the data and methodology performed to justify the study aim. It covers the chosen sample for data analysis, data sources, variables and methodology used in the analysis to get final results.

#### 4.1 Methodology

When it comes to lent money to small business owners, there are various sources as discussed in the previous section, but the major sources that lent money to SMEs in Palestine are banks and MFI (micro finance institutions). Therefore, our study focuses on the factor that specifically effect banks and MFIs lending decision. In this regards, we used two testing models.

The panel of the regression equation for both models will be like:

- (Banks loans to SMEs)  $Y = f(\text{bank size, loan guarantee fund, inflation})$

$$\text{Banks loan} = \beta_1 + \beta_2 (\text{Size}_{i,t}) + \beta_3 (\text{LGF}_{i,t}) + \beta_4 (\text{Inf}_{i,t}) + \varepsilon_t$$

- (MFI's loans to SMEs)  $Y = f(\text{MFI size, donation, inflation})$

$$\text{MFIs loan} = \beta_1 + \beta_2 (\text{Size}_{i,t}) + \beta_3 (\text{Don}_{i,t}) + \beta_4 (\text{Inf}_{i,t}) + \varepsilon_t$$

Whereas,  $\beta_1$  is the intercept of the regression that represents the constant of SME loans regarding the effect of independent variables.

$\beta_2$ ,  $\beta_3$ , and  $\beta_4$  on the other hand are the coefficient of the independent variables.

Inflation loan guarantee fund programs and bank size are the major factors that can encourage and discourage a bank to lend money to SMEs' owners. While, the same factors except loan guarantee funds, but including donations, are the major sources that if not negative, make MFIs to lend money to SMEs owners without any risk. These all factors are defined in detail, later on in this section.

## **4.2 Sample Size**

Due to the unavailability of SMEs' data, we chose banks and MFIs (according to the availability of such data dependent on their asset size) as a sample for our study analysis. Six banks and four financial institutions that actively involve in SMEs funding in Palestine are taken to perform analysis. Mentioned below are the chosen banks and MFIs:

### **Banks**

1. Arab Bank
2. Bank of Palestine
3. The national bank
4. AL Quds bank
5. Palestine Investment bank
6. Housing bank for finance and trade

### **Micro-financial institutions:**

1. Palestine for credit and development Company (Faten)
2. CHF-Riyadah
3. Palestinian Businesswomen's (ASALA)
4. Arab Center For Argiculture And Development (ACAD)

### 4.3 Data Sources

The major sources of data collection for banks include: annual reports, management reports, descriptive notes of financial reports, Palestine monetary authority reports, and official reports of loan guarantee fund programs claiming amount to be paid to banks in case of any bad debt from SMEs. The data selected for banks for the period of 2008 to 2013 on the annual basis. The mix market was the special source of MFIs data collection. Other sources also include stability annual reports that include EPCGE (European Palesne Credit Guarantee Fund) and MEII (Middle East Investment Initiatives), but the data used for MFIs are based on semi-annual period of 2008 to 2013. The table shown below shows the summary of SMEs loan:

Table 3: SMEs loan summary (PMA, FSR, EPCGF & MEII, 2013)

Funds	Year	SME's Loans provided through funding programs	Total loans provided to SME's	Percentage of LGF from total SME's Loan
EPCGF	2008	22074985	126200000	17.49%
	2009	35761048	136600000	26.18%
	2010	49354060	181000000	27.27%
	2011	70007417	210800000	33.21%
	2012	86145739	259600000	33.18%
	2013	104881224	631000000	16.62%
MEII	2008	6266590	126200000	4.97%
	2009	27622483	136600000	20.22%
	2010	43794268	181000000	24.20%
	2011	41143610	210800000	19.52%
	2012	24847921	259600000	9.57%
	2013	27250492	631000000	4.32%
Total LGF	2008	28341575	126200000	22.46%
	2009	63383531	136600000	46.40%
	2010	93148328	181000000	51.46%
	2011	111151027	210800000	52.73%
	2012	110993660	259600000	42.76%
	2013	132131716	631000000	20.94%

## **4.4 Control variables**

As we have designed two regression models (mentioned above in this section), each of them consists of different independent variables that could affect the decision of lending small business loans. Here, we assumed banks and MFIs as dependent variables and other all factors as independent variables. These variables are mentioned below:

### **4.4.1 LGF – Loan Guarantee Fund Programs**

Loan guarantee funds organizations actually encourage banks by guaranteeing them to be paid for the bad debts from SMEs. These programs are taken as an independent variable that influence banks' SME loan decision. The details about LGF programs that actively support SMEs funding in Palestine are mentioned in details in the previous section of the study.

### **4.4.2 Inflation**

John H, et. al (2001) in their study “the impact of inflation on financial sector performance”, stated that banks and other financial institutions have a negative relationship with Inflation. As the inflation raises the ability of lending amount diminished (John H. Boyd, 2001). Thus, it proved that inflation also affects banks and MFIs lending decision. Therefore, we chose inflation as an independent variable for our study analysis. Mention below graph is showing the inflation rate of Palestine from the period of 2008 to 2014. It is clear from the graph that the inflation ratio is decreasing day by day in Palestine, which is a positive sign of its economy.

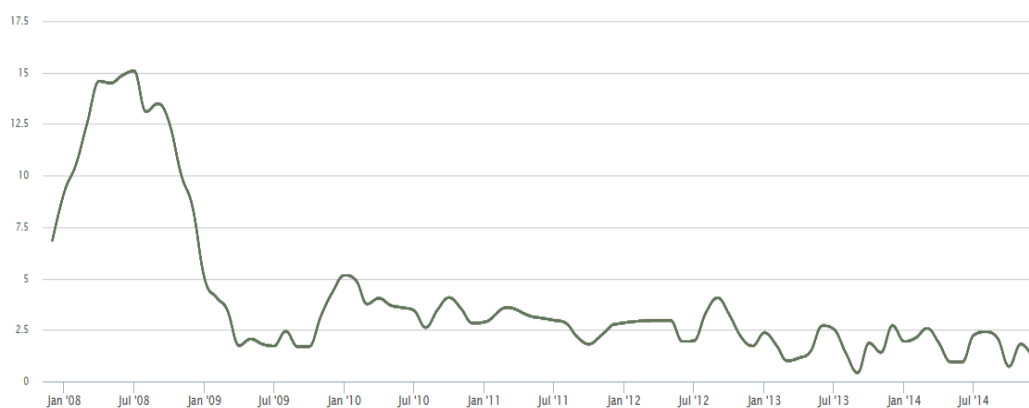


Figure 5: Inflation rate of Palestine (ieconomics, 2015)

#### 4.4.3 Bank or MFIs size

If any bank or financial institutions run out of enough assets they will definitely won't be able to provide loans. Making loans directly rely on assets size and availability, thus we took banks or MFIs size (on the basis of their total assets) as another independent variable that influence their lending decision.

#### 4.4.4 Donations

Donations are the best financial source for micro finance institutions. As much as donation will be, MFIs will be able to make loans to SMEs.

### 4.5 Data Analysis

To get more accurate and authentic results of the study, regression analysis is used as an effective tool. It is a widely used statistical tool, especially in the science field to evaluate the relationship among different variables. It is helpful to find out variables' dependency on another variable or how one variable can effect on another variable in different scenarios and aspect (Sykes, 2013). As our study is based on various variables, hence the regression analysis is an ideal tool to retrieve the final results.

#### 4.5.1 E-Views Software

In order to perform regression analysis of collected data, E-views software has been chosen. E-views is a very useful and user friendly tool to get statistical results.



## Chapter 5

### FINDINGS AND ANALYSIS

In this section of the study, we have performed the regression analysis test model by using E-views software. We chose E-views software to test, either our variables are stationary or non-stationary. In order to check this, the panel unit root test is implemented as a first step by depending on Levin, Lin & Chu  $t^*$  & Im Pesaran Shin (IPS) & Wu (PP) & ADF models, which support the significant level of ( $\alpha$ ) is 1%, 5%, and 10%. The testing hypotheses are as follows:

**H<sub>0</sub>**: Data are non-stationary

**H<sub>1</sub>**: Data are stationary

After running this test, we found that all data are stationary at levels. Hence, we reject the null hypothesis, since the probability is less than Alpha ( $\alpha$ ).

#### 5.1 Correlation Analysis

The correlation analysis is done to measure the strength of the linear relationship among the variables. In this analysis the SME's loan from the banks and MFIs models are adopted as dependent variables, and the rest other variables are adopted as independent variables.

From the table below, we can identify that the both variables are positively and negatively correlated. Since we don't have high correlation (50% or more) between

the independent variables so we can figure out that there is no multicollenarity problem among the variables for two models.

Table 4: Correlation of variables (Banks)

	<b>SME's Loans</b>	<b>Size</b>	<b>LGF</b>	<b>Inf</b>
SME's loans	1.00			
Size	0.950579	1.00		
LGF	0.369236	0.210648	1.00	
Inf	-0.307148	-0.183947	-0.227305	1.00

Table 5: Correlation of variables (MFI's)

	<b>SME's Loans</b>	<b>Size</b>	<b>Don</b>	<b>Inf</b>
SME's Loan	1.00			
Size	0.841721	1.00		
Don	0.515754	0.373751	1.00	
Inf	-0.443352	-0.305413	-0.179275	1.00

## 5.2 Autocorrelation

Here, we examined that the data have an autocorrelation problem or not, this was tested by the Durbin Waston Stat and according to this if the value is less than 2, it's mean that we have an autocorrelation problem otherwise not. This problem actually shows that there is a high correlation among the error terms and linear regression model. In our first model (Banks) the Durbin Waston Stat value was 1.79 and for the other model (MFI's) was 1.86, both are closer to 2 which indicates that we don't have a significant autocorrelation problem with our models.

Table 6: Multiple Regression Results for Bank's

Variables	Coefficient	STD.Error	T-Statistics	Probability
C	-19.82695	4.417016	-4.488766	0.0001
LNSIZE	1.152304	0.084225	13.68121	0.0000
LNLGF	0.713657	0.232250	3.072798	0.0043
INF	6.545946	4.428156	1.478256	0.1491
R <sup>2</sup>	0.895478			
F-Statistics	91.38508			0.0000
Durbin- Waston Stat	1.790771			

Table 7: Multiple Regression Results for MFI's

Variables	Coefficient	STD Error	T-Statistics	Probability
C	2.788004	1.159902	2.403655	0.0205
LNSIZE	0.919787	0.209723	9.153903	0.0000
LNDON	0.169437	0.213959	5.465716	0.0000
INF	-4.083483	1.217581	-3.353768	0.0016
R <sup>2</sup>	0.900268			
F-Statistics	132.3940			0.0000
Durbin Waston Stat	1.867968			

### 5.3 Multiple Regression Model

In our case, we found that all data are stationary; it means that the variance, mean, and the covariance of the data are constant at long term and moving in the same direction simultaneously. Therefore, we applied the multiple regression equation by using E-views software to figure out the effect of independent variables on the dependent variable and to see either it is statistically significant or not. In order to run the equation, we adopted the Hausman test to decide which effects would be appropriate, either random or fixed cross-section. In this test, if the probability value

(P-value) is higher than the alpha value (5%) that will tend to use random effects otherwise specifies to use fixed effects. For the banks and MFIs the probability value was the same (1.00). It means that the values are higher than ( $\alpha$ ) value, therefore we will use cross-section random effects for both models.

## **5.4 Significant Variables**

In order to run our designed models, we used multiple regression equations to figure out the effect of independent variables on the SME's loans from the banks and micro financial institutions. Later on, we followed the equations for the models to test the hypothesis for each variable in each model.

### **5.4.1 The Intercept ( $\beta_0$ )**

The Interceptor constant is the estimated value of dependent variable Y, where the regression line crosses the y-axis when the independent variable X is zero. It means that the intercept is the value of Y in case of the effect of the independent variable to Y equal zero, or X didn't change (constant). We also used the null and alternative hypothesis for testing the intercept for each model to see either it has any statistically significant impact or not.

**$H_0$ : Intercept ( $\beta_1$ ) = 0 (is not statistically significant)**

**$H_1$ : Intercept ( $\beta_1$ )  $\neq$  0 (is statistically significant)**

According to the driven results for banks model, we found that the intercept probability value was equal to 0.0001 and for the MFI's was equal to 0.0205. Since, the p-value is less than the significance level ( $\alpha$ ), so we rejected the null hypothesis. Thus, we can conclude that the intercept is statistically significant for our designed models. In other words, the SME's loans provided by banks and MFI's will decline without the factors (X values) that are previously mentioned.

## **5.4.2 The independent variables for the banks**

### **Bank Size (LNSIZE)**

**H<sub>0</sub>:** LNSIZE is not statistically significant

**H<sub>1</sub>:** LNSIZE is statistically significant

According to the results retrieved with the help of the e-views, we found that the bank size has a positive impact on the SME's loans, that means if the bank size increases by 1% the SME's loans will increase by 1.15%. Since, the T-stat was 13.68121 and the p-value of bank size was 0.0000 less than alpha, so it was better to reject the null hypothesis and also we can interpret that the bank size has statistically significant effect on the SME's loans. In case of Palestine, the largest banks on the basis of their total assets provide more loans to SME's than smaller banks.

### **Loan Guarantee Funds (LNLGF):**

**H<sub>0</sub>:** LNLGF is not statistically significant

**H<sub>1</sub>:** LNLGF is statistically significant

For the loan guarantee funds (LGF), as these funds contribute more for supporting SME's loan to get the loans through the banks. This funding source encourages banks to give out more loans to SME's by making an agreements with the banks that in case if the loan turns into bad debt, the LGF will pay 70% of that bad debt to the bank. However, in our results, we found that the LGF has a positive effect on SME's loans. As LGF increased by 1% the SME's loans will increase by 0.71%. Also, it is statistically significant since the T-statistics were 3.072798 and the p-value is 0.0043 less than alpha we can reject the null hypothesis.

### **Inflation Rate (INF)**

**H<sub>0</sub>:** INF is not statistically significant

**H<sub>1</sub>:** INF is statistically significant

The inflation rate is the factor that affected banks and MFI's lending decisions negatively. According to the theory as the inflation rate increases the ability of lending amount reduced. In banks model, we found that there is no any significant impact on the SME's loans because of inflation. So we fail to reject the null hypothesis, since p-value was higher than alpha.

### **5.4.3 The independent variable for MFI's**

#### **MFI Size (LNSIZE)**

**H<sub>0</sub>:** LNSIZE is not statistically significant

**H<sub>1</sub>:** LNSIZE is statistically significant

As the banks model, the MFI size has a positive impact on the SME's loans. Based on our result, as the MFI size increase by 1% the SME's loans provided by MFI's also increased by 0.91%. It's statistically significant, since p-value is less than alpha, so we rejected the null hypothesis.

#### **Donations & Grants (LNDON)**

**H<sub>0</sub>:** LNDON is not statistically significant

**H<sub>1</sub>:** LNDON is statistically significant

The Micro financial institutions in Palestine depend on the donations and grants that provided by the foreign organizations, these are the best source of finance for MFIs institutions. According to our results, its been analyzed that the donations have a positive impact on the SME's loans, as the donations increased by 1% the SME's

loans also increased by 0.17%. Since the probability value was less than alpha, so we can reject the null hypothesis. It is also proved that it's statistically significant.

### **Inflation Rate (INF)**

**H<sub>0</sub>:** INF is not statistically significant

**H<sub>1</sub>:** INF is statistically significant

In the MFIs model, we observed an entirely different result from the banks model, in regards of the inflation rates. Our results indicate that the inflation rate has a negative impact on the SME's loans as the inflation rate increase by 1% the SME's loans will decrease by 4%. It's statistically significant since the p-value is 0.0016 less than the significance level of alpha. So we can reject the null hypothesis.

## **5.5 Robustness of the models**

The regression results for banks and MFI's models indicate that the coefficient of determination  $R^2$  is equal to 0.89 and 0.90 respectively. It means that 89% of the variation in SME's loans provided by banks explained by the independent variables of banks model, and 90% of the variation in SME's loans provided by MFI's explained by the independent variables of the MFI's model. The F-statistics for the first model 91.38508 and for the second model 132.3940, both are statistically significant at alpha level 1% which means that our models have a good fit. Durbin Watson statistic for banks and MFI's models are 1.79 and 1.86 respectively, which specifies that we don't have a significant autocorrelation problem with our models. Furthermore, as we mentioned in Tables 4 and 5, we don't have multicollenarity problem which means that in our models there is no any significant covariance between independent variables. Therefore, we can validate that our models fits well for the regression analysis and the results are authentic.

## **Chapter 6**

### **CONCLUSION**

As we know that SMEs plays a vital role in the economic growth of a country and Palestine is a land full of SMEs, small medium enterprises occupied 85% of the private sector and have a 55% contribution ratio in Palestine's GDP. This way SMEs considered as the most important sector of the Palestine. SMEs need finance to run and their core financial source is loans. The fulfillment of funding need of SMEs is a common problem around the world. Palestine has a most fluctuate political situation and troubles that affect its economy, in these circumstances people prefer to have a small business for their survival. Due to this unstable situation, Borrowing money from banks or other sources is a big problem of SMEs owners ever. The banks and other financial institutions are also afraid to provide loans to SMEs because of the country situation. SMEs' owners mostly face loan rejection problem and there are various reasons behind this rejection. Meanwhile, Palestine monetary authority and financial institutions have done their initiatives to deal with this issue and support SMEs in Palestine at their best.

Thus, the aim of this study was to uncover the factors that can influence on sources that lent money to SMEs in Palestine. To accomplish the study aim, first, a detail review of the Palestine SMEs sector, their major funding sources and problems have been done. Secondly, the factors such as inflation, asset size, funding programs and



donations have been retrieved to see their impact on banks and MFIs SMEs loan decisions.

To evaluate how much impact these factors have over banks and MFIs lending decision, especially while lending to SMEs, we have designed two regression models. For this purpose, we use actively involve six banks and four MFIs in SMEs funding in Palestine have been taken as study sample. 6 years of data for the period of 2008 to 2013 from various resources have been collected. Inflation, asset size, funding programs and donations have been used as independent variables, while banks and MFIs SME loan as dependent variables.

According the results of the empirical analysis, the bank size has a positive significant impact on SME's loans provided by banks and micro-financial institutions. On the other hand, LGF also has a positive significant impact for SMEs loans provided by banks, while, the donations and grants that represent an important financial source for micro-financial institutions were also having a positive significant impact on SMEs loans. Another important factor, that have significant impact on both banks MFIs, known as the macroeconomic factor called inflation. The study concludes that the inflation does not have any significant impact for the SME's loan provided by banks, but it has a prominent impact for the SME's loans provided by micro-financial institutions.

Lastly, the study suggests that loan guaranteed fund programs and donation programs should keep continue their efforts to support banks and MFIs that encourage them to lend money to SMEs owners Palestine without any fear of loss. These sources are the

best supportive economic sources. Moreover, Palestine monetary authority should keep continues their efforts as well.

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## **APPENDICES**

## Appendix 1: Panel Unit Root Tests for Banks Model

Variables	Levels		
	LLC	IPS	M-W
<b>LNSIZE</b>			
$\tau_T$	-3.84*	0.49	10.65
$\tau_\mu$	-2.93*	0.78	15.49
$\tau$	6.13	-	0.059
<b>LNLGF</b>			
$\tau_T$	-15.05*	-1.17	63.64*
$\tau_\mu$	-27.44*	-10.44*	127.88*
$\tau$	5.48	-	0.33
<b>LNSME</b>			
$\tau_T$	-1.52***	0.85	2.74
$\tau_\mu$	-2.50*	1.06	11.89
$\tau$	5.93	-	0.12
<b>INF</b>			
$\tau_T$	-83.65*	-13.01*	110.52*
$\tau_\mu$	-22.39*	-8.73*	69.15*
$\tau$	-9.17*	-	60.1*

Note:

LNSIZE represents size of the bank according to total assets; LNLGF is loan guarantee fund; LNSME represents loans provided to small medium business; INF is inflation.

$\tau_T$  represents the most general model with a drift and trend;  $\tau_\mu$  is the model with a drift and without trend;  $\tau$  is the most restricted model without a drift and trend. Optimum lag lengths are selected based on Schwartz Criterion. \*, \*\*, \*\*\* denotes rejection of the null hypothesis at the 1%, 5%, 10% level. Tests for unit roots have been carried out in E-VIEWS 7.1.

## Appendix 2: Panel Unit Root Tests for MFI's Model

	Levels		
Variables	LLC	IPS	M-W
<b>LNSIZE</b>			
$\tau_T$	-1.65**	-0.16	13.7***
$\tau_\mu$	-0.37	0.98	22.12*
$\tau$	12.38	-	0.12
<b>LNDON</b>			
$\tau_T$	-2.86*	0.34	3.67
$\tau_\mu$	0.04	1.17	24.85*
$\tau$	8.54	-	0.015
<b>LNSME</b>			
$\tau_T$	-5.07*	-1.84**	17.10**
$\tau_\mu$	-4.45*	-2.15**	20.53*
$\tau$	6.10	-	0.08
<b>INF</b>			
$\tau_T$	-3.32*	-0.09	6.38
$\tau_\mu$	-2.55*	0.05	6.75
$\tau$	-4.22*	-	62.15*

Note:

LNSIZE represents size of the MFI according to total assets; LNDON is donations and grants; LNSME represents loans provided to small medium business; INF is inflation.

$\tau_T$  represents the most general model with a drift and trend;  $\tau_\mu$  is the model with a drift and without trend;  $\tau$  is the most restricted model without a drift and trend. Optimum lag lengths are selected based on Schwartz Criterion. \*, \*\*, \*\*\* denotes rejection of the null hypothesis at the 1%, 5%, 10% level. Tests for unit roots have been carried out in E-VIEWS 7.1.



### Appendix 3: Multiple Regression Results for banks model

Dependent Variable: LNSMES  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 01/30/15 Time: 10:43  
 Sample: 2008 2013  
 Periods included: 6  
 Cross-sections included: 6  
 Total panel (balanced) observations: 36  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-19.82695	4.417016	-4.488766	0.0001
LNLGFA	0.713657	0.232250	3.072798	0.0043
LNSIZE	1.152304	0.084225	13.68121	0.0000
INF	6.545946	4.428156	1.478256	0.1491

Effects Specification		S.D.	Rho
Cross-section random		0.171850	0.2686
Idiosyncratic random		0.283601	0.7314

Weighted Statistics			
R-squared	0.895478	Mean dependent var	9.336267
Adjusted R-squared	0.885679	S.D. dependent var	0.850221
S.E. of regression	0.287472	Sum squared resid	2.644479
F-statistic	91.38508	Durbin-Watson stat	1.790771
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.936375	Mean dependent var	16.70933
Sum squared resid	3.391372	Durbin-Watson stat	0.975309

## Appendix 4: Multiple Regression Results for MFI's Model

Dependent Variable: LNSME  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 01/31/15 Time: 16:56  
 Sample (adjusted): 6/01/2008 12/01/2013  
 Periods included: 12  
 Cross-sections included: 4  
 Total panel (balanced) observations: 48  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSIZE	0.919787	0.209723	9.153903	0.0000
LNDON	0.169437	0.213959	5.465716	0.0000
INF	-4.083483	1.217581	-3.353768	0.0016
C	-2.788004	1.159902	-2.403655	0.0205

Effects Specification		S.D.	Rho
Cross-section random		0.109050	0.3024
Idiosyncratic random		0.165613	0.6976

Weighted Statistics			
R-squared	0.900268	Mean dependent var	6.062925
Adjusted R-squared	0.893468	S.D. dependent var	0.552149
S.E. of regression	0.180217	Sum squared resid	1.429042
F-statistic	132.3940	Durbin-Watson stat	1.867968
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.910849	Mean dependent var	15.10004
Sum squared resid	2.456976	Durbin-Watson stat	0.451774

## Appendix 5: Correlation of variables for banks model

Covariance Analysis: Ordinary  
Date: 02/01/15 Time: 12:47  
Sample: 2008 2013  
Included observations: 36

Correlation	LNSMES	LNSIZE	LNLGFA	INF
LNSMES	1.000000			
LNSIZE	0.950579	1.000000		
LNLGFA	0.369236	0.210648	1.000000	
INF	-0.307148	-0.183947	-0.227305	1.000000

## Appendix 6: Correlation of variables for MFI's model

Covariance Analysis: Ordinary  
Date: 02/01/15 Time: 13:05  
Sample: 2008S1 2013S2  
Included observations: 48

Correlation	LNSMES	LNSIZE	LNDON	INF
LNSMES	1.000000			
LNSIZE	0.841721	1.000000		
LNDON	0.514754	0.373751	1.000000	
INF	-0.443352	-0.305413	-0.179275	1.000000