The Impact of Microfinance on Poverty Alleviation: A Case Study of Borrowers in Ramallah

أثر التمويل المتناهي الصغر على التخفيف من الفقر: حالة دراسية حول المقترضين في رام الله

Prepared by: Razan Issed

Supervised by: Dr. Riyad Musa

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Abstract

This study challenges the Neoliberal perspective relating to the positive impact of microfinance on poverty alleviation. In particular, this study examines whether microfinance improves household welfare and develops businesses, as perceived by borrowers from ACAD, Asala and Faten's branches in Ramallah, Palestine.

Eight indicators are used to capture the impact of microfinance on household welfare including income, consumption expenditure, nutrition, education, health care, non-land asset holdings, housing conditions and social empowerment. In addition, three business indicators are used to examine the impact of microfinance on business development. These include business sales, profits and capital.

This study also employs four microfinance variables to estimate their impact on household welfare. These include the cumulative value of microfinance loans, length of participation in microfinance programs, total number of microfinance loans and average annual interest rate. The logistic regression results show that longer involvement in microfinance programs increases the odds of perceiving improvements in income, consumption expenditure and social empowerment. Besides, increasing the total number of microfinance loans increases the odds of better-perceived access to health care. However, higher cumulative value of microfinance loans decreases the odds of better-perceived income, consumption expenditure, education and health care, and higher interest rates decrease the odds of better-perceived income, consumption expenditure, nutrition, education, housing conditions and social empowerment.

Models focusing on business development indicators employ three microfinance variables, namely; cumulative value of microfinance loans, length of involvement in microfinance programs and average annual interest rate. The study finds that longer involvement in microfinance increases the odds of reporting improvements in business sales, profits and capital. However, higher interest rates decrease the odds of increased profits while the cumulative value of loans does not impact business development indicators.

ملخص تنفيذي

تتحدى هذه الدراسة المنظور النيوليبرالي حول الأثر الإيجابي للتمويل المتناهي الصغر في التخفيف من الفقر. وبالتحديد، تقوم هذه الدراسة بفحص فيما إذا كان التمويل المتناهي الصغر يحسن من رعاية الأسرة وتطوير الأعمال، وذلك بحسب وجهة نظر مقترضين من فروع أكاد وأصالة وفاتن في رام الله - فلسطين.

لدراسة أثر التمويل المتناهي الصغر على رعاية الأسرة، تستخدم الدراسة ثمانية مؤشرات، وهي: الدخل، والنفقات الإستهلاكية، والتغذية، والتعليم، والرعاية الصحية، وملكية الأصول من غير الأراضي، وظروف السكن والتمكين الإجتماعي. بالإضافة إلى ذلك، تعتمد الدراسة على ثلاثة مؤشرات للعمل التجاري لدارسة أثر التمويل المتناهي الصغر على تطور الأعمال التجارية، وتشمل هذه المؤشرات المبيعات والأرباح ورأس المال التجاري.

كما تستخدم الدراسة أربعة متغيرات للتمويل المتناهي الصغر في نماذج الإنحدار اللوجستي الخاصة برعاية الأسرة، وهي: القيمة الإجمالية لقروض التمويل المتناهي الصغر، ومدة الإنخراط في برامج التمويل المتناهي الصغر، والعدد الإجمالي لقروض التمويل المتناهي الصغر، ومتوسط سعر الفائدة السنوي. وتظهر نتائج الإنحدار اللوجيستي أن زيادة مدة الإنخراط في برامج التمويل المتناهي الصغر تزيد من إحتمالات إحساس المقترضين بتحسن مستوى الدخل، والإنفاق الإستهلاكي، والتمكين الاجتماعي. بالإضافة إلى ذلك، تؤدي الزيادة في عدد القروض المتناهية الصغر إلى زيادة إحتمالات الإحساس بتحسن مستوى الحصول على الرعاية الصحية. في المقابل، تؤدي الزيادة في القيمة الإجمالية لقروض التمويل المتناهي الصغر إلى الحد من إحتمالات الإحساس بتحسن مستوى الدخل، ونفقات الإستهلاك، والتعليم، والحصول على الرعاية الصحية. كما يؤدي إرتفاع أسعار الفائدة إلى التقليل من إحتمالات الإحساس بتحسن مستوى الدخل، ونفقات الإستهلاك، والتغذية، والتعليم، وظروف السكن والتمكين الاجتماعي.

توظف النماذج الخاصة بدراسة مؤشرات تطور الأعمال التجارية ثلاثة متغيرات للتمويل المتناهي الصغر وهي: القيمة الإجمالية لقروض التمويل المتناهي الصغر، ومدة الإنخراط في برامج التمويل المتناهي الصغر، ومتوسط سعر الفائدة السنوي. وتخلص الدراسة إلى أن زيادة مدة الإنخراط في برامج التمويل المتناهي الصغر تزيد من إحتمالات تحسن مستوى مبيعات وأرباح ورأسمال الأعمال التجارية. في المقابل، يؤدي إرتفاع أسعار الفائدة إلى التقليل من إحتمالات زيادة الأرباح، بينما تشير النتائج بأنه لا يوجد أي تأثير لقيمة قروض التمويل المتناهي الصغر على مؤشرات تطور الأعمال التجارية.

Abbreviations

ACAD	Arab Center for Agriculture Development
EPCGF	European Palestinian Credit Guarantee Fund
GDP	Gross Domestic Product
JOD	Jordanian Dinars
LGF	Loan Guarantee Facility
LOG	Logarithm
MDG	Millennium Development Goal
MFI	Microfinance Institution
NGO	Non-Governmental Organization
NIS	New Israeli Shekels
OR	Odds Ratio
PCBS	Palestinian Central Bureau of Statistics
PDF	Palestinian Development Fund
PECDAR	Palestinian Economic Council for Development and Reconstruction
PIF	Palestine Investment Fund
PMA	Palestine Monetary Authority
PNA	Palestinian National Authority
SE	Standard Error
SMEs	Small and Medium Enterprises
UNDP	United Nations Development Program
UNRWA	United Nations Relief and Works Agency for Palestine Refugees
USD	United States Dollars
VIF	Variable Inflation Factor

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Chapter 1 : Introduction

1.1 Problem Background

The devastating social and economic impact of poverty has necessitated research into ways of reducing it, especially in developing countries. In 2000, the world leaders adopted the Millennium Development Goal (MDG) to fight extreme poverty in its multi-dimensions (MDGs, 2006). Policy makers, donors and non-governmental organizations (NGOs) have galvanized efforts to alleviate the grave impact of poverty and improve the poor's well-being. Remarkable progress was made in reducing extreme poverty and reaching the corresponding MDG target well ahead of its 2015 deadline. The poverty rate in developing countries dropped from around 47 percent in 1990 to 14 percent in 2015 (Way, 2015). In spite of cutting down the extreme poverty rate, major challenges remained. Progress made was uneven across countries and regions and did not translate to progress for non-income goals such as health and education. Millions of people still suffered in 2015 from the multiple dimensions of poverty; about 800 million people, mainly from sub-Saharan Africa, still lived in extreme poverty, more than 160 million children under the age of five suffered from inadequate height to age as a result of undernourishment, around 57 million children did not go to primary schools, and over 50 percent of the global workers still suffered from poor work conditions (Way, 2015).

In September 2015, 193 countries adopted 17 sustainable development goals with specific targets to be achieved by 2030. The first of these goals is ending all forms of poverty everywhere, including hunger, limited access to education, social exclusion and lack of participation in decision-making. By adopting this specific goal, country leaders committed

themselves to develop strategies and take action to promote inclusive economic growth that addresses social needs such as education, health, protection, and job opportunities (Sustainable Development Goals, 2016).

Over the last few decades, microfinance has been increasingly adopted as a poverty-fighting tool. It started as a simple idea by the 'Father of Microcredit', Muhammad Yunus, who won the Nobel Peace Prize in 2006, to provide small loans to the poor (Yunus Centre, 2011). In the 1990s, the Neoliberals transformed Yunus's subsidized model into a privatized for-profit model, and adopted it as a modern 'self-help' development tool for alleviating poverty (Bateman, 2013). The Neoliberal predictions of the positive impact of microfinance are based on the assumption that providing credit to the poor creates employment, generates income and results in increased spending on household welfare. As such, microfinance promises to lead a bottom-up process of sustainable economic and social development, absolving governments from their responsibilities to reduce poverty through state interventions, social welfare programs, welfare redistribution and provision of quality public services for all (Bateman & Chang, 2012).

While microfinance institutions (MFIs) expanded over the years, so did the debate about the contribution of microfinance to the reduction of world poverty. Some studies conclude that microfinance has produced certain successes in poverty reduction. Other studies argue that microfinance has not had that much of an impact on the poor and additional studies look into how over-borrowing in microfinance can result in greater long term poverty.

In Palestine, more than a quarter of the West Bank and Gaza's population live in poverty (PCBS, 2012). The persistence of poverty in Palestine despite the substantial efforts claimed

by poverty alleviation programs including microfinance necessitates questioning the effectiveness of these programs in helping the poor.

1.2 Research Questions

In light of the above problem background, this research tackles two main questions:

- *Is there a relationship between microfinance and household welfare of borrowers in Ramallah since 2013?*
- *Is there a relationship between microfinance and business development in Ramallah since 2013?*

1.3 Objectives of the Research

The objectives of this research are:

- Test the predictions of the Neoliberal theory on microfinance, which suggest that access to credit reduces poverty;
- Assess the impact of microfinance loans on household welfare in Ramallah in terms of income, consumption expenditure, nutrition, education, access to health care, non-land asset holdings, housing conditions and social empowerment; and
- Explore the impact of microfinance loans on business development in Ramallah in terms of business sales, profits and capital.

1.4 Significance of the Study

Findings of impact assessments, particularly in developing countries, cannot provide a definitive answer to the question of whether microfinance works universally or not. When interpreting published studies, several important distinctions should be considered before generalizing their results. Every impact assessment takes place in a particular setting,

considers a particular population, and has its own limitations. Therefore, it is unrealistic to generalize the results of a single study to answer the question of whether microfinance helps the poor or not. Each impact study contributes with small pieces to the growing body of knowledge on the effectiveness of microfinance as a development tool (Odell, 2010).

While Neoliberalism advocates for microfinance as a development tool for fighting poverty, the situation on the ground in the West Bank does not show significant progress in reducing poverty rates despite the expansion of microfinance programs in the Palestinian territories over the past few decades. According to monthly consumption patterns, PCBS estimates the poverty rate of 2011 in the West Bank at 17.8 percent. The rate increases to 35.6 percent when monthly income data are used. The increase in the rate becomes more significant for the deep poverty rate of 2011; it increases from 7.8 percent to 24.3 percent when income data are used instead of consumption (PCBS, 2012). This academic research examines the impact of microfinance on multi-dimensional poverty and business performance indicators in Ramallah, where significant economic development does not really occur and the investment climate is poor due to political instability, lack of opportunities, and extensive barriers to trade and commerce. Few studies have researched the impact of microfinance in Palestine. Nonetheless, some limit their impact assessments to a subgroup of borrowers (women) while those produced by MFI-contracted consulting firms can be challenged for their credibility. This research involves a proportionally stratified sample of borrowers from three MFIs whose total market share in the West Bank is 63 percent as of June 2016 (The Palestinian Network for Small and Micro Finance, 2016a). Thus, testing the Neoliberal perspective on the positive impact of microfinance in a unique political, social and economic environment will add to the growing literature on microfinance.

1.5 Limitations of the Research

The main limitation encountered in conducting this research is the short duration of the study. Sound methodologies in the literature require studying the difference in difference between eligible borrowers and eligible non-borrowers in borrowing and control locations. Such methodology requires extensive periods of time that can extend up to years to collect data before and after borrowing. It also requires unconditional support and cooperation of the management, staff and borrowers of MFIs, which is rather very difficult to secure in reality. It is worth mentioning that this research was challenged several times by the hesitation and rejection of some MFIs to cooperate.[1]

Another limitation of this study is its narrow geographical scope. The research results cannot be generalized to the West Bank, for it scrutinizes perceptions of borrowers who live in Ramallah. Had the sample randomly included borrowers from other locations and the research models accounted for the impact of geographical location, the results could have been generalized more broadly. Unfortunately, expanding the scope of research was not possible due to the limited financial and human resources.

1.6 Research Outline

The rest of this study is structured as follows: Chapter 2 presents an overview of the Palestinian economy and its financial sector; Chapter 3 provides a review of the literature on microfinance and poverty; Chapter 4 outlines the methodology; Chapter 5 displays the results; Chapter 6 discusses the empirical findings; and, Chapter 7 concludes.

[1] One MFI with a market share of less than 10 percent in the West Bank and Gaza as of June 2016 (The Palestinian Network for Small and Micro Finance, 2016a) refused to get involved in this study.

Chapter 2 : Microfinance in the West Bank

This chapter presents a brief overview of the Palestinian economy and reviews the financial sector in Palestine, focusing in particular on the microfinance subsector. It further provides a brief background about each MFI involved in this study, highlighting Ramallah's share of their gross loan portfolios.

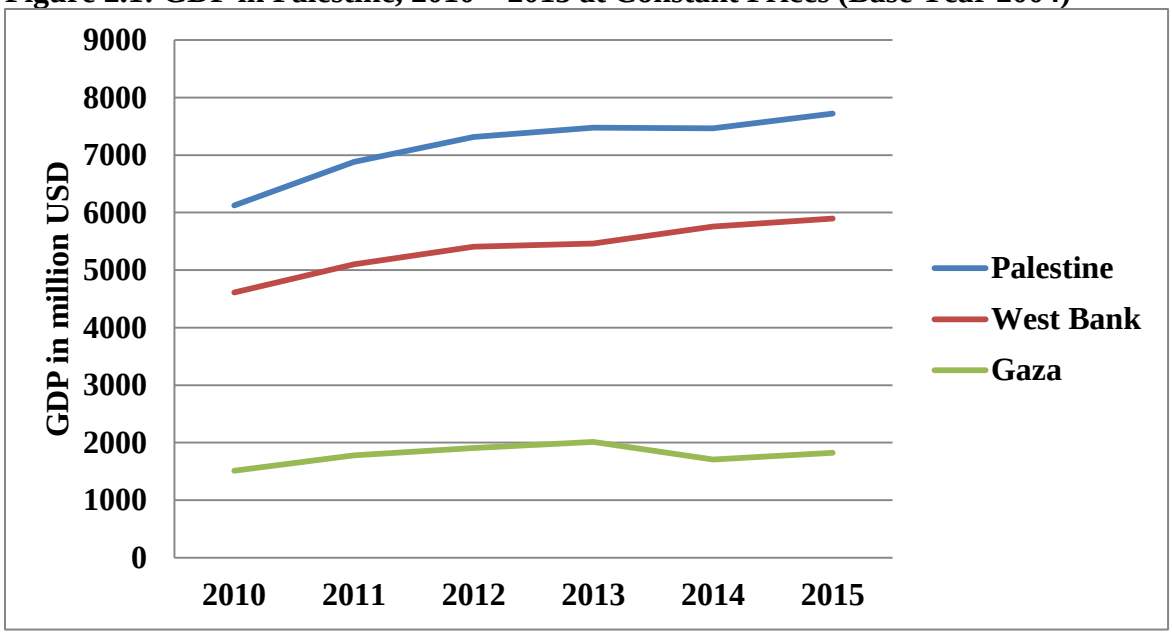
2.1 Brief Overview of the Palestinian Economy

The growth in Palestine's Gross Domestic Product (GDP) was estimated at 3.5 percent in 2015 (PCBS, 2016b). This positive growth was preceded by a negative growth of 0.2 percent in 2014 (PCBS, 2016b). Prior to 2014, the Palestinian economy had undergone economic recovery over the years 2010 to 2013, with the highest GDP growth rate being reported at 12.4 percent in 2011 (PCBS, 2016b). Figure 2.1 presents GDP trends for the period 2010 – 2015. GDP growth in the West Bank slowed down to 2.5 percent in 2015 as compared to 5.3 percent in 2014(PCBS, 2016b). The decrease in economic growth in the West Bank is attributed to several reasons, including the significant decline in international aid and Israel's act of suspending the transfer of customs taxes to the Palestinian National Authority (PNA) in early 2015 (Devarajan, Mottaghi, Do, & Abdel Jelil, 2016). On the contrary, GDP growth rate in Gaza increased to 6.8 percent in 2015, following the economic recession of 2014 when Gaza's GDP dropped by 15.1 percent compared to 2013 (PCBS, 2016b).The positive growth in Gaza's GDP for 2015 is related to the increase in international aid and construction activities (PCBS, 2016b).

The growth in Palestine's GDP which was slightly higher than the growth in population has resulted in a small increase in GDP per capita. GDP per capita in Palestine was estimated to

be 1,745.9 United States Dollars (USD) in 2015, representing a growth of 0.5 percent compared to 2014 (PCBS, 2016b). Nevertheless, this figure shows declining standards of living when considering GDP per capita in 2012 which was reported at USD 1,807.5 (PCBS, 2016b). The gap in GDP per capita between the West Bank and Gaza remains significant. GDP per capita in Gaza (USD 1,002.8) was reported at less than half that of the West Bank (USD 2,265.7) in 2015 (PCBS, 2016b).

Figure 2.1: GDP in Palestine, 2010 – 2015 at Constant Prices (Base Year 2004)



Source: PCBS (2016b).

The cost of living in Palestine has increased in 2015 by 1.43 percent as measured by the annual consumer price index (PCBS, 2016c). While this can be considered as a minor increase from 2014, it represents a significant increase of 10.99 percent from 2010 levels (PCBS, 2016c). In the West Bank, consumer prices increased by 1.29 percent in 2015 compared to 2014 levels and by around 13.89 percent when compared to their levels in 2010 (PCBS, 2016c). In Gaza, consumer prices increased by 1.77 percent in 2015 compared to 2014 and by 4.97 percent compared to 2010 (PCBS, 2016c).

Unemployment rates in Palestine continued to remain high at 25.9 percent in 2015 (PCBS, 2016b). While the rate has dropped compared to 2014 (27.2 percent), the rate is still higher than that of 2011 (21.8 percent) (PCBS, 2016b). In the West Bank, unemployment rate was estimated at 17.3 percent in 2015, dropping from 18.0 percent in 2014 and 19.7 in 2012. On the contrary, unemployment rates in Gaza increased to 41.0 percent in 2015 compared to 28.7 percent in 2011, which was the lowest level of unemployment in Gaza over the years 2010 – 2015 (PCBS, 2016b). Unemployment rates remain high in Palestine compared to the global acceptable levels of unemployment of around 5 percent.

Despite the overall declining trend in poverty rates in Palestine since 2006, poverty headcount ratio at national poverty lines reached 25.8 percent in 2011; poverty rate in the West Bank alone was measured at 17.8 percent while in Gaza the rate was 38.8 percent (PCBS, 2015b).[2]

2.2 Review of the Financial Sector in Palestine

The formal financial sector in Palestine emerged after the signing of the Oslo Accord in 1993 and the Paris Protocol in 1994 despite the rather difficult and challenging political and economic environment in Palestine. The financial sector includes banks, MFIs, a securities market, and financial leasing, mortgage financing and insurance companies. The sector is regulated by the Palestine Monetary Authority (PMA) and the Capital Market Authority (The World Bank, 2008).[3] The development of the financial subsectors and their regulatory frameworks, however, is described in a World Bank report (2008) as 'uneven' with the banking sector dominating the financial sector, followed by relatively well developed microfinance and insurance sectors and fairly new financial leasing and mortgage financing

[2] Poverty rates for 2011 are the most recent published rates by PCBS.
[3] The Capital Market Authority regulates the non-banking sector which includes the securities market, financial leasing, mortgage financing and insurance companies.

sectors (The World Bank, 2008). The PNA's ability to influence the financial and economic environment is described as 'limited' due to the lack of a Palestinian national currency (The World Bank, 2008) and the inability to influence exchange rates, interest rates and asset prices (Crayne, Tawil, & Lechner, 2014).

2.2.1 The Banking Subsector in the West Bank

The banking subsector in the West Bank is considered to be a major financial subsector. Yet, it is highly dependent on the Jordanian and Israeli banking subsectors. Under the highly erratic political environment and given the persistent high poverty and unemployment rates, the licensed banks in the West Bank, which count to 15 commercial and Islamic banks (PMA, 2016a), play a very limited role in financing economic activities (The World Bank, 2008). Loan collection is dependent on financial stability which in turn is highly affected by the political environment. The main risks to financial stability include: Israeli control of economic activities through restrictions on the mobility of people and goods, which can halt the Palestinian economy; Israeli control of the PNA's main source of revenues, clearance revenues, which jeopardizes the government's ability to meet its financial obligations towards civil servants, the private sector, and banks especially in the absence of a bond market; and Israel's aggressions on Gaza, which result in direct damages to bank branches and banking operations (PMA, 2015a). Despite these risks, statistics in Table 2.1 show that the value of loans in local and foreign currencies has increased over the past five years, signifying an increase in banks credit exposure due to the neoliberal policies adopted by recent governments.

Bank outreach has expanded after the PMA adopted several measures to develop basic banking system components such as "the credit bureau, payments system, capital

requirements and regulations on secured credit" (Crayne *et al.*, 2014, p. 20). In addition, several loan-guarantee programs were launched in cooperation with international organizations to support creditworthy micro, small and medium enterprises which lack acceptable collateral to gain access to formal bank loans.[4]

Table 2.1: Value of Disbursed Loans in Palestine Over 2010 - 2015

Loans	2010	2011	2012	2013	2014	2015
(million USD)	1,978.0	2,531.7	2,950.2	3,207.7	3,853.8	4,639.9

Source: PMA (2016b); PMA (2015b).

Despite the growth in bank loans over the past five years, the majority of small enterprises which dominate the Palestinian market remain deprived of credit (The World Bank, 2008). Only 8.1 percent of total outstanding bank credit in 2014 was granted to SMEs.[5] This modest percentage, however, was SMEs main source of credit in 2014, constituting 87.7 percent of total credit extended to SMEs. The remaining formal credit was financed by MFIs (PMA, 2015a). While SMEs comprise the major sector that fuels the Palestinian economy, it remains financially underserved as a result of the highly conservative lending policies adopted by banks.

[4] The loan guarantee programs are the European Palestinian Credit Guarantee Fund (EPCGF) and the Loan Guarantee Facility (LGF) (The World Bank, 2008). EPCGF is funded by the European Commission, Germany and the European Investment Bank and provides banks and MFIs with financial guarantees that cover up to 60 percent of the value of loans extended to creditworthy small and medium enterprises (SMEs) which cannot furnish acceptable collateral (PalTrade, 2014; The World Bank, 2008). Up till the end of the third quarter of 2016, EPCGF had 564 loan guarantees for a total amount of USD 31,969,703 (EPCGF, 2016).
LGF was launched by Palestine Investment Fund (PIF) in partnership with Overseas Private Investment Cooperation and the Middle East Investment Initiative (PalTrade, 2014). LGF guarantees 70 percent of loan values extended by banks to creditworthy Palestinian SMEs (The World Bank, 2008). By the end of March 2013, LGF guaranteed 558 loans for a total amount of USD 93,586,361 (PalTrade, 2014).

[5] To differentiate between enterprises, the PMA agreed with financial institutions in 2014 to use sales turnover and employee number. As such, an enterprise with total revenues of less than USD 7 million and less than 25 employees would be considered a small enterprise (Crayne *et al.*, 2014). Clearly, such a definition does not address the much lower scale over which smaller and microenterprises operate, and a clear definition of microenterprises in Palestine yet needs to be developed. Nevertheless, Crayne *et al.* (2014) note that the main problem encountered when identifying microenterprises is the lack of clear data on informal businesses which make up the majority of microenterprises in Palestine.

2.2.2 Microfinance in the West Bank

The first local and international microfinance institutions in Palestine were established back in the mid 1980s, just before the first Palestinian *Intifada*, to support Palestinians financially (Crayne *et al.*, 2014; Khaled, Lauer, & Reille, 2006). Various donors supported microfinance operations then, and credit programs extended subsidized loans in the range of USD 5,000 – 25,000 to unemployed men.[6] Repayment rates of these loans, however, were low. In the early 1990s, Save the Children and the United Nations Relief and Works Agency for Palestine Refugees (UNRWA) started more sustainable micro-lending (Khaled *et al.*, 2006).

The mission of MFIs evolved after the establishment of the PNA in 1994 to serve the poor, based on the assumption that loans can increase income. The role of MFIs in combating poverty was further emphasized after the second *Intifada* in 2000 (Crayne *et al.*, 2014). In 2002, the Palestinian network for small and microfinance, *Sharakeh*, was established as a networking body to coordinate, represent and serve active MFIs in Palestine (The Palestinian Network for Small and Micro Finance, 2016b). In addition, a special committee was established by the PNA to coordinate donor-funded microfinance initiatives (Crayne *et al.*, 2014).

Prior to 2011, microfinance organizations were regulated by more than one governmental body depending on their legal form: Ministry of Interior for local and international NGOs; Ministry of National Economy for profit and non-profit companies; and, Ministry of Labor for cooperatives (Khaled *et al.*, 2006). Pursuant to the Banking Law No. (9) of 2010 and the provisions of Regulation No. (132) of 2011, the PMA assumed its responsibilities in

[6] The main donors were the United States Agency for International Development, the European Union and the United Kingdom through its Official Development Assistance (currently known as Department for International Development).

supervising, licensing and organizing MFIs through a specialized division (PMA, 2011; PMA, 2015a).

In response to the general provisions of the PMA's Instruction Set No. (1) of 2012, microfinance organizations have been undergoing a transition of significant transformations into companies with corporate governance structures and procedures (Crayne *et al.*, 2014). According to this set of instructions, licenses to engage in lending can only be granted to public shareholding companies with a minimum paid capital of USD 10 million or private profit or non-profit shareholding companies with a minimum paid capital of USD 5 million (PMA, 2012). Table 2.2 shows the list of organizations which provide financial services for micro, small and medium enterprises in Palestine. Of these organizations, eight MFIs are brought together under the umbrella of *Sharakeh*, with a total outstanding credit portfolio of USD 136 million in the West Bank alone as of June 2016 (The Palestinian Network for Small and Micro Finance, 2016a).

MFIs in Palestine do not offer a variety of microfinance products. They mainly offer loans, and do not collect deposits. Table 2.3 presents some general outreach indicators for *Sharakeh* MFI members. The table shows that, up till the end of June 2016, gross loan portfolio of *Sharakeh* MFIs in the West Bank and Gaza is USD 189,179,000; total number of active clients is 77,320, of which 62 percent are males; and, loans were disbursed to finance economic activities including general trade, services, production and agriculture in addition to housing improvements and consumption smoothing. Figure 2.2 presents loan distribution by economic activity. It shows that loans for housing improvements has the highest share, followed by general trade, consumption, services and agriculture. Production-financing loans

have the least share of 5 percent (The Palestinian Network for Small and Micro Finance, 2016a).

Table 2.2: Legal Form of Micro-Lending Organizations in Palestine as of August 2016

<table>
<tr><th>For–Profit Companies</th><th>Non-profit Companies</th><th>International NGOs</th><th>United Nations Organizations</th><th>Independent Institutions</th></tr>
<tr><td>Al-Ibda'a Microfinance*</td><td rowspan="2">Palestine for Credit and Development (Faten)*</td><td rowspan="2">Caritas</td><td rowspan="3">UNRWA*</td><td rowspan="2">PIF's program: Palestinian Development Fund (PDF)*</td></tr>
<tr><td>ACAD Finance Company*</td></tr>
<tr><td>Asala for Credit and Development*</td><td rowspan="2">Reef Finance*</td><td rowspan="2">Relief International</td><td rowspan="2">Palestinian Economic Council for Development and Reconstruction (PECDAR): Woman Fund[7]</td></tr>
<tr><td>Vitas*</td></tr>
</table>

Source: The Palestinian Network for Small and Micro Finance (2016a); Islamic Relief Palestine (2016); PECDAR (2016); Caritas (2016).
Note: * denotes *Sharakeh* MFI members.

Average loan size ranges from USD 928 (UNRWA) to USD 8,218 (PDF). Regional distribution of MFI loans between the West Bank and Gaza is uneven and is concentrated in the West Bank whose share is 72 percent (The Palestinian Network for Small and Micro Finance, 2016a).

The following sub-sections present a brief overview of each of the three MFIs involved in this study, namely; ACAD, Asala and Faten. In terms of outstanding loan portfolio, these institutions have an estimated market share in the West Bank and Gaza of 62 percent (The Palestinian Network for Small and Micro Finance, 2016a).

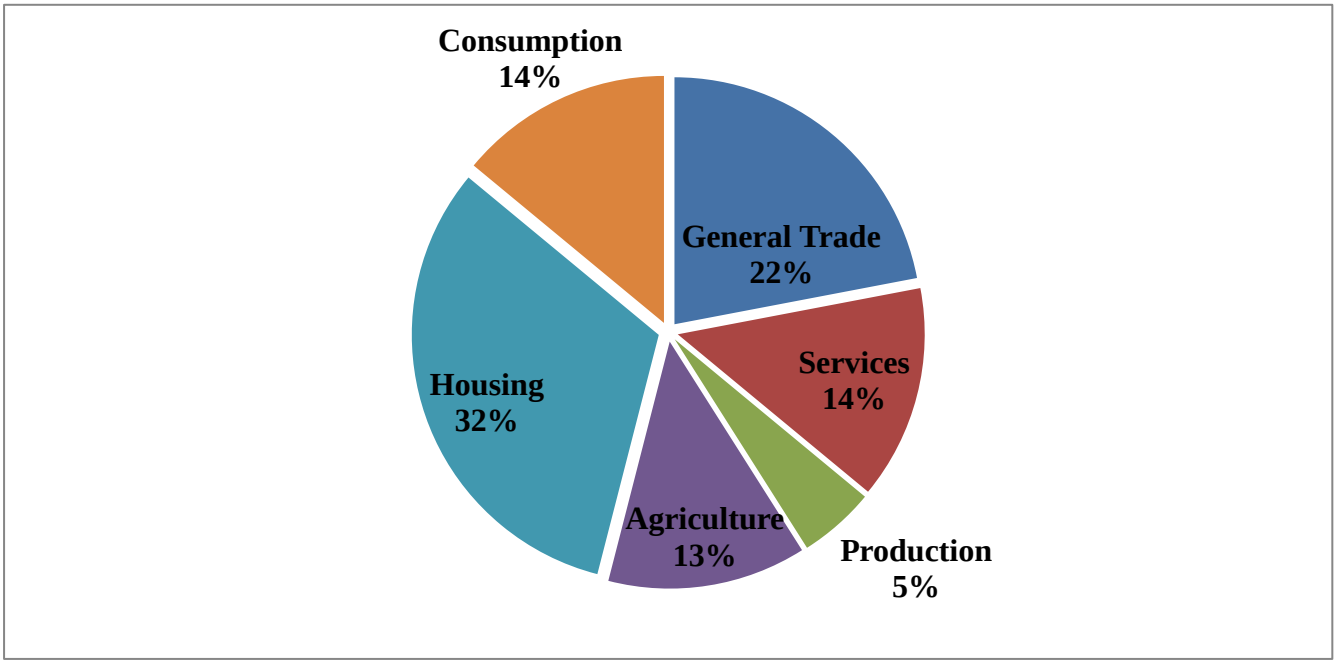
[7] PECDAR was established by the Palestine Liberation Organization as an independent institution.

Table 2.3: Microfinance Outreach Indicators for *Sharakeh* MFIs as of June 2016

MFI	ACAD	Al-Ibda'a	Asala	Faten	PDF	Reef	UNRWA	Vitas	Total
Number of Branches	7	5	7	37	6	10	11	8	91
Number of Staff	54	80	48	244	18	38	191	92	765
Number of Active Clients	4,300	7,607	3,640	34,104	840	2,865	16,652	7,312	77,320
Males	46%	53%	2%	66%	87%	84%	63%	78%	62%
Females	54%	47%	98%	34%	13%	16%	37%	22%	38%
Gross Loan Portfolio (million USD)	11.213	10.073	9.819	97.174	6.903	8.806	15.460	29.731	189.179
West Bank	92%	100%	80%	70%	75%	67%	67%	62%	72%
Gaza	8%	0%	20%	30%	25%	33%	33%	38%	28%
General Trade	47%	7%	32%	24%	13%	23%	13%	15%	22%
Services	2%	3%	12%	18%	11%	3%	16%	12%	14%
Production	10%	6%	8%	5%	11%	1%	6%	3%	5%
Agriculture	31%	4%	28%	11%	10%	54%	7%	2%	13%
Housing	0%	66%	3%	27%	51%	14%	19%	67%	32%
Consumption	10%	14%	17%	15%	4%	5%	39%	1%	14%
Average Loan Size (USD)	2,608	1,324	2,698	2,849	8,218	3,074	928	4,066	

Source: The Palestinian Network for Small and Micro Finance (2016a).

Figure 2.2: Distribution of *Sharakeh* MFIs' Loans by Economic Activity



Source: The Palestinian Network for Small and Micro Finance (2016a).

2.2.2.1 Overview of ACAD Finance Company

ACAD Finance Company is a for-profit company that aims at extending financial services to poor families and women. ACAD Finance Company was established in 2014 by ACAD NGO, and several international investors joined as shareholders for a total equity of USD 5.3 million. These investors include Grameen Crédit Agricole Microfinance Foundation, the European Investment Bank, the French NGO Solidarité Internationale pour le Développement et l'Investissement, and Triple Jump (Grameen Crédit Agricole Microfinance Foundation, 2016).[8] It is worth mentioning that ACAD NGO has served the Palestinian people since 1988, and extended financial services (mainly loans) and non-financial services such as training and

[8] Grameen Crédit Agricole Microfinance Foundation was established in Luxemburg by Crédit Agricole S.A. (French bank) and Grameen Trust (a non-profit organization affiliated with the Grameen Bank in Bangladesh) (Grameen Crédit Agricole Microfinance Foundation, 2016).
Triple Jump is a private fund management and advisory company with a head office in Amsterdam, the Netherlands and regional offices in Georgia, Peru, Mexico, Kenya, and Thailand. Triple Jump's shareholders are: Oxfam Novib, ASN Bank, NOTS Impact Entrepreneur and Management Company, and the management of Triple Jump (Triple Jump, 2016).

community empowerment services through its branches in the West Bank and Gaza (Grameen Crédit Agricole Microfinance Foundation, 2016).

ACAD Finance Company has 54 employees working in six branches and offices in the West Bank and Gaza (The Palestinian Network for Small and Micro Finance, 2016a). It offers both commercial and Islamic loan products to farmers and SMEs. It also provides funding and technical assistance to agricultural cooperative (Jarrar, 2016). ACAD's share of *Sharakeh* MFIs' gross loan portfolio in the West Bank for the second quarter of 2016 is 7.59 percent. Paying attention to the needs of rural communities, ACAD disbursed 40 percent of its loan portfolio to support breeding and greenhouse farming. Women enjoy a weighty share of ACAD's loan portfolio as well. By the end of June 2016, 54 percent of ACAD's borrowers were women. As Table 2.3 shows, general trade and agriculture together form more than 75 percent of ACAD's active loan portfolio (Grameen Crédit Agricole Microfinance Foundation, 2016; The Palestinian Network for Small and Micro Finance, 2016a). Annual interest rates on ACAD's loans range between 0 – 18 percent, and the average interest rate is 10 percent.[9] Interest rates have an inverse relationship with loan size and depend on the purpose of loan, where business-financing loans have lower interest rates than consumption smoothing loans. Besides, interest rates depend on ACAD's sources of funding and cost of borrowing from banks (Jarrar, 2016).

2.2.2.2 Overview of Asala for Credit and Development Company

Asala Company was established in 2014 in response to the new Banks Law. PIF's *Sharakat Fund* invested USD 1.1 million to help Asala transform into a company to reach out to Palestinian women in marginalized areas (Asala Company for Credit and Development, 2014).[10]

[9] Zero interest loans are extended to persons with disabilities or to those who suffer from chronic poverty.
[10] At that time, Asala's loan portfolio was USD 4.4 million.

The company extends financial services to empower low-income women through seven branches and 48 staff members (The Palestinian Network for Small and Micro Finance, 2016a). Prior to its transformation from an NGO to a company, Asala supported women through its branches in the West Bank and Gaza by providing financial and non-financial services. Since its establishment in 1997 up till the end of 2014, Asala extended more than 29 thousand loans for a total value of USD 35 million. These loans included personal loans, group loans in addition to micro and small loans aimed at supporting women entrepreneurs in the fields of agriculture, production, trade, and services. Non-financial services included providing consultancy services in the areas of project and financial management, cattle raising and farming (Asala Company for Credit and Development, 2014).

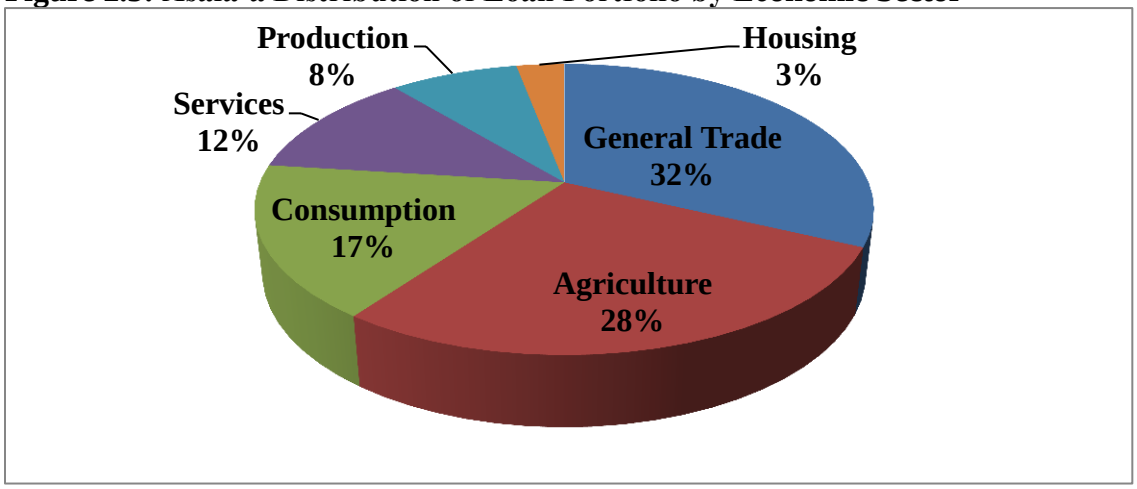
Annual interest rates on Asala's loans range between 6 – 18 percent and depend on loan size, loan term and purpose of loan (Dirbass, 2016).[11] *Sharakeh*'s report on micro-focus outreach for the second quarter of 2016 shows that Asala has 3.5 thousand active clients in the West Bank and Gaza, of which more than 98 percent are women. Gross loan portfolio exceeds USD 9.5 million distributed by economic sector as shown in Figure 2.3. Asala's share of *Sharakeh* MFIs' gross loan portfolio in the West Bank as of 30 June 2016 is 5.74 percent (The Palestinian Network for Small and Micro Finance, 2016a).

2.2.2.3 Overview of Palestine for Credit and Development (Faten)

Palestine for Credit and Development, commonly known as Faten, was established in 1999 as a national non-profit private shareholding company to finance micro and small enterprises, with a special focus on those run by women (Palestine for Credit and Development - Faten, 2015).

[11] Higher interest rates are charged against consumption smoothing loans.

Figure 2.3: Asala'a Distribution of Loan Portfolio by Economic Sector



Source: The Palestinian Network for Small and Micro Finance (2016a).

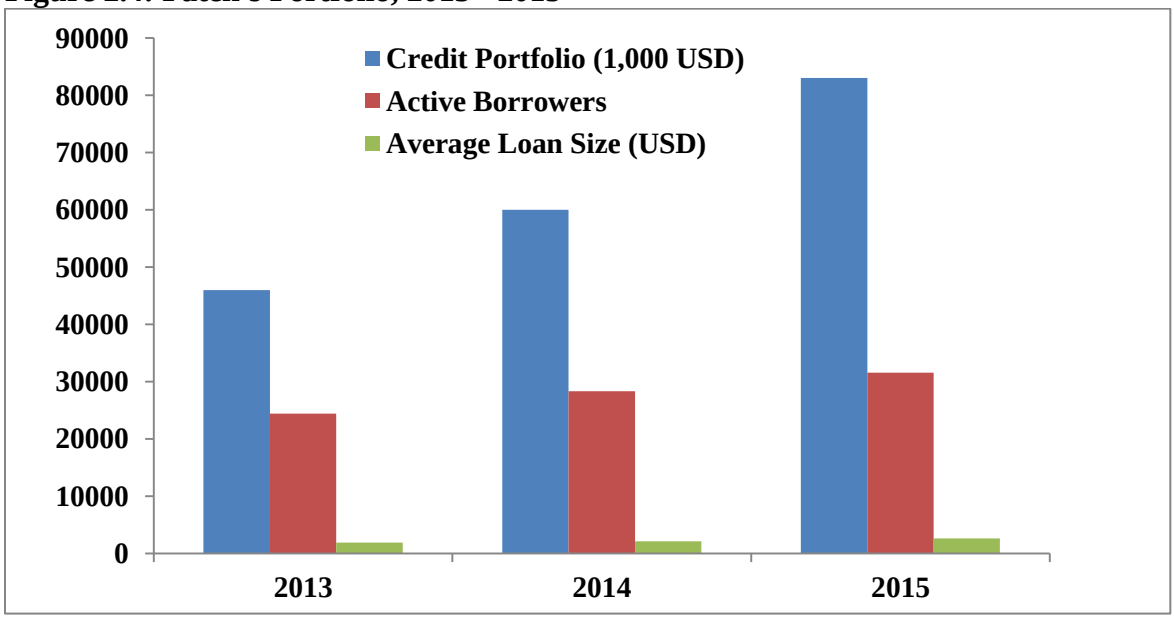
Faten extends its services through 244 employees in 37 branches in the West Bank and Gaza (The Palestinian Network for Small and Micro Finance, 2016a). Table 2.4 presents a summary of Faten's products. The table shows that loans could be extended up to USD 50 thousand, with repayment periods ranging between 4 - 60 months. Annual interest rate varies from one product to another and ranges between 5 - 18 percent, depending mainly on loan size. Grace periods are extended by Faten up to six months. One guarantee is required for loans of less than USD 5 thousand while two guarantees are required for loans of greater values. Any of the following types of guarantees are accepted: personal guarantees, post-dated checks, vehicles, gold, and real estate mortgage. Specific loan types do not require guarantees; namely social solidarity loans. Loans are offered on the basis of either commercial financing or *Murabaha* (Faten, 2016; Palestine for Credit and Development - Faten, 2015; Awawdeh, 2016).[12]

[12] *Murabaha* is an Islamic financing technique that involves "the resale of a commodity, after adding a specific profit margin ('mark-up') by the lender to the borrower who agrees to buy that commodity for the new offered price" (Khan, 2008, p. 11). Such type of financing is considered compliant with Islamic *Shariah*. Repayment is usually made in equal installments (Khan, 2008).

In addition to loans, Faten established a Social Solidarity Fund which is financed by borrowers' contributions for the purpose of loan repayment in the events of death, disability, illness or damages caused by the Occupation. Furthermore, Faten supports its committed borrowers who repay loan installments on time by building their capacity in financial literacy, and by offering university scholarships for borrowers' children (Faten, 2016).

In 2015, Faten's market share was 53 percent, with a total credit portfolio of USD 82 million. Over the recent years, Faten has been witnessing high growth rates as shown in Figure 2.4; loan values increased by 35 percent in 2015 compared to 2014 when 18 thousand new loans were extended for a total value of USD 61 million. In parallel, the total number of borrowers increased by 10 percent in 2015 compared to 2014 and by 13 percent compared to 2013 (Palestine for Credit and Development - Faten, 2015; Palestine for Credit and Development - Faten, 2014).

Figure 2.4: Faten's Portfolio, 2013 - 2015



Source: Palestine for Credit and Development – Faten (2015);Palestine for Credit and Development – Faten (2014).

Table 2.4: Summary of Faten's Financial Products

Product	Target Group	Repayment Period (months)	Value (USD)	Interest Rate	Grace Period
Start-up loans	Qualified young entrepreneurs who wish to start their own businesses	4 - 48	Up to 25,000	10%	Up to 6 months
Family loans	Owners of family businesses who wish to expand their projects	4 - 48	Up to 25,000	6.5 – 12%	
Social solidarity loans	Entrepreneurs who wish to develop their microenterprises in commerce, service delivery, agriculture, etc.	4 – 24	Up to 3,000	12 – 18%	
Grow with us loans*	Women who own SMEs and wish to increase their working capital	4 – 60	25,001 – 50,000	5%	
Housing loans	Palestinian families who wish to buy, complete the construction or improve their residence	4 - 48	Up to 50,000	8 – 12%	
Personal loans	Palestinian families who need funding to smooth consumption	4 -24	Up to 3,000	12%	

Source: Palestine for Credit and Development – Faten (2015); Faten (2016).
Notes: * Loans are offered on the basis of either *Murabaha* or commercial financing.

2.2.3 Microfinance in Ramallah

This study focuses on the impact of microfinance on borrowers' household welfare and business activities in Ramallah. It is worthwhile looking at Ramallah's share of total outstanding loan portfolio in each of the three MFIs involved in this research. Based on information obtained directly from the three MFIs, Ramallah's share does not appear to be significantly greater than other areas:

- In 2015, Faten disbursed USD 12,560,056 in Ramallah, which represents 14 percent of its total outstanding portfolio.
- ACAD disbursed a total amount of USD 1,096,148 in Ramallah by the first quarter of 2016. This amount constitutes 11 percent of ACAD's outstanding loan portfolio.
- Asala disbursed a total of USD 1,241,849 in Ramallah by the first half of 2016, which constitutes 13 percent of its total outstanding portfolio in the West Bank and Gaza.

Ramallah's average share of Asala and ACAD's microfinance loans is smaller than those of northern and Gazan areas.[13] Nonetheless, the information obtained from MFIs suggests that there is not a single governorate or city that dominates the microfinance subsector.

In the West Bank in general and in Ramallah in particular, SMEs play a vital role in fueling the economy. Yet, SMEs remain underserved due to the high risk associated with lending to those who lack collateral in addition to the high costs of information gathering and monitoring mechanisms. While microfinance initially evolved to serve poor people who cannot offer acceptable guarantees against small amounts of bank credit, MFIs in Palestine require collateral and charge higher interest rates for smaller loans.

[13] Jenin's share of Asala's outstanding portfolio in 2015 and first half of 2016 was reported at 20 percent. Gaza's share of Asala's loans was 26 percent in 2014 and decreased by mid 2016 to 19 percent.

Chapter 3 : Literature Review

This chapter presents an overview of the financial resources available for the poor including microfinance. It further elaborates on microfinance products and services as well as types of targeted clients, and reviews the literature on the impact of microfinance in developing countries in general and in Palestine in particular. In addition, it presents the definition of poverty and reviews the views of different economic theories on it. The chapter concludes with a theoretical framework.

3.1 Financial Resources for the Poor

Poor people around the world are usually excluded from formal financial systems. Commercial banks do not extend their conventional financial services to the poor for more than one reason. The poor lack assets which can serve as collateral, and therefore lending out to the poor who are vulnerable to external shocks is associated with high risk. At the same time, commercial banks lack cost-effective information gathering and monitoring mechanisms and have limited ability to enforce loan repayment (Coleman, 2006; Murray & Boros, 2002; Cull, Demirgüç-Kunt, & Morduch, 2011). The resulting inequalities in access to credit have broadened the inequalities in the distribution of income and wealth (Morduch, 2013).

The difficulty in gaining access to formal financial services had forced the poor to look for other financial sources to meet their needs. To manage risks and cope with external shocks, the poor resorted to borrowing from the informal sector, which has been commonly viewed as ‘unregistered sources of credit’ (Matin *et al.*, 2002). The typical sources of informal credit include family, friends, moneylenders, community support networks and traders. Credit provided

through informal sources is usually unpredictable, limited in value and entails charging exploitative interest rates (Littlefield, Hashemi, & Morduch, 2003).

Besides the informal financial markets, various interventions have sought to bridge the gap between the limited supply and excessive demand for financial services by poor people. These interventions include parastatal (government-owned) development banks and agricultural credit projects (Zeller & Meyer, 2002). These projects, however, rarely benefited poorer people for the following reasons: biased credit allocation towards urban areas; inability of the poor to provide acceptable collateral; higher transaction costs imposed on smaller borrowers; arbitrariness and corrupt practices; restrictions on interest rates; and, high default rates (Matin *et al.*, 2002). Thus, the challenge has been to ensure predictable, non-exploitative, and transparent access to financial services by the poor.

An attempt to find a solution to the problem of the poor was first explored in 1976 by Dr. Mohammad Yunus, the founder of Grameen Bank. Yunus provided low-interest credit to a homogenous group of borrowers including women, instead of individual borrowers. The product was perceived as a win-win solution at that time. For the borrower, the advantage would be access to a greater amount of credit as a group member; an amount that would not be offered to the same borrower as an individual. For the lending organization, the benefit would be reduced risk of information asymmetry as a result of passing the responsibility of selection and monitoring to the group members (Karel & Zetek, 2014).

According to the Grameen Model which is based on the principle of joint liability, prospective borrowers are required to form groups of five, and loans are extended to only two members at first. If the first two loans are repaid on time, then two more members get their loans, and then if

these repay on time, the fifth member gets a loan. If one group member defaults, then the rest are banned in the future. In addition to exploiting peer selection and peer monitoring systems to ensure loan repayment, social collateral is harnessed to force borrowers to repay their loans in order to maintain their reputation in the society (Brau & Woller, 2004).

While the group lending approach is associated with lower transaction costs, it is offset by other costs, some of which are borne by the borrower. These costs include: "coercive peer pressure, loss of trust and the likelihood that the poorest and most vulnerable remains excluded or further stigmatized" (Murray & Boros, 2002, p. 12); attending group meetings and monitoring timely repayment by other members can be time consuming and costly, especially for those groups whose members live far from each other; loan terms are restricted by what the group can jointly guarantee, and this can undermine the efforts of those who can and wish to expand and develop their businesses at a higher pace than the rest of members; some groups conspire against the lending institution, revoking the main guarantee for group loans which is social collateral; and group lending has high costs and some programs may need subsidies to cover its full costs (Armendáriz de Aghion & Morduch, 2000).

Despite the above criticism, the Grameen Bank as a market-driven model was recognized as a huge success by neoliberal governments. In the 1980s, international development resources and technical support were shifted towards replicating the Grameen Model in developing countries around the world (Bateman, 2014).

3.2 Microfinance Products and Services

Microfinance Gateway defines microfinance as a movement that caters for the needs of low-income households by offering them access to affordable financial services to "finance income-

producing activities, build assets, stabilize consumption, and protect against risks" (Microfinance Gateway, 2016). The terms 'microfinance' and 'microcredit' were initially used interchangeably to refer to very small loans extended to unemployed borrowers who lack traditional collateral (Microfinance Gateway, 2016). Over the past decades, however, MFIs have developed their products and services to meet the diverse financial needs of the poor around the world. Today, the term 'microfinance' includes a range of financial and non-financial products and services.

MFIs offer a variety of products and services, including enterprise loans for enterprise formation and development, consumption smoothing loans for those who suffer from income fluctuations, savings, transfer payments, micro-pensions, insurance and remittances (Brau & Woller, 2004; Littlefield *et al.*, 2003; Cull *et al.*, 2011). In addition, some MFIs integrate development services such as education and health care with financial services. Other MFIs provide various non-credit services as well to improve business performance and empower entrepreneurs by developing their skills through capacity building initiatives (Pitt & Khandker, 1998). Various lending methodologies are used by MFIs to extend loans to borrowers such as group lending, forced savings, and the gradual expansion of credit depending on borrower's credit repayment history (Microfinance Gateway, 2016).

This review of microfinance products and services would not be complete without a brief discussion of client targeting in terms of gender. Some MFIs focus on women empowerment. From their point of view, women are likely to be more financially constrained than men, with restricted access to credit and employment (Pitt & Khandker, 1998). Access to credit can empower women economically and enhance their confidence and self-esteem within the family (Kevane & Wydick, 2001). Other MFIs target women based on the belief that women use their

loans in productive activities in order to improve household welfare while men tend to spend loans on consumption (Brau & Woller, 2004).

So far, this section has introduced some of the most important aspects of microfinance. The next section presents in detail the different views on the role of microfinance in alleviating poverty.

3.3 Analysis of the Impact of Microfinance

Microfinance as a development intervention tool has been challenged. Literature on microfinance includes controversial claims and debates on its impact on the poor. There is no consensus among researchers on its impact (Banerjee, Duflo, Glennerster, & Kinnan, 2015a).While some research finds that access to microfinance reduces poverty (Pitt & Khandker, 1998; Kevane & Wydick, 2001; Banerjee, Duflo, Goldberg, Parienté, Shapiro, Thuysbaert, & Udry, 2015b), others argue that microfinance has little impact on poverty reduction (Morduch & Haley, 2001).

Despite the voice of skeptics on the impact of microfinance, some studies were successful in showing positive results in various settings using different methodologies. Impact assessments have shown how some MFIs work towards financial and social bottom-lines by displaying positive impacts of microfinance on various variables such as the well-being of poor households, female empowerment, self-employment profits, and psycho-social status (Brau & Woller, 2004; Banerjee, *et al.*, 2015b).

On the far extreme, skeptics fear that microfinance has an overall negative impact that reduces incremental income and contributes to over-borrowing, leading to greater long-term effects of poverty (Banerjee, Duflo, Glennerster, & Kinnan, 2009; Chowdhury, 2009). In his letter to the Financial Times in 2008, Milford Bateman is quoted saying: “In nearly 25 years of academic and consulting work in local economic development, my experience is that microfinance [programs]

most often spell the death of the local economy" (Banerjee *et al.*, 2009). Bateman argues that savings are critical for development and should be intermediated into 'growth and productivity-enhancing projects' instead of mobilizing them to the informal sector through commercial microfinance programs that would direct the economy into a "non-industrial future and unending poverty" (Bateman, 2008).[14] Critics also refer to other negative impacts of microfinance such as exploitation of women by not paying for their labor, increased workloads for women who have to work inside and outside the house, and child labor where children are forced leave school to work with their families (Rooyen, Stewart, & Wet, 2012; Bateman & Chang, 2012).

3.3.1 Impact Assessments of Microfinance Across the World

Among the most cited studies on the positive impact of microfinance is that of Pitt and Khandker (1998). Using data collected over the period 1991-1992, the study examines three group-based microcredit programs that work with the rural poor in Bangladesh. To account for potential biases resulting from unobserved characteristics at the individual, household and village levels, Pitt and Khandker (1998) use a quasi-experimental design. A comparison is held between the difference in impact between eligible treated and ineligible untreated individuals in treatment villages and the difference between eligible untreated and ineligible untreated individuals in control villages. Pitt and Khandker (1998) find that credit provided to both men and women significantly affects household expenditure, with the effect being greater when credit is provided to women.[15] In addition, the study finds that credit provided to women significantly affects non-land asset holdings by women, labor supply, and schooling of boys and girls. The dependent

[14] According to the Financial Times (2008), Milford Bateman was a Visiting Professor of Economics at University of Juraj Dobrila Pula, Croatia when his letter was published in the newspaper.
[15] The increase in household expenditure is 18 taka for every 100 additional taka borrowed by women compared to only 11 taka for every additional 100 taka borrowed by men.

variables used by Pitt and Khandker serve as good indicators for poverty in its multi-dimensional definition.

Another study by Kevane and Wydick (2001) finds a positive impact of an MFI's credit program (FUNDAP) in Guatemala. The study relies on a 1994 survey to test whether providing credit to women in order to finance capital can result in a trade-off between economic growth and poverty reduction. The sample was composed of 260 entrepreneurs, where each entrepreneur belonged to a borrowing group consisting of three to six members. The sample also included a control group which was composed of 82 non-borrowers with very similar characteristics to FUNDAP borrowers. The study finds a significant difference between male-owned enterprises and female-owned enterprises in terms of employment generation, where women are less likely to witness employment growth since they spend more time at home during child bearing and child raising years to care for their children. Moreover, the study does not find a statistically significant difference between female and male-owned enterprises in terms of their ability to increase sales (Kevane & Wydick, 2001). Aside from the main research question, the results of Kevane and Wydick (2001) imply a positive role of microfinance in poverty reduction translated into employment generation and increases in sales.

Coleman (2006) employs a survey to examine whether two village bank programs in Northeast Thailand target the "poorest of the poor" while controlling for potential biases arising from self-selection and program placement.[16] The study compares the difference in outcome between existing and former borrowers and eligible non-participating individuals to the difference in outcome between new borrowers (whose loans were not released at the time of survey) and eligible non-participating individuals. The beneficiaries' level of poverty was identified using the

[16] The survey was conducted in 1995-1996 and targeted 444 households in 14 villages.

value of land owned five years prior to the survey. Findings of the study show a significant positive impact of microfinance on the better-off borrowers in terms of wealth (measured by non-land assets, productive assets, livestock and consumable durables), savings, sales, productive expenses, and labor time. The better–off borrowers were the richest village bank members who used their influential positions to borrow significantly from the village banks compared to rank and file members (Coleman, 2006). These findings imply that a positive impact of microfinance on the poor may be achieved by enforcing eligibility criteria on measures of wealth to ensure that the poorest are those who benefit from microfinance and not those who are better off.

Coleman's (2006) findings coincide with evidence from earlier studies on the impact of microfinance. Chowdhury (2009) refers to studies collected by Hulme and Mosley (1996) which find that borrowers who are above the poverty lines can enjoy significant positive impacts of microfinance. These findings imply that credit is not the only factor for producing a positive impact. Other complementary factors are crucial for making credit more productive, and entrepreneurial skills are among the most important factors. In addition, basic education and experience are essential factors for understanding and managing simple business activities, yet most poor people do not have them (Chowdhury, 2009).

In a more recent study, Banerjee *et al.* (2015b) investigate whether a multidimensional graduation program aimed at the extreme poor can help them establish and sustain self-employment activities while producing lasting improvements on their well-being.[17] Over the years 2007 to 2014, randomized trials in six countries; Ethiopia, Ghana, Honduras, India,

[17] The program is designed to combine six complementary activities to help households start and continue with self-employment activities. The program provides beneficiaries with a grant for acquiring a productive asset, cash for temporary consumption support, technical training on managing productive assets, life skills coaching, and access to savings accounts as well as health services.

Pakistan, and Peru, were conducted. Over ten thousand households from eligible villages suffering from extreme poverty in the six countries were selected. After one year from starting the program, the results from all sites showed positive impacts of the program on consumption, food security, assets, income and revenues, physical and mental health, political involvement and women empowerment.[18] The positive impact on consumption, food security and assets increased one year later (after three years from starting the intervention). The positive impact on income and revenues and mental health declined yet remained positively significant after one year from conducting the first end line survey while the impact on physical health and women empowerment declined and became even insignificant (Banerjee *et al.*, 2015b). Despite the variations in effect after one year from completing the program, the results imply that it is possible to improve the economic status of the poor (particularly in consumption, food security and asset ownership) in a relatively short period of time.

Another three-year randomized study was conducted by Banerjee *et al.* (2015a) to avoid potential biases resulting from self-selection and program placement.[19] The study finds that microcredit can support some borrowers in expanding their businesses, yet it does not help them escape from poverty. The study does not find a significant difference in monthly per capita consumption (an indicator for overall welfare) or monthly non-durables expenditure. A significant positive impact on obtaining durables is reported, but it turns that these durables are financed partly by reducing temptation goods and partly by increasing labor supply. Business

[18] A baseline survey on all eligible beneficiaries was conducted. Then, an end line survey was conducted at the end of the intervention (after 24 months), and a second end line survey was conducted one year after the first end line.

[19] In 2005, 52 out of 104 poor neighborhoods in Hyderabad, India were randomly selected for opening an MFI branch. Fifteen to 18 months after the opening the MFI branch, a household survey was conducted for 6,850 households. During the same research period, other MFIs had also started to open branches in control and treatment areas, and the probability of receiving an MFI loan was still higher in treatment areas (46 percent) than in control areas. Two years after the first survey, the same households were surveyed for the second time to examine the impact of microcredit on households and businesses (Banerjee *et al.*, 2015a).

profits do not increase for most businesses, although the study finds a significant increase in the upper tail of profitability. The study does not find any significant effect on outcomes such as education, health and women empowerment in the short run (Banerjee *et al.*, 2015a). It is therefore very critical to assess whether social progress can be attributed to microfinance, noting that it has been seen in Asian countries long before microfinance emerged (Chowdhury, 2009).

The above review of literature shows that a positive impact of microfinance on household welfare and economic activity is possible despite the variation in the assessments' methodology, time and location. At the household welfare level, significant positive changes are identified on several outcomes including income, wealth, household expenditure and consumption, savings, food security, children schooling, non-land asset holdings, physical and mental health and empowerment. At the business level, positive impacts on employment, sales, and business expansion are reported. However, the findings show that the impact varies in significance and magnitude depending on a number of factors such as borrowers' gender, level of poverty, and level of education and experience, in addition to the time span of the assessment.

3.3.2 Critiques on Microfinance

Microfinance impact assessments use diverse methodologies to balance between the objectives of the assessment and the available time and resources. Although it is complicated to compare impact assessments of microfinance programs because of the programs' heterogonous contexts which tend to affect the adopted empirical methodologies, several studies address common methodological weaknesses found in published impact assessments.

Corrections for identified methodological errors in some studies have resulted in contradictory results. A relatively recent study by Roodman and Morduch (2014) replicates and reanalyzes Pitt

and Khandker's (1998) to show how the positive impact of microfinance on poverty reduction disappears when outliers are dropped or when a robust linear estimator is used. Although the findings of the study reduce the confidence in the power of microfinance to reduce poverty, Roodman and Morduch (2014) stress that the lack of evidence on the role of microfinance in reducing poverty is not an evidence of its absence.

Reviewing existing literature on microfinance, Brau and Woller (2004) present some of the common practices that have the potential to result in 'systematic overstatement' of programs' impact. These include the omission of ex-clients from treatment groups, which can introduce significant risks of selection bias and survivorship bias, in addition to other problems such as relying on biased sampling, using invalid control groups, and failure to conduct effective cost–benefit analyses.

Banerjee *et al.* (2009) explain in more detail the difficulties faced when evaluating the impact of microfinance. First, microfinance borrowers are self-selected and thus cannot be compared to non-borrowers (self-selection). Second, MFIs choose some villages/areas over others purposely (program placement). Considering the complexity of differentiating between the causal effects of microcredit and selection effects, Banerjee *et al.* (2009) suggest that the ideal method to measure the effect of microcredit would entail the random assignment of microcredit to some areas; "randomization would ensure that the only difference between residents of these areas is the greater ease of access to microcredit in the treatment area" (Banerjee *et al.*, 2009, p. 2).

Aside from the agreement on the need for randomization to measure microfinance impact, there seems to be a broad agreement on the importance of complementary factors for microfinance to

have any significant positive impact on poverty alleviation. Chowdhury (2009) quotes Sam Daley-Harris, Director of the Microcredit Summit Campaign, saying,

> "*Microfinance is not the solution to global poverty, but neither is health, or education, or economic growth. There is no one single solution to global poverty. The solution must include a broad array of empowering interventions and microfinance, when targeted to the very poor and effectively run, is one powerful tool*" (Chowdhury, 2009, p. 2).

In addition to management and entrepreneurial skills, other essential supply factors are needed to support the success of micro-businesses including public investment in infrastructure such as roads and electricity, especially in rural areas. Attention should also be given to the demand side to ensure that people buy what microenterprises sell. An increase in employment opportunities in local economies can boost demand. It is clear then that both microfinance advocates and proponents would agree on the need for supply and demand-side factors for microfinance to achieve any positive goal (Chowdhury, 2009).

3.3.3 Impact Assessments of Microfinance in Palestine

A number of studies have focused on microfinance in Palestine (West Bank and/or Gaza), and few of these address the direct impact of MFIs on poverty. Related studies include impact assessments on beneficiaries of MFIs in Palestine and examine changes in socio-economic conditions, gender empowerment and business development using simple statistical analysis. Others tackle the impact of donor-funded grants on income and employment.

Al Markaz for Development and Marketing Consultancies (2012) reports the results of an impact assessment of microfinance on Asala borrowers. The assessment finds that around 71 percent of former borrowers in the West Bank and Gaza have projects with higher values than their initial capital investments. The assessment also finds a positive impact on female borrowers in the West Bank in terms of economic empowerment, engagement in decision making, overall business

management, psychological and interpersonal empowerment. In Gaza, the positive impact translated into increased income, empowerment, gender, and economic independence. Economic independence is measured by the ability of the female borrower to run a sustainable profitable business and use the generated income as one of the main sources of household income.[20] Overall, the study finds the positive indicators in Gaza to be lower than those in the West Bank due to the Israeli military actions in Gaza and the consequent deterioration in the economic situation (Al Markaz for Development & Marketing Consultancies, 2012).

In 2009, the Palestinian Women's Research and Documentation Center contracted Optimum for Consultancy and Training to conduct an impact assessment of microcredit on Palestinian women. The main objectives of the study were to assess the economic and social impacts of microfinance loans on Palestinian women and their families, and to measure the extent to which these microfinance loans alleviate poverty. The study covered the West Bank and East Jerusalem. Work in Gaza was limited to focus groups, control groups and interviews with MFIs and female workers there. The study confirms that microfinance loans were available to poor women who come from poor families with low income sources and limited opportunities. Moreover, the assessment finds that loans have a positive impact on several financial and economic outcomes for borrowers and their households; 55 percent of sampled enterprises were the main source of

[20] The conclusion on economic empowerment in the West Bank is based on the following statistical findings: (i) The majority of women have invested all or part of their loans in the establishment or development of income-generating projects; (ii) Seventy two percent of the projects established by active borrowers in the West Bank since 2007 were still in operation at the time of assessment; (iii) Seventy three percent of existing projects generated revenues at the time of survey and the most common revenue level was USD 1,001 - 3,000; (iv) For around 9 percent of active borrowers, project income was the main source of household income; and, (v) For around 34 percent of West Bank borrowers, project income was the second source of household income.
The conclusion on economic independence in Gaza is based on the following statistical findings: (i) Two thirds of the women who borrowed from Asala have invested part or all of their loans in the establishment or development of income-generating projects; (ii) Fifty seven percent of the projects established by active borrowers since 2007 were still in operation at the time of assessment; (iii) Seventy three percent of existing projects generated revenues at the time of survey, with the most common revenue level ranging from USD 1,001 – 3,000; and, (iv) For around 18 percent of active borrowers, project income was reported as the first or second source of household income.

household income; 43 percent of the remaining enterprises contributed partially to household income; loans increased the capacity of 80 percent of households to save emergency cash for securing necessities such as: food, medicine and improving housing conditions; and, 42 percent of sampled enterprises contributed to creating new job opportunities for women.[21] In addition to economic empowerment, the study finds that borrowing women have improved their communication and interaction skills and faced reduced domestic violence (Optimum for Consultancy & Training, 2009).

A study by El Namrouty, AlHabil, and Al-thalathini (2013) finds a positive impact of a pilot economic empowerment program in Gaza on income and employment rates.[22] Using statistical tests to analyze data obtained from beneficiaries, the study finds that 80 percent of the grant–supported projects were the main source of household income; 70 percent of the borrowers witnessed an increase in their income after obtaining the grant; 80 percent of beneficiaries witnessed an increase in the total number of employed household members; and, 70 percent of households felt more independent after the project.

Fridell (2008) explores the dynamics of microcredit borrowers who own enterprises with informal sector characteristics such as unregistered businesses, businesses operated in a market place or based at home, or businesses with less than ten workers. He finds that 100 percent of survey respondents acknowledged at least one indicator of informal business, suggesting that microcredit provision in the West Bank is engaged in financing the informal sector to a large

[21] The majority of female borrowers contributed to the expenses of their children's education and medical treatment. Around 50 percent of female borrowers were able to buy a house, real estate or to cover housing improvement expenses. More than 50 percent were also able to meet 'secondary needs' of their households such as entertainment. In addition, most of the female borrowers were able to buy their own needs.

[22] The Deprived Families Economic Empowerment Program was funded by the Islamic Development Bank and implemented by the United Nation Development Program (UNDP) in partnership with the PNA.

extent.[23]

Fridell (2008) refers to findings by PCBS and the UNDP to show how borrowing for informal businesses is perceived as a coping strategy; according to PCBS (2003), job creation is identified as the main reason behind 70 percent of informal establishments, and the UNDP (2002) asserts that job creation is perceived as the most important poverty reduction strategy for Palestinians. In line with these conclusions by PCBS and the UNDP, Fridell (2008) finds that three quarters of his questionnaire respondents either view microcredit as a crisis management tool or have had the experience of starting an unregistered business after becoming unemployed.[24] A quarter of those who view microcredit as an alternative in crisis have in fact used it as such, proving that microcredit has increased coping ability. Microcredit provision is viewed as an important tool to create employment, which in turn is expected to generate income and improve other socio-economic indicators. "It should be uncontroversial to claim that just as the informal sector absorbs unemployment shocks, microcredit is viewed, and in some cases used, as a tool for job creation by the microcredit clients" (Fridell, 2008, p. 35).

Studies on the socio-economic impact of microcredit in Palestine share common conclusions on microcredit's ability to create jobs and generate employment opportunities that are considered as one important tool to fight poverty. Income from informal enterprises, which are largely financed by MFIs in Palestine, is found to contribute partially if not fully to household income. In addition, microcredit has proved to help borrowers save emergency cash to spend on household needs. On the social level, microcredit has proven to contribute to social empowerment.

[23] The thesis aimed for 100 respondents and reached 96.

3.4 Conceptualizing Poverty

There is global agreement on the need to eradicate poverty to promote sustainable development (Laderchi, Saith, & Stewart, 2003). Various approaches have been employed to define and understand poverty within and across cultures, and the strategies of poverty alleviation programs have been influenced by these definitions (Nyasulu, 2010).

Poverty has been traditionally defined in one dimension. Poor people have been identified according to a shortfall in a monetary indicator such as income or expenditure with respect to a poverty line. The evolving definitions of poverty over time, however, reflect the development of different ideological positions; thinking beyond monetary aspects to include broader issues such as political participation and social exclusion (Davis & Sanchez-Martinez, 2014). Poverty is being increasingly understood as a multidimensional phenomenon.

Coudouel, Hentschel, and Wodon (2002) defines poverty as "not having enough today in some dimension of well-being" (p. 29). Other than material deprivations under which hunger and food insecurity are core concerns, the concept of poverty is used to cover "a wide range of interrelated life chances" (Hulme, Moore, & Shepherd, 2001, p. 6). Health, education and social inclusion are among the most important dimensions of poverty ((Bhuiya, Mahmood, Rana, Wahed, Ahmed, & Chowdhury, 2007).

Shil (2009) quotes a rather comprehensive definition of poverty by Yunus (1997) in his article on microfinance for poverty alleviation:

> *"Poverty is that characteristic of being in a state of joblessness, illiteracy, landlessness, homelessness, lack of adequate capital, facilities and food to earn a decent living and also powerlessness*" (Shil, 2009, p. 191).

This definition reflects poor people's perception of poverty, for they give prominence to food security, finding safe and predictable sources of livelihoods, being independent, and having the power and ability to protect themselves from shocks (Naryan *et al.*, 2000).

In 1995, the Copenhagen Social Summit was the first international event to recognize the expansion of the term poverty. By 2000, the World Bank described poverty as "material deprivation, low levels of education and health, exposure to vulnerability and risk, voicelessness and powerlessness" (Ajodo-Adebanjoko & Walter, 2014).

While there are broad categories and several definitions of poverty, this research focuses on comprehensive definitions of poverty in terms of economic well-being, capabilities and social exclusion.

3.4.1 Economic Well-Being

Economic well-being is recognized as one of the most inclusive indicators of poverty. In this regard, poverty is associated with insufficient levels of income and consumption (Wagle, 2002) and insufficient human development outcomes on health, education and assets. An alternative to using single indicators of poverty is using composite indices of wealth to capture the major aspects of poverty. The health status of household members can be a major indicator of well-being (Coudouel *et al.*, 2002). Analysis could focus on measuring outcomes such as the nutritional status of children or the frequency of distinct diseases such as malaria or diarrhea (Smith, 2002). If data on such health indicators are difficult to collect, analysis could focus on measuring inputs such as the number of visits to health centers or children's immunization rates. With regards to education, the level of literacy could be used. In countries with very high literacy rates, the scores of school exams could be used as an outcome indicator. Another indicator could

be the ratio of completed years of education to the years that should be completed (Coudouel *et al.*, 2002).

Schreiner (2014) developed a simple standardized tool to measure poverty in its multidimensionality in Palestine. This tool is the simple poverty scorecards for Palestine. The national expenditure and consumption survey (2011) was used to develop a scorecard of ten questions.[25] The simple poverty scorecards are used to determine the statistical likelihood of microfinance borrowers and their households to live below or above several poverty lines including the national poverty lines. The scorecards use indicators on household size, employment of household members, housing (main material of exterior walls) and ownership of durable goods (bookcases, computers, satellite dishes, televisions and video cassette recorders or digital versatile disc players, solar water heaters, landlines or cellular telephones). Such tool is designed to help MFIs determine the ratio of poor borrowers at different time intervals and track their movement in and out of poverty over time (Schreiner, 2014).

3.4.2 Capability Poverty

Sen (1999) offers an alternative perspective on the definition of poverty. Poverty from the capability deprivation approach concentrates on deprivations in terms of rights and freedoms, unlike income which is instrumental to the kind of life an individual is able to lead. People and societies differ in their capacities to convert financial and non-financial resources into achievements. For example, a disabled person needs extra resources such as a wheel chair and ramps in order to achieve what a normal person can achieve. Thus, it is very important to consider the capability of people to use resources such as income, goods and services at their disposal to make valuable achievements (Clark, 2005).

[25] Each answer in the questionnaire has a weighted score.

Sen (1999) uses the terms “functionings” and “capabilities” to distinguish between being and doing. A functioning refers to what an individual can make using the commodities at his disposal. Achieving a functioning (such as being adequately nourished) using commodities depends on several personal and social factors such as age, gender, activity levels, body size, metabolic rates, and access to medical services. A capability refers to an individual’s ability to achieve a functioning, and reflects the individual’s freedom to choose a positive life style (Clark, 2005). As such, poverty is defined as one of the sources of “unfreedom”, where individuals are deprived of the freedom to access food to satisfy hunger, to access health care to receive treatment for curable diseases, and other rights to achieve their potentials that are inherent in their capabilities (Green & Hulme, 2005; Sen, 1999).

Sen (1999) argues that freedom is at the heart of development, suggesting that the principal objective of development is to expand human capabilities rather than promoting economic growth. Income is not the only instrument in expanding capabilities (Sen, 1999). The effects of poor health and lack of nutrition can be much more persistent than those of income. Health and nutrition not only affect well-being directly, but also have indirect and even more profound effects on the capabilities of individuals to derive income (Wagle, 2002).

3.4.3 Social Exclusion

Wagle (2002) presents social exclusion as another important dimension of poverty. According to this dimension, poverty may still be persistent among individuals, even if they have adequate income, food, shelter, and clothing, if they are excluded from economic, political, and cultural events (Wagle, 2002). Social exclusion broadens the definition of poverty beyond economic well-being and improved capabilities. In this respect, Saundres (2003) suggests that exclusion extends the concept of poverty beyond the lack of resources, especially those associated with

Sen's ideas of functioning and capability. Wagle (2002) quotes the European Foundation's (1995) definition of social exclusion as "the process through which individuals or groups are wholly or partially excluded from full participation in society in which they live" (p. 196). Social exclusion has economic, political and cultural impacts on poverty (Peace, 2001).

Social exclusion can be imposed through several forms of discrimination such as sexism and racial discrimination to deny certain individuals from access to economic activities. These activities include participation in the labor market, and access to assets such as credit and property (Peace, 2001). Exclusion from economic activities can also cause social isolation, driving individuals away from social networks (Wagle, 2002). Exclusion from political activities (such as elections) can disadvantage the poor, especially when those who participate in political activities have different needs and preferences. Few poor individuals tend to participate in political activities compared to better-off ones, and this results in implementing public policies and programs that may not respond to the their needs and interests (Wagle, 2002).

The role of social participation is important for increasing social capital through empowerment and for narrowing the inequalities gap. Individuals who are excluded from their social relations lose their links to mainstream society which negatively affect their social, psychological, political and economic experiences, ultimately driving the individual to remain or become poor (Peace, 2001;Wagle, 2002).

While income is instrumental for an individual to escape poverty, deciding whether an individual has an adequate income should take into consideration the existing difference in personal and social backgrounds among individuals. To identify meaningful indicators that capture poverty in its multidimensionality, a good starting point requires establishing a comprehensive analysis that

reflects access to financial resources and economic wellbeing by including income, wealth, education, state of health and nutrition, and type and extent of social participation (Wagle, 2002).

3.5 Economic Theories of Poverty

Over the years, the views of different schools of thought on the most appropriate interventions to alleviate poverty have been influenced by their definition of poverty (Davis & Sanchez-Martinez, 2014). The following sub-sections summarize the views of different economic schools of thought on poverty.

3.5.1 The Classical School

In the nineteenth century, the Classical theory defined poverty based on the assumption that the market is efficient, and wages are reflective of individual productivity. In that context, poverty was the result of individual choices and individual deficiencies such as low levels of education and work ethics and uncompetitive market skills.[26] Such deficiencies were believed to pass across the generations through genetics or upbringing of children to form subcultures of poverty (Davis & Sanchez-Martinez, 2014).

Arguing that individuals are responsible for poverty, the Classical school supports laissez faire policies. As such, state intervention is considered by Classical economists as a source of economic inefficiency and welfare programs are blamed for reinforcing poverty through welfare dependence. Policy recommendations favor interventions that promise to increase individuals' productivity. While subsidies for alleviating poverty are opposed by this school of thought, assistance to the poor out of morality was thought to be best provided through charities (Davis & Sanchez-Martinez, 2014).

[26] It was also suggested that different genetic abilities were potential causes of poverty.

The Classical approach has been criticized for failing to capture the impact of market failures on individuals' decisions, especially those related to individuals' participation in the labor market. Moreover, the claims of intergenerational poverty have been criticized for their underlying assumption that the poor accept to pass to their children values and attitudes that they are not happy about (Davis & Sanchez-Martinez, 2014).

3.5.2 The Neoclassical School

Building on the Classical approach, the neoclassical school assumes that income depends on marginal productivity and stresses the role of skills endowment and capital which affect the productivity of an individual in generating income. The Neoclassical school overemphasizes monetary aspects, using income and consumption as the main variables of interest in their analysis of poverty. The monetary approach, however, has been criticized for its narrow definition which assumes that all individuals are equal in needs and preferences (Davis & Sanchez-Martinez, 2014).

In addition to individual deficiencies, the neoclassical school perceives market failures such as externalities, uncertainty, moral hazard and adverse selection as aggravators of poverty. Nonetheless, just like the Classical thinkers, Neoclassical thinkers are skeptic of the role of government, although they address market failures in some cases (Davis & Sanchez-Martinez, 2014).

Through the pure economic lens of Neoclassical thinkers, the lack of access to credit has been acknowledged as another cause of poverty, for it deprives individuals who lack collateral from accessing credit which can help them start income-producing activities. In this respect, the lack of collateral and the lack of assets create a vicious cycle: Individuals who lack collateral are

deprived of accessing credit which can help them acquire assets that can eventually lead them out of poverty. This feedback cycle induces a poverty trap. Thus, microcredit can break this vicious cycle by expanding access to credit for the poor who lack collateral (Davis & Sanchez-Martinez, 2014).

3.5.3 The Keynesian School

The Liberal theory suggests that, in addition to market distortions, underdevelopment manifested in poor levels of human capital, business capital, infrastructure, natural capital and technical know-how causes poverty. From a Keynesian perspective, involuntary unemployment is the main cause of poverty, and government intervention is needed to combat it (Davis & Sanchez-Martinez, 2014).

While the Keynesians agree with the Neoclassical thought on the importance of economic growth for ending poverty, they disagree to assign this responsibility to the individual. The Keynesians justify government intervention via fiscal and monetary policies for tackling involuntary unemployment. Government interventions are considered important for promoting human development through public investments in public goods and income redistribution policies (Davis & Sanchez-Martinez, 2014; Davutoğlu, 2013).

Besides weak aggregate demand (which consists of consumption and investment expenditures in a laissez fair economy), inflation, sovereign debt and asset bubbles are macroeconomic factors that are believed to trigger or impact poverty. Excessive inflation can reduce the purchasing power parity. High sovereign debt can exacerbate poverty through austerity measures that constrain public spending and investment. Housing bubbles formed by sudden increases in

housing prices and rent prices increase the risk of homelessness for the poor who lack sufficient income to pay for rent or collateral to receive a mortgage (Davis & Sanchez-Martinez, 2014).

3.5.4 The Neoliberal School

The Neoliberals support free market capitalism, emphasizing individual entrepreneurship. Neoliberal structural adjustment programs pushed for privatization and involved replacing public services with user-fee privatized services. Such programs were encountered with high resistance from the poor, and this is when microfinance came into place to help the poor through self-help initiatives. In order to align the Grameen Model with their free market policies, Neoliberalism advocates transformed the subsidized model to a profit-driven business model in the 1990s (Bateman, 2013). Advocates of microfinance reject the idea that poverty is caused by structural adjustments such as the privatization of public services or cut backs in health and education spending. Instead, they define poverty as the lack of access to financial services, arguing that poor individuals should be able to exit poverty through the informal market (Davutoğlu, 2013).

3.5.5 The Marxist School

Marxists argue that capitalism causes poverty. Proponents of this school advocate that the market is ‘inherently dysfunctional’ as a result of structural factors, including ‘stratified labor market’ as well as corruption and prejudice. They argue that capitalists maintain wages at a lower level than the value added by workers using threats of unemployment. In that respect, Marxists believe that poverty alleviation in a capitalist economy requires market regulations and anti-discrimination laws (Davis & Sanchez-Martinez, 2014).

The existence of long lasting low wages is explained by the dual character of the labor market. According to the dual market theory, the labor market is stratified into the ‘primary’ and the

'secondary' sectors. Unlike the primary sector, the secondary sector is characterized by unstable employment, low wages, and poor chances for promotion (Davis & Sanchez-Martinez, 2014).

Among the most important labor market regulations that Marxists call for is minimum wages. Workers earning low income are more prone to suffer from poor health, which in turn erodes their human capital, and limits their chances to escape poverty. Low wages also prevent individuals from saving, which in turn increases their likelihood to fall into poverty upon encountering a socio-economic shock (Davis & Sanchez-Martinez, 2014).

Minimum wage policies have been criticized for their potential 'distortionary effects'. In addition to causing market inefficiencies, it is argued that setting a minimum wage may only result in income redistribution among low income households, rather than redistributing income from high to low income households (Davis & Sanchez-Martinez, 2014).

3.6 Theoretical Framework

The above literature review presents microfinance as a modern 'self-help' model that has been advocated by neoclassical theorists and adopted by Neoliberal policymakers as a development tool to alleviate poverty. The Neoliberal microfinance model is based on the simple assumption that providing the poor with microcredit helps entrepreneurs escape the poverty trap through micro income-generating activities, implying that more microfinance means more poverty reduction (Bateman & Chang, 2012). The relationship between microfinance and poverty reduction can be tracked as follows: Providing poor entrepreneurs with microcredit creates employment, generates income, and improves household welfare through increased spending on consumption, education, health, personal assets and house improvements. Despite the Neoliberal

perspective on the positive impact of microfinance, there is no consensus among researchers on the effectiveness of microfinance in helping the poor.

While consumption smoothing microcredit is not bluntly stressed under the Neoliberal model of microfinance, it does not challenge Neoliberalism but rather reinforces it by making the poor who are vulnerable to risk fully responsible for their destinies. As such, the poor are urged to demand microfinance to protect their consumption patterns from income shocks, to cover household expenditure on education and health, and to improve household living conditions.

In the literature, three important sources of bias in impact assessments are highlighted: self-selection, program placement, and exclusion of ex-borrowers. In this respect, the impact assessments of microfinance in Palestine that are cited in this research can be contested. The sampling methods used by Al Markaz for Development and Marketing Consultancies (2012) and Optimum for Consultancy and Training (2009) are likely to be biased and the reported results may falsely attribute the positive impact of other unobservable characteristics to microfinance. Al Markaz for Development and Marketing Consultancies (2012) relies on a sample of former and active borrowers only to track progress over time, and fails to account for other non-project influences (Mosley, 1997). Optimum for Consultancy and Training (2009) suffers from a sampling selection bias, where it uses a control group of non-borrowers who run enterprises with similar characteristics to those owned by borrowers. Comparisons between non-borrowers and borrowers fail to capture pre-existing attributes that borrowers may have, such as entrepreneurial ability (Mosley, 1997).

Despite the growing literature on microfinance and its impact on poverty, the definition and measurement of poverty have not been standardized in impact assessments. Proxy measures have

been used to reflect the multidimensional nature of poverty. The definition of poverty has been broadened beyond the quantitative measures of income and consumption to include other economic and social dimensions that are considered to be important for enhancing the capabilities of individuals. These non-monetary dimensions include health, education, asset ownership, social empowerment, and political participation. This research adopts the multidimensional definition of poverty and uses proxy measures to capture the impact of microfinance on the monetary and non-monetary dimensions of poverty.

To study the impact of microfinance on household welfare and business development, the following null hypotheses are used:

H_{O1}: Microfinance and household welfare are not related.

H_{O2}: Microfinance and business development are not related.

Chapter 4 : Research Design and Methodology

The aim of this empirical research is to explore the role of microfinance in alleviating poverty in Ramallah, Palestine using a case study of borrowers from three MFIs, namely; ACAD, Asala, and Faten. To tackle the research questions from borrowers' perspective, a representative sample of borrowers is selected and data on their perceptions of changes in household welfare indicators and changes in business development in relation to microfinance are collected through questionnaires.

The rest of this chapter is organized as follows: The first section focuses on the research area in terms of its demographic characteristics, in addition to income and consumption patterns of its inhabitants. The second section introduces the main instrument used for data collection and the sampling method. The third section focuses on the estimation models.

4.1 Research Area

This research focuses on Ramallah and Al Bireh Governorate (referred to as Ramallah in this research). According to 2007 census, Ramallah's total population is estimated to be 279,730 and the gender ratio is 101.4 males for every 100.0 females. Census data show that the community is mainly young, with the population aged 0 - 14 years constituting around 38 percent of total population; illiterate people in the age group of 10 years and over in Ramallah comprise 6 percent of total population; and, refugees comprise around 29 percent of Ramallah's total population (PCBS, 2009).

The Palestinian Consumption and Expenditure Survey for 2011 reveals that average monthly per capita expenditure in the West Bank is 188 Jordanian Dinars (JOD), while average monthly per

capita consumption is around JOD 197. Monthly per capita consumption of food is JOD 67 while monthly per capita consumption of non-food items is around JOD 130 (PCBS, 2012).

According to the monthly consumption patterns, PCBS estimates the poverty rate of 2011 in the West Bank at 17.8 percent. Poverty in camps (35.4 percent) is higher than in urban or rural areas (26.1 percent and 19.4 percent respectively) (PCBS, 2012). According to household monthly consumption data, Ramallah has the lowest poverty rate of 8.9 percent compared to other West Bank governorates (PCBS, 2013).

4.2 Research Methodology

To answer the research questions of this study, a quantitative approach is adopted, where a semi-structured questionnaire is used to obtain primary data from borrowers in a cross-sectional manner. The questionnaire is divided into four sections. The first section is concerned with borrowers' involvement in microfinance schemes and consists of questions on the length of involvement in microfinance, cumulative number and value of active and paid off loans, purpose of loans, repayment ability and its sources. The section also investigates borrower satisfaction levels with loan terms and conditions. The second section focuses on business development. It includes questions on the type of business, years in business, other sources of financing, and the impact of microfinance on sales, capital, and profits. The third section focuses on the impact of microfinance on household welfare, and includes questions on borrowers' perceptions of changes in household welfare after taking microfinance loans. In particular, this section investigates borrowers' perceptions of changes in patterns of income, consumption expenditure, nutrition, education, health, land and non-land asset holdings, housing improvements and social empowerment. The last section focuses on borrowers' demographic characteristics such as age,

gender, marital status and education. Copies of the full questionnaire in English and Arabic are presented in Appendix A.

To examine the impact of microfinance on borrowers in the medium term, the population of interest is identified as borrowers from ACAD, Asala, and Faten's branches in Ramallah who were active in 2013. The advantage of using 2013 as the base year is twofold: First, borrowers are in a better position to identify the impact of loans after more than two years of using the loan while paying back loan installments. Second, drop-outs, who are defined in this research as borrowers who completed loan repayment and did not take subsequent loans during the period 2013 – 2016, are included. Including drop-outs in the sample reduces potential bias in overestimating microfinance impact.

Over the period 1 January – 31 December 2013, the total number of active borrowers from ACAD, Asala and Faten in Ramallah is 2,898 (294 ACAD borrowers, 163 Asala borrowers, and 2,441 Faten borrowers). At 90 percent confidence level and 5 percent margin of error, the sample size should be 247 borrowers.[27] To account for the variance in MFIs' market shares, a proportional stratified sampling technique is adopted. This way, the sample from each MFI is made proportionate to the corresponding population size. The required sample of borrowers from each MFI is then selected using the sampling tool in Excel data analysis tool.[28] ACAD and Faten loan officers administered the questionnaires in order to adhere to the confidentiality policies of the PMA. The researcher was allowed to have direct contact with Asala's randomly selected borrowers and data was collected via telephone surveys.

[27] The sample size is calculated using an online sample size calculator available at: https://www.surveymonkey.com/mp/sample-size-calculator/

[28] To display a random number for each borrower, the function RAND() is used. The generated random numbers are then sorted in an ascending order, and the sample is obtained by selecting consecutive rows, starting from the first row to reach the desired sample size.

4.3 Research Model

Logistic regression models are used when the dependent variable is a binary categorical variable. The dependent variable usually takes the value of zero or one. The estimated probability by logistic models is the probability for the dependent variable to take the value of one and is based on the values of the independent variables. Independent variables in logistic regression can be categorical, continuous or a combination of both. The logistic regression model equation can be written as follows:

$$\text{Ln}\left(\frac{\hat{P}}{1-\hat{P}}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k$$

Where,

- $\hat{P}$ is the probability that Y = 1, given the values of $X_1, X_2, \ldots, X_k$,
- $\frac{\hat{P}}{1-\hat{P}}$ is the odds ratio (OR); the ratio of the probability of success to the probability of failure,
- Ln stands for the natural logarithm (log), and $\text{Ln}\left(\frac{\hat{P}}{1-\hat{P}}\right)$ is the natural log of the OR,
- β_0 is the mean value of Y when $X_1, X_2, \ldots X_k = 0$, and
- $\beta_1, \beta_2, \ldots, \beta_k$ are the logistic slope coefficients. They are interpreted as the effect of one unit change in X on the predicted natural log of odds, with the other variables being constant.

The odds ratio of Y = 1 can be calculated from the estimated values of regression coefficients by introducing the exponential function to both sides of the regression equation. An exponentiated

regression coefficient is interpreted as the effect of a unit change in X on the predicted OR, provided that other variables are held constant (O'Halloran, 2008; Eckel, 2008).[29]

4.3.1 Logistic Models for Household Welfare Indicators

Eight logistic regression models are estimated to examine the impact of four microfinance variables on several household welfare indicators. Borrowers' perceptions of a positive impact on these household welfare indicators are modeled as the dependent variables. To measure perceptions, the questionnaire requires borrowers to indicate whether they feel that specific monetary and non-monetary household welfare indicators have changed (either positively or negatively) after taking loans from MFIs. The answers are then converted to binary dependent variables (a positive change = 1 and a negative or nil change = 0). Other independent variables are included in the model to control for the influence of other factors. The description of each dependent and independent variable used in the regression models for household welfare indicators are presented in Table 4.1.

4.3.2 Logistic Regression Models for Business Development Indicators

Three logistic regression models are estimated to examine the impact of three microfinance variables on business development indicators, namely; sales, profits and capital. A positive reported change in these business indicators is modeled as the dependent variable. Another set of control groups is introduced to the regression models. This set of logistic regression models includes a limited number of microfinance and control variables since fewer observations can be used for estimation. Table 4.2 provides a list of the dependent and independent variables used in these models.

[29] Logistic regression models use maximum likelihood estimation where the estimated logistic coefficients are adjusted iteratively until the maximum likelihood value for the estimated coefficients is obtained.

Table 4.1: Description of Variables in Household Welfare Logistic Models

Variable	Description	Type of Variable
Income	Borrower's perception of increased average household monthly income after loan disbursement. Dummy variable: Better = 1, same or worse = 0.	Dependent
Consumption Expenditure	Borrower's perception of increased average household monthly per capita consumption expenditure after loan disbursement. Dummy variable: Better = 1, same or worse = 0.	Dependent
Nutrition	Borrower's perception of improved household nutrition after loan disbursement. Nutrition is reflected in the quality of consumed food. Dummy variable: Better = 1, same or worse = 0.	Dependent
Education	Borrower's perception of improved education after loan disbursement. Education is measured in terms of spending on schooling and/or the ratio of completed years of education compared to years that should be completed with respect to age. Dummy variable: Better = 1, same or worse = 0.	Dependent
Health Care	Borrower's perception of improved access to health care after loan disbursement. Access to health care is reflected in the ability to spend on medication, having health insurance and/or access to health care facilities. Dummy variable: Better = 1, same or worse = 0.	Dependent
Non-Land Asset Holdings	Borrower's perception of increased value of non-land assets after loan disbursement. Dummy variable: Better = 1, same or worse = 0.	Dependent
Housing Conditions	Borrower's perception of improved housing conditions after loan disbursement. Housing conditions are reflected in the overall condition of the house (exterior and interior walls, tile, and roof), access to electricity, sources of drinking water, type of latrines	Dependent

Variable	Description	Type of Variable
	used, and/or use of solar power. Dummy variable: Better = 1, same or worse = 0.	
Social Empowerment	Borrower's perception of social empowerment after loan disbursement. Social empowerment is measured in terms of feeling independent, enjoying harmony inside the family, involvement in household decision making, and/or influencing community decision making. Dummy variable: Better = 1, same or worse = 0.	Dependent
Log (Microfinance Loans Value)	Log-transformation (to the base 10) of cumulative value of active and paid off microfinance loans in USD. Continuous variable.	Independent
Years in Microfinance	Length of involvement in microfinance in years. Continuous variable.	Independent
Number of Microfinance Loans	Total number of active and paid off microfinance loans. Continuous variable.	Independent
Interest Rate	Average annual interest rate on active and paid off microfinance loans. Continuous variable.	Independent
Other Sources of Funding	Access to additional sources of funding, whether formal or informal. Dummy variable: Yes = 1, no = 0.	Independent
Exposure to External Shocks	Exposure to positive or negative external shocks during the period 2013 – 2016. Dummy: Yes = 1, no = 0.	Independent
Female	Gender. Dummy variable: Female = 1, male = 0.	Independent
Single	Marital status. Dummy variable: Single, divorced or widowed = 1, married = 0.	Independent

Variable	Description	Type of Variable
Refugee	Refugee status. Dummy variable: Registered refugee = 1, otherwise = 0.	Independent
Business Loan[*]	Loan type. Dummy variable: Business loan = 1, otherwise = 0.	Independent
Improved Access to Educational Facilities[**]	Improved education as a result of moving to a new neighborhood or opening of new educational facilities nearby borrower's place of residence. Dummy: Yes = 1, no = 0.	Independent
Improved Access to Health Facilities[***]	Improved health care as a result of moving to a new neighborhood or opening of new health facilities nearby borrower's place of residence. Dummy: Yes = 1, no = 0.	Independent
Age	Continuous variable.	Independent
Non-University Education	Highest educational attainment. Dummy: Non-university education = 1, university education = 0.	Independent
Log (Average Household Income)	Log-transformation (to the base 10) of average household monthly income in New Israeli Shekels (NIS). Continuous variable.	Independent
Household Size	Household size. Continuous variable.	Independent

Notes: [*] Loan type is identified based on borrowers' first ranked purpose of borrowing.
[**] This variable is only introduced to the model examining the impact of microfinance on improved education.
[***] This variable is only introduced to the model when the impact of microfinance on health is investigated.

Table 4.2: Variables Used in Business Development Logistic Models

Dependent Variable	Description	Type of Variable
Sales	Increased business sales after loan disbursement. Dummy: Yes = 1, no = 0.	Dependent
Profits	Increased business profits after loan disbursement. Dummy: Yes = 1, no = 0.	Dependent
Capital	Increased business capital after loan disbursement. Dummy: Yes = 1, no = 0.	Dependent
Log (Microfinance Loans Value)	Log-transformation (to the base 10) of cumulative value active and paid off microfinance loans in USD. Continuous variable.	Independent
Years in Microfinance	Length of involvement in microfinance in years. Continuous variable.	Independent
Years in Business	Total number of work experience in the same business. Continuous variable.	Independent
Informal Business	Legal registration status of business. Dummy variable: Informal business = 1, formal business = 0.	Independent
Risk-Avert	Borrower is risk-avert. Dummy variable: Yes = 1, no = 0.	Independent

4.3.3 Diagnostics for Logistic Regression Models

Several diagnostic steps are used to assess the validity of estimated regression models before testing the research hypotheses. These include tests for detecting outliers and influential observations, tests for multicollinearity, corrections for heteroscedasticity and tests to examine the models' goodness of fit.

4.3.3.1 Outliers and Influential Observations

Outliers and influential cases can distort estimates of regression coefficients and invalidate inferences drawn from a logistic model. Outlying cases may yield large residuals and affect the maximum likelihood linear predictors (Sarkar, Habshah, & Sohel, 2011). To detect unusual observations, residual and influence measures as well as graphical displays are generated to identify problematic observations. Residual measures include standardized Pearson residuals and hat matrix (also known as Pregibon leverage) (Sarkisian, 2009; Statistical Consulting Group, 2006a). Pearson residuals measure the relative deviation between an observed and fitted value. The hat matrix measures the leverage of an observation (Statistical Consulting Group, 2006a). Leverage measures the deviation of independent variables from their mean and leverage points can significantly affect the estimation coefficients in a logistic model (Sarkar, Habshah, & Sohel, 2011). Graphical plots of these statistical measures against the predicted values and against each other are obtained to identify influential observations.

4.3.3.2 Multicollinearity

A basic assumption of logistic models is the absence of multicollinearity among independent variables. Highly correlated independent variables usually result in large standard errors (SE) for the estimated parameters of these variables. One solution to multicollinearity is dropping redundant variables (Stoltzfus, 2011). Multicollinearity among independent variables in this

research are tested for using 'collinearity diagnostics' available for linear regression in Stata (a data analysis and statistical software). Collinearity statistics are informative of the extent of multicollinearity among variables (Strand, Cadwallader, & Davis, 2011). When the value of tolerance (1 – R squared) is less than 0.20 or 0.10, then the variable in question has almost a perfect linear relationship with the other independent variables in the model. Likewise, when the value of the Variable Inflation Factor (VIF), which is the reciprocal of tolerance, is less than five or ten, there should be no concern for multicollinearity.

4.3.3.3 Heteroscedasticity

Heteroscedasticity occurs when error terms lack a constant variance (Williams, 2015). In logistic models, the variance of the error term is greatest when probabilities approach 0.5 and are smallest when probabilities approach zero or one (Sarkisian, 2009). To deal with concerns about failure to meet assumptions of logistic models such as heteroscedasticity, the robust option for estimating the SE using the Huber-White sandwich estimators is used. The Huber-White sandwich estimator measures the variance of the maximum likelihood estimation. If the logistic model violates assumptions, robust SE can correct for the variance of the error terms (Freedman, 2012; Sarkisian, 2009).

4.3.3.4 Goodness of Fit

The Wald test can be used to examine the null hypothesis that all the coefficients of the independent variables in the model are simultaneously equal to zero. For logistic regression, Stata output displays a chi-squared value for the Wald test and its associated p-value with degrees of freedom equivalent to the number of independent variables in the model. In this research, the p-value is compared to three critical values; 1 percent, 5 percent and 10 percent. A smaller p–value than the critical value means that the null hypothesis can be rejected since

introducing the independent variables can cause statistically significant improvements to the model fitness (Statistical Consulting Group, 2006b).

In addition to the Wald chi-squared test statistic, the Hosmer and Lemeshow's goodness-of-fit test statistic is used. This test is based on a null hypothesis that a model is fit. A p-value of this test-statistic that is below 5 percent means that the null hypothesis should be rejected, indicating that the model is not acceptable (Rossi, 2010).

Chapter 5 : Empirical Analysis

This chapter presents the empirical findings of this study. It provides a description for the socio-demographic characteristics of the sample, the characteristics of business activities in addition to loan features. It also presents the results of logistic regression models which test the impact of microfinance on perceived household welfare and business development.

5.1 Frequencies and Descriptive Statistics

A total of 247 questionnaires were distributed. Two hundred and eleven out of 212 questionnaires were considered legitimate for this research after discarding one questionnaire that had essential information missing. The rest were not completed because borrowers either refused to complete the questionnaire, or could not be reached as a result of default or change of address.[30]

5.1.1 Socio Demographic Characteristics

The age of respondents ranges from 21 – 63 years. Mean age is 33 years and median age is 30 years. The share of respondents who fall under the age group 18 – 30 years is 51.5 percent. This finding shows that individuals at a young age are more likely to demand credit than at later stages in their lives in order to smooth their consumption and acquire assets and durables (Andreou, 2011). Men constitute 61 percent of respondents and the majority of the sample is married (68 percent). Table 5.1 presents the percentage of males and females in each age

[30] Default rate in Asala's sample is 17 percent (two out of 12 randomly selected borrowers). Default rate in ACAD's sample is 12 percent (three out of 25 randomly selected borrowers). Defaulters and borrowers who were out-of-reach were substituted by other randomly selected borrowers. Faten never disclosed the exact number of defaulters and out-of-reach borrowers. The total number of ex-borrowers in the sample cannot be identified since some MFIs approached the selected borrowers directly and never disclosed such details about the borrowers.

category. Of surveyed borrowers, 19 percent are registered refugees, 11 percent are unregistered refugees, and 68 percent are non-refugees.[31]

Table 5.1: Cross-Tabulation of Age Category and Gender

Gender	Age Group				
	18 – 30	**31 – 40**	**41 – 50**	**> 50**	**Total**
Male	35.0%	24.0%	4.0%	1.0%	64.0%
Female	16.5%	11.0%	6.5%	2.0%	36.0%
Total	51.5%	35.0%	10.5%	3.0%	100.0%

Source: Thesis analysis.

Respondents who do not know how to read constitute 9 percent of the sample. In terms of educational attainment, 7 percent of respondents consider themselves uneducated, 7 percent have less than primary education and 4 percent have only completed primary education. The remainder of respondents who answered the question on educational attainment (82 percent) has completed their secondary education, of which 21 percent hold a college degree and 39 percent hold a university degree. Table 5.2 shows the distribution of educational attainment by gender and Figure 5.1 displays the distribution of borrowers by educational attainment.

Table 5.2: Cross-Tabulation of Educational Attainment and Gender

Gender	Educational Attainment						
	Not Educated	**Less than Primary Education**	**Primary Education**	***Tawjihi***	**Polytechnic College**	**University**	**Total**
Male	4.0%	4.5%	1.0%	12.6%	15.2%	26.3%	63.6%
Female	2.6%	2.5%	2.5%	9.6%	6.6%	12.6%	36.4%
Total	6.6%	7.0%	3.5%	22.2%	21.8%	38.9%	100.0%

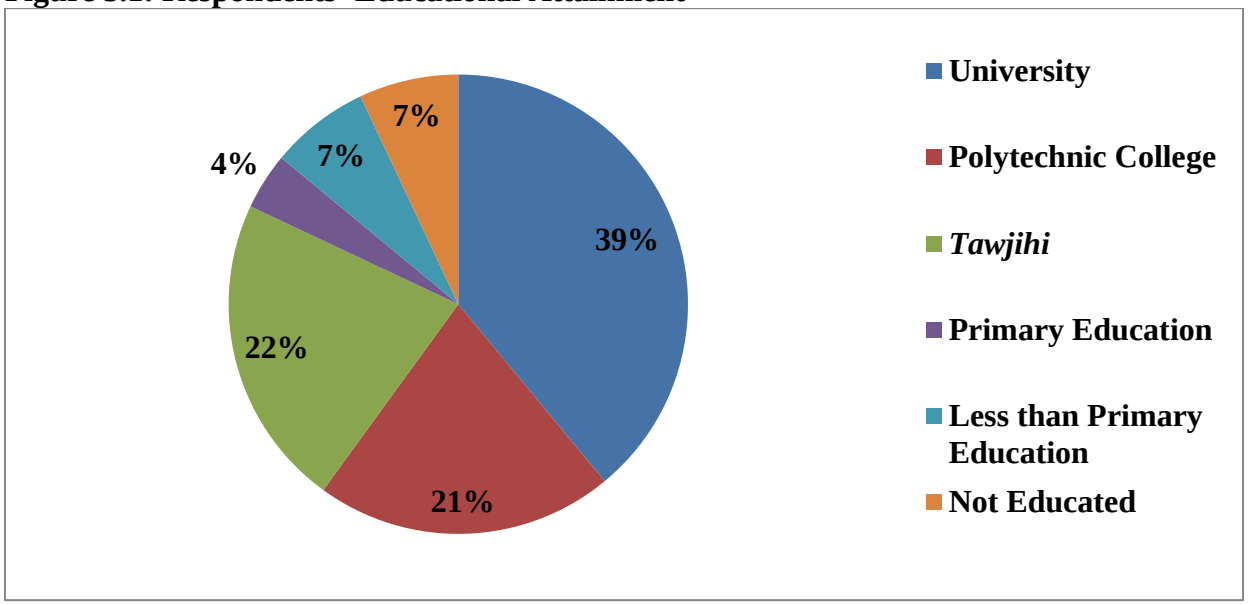
Source: Thesis analysis.

The average size of respondents' households is 5.7 members and the mode is 4. Respondents with more than two sources of income comprise 16 percent of the sample while those with either

[31] Refugee status of 2 percent of respondents is missing.

one or two sources of income comprise 49 percent of the sample.[32] The main forms of household income include wages and salaries (49 percent) and business income (36 percent). Monthly household income of respondents ranges between NIS 1,000 - 15,000 and the average income is NIS 5,359 while the mode income is NIS 3,000.

Figure 5.1: Respondents' Educational Attainment



Source: Thesis analysis.

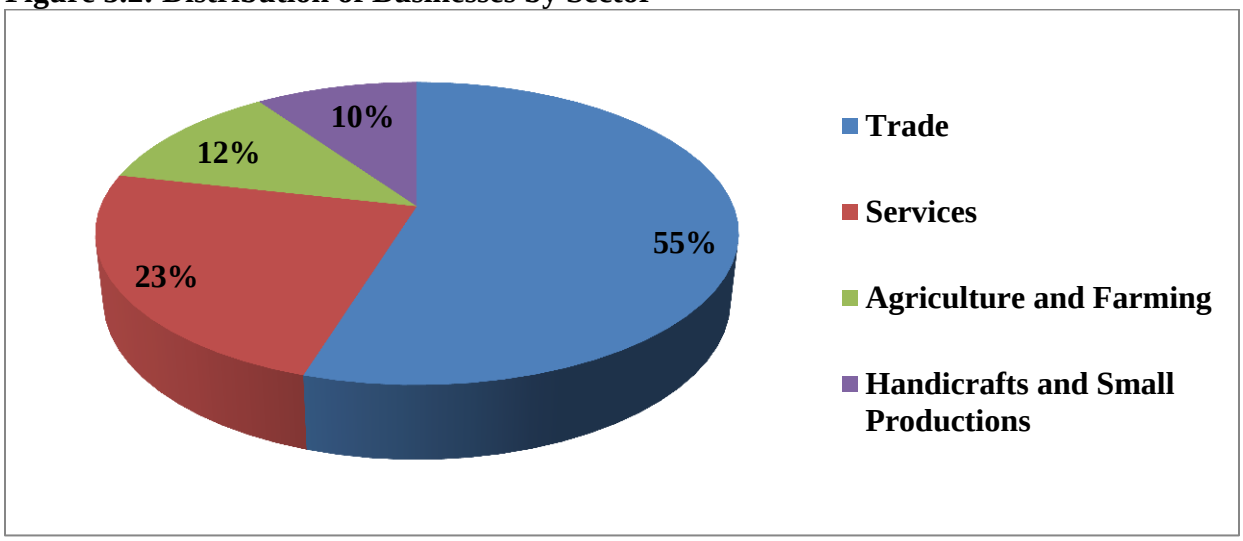
5.1.2 Characteristics of Business Activities

The following descriptive statistics concern respondents who answered questions under the section on business activities and these constitute 47 percent of the sample. Figure 5.2 shows that 55 percent of respondents who obtained business-financing loans work in trade, 23 percent work in services, 12 percent work in agriculture and farming and 10 percent work in handicrafts and small productions. In terms of business location, 35 percent of businesses are located in Ramallah city, 59 percent are located in towns and villages around Ramallah and 6 percent are located in camps. Only 63 percent of businesses are legally registered while the remaining ones are informal businesses.

[32] Respondents who did not identify the number of household income sources comprise 35 percent of the sample.

Borrowers who had practical business experience before starting their own businesses constitute 77 percent of respondents. Business age ranges from 1- 25 years. Median business age is six years while the mode is five years. Business owners who pay for non-family workers constitute 49 percent of respondents and those who pay for family workers constitute 20 percent. On the other hand, 25 percent rely on unpaid family members and 6 percent work by themselves.

Figure 5.2: Distribution of Businesses by Sector



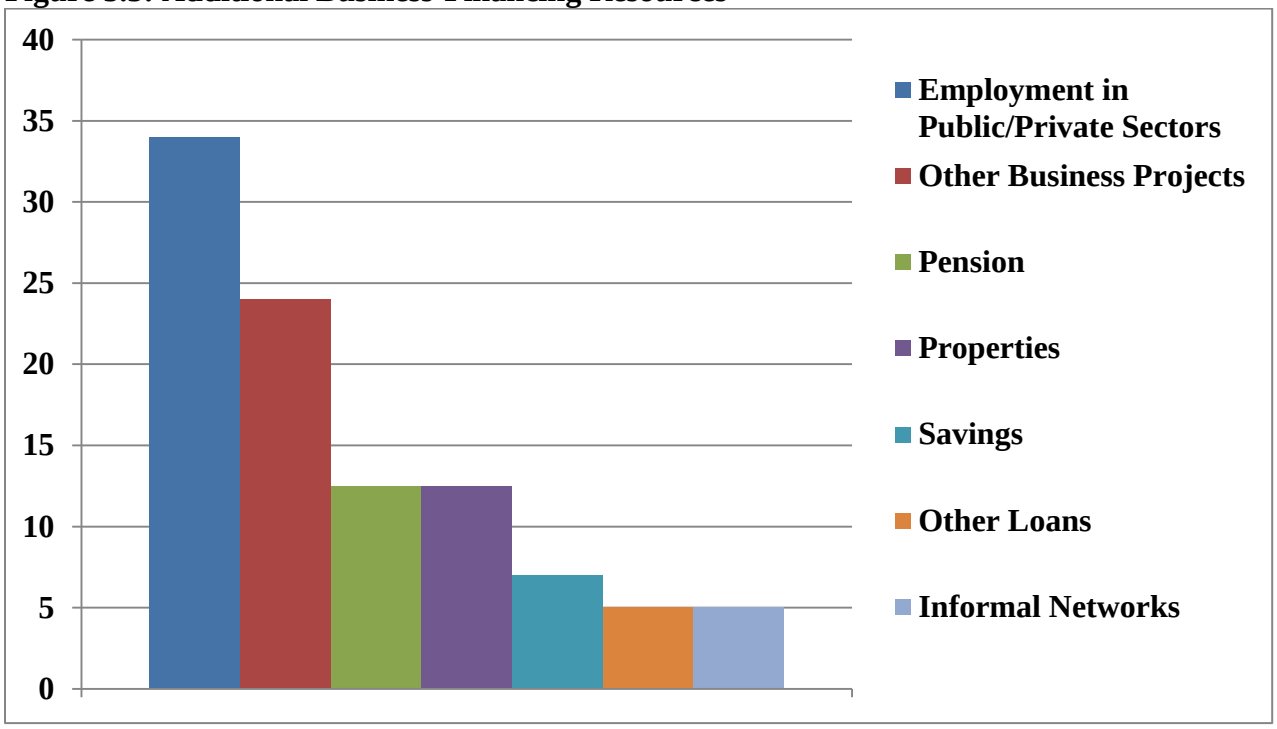
Source: Thesis analysis.

The current value of business capital as estimated by respondents who took microfinance loans to finance their businesses ranges between NIS 0 – 400,000. The share of respondents who took microfinance loans to expand their businesses is 43 percent, and the percentage of those took loans to start new businesses is 37 percent while the share of those who took loans to start and expand their businesses is 18 percent. Only 2 percent took business loans for other reasons such as buying a share in a family business.

In addition to microfinance loans and revenues from business projects, some respondents depend on other resources to finance their businesses. Figure 5.3 shows that these financial resources include income from wages and salaries from employment in public/private sectors (34.0

percent), income from other business projects (24.0 percent), pension (12.5 percent), revenue from properties (12.5 percent), savings (7.0 percent), other loans (5.0 percent), and informal networks (5.0 percent).

Figure 5.3: Additional Business-Financing Resources



Source: Thesis analysis

Only 10 percent of respondents who own businesses received training through MFIs. Training includes management, accounting, feasibility studies, marketing, and entrepreneurship.

5.1.3 Loan Features

The total number of respondents is 211. Of these, 24 borrowed only from ACAD, 13 borrowed only from Asala, 139 borrowed only from Faten, 15 borrowed from ACAD and Faten, and 20 borrowed from both Faten and Asala. In addition to ACAD, Asala and Faten's loans, 55 percent of the whole sample borrowed from other MFIs, informal lenders and family. Respondents' involvement in microfinance ranged between 1 – 20 years. The median number of years is three and the average is 3.5 years. The average number of loans per borrower is two and the range

extends between 1 - 13 loans. The average cumulative value of loans is USD 11,246; the mode is USD 6,000; and, the minimum value is USD 650 whereas the maximum is USD 88,000. Average interest rate on loans is 9.8 percent, and the range is 4 - 24 percent as reported by respondents. The mode interest rate is 12 percent.

Only 13 percent of respondents obtained group loans while the remaining 87 percent obtained individual loans. All respondents had to provide one or more of the following types of collateral: promissory notes, checks, personal guarantees, guarantees of individuals with salaries transferred to local banks, bank guarantees, court undertakings, and houses, cars, and gold mortgages.

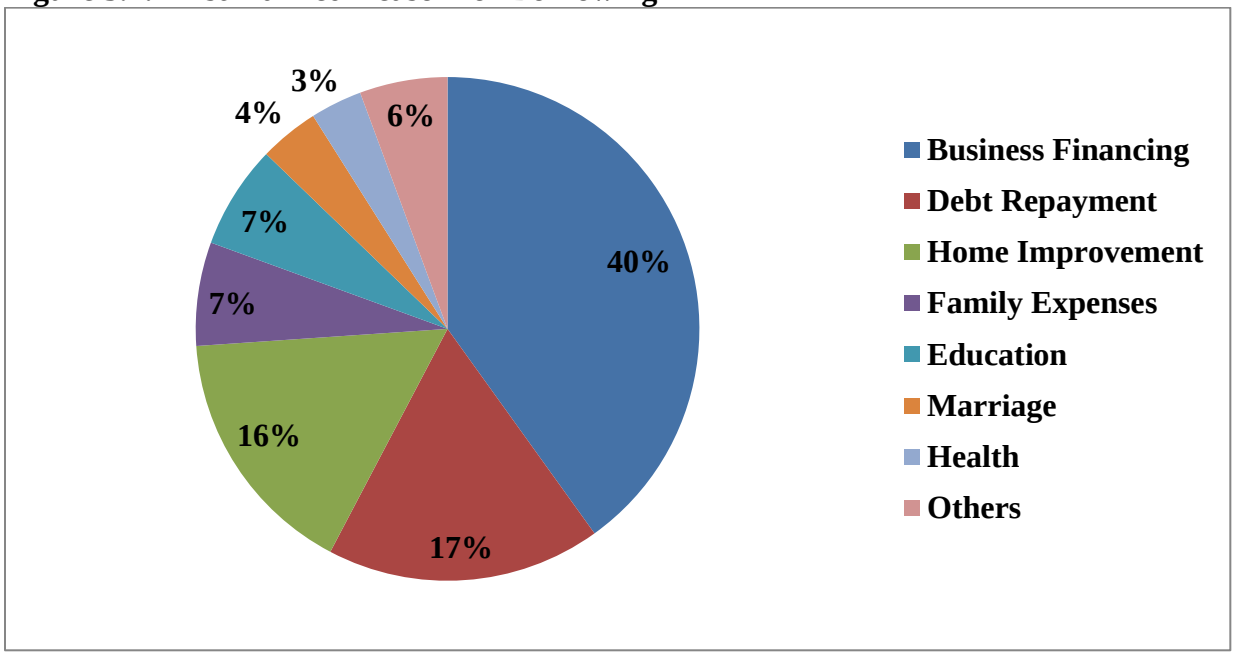
Respondents identified the main purpose of borrowing and those who obtained loans for more than one purpose ranked them based on their values (first rank was assigned to the highest loan value). Figure 5.4 shows the distribution of the first-ranked reason for borrowing, where 40 percent of borrowers needed to finance their businesses; 17 percent resorted to loans to repay debt; 16 percent borrowed to improve their residence; 7 percent had to meet family needs; 7 percent borrowed to spend on education; 4 percent used credit to cover marriage expenses; 3 percent borrowed for health reasons; and, 6 percent had other reasons to borrow.

Sources of payment for loan installments vary among respondents and include wages (51 percent), revenues from micro-financed business (42 percent), other loans (3 percent), and other sources that include informal networks (2 percent).[33] Around 50 percent of respondents identified the reasons for falling behind on paying loan installments, and the main reasons include: financial needs of the family (36 percent), market recession (29 percent), business loss

[33] Data on sources of loan repayment for 2 percent of respondents is missing.

(14 percent), natural disasters (10 percent) and other reasons such as delayed salaries (11 percent).

Figure 5.4: First-Ranked Reason for Borrowing



Source: Thesis analysis.

After taking microfinance loans, 48 percent of those who responded to the question on savings could not make any savings, 9 percent became indebted, 13 percent saved less than NIS 2,500, 22 percent saved between NIS 2,500 - 10,000 and 8 percent saved more than NIS 10,000.

Around 66 percent of respondents indicated that they were satisfied with loans' terms and conditions and repayment schedule. Of those satisfied, however, 26 percent still answered the following questions on the reasons for not being satisfied and the main two reasons are high interest rates (22 percent) and exhaustive requirements and papers needed to obtain a loan (22 percent). Other reasons include short grace periods (12 percent), small loan values (9 percent), lack of grace periods (8 percent), hard loan conditions (7 percent), bad treatment by loan officers (6 percent), and high penalty fees on late repayment (4 percent).

Respondents who expressed their interest in an additional loan to start a new business, expand current business, or cover personal and other expenses comprise 52 percent of the sample. For those who did not wish to obtain another loan, 26 percent identified prohibition of interest in Islam as one reason; 19 percent are afraid of not being able to pay back the loan and become subject to jail; 17 percent believe that the country conditions are bad and businesses do not make enough profits to pay back; and, 10 percent do not find loans useful.

5.2 Regression Results

This section presents the results of eleven logistic regression models analyzing the relationship between microfinance on the one hand and perceived household welfare and business development on the other hand.

The final results of regression models examining the impact of microfinance on household welfare variables and business development variables are presented in Table 5.3 and Table 5.4 respectively. The tables include OR and robust SE after running the necessary diagnostic tests. Appendix B includes the regression results before omitting outliers and influential observations, in addition to the diagnostic plots used for identifying these observations. It also presents the results of multicollinearity tests.

5.2.1 Impact of Microfinance on Perceived Household Welfare

5.2.1.1 Average Household Monthly Income

The results of the regression model testing the impact of microfinance variables on borrowers' perceptions of increased average household monthly income were obtained after omitting eight

Table 5.3: Logistic Regression Results - Household Welfare

Variable	*Income*	*Consumption*	*Nutrition*	*Education*	*Health Care*	*Non-Land Assets*	*Housing Conditions*	*Social Empowerment*
	OR (Robust SE)	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**
Log(Microfinance Loans Value)	0.00*** (0.00)	0.00*** (0.00)	0.52 (0.45)	0.13** (0.13)	0.00*** (0.00)	0.18 (0.20)	0.82 (0.88)	0.17 (0.20)
Years in Microfinance	3.50** (1.84)	3.50** (1.84)	0.96 (0.14)	1.00 (0.17)	0.60*** (0.11)	1.08 (0.19)	1.29 (0.36)	1.94** (0.59)
Number of Microfinance Loans	2.03 (0.94)	2.03 (0.94)	0.91 (0.18)	1.23 (0.26)	2.12*** (0.62)	1.50 (0.44)	1.47 (0.66)	0.72 (0.16)
Interest Rate	0.00*** (0.00)	0.00*** (0.00)	0.91*** (0.02)	0.97* (0.02)	0.99 (0.03)	0.00 (0.00)	0.91*** (0.02)	0.90*** (0.02)
Access to Other Sources of Funding	0.96 (1.17)	0.96 (1.17)	0.70 (0.37)	0.38 (0.24)	1.28 (1.02)	1.18 (0.64)	1.34 (0.88)	0.74 (0.56)
Exposure to External Shocks	141.34*** (187.14)	141.34*** (187.14)	0.93 (0.49)	0.75 (0.41)	0.63 (0.51)	0.66 (0.35)	0.32* (0.19)	2.07 (1.29)
Female	166.20*** (269.54)	166.20*** (269.54)	1.72 (0.92)	2.20 (1.44)	27.51*** (25.35)	0.76 (0.43)	0.89 (0.56)	0.78 (0.50)
Single	0.03** (0.05)	0.03** (0.05)	1.24 (0.68)	3.14* (2.10)	0.99 (0.64)	0.52 (0.32)	0.51 (0.29)	0.89 (0.55)
Refugee	0.60 (0.56)	0.60 (0.56)	0.55 (0.37)	0.46 (0.30)	1.00 (0.88)	0.09*** (0.07)	0.15*** (0.11)	0.11*** (0.09)
Business Loan	2,444.26*** (4,330.25)	2,444.26*** (4,330.25)	4.36*** (2.40)	0.74 (0.49)	7.31** (7.00)	1.07 (0.57)	0.64 (0.44)	2.00 (1.43)
Improved Access to Educational Facilities	-	-	-	4.76** (3.01)	-	-	-	-
Improved Access to Health Facilities	-	-	-	-	87.17*** (104.80)	-	-	-
Age	0.76*** (0.06)	0.76*** (0.06)	1.04 (0.04)	0.97 (0.04)	0.97 (0.04)	0.94 (0.04)	1.08* (0.05)	1.17*** (0.06)
Non-University Education	0.30 (0.30)	0.30 (0.30)	0.49 (0.26)	1.23 (0.68)	0.17* (0.16)	1.13 (0.61)	1.01 (0.54)	0.43 (0.32)
Log(Average Household Income)	273.96 (1,059.94)	273.96 (1,059.94)	1.98 (2.62)	7.05 (10.24)	17.54* (27.05)	9.32 (15.18)	0.52 (0.94)	0.05 (0.09)
Household Size	1.07 (0.28)	1.07 (0.28)	0.88 (0.08)	0.78** (0.08)	0.93 (0.19)	0.80** (0.09)	0.83 (0.11)	0.97 (0.13)
Constant	$3.68 \times 10^{+15}$*** ($4.03 \times 10^{+16}$)	$3.68 \times 10^{+15}$*** ($4.03 \times 10^{+16}$)	0.53 (2.19)	4.75 (20.69)	$8.84 \times 10^{+7}$** ($6.48 \times 10^{+8}$)	12.74 (60.67)	9.26 (51.77)	456,969.40* (3,131,797)
Number of Observations	95	95	102	102	97	101	101	102
Wald Chi-Squared	32.46***	32.46***	38.04***	36.42***	45.33***	17.21	49.75***	57.98***
Hosmer-Lemeshow Chi-Squared	4.63	4.63	6.02	8.19	11.14	6.60	1.53	10.81

Source: Thesis analysis.

Notes: * denotes 10 percent level of significance, ** denotes 5 percent level of significance, and *** denotes 1 percent level of significance.

- means that variable is not included in the model.

Table 5.4: Logistic Regression Results – Business Development

Variable	*Sales*	*Profits*	*Capital*
	OR (Robust SE)	**OR (Robust SE)**	**OR (Robust SE)**
Log (Microfinance Loans Value)	1.27 (2.42)	3.12 (4.03)	1.15 (1.84)
Years in Microfinance	2.08*** (0.57)	3.48** (1.78)	1.40* (0.27)
Interest Rate	6.68×10^{10} (1.16×10^{12})	0.73*** (0.05)	5.92 (64.83)
Years in Business	0.79* (0.11)	0.60** (0.13)	1.06 (0.11)
Informal Business	0.87 (0.74)	55,338.33*** (135,155.10)	1.17 (0.91)
Risk-Avert	0.36 (0.28)	0.11* (0.15)	0.14** (0.11)
Constant	0.16 (1.38)	0.05 (0.22)	1.87 (11.61)
Number of Observations	68	66	69
Wald Chi-Squared	10.49	37.81***	15.10**
Hosmer-Lemeshow Chi-Squared	7.88	5.72	3.72

Source: Thesis analysis.

Notes: * denotes 10 percent level of significance, ** denotes 5 percent level of significance, and *** denotes 1 percent level of significance.

influential observations with dbeta values exceeding two.[34] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hosmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.3 in Appendix B. Due to missing data, the margin of error increases to 8 percent at 90 percent confidence level, where the total number of observations used to estimate this model is only 95.

The results show that *log(microfinance loans value)*, *interest rate*, *exposure to external shocks*, *female*, *business loan*, *age* and the constant term are statistically significant from zero at 1 percent level while *years in microfinance* and *single* are statistically significant from zero at 5 percent level. *Number of microfinance loans*, *access to other sources of funding*, *refugee*, *non-university education*, *log(average household income)* and *household size* are statistically insignificant from zero.

The results in Table 5.3 reflect different relationships between microfinance variables and perceptions on *income*. On the one hand, the OR of better-perceived monthly income increases by 3.50 for every additional year of involvement in microfinance programs. On the other hand, the ORs of *log(microfinance loans value)* and *interest rate* indicate a negative relationship with borrowers' perceptions on *income*. For every 1 percent increase in the total value of microfinance loans, the OR drops to zero. In addition, for every unit increase in *interest rate* (1 percent), the OR drops to zero. Unlike the above mentioned microfinance variables, the *number of microfinance loans* has no impact on borrowers' perceptions on *income*.

The ORs increase for three groups of respondents, where microfinance offered to those who

[34] Identification number of omitted observations in Figure B.1 in Appendix B: 75, 140, 18, 83, 204, 188, 14 and 30.

got exposed to external shocks in the past three years increases the odds of better- perceived income by 141.34; microfinance offered to females increases the odds of better-perceived income by 166.20; and microfinance of business loans increases the odds of better-perceived income by 2,444.26. Nevertheless, the OR decreases by 97 percent for single, divorced or widowed respondents, and also decreases by 24 percent for every one-year increase in age. The remaining control variables do not have a significant impact on the ORs of better-perceived income. The constant term reflects the value of the OR when the values of all the independent variables in the model are zero. Given that the values of *age* and *household size* cannot be zero, the constant term is meaningless.

Based on the above interpretation of regression results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related is rejected when the impact of microfinance on *income* is examined using *years in microfinance*. The impact of this microfinance variable is positive. H_{O1} is also rejected when *log(microfinance loans value)* and *interest rate* are used to measure the impact of microfinance on *income*. The impact of these variables is negative. H_{O1}, however, is not rejected when *the number of microfinance loans* is used to measure microfinance, for it has an insignificant impact.

5.2.1.2 Household Monthly Per Capita Consumption Expenditure

The results of the regression model testing the impact of microfinance variables on borrowers' perceptions of increased monthly per capita consumption expenditure in Table 5.3 were obtained after omitting eight influential observations with dbeta values exceeding two.[35] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistics. No variables were

[35] Identification number of omitted observations: 75, 140, 18, 83, 204, 188, 14 and 30. These were identified based on the diagnostic plots in Figure B.2 in Appendix B.

dropped from the model for multicollinearity based on the VIF values presented in Table B.3 in Appendix B. Due to missing data, the margin of error increases to 8 percent at 90 percent confidence level, where the total number of observations used to estimate this model is only 95.

The final regression output when the dependent variable is *consumption expenditure* is very similar to the output of the model for *income*. The results show that *log(microfinance loans value), interest rate*, *exposure to external shocks, female, business loan, age* and the constant term are statistically significant from zero at 1 percent level, and *years in microfinance* and *single* are statistically significant from zero at 5 percent level. *Number of microfinance loans, access to other sources of funding, refugee, non-university education, log(average household income)* and *household size* are statistically insignificant from zero.

The results of this model also reflect the different relationships between microfinance variables and *consumption expenditure*. On the one hand, the OR of better-perceived monthly per capita consumption expenditure increases by 3.50 for every additional year of involvement in microfinance programs. On the other hand, the zero value of the ORs of *log(microfinance loans value)* and *interest rate* indicate a negative relationship with *consumption expenditure*. The OR drops to zero for every 1 percent increase in the total value of microfinance loans. The OR also drops to zero for every unit increase in average interest rate. The *number of microfinance loans*, on the contrary, has no impact on *consumption expenditure*.

The OR increases for three groups of respondents; microfinance offered to those who got exposed to external shocks in the past three years increases the odds of better- perceived consumption expenditure by 141.34; microfinance offered to females increases the odds of better-perceived consumption expenditure by 166.20; and microfinance of business loans

increases the odds of better-perceived consumption expenditure by 2,444.26. Nevertheless, the OR decreases by 97 percent for single, divorced or widowed respondents and decreases by 24 percent for every one-year increase in age. The remaining control variables do not have a significant impact on the ORs of better-perceived *consumption expenditure*. The constant term reflects the value of the OR when the values of all the independent variables in the model are zero. Given that the values of *age* and *household size* cannot be zero, the constant term is meaningless.

Based on the above interpretation of regression results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related is rejected when the impact of microfinance on *consumption expenditure* is examined using *years in microfinance*. The impact of this microfinance variable is positive. H_{O1} is also rejected when *log(microfinance loans value)* and *interest rate* are used to measure the impact of microfinance on *consumption expenditure*. The impact of these variables is negative. H_{O1}, however, is not rejected when *the number of microfinance loans* is used to measure microfinance, for it has an insignificant impact.

5.2.1.3 Nutrition

Table 5.3 displays the regression results for better-perceived household nutrition after the omission of one observation with a dbeta value exceeding two.[36] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.3 in Appendix B. The number of observations used to estimate the model is 102, which increases the margin of error to 8 percent at 90 percent confidence level.

[36] Observation 172 was omitted based on the diagnostic plots in Figure B.3 in Appendix B.

The results show that *interest rate* and *business loan* are statistically significant from zero at 1 percent level. *Log(microfinance loans value), years in microfinance, number of microfinance loans, access to other sources of funding, exposure to external shocks, female, single, refugee, age, non-university education, log(average household income)* and *household size* are statistically insignificant from zero.

It can be deduced from the results of this model that *interest rate* has a negative relationship with better-perceived nutrition; the OR of better-perceived nutrition decreases by 9 percent for every percent increase in interest rate. *Log(microfinance loans value), years in microfinance* and *total number of microfinance loans* do not have any statistically significant impact on *nutrition*.

The results also show that microfinance of business loans increases the odds of better-perceived nutrition by 4.36. The other control variables in the model do not have a statistical significant impact on the odds of better-perceived nutrition.

Based on the above interpretation of regression results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is rejected when *interest rate* is used to measure the impact of microfinance on *nutrition*. The impact of this microfinance variable is negative. H_{O1}, however, is not rejected when the other microfinance variables are used (*log(microfinance loans value), years in microfinance,* and *number of microfinance loans),* for these variables are statistically insignificant from zero.

5.2.1.4 Education

The results of the regression model testing the impact of microfinance variables on *education* were obtained after the omission of one influential observation with dbeta value exceeding

two.[37] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.4 in Appendix B. Given the number of observations used to estimate the model (102), at 90 percent confidence level, the margin of error increases to 8 percent.

The regression results presented in Table 5.3 show that *log(microfinance loans value)*, *improved access to educational facilities* and *household size* are statistically significant from zero at 5 percent level, and *interest rate* and *single* are statistically significant from zero at 10 percent. *Years in microfinance*, *number of microfinance loans*, *access to other sources of funding*, *exposure to external shocks*, *female*, *refugee*, *business loan*, *age*, *non-university education*, and *log(average household income)* are statistically insignificant from zero.

The results of this model show that two microfinance variables have a negative impact on *education*. For every 1 percent increase in the cumulative value of microfinance loans, the OR decreases by 87 percent. Moreover, for every one percent increase in *interest rate*, the OR decreases by 3 percent. The remaining microfinance variables, *years in microfinance* and *total number of microfinance loans*, are insignificant and have no impact on *education*.

The results also show that the OR decreases for married respondents, where the odds of better-perceived education for single respondents increase by 3.14. Furthermore, the OR is greatest for borrowers who reported an improvement in their access to educational facilities in the past three years as a result of becoming in closer proximity to such facilities, other things being equal. The OR of better-perceived education for those borrowers increases by 4.76. At the same time, the OR decreases by 22 percent for every unit increase in household

[37] Observations 48 was omitted based on the diagnostic plots in Appendix B (Figure B.4).

size. The remaining control variables do not have a statistically significant impact on the ORs.

Based on the above interpretation of regression results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is rejected when *log(microfinance loans value)* and *interest rate* are used to scrutinize the impact of microfinance on household welfare in terms of *education*, and the relationship is negative for these variables. The hypothesis, however, is not rejected, when *years in microfinance* and *number of microfinance loans value* are used, for they are statistically insignificant.

5.2.1.5 Health Care

The results of the regression model testing the impact of microfinance variables on borrowers' perceptions of improved access to health care were obtained after the omission of five influential observations with dbeta values exceeding two.[38] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.5. The total number of observations used to estimate the model is 97, which increases the margin of error to 8 percent at 90 percent confidence level.

The results show that *log*(*microfinance loans value)*, *years in microfinance*, *number of microfinance loans*, *female*, and *improved access to health facilities* are statistically significant from zero at 1 percent level; *business loan* and the constant term are statistically significant from zero at 5 percent; and, *non-university education and log(average household income)* are statistically significant from zero at 10 percent level. *Interest rate*, *access to*

[38] Observations 18, 74, 30, 138 and 83 were omitted based on the diagnostic plots in Appendix B (Figure B.5).

other sources of funding, *exposure to external shocks*, *single*, *refugee*, *age*, and *household size* are statistically insignificant from zero.

The results show that the *number of microfinance loans* increases the OR of better-perceptions on access to health care by 2.12. In contrast, *log(microfinance loans value)* and *years in microfinance* decrease the ORs. An increase in the cumulative value of microfinance loans value by 1 percent causes the OR to drop to zero, while an increase in the length of involvement in microfinance programs by one year results in decreasing the OR by 40 percent. *Interest rate*, in contrast, has no impact on borrower's perceptions.

The results also show that the ORs increase for *female*, *business loan*, *improved access to health facilities* and *log(average household income)*. Microfinance offered to females increases the OR by 27.51. Likewise, microfinance for business loans increases the odds by 7.31. When all other things are equal, the OR is greatest for respondents who have experienced an overall improvement in household accessibility to health care facilities in the past three years, other things being equal. The OR of better-perceived access to health care for those borrowers increases by 87.17. In addition, the OR of better-perceived impact of microfinance on access to health care increases by 17.54 for every 1 percent increase in household income. The OR, nevertheless, decreases by 83 percent for borrowers who do not have a university degree. The remaining control variables do not have a significant impact on the ORs.

Based on the above interpretation of results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is rejected when *number of microfinance loans* is used to measure the impact of microfinance on *health care*. The impact of this microfinance variable is positive. H_{O1} is also rejected when *log(microfinance loans value)* and *years in microfinance* are used to measure the impact of microfinance, and the

relationship is negative. The hypothesis, however, is not rejected when *interest rate* is used to measure the impact of microfinance on *health care.*

5.2.1.6 Non-Land Asset Holdings

The results of the regression logistic model testing the impact of microfinance on borrowers' perceptions of increased non-land asset holdings were obtained after the omission of two observations with dbeta values exceeding two.[39] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is not rejected based on the Wald Chi-Squared test statistic. However, the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. None of the variables was dropped from the model for multicollinearity based on the VIF values presented in Table B.3. The number of observations used to estimate the model is 101, and this increases the margin of error to 8 percent at 90 percent confidence level.

The results in Table 5.3 show that *refugee* is statistically significant from zero at 1 percent level and *household size* is statistically significant from zero at 5 percent level. *Log(microfinance loans value), years in microfinance*, *number of microfinance loans*, *interest rate*, *access to other sources of funding*, *exposure to external shocks*, *female*, *single*, *business loan*, *age*, *non-university education*, and log(*average household income)* are statistically insignificant from zero.

It can be deduced from these regression results that microfinance does not have an impact on perceptions on *non-land assets*. None of the microfinance variables employed in this model is statistically significant. Nevertheless, the OR of a respondent perceiving a positive change in non-land asset holdings changes with refugee status, where the OR decreases by 91 percent

[39] Observations 48 and 30 were omitted based on the diagnostic plots used to identify influential observations (Figure B.6 in Appendix B).

for registered refugees. The OR also decreases by 20 percent for every unit increase in the number of household members.

Based on the above interpretation of results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is not rejected when any of the four microfinance variables are used to measure the impact of microfinance on *non-land assets*.

5.2.1.7 Housing Improvements

The results of the regression logistic model testing the impact of microfinance on perceptions of borrowers on improved housing conditions were obtained after the omission of two influential observations with dbeta values exceeding two.[40] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.3. The number of observations used to estimate the model (101) increases the margin of error to 8 percent at 90 percent confidence level.

The results show that *interest rate* and *refugee* are statistically significant from zero at 1 percent level, while *exposure to external shocks* and *age* are statistically significant from zero at 10 percent level. *Log(microfinance loans value)*, *years in microfinance*, *number of microfinance loans*, *access to other sources of funding*, *female*, *single*, *business loan*, *non-university education*, *log(average household income),* and *household size* are statistically insignificant from zero.

It can be drawn from the results of this model that microfinance has a negative impact on perceptions of improved housing conditions, for the OR of better-perceived housing

[40] The two influential observations, 165 and 205, were omitted based on the diagnostic plots in Figure B.7 in Appendix B.

decreases by 9 percent for every additional unit increase in *interest rate*. *Log(microfinance loans value*), *years in microfinance, and total number of microfinance loans* do not have any statistically significant impact on *housing conditions.*

The results also show that the OR increases by 1.08 for every additional unit increase in age. The OR of perceiving improvements in housing conditions, however, decreases by 68 percent for respondents who have been exposed to external shocks in the past years and decreases by 85 percent for registered refugees.

Based on the above interpretation of results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is rejected when *interest rate* is used to measure the impact of microfinance on *housing conditions*. The impact of this variable is negative. However, H_{O1} is not rejected when *log(microfinance loans value), years in microfinance, and total number of microfinance loans* are used to measure the impact of microfinance on this household welfare indicator.

5.2.1.8 Social Empowerment

The results of the logistic regression model testing the impact of microfinance variables on borrowers' perceptions of social empowerment were obtained after the omission of one influential observation with dbeta exceeding five.[41] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.3. The number of observations used to estimate the model (102) increases the margin of error to 8 percent at 90 percent confidence level.

[41] The influential observation (165) was identified and omitted based on the diagnostic plots presented under Figure B.8 in Appendix B.

The results show that *interest rate*, *refugee* and *age* are statistically significant from zero at 1 percent level; *years in microfinance* is statistically significant from zero at 5 percent level; and, the constant term is statistically significant from zero at 10 percent level. *Log(microfinance loans value), number of microfinance loans*, *access to other sources of funding*, *exposure to external shocks*, *female*, *single*, *business loan*, *non-university education*, *log(average household income)* and *household size* are statistically insignificant from zero.

The results in Table 5.3 show different relationships between microfinance variables and *social empowerment*. Every additional year of involvement in microfinance increases the OR by 1.94. In contrast, every percent increase in *interest rate* decreases the OR by 10 percent. Log(*microfinance loans value)* and *microfinance loans number* do not have a significant impact on perceptions of social empowerment.

The results also show that statistically significant control variables have different impacts on the ORs. For instance, the OR increases with every one unit increase in age by 1.17. The OR, however, decreases by 89 percent for registered refugees. The remaining control variables do not have a significant impact. The constant term reflects the value of the OR when the values of all the independent variables in the model are zero. Given that the values of *age* and *household size* cannot be zero, the constant term is meaningless.

Based on the above interpretation of results, the null hypothesis, H_{O1}, which states that microfinance and household welfare are not related, is rejected when *years in microfinance* is used to measure the impact of microfinance on *social empowerment*, and the impact of this variable is positive. It is also rejected when *interest rate* is used as the microfinance variable, and the impact of this variable is negative. Nevertheless, H_{O1}, is not rejected when log(*microfinance loans value) and number* of *microfinance loans* are used to measure the impact of microfinance on *social empowerment*.

The results of the logistic regression models show that longer participation in microfinance programs increases the ORs of positive perceptions towards three household welfare indicators. These include two monetary indicators; *income* and *consumption expenditure* in addition to *social empowerment*. The ORs of better-perceptions towards the same indicators are negatively affected by *interest rate*. Other indicators that are negatively influenced by *interest rate* include *nutrition*, *education*, and *housing conditions*. *Log(microfinance loans value)* also negatively affects the ORs of *income*, *consumption expenditure*, *education and health care*. Moreover, the *number of microfinance loans* has no impact on household welfare, expect for health care; the OR of better-perceived health care increases with the *number of microfinance loans*. The results also show that none of the microfinance variables employed in the regression models affects the ORs of *non-land assets*.

5.2.2 Impact of Microfinance on Business Development

5.2.2.1 Sales

The results of the regression model testing the impact of microfinance variables on business sales were obtained after the omission of one influential observation with dbeta value exceeding five.[42] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is not rejected based on the Wald Chi-Squared test statistic. However, the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.6 in Appendix B. While the number of observations used to estimate the model decreases to 68, the change in margin of error as a result cannot be determined since information on the total population of borrowers with business loans who were active back in 2013 is not accessible.

The regression results presented in Table 5.4 show that *years in microfinance* is statistically

[42] Observation 13 was omitted based on the diagnostic plots in Appendix B (Figure B.9).

significant from zero at 1 percent level, and *years in business* is statistically significant from zero at 10 percent level. *Log(microfinance loans value), interest rate, informal business* and *risk-avert* are statistically insignificant from zero.

The final regression output shows that the OR of reporting an increase in business sales after accessing microfinance increases by 2.08 for every additional year of involvement in microfinance. *Years in microfinance* and *interest rate* do not have any impact on *sales*. Likewise, all of the control variables introduced to the model do not have a significant impact on the ORs expect for *years in* business; the OR decreases by 21 percent for every additional year in business.

Based on the above interpretation of regression results, the null hypothesis, H_{O2}, which states that microfinance and business development are not related, is rejected when *years in microfinance* is used to measure the impact of microfinance on *sales* and the relationship is positive. However, it is not rejected when *log(microfinance loans value)* and *interest rate* are used to measure the impact of microfinance on this business development indicator.

5.2.2.2 Profits

The results of the regression model testing the impact of microfinance variables on increased business profits were obtained after the omission of one influential observation with dbeta value exceeding five.[43] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.6 in Appendix B. Again, while the number of observations used to estimate the model decreases to 66, the change in margin of error as a result cannot be

[43] Observation 13 was omitted based on the diagnostic plots in Appendix B (Figure B.10).

determined since information on the total population of borrowers with business loans who were active back in 2013 is not accessible.

The regression results presented in Table 5.4 show that *interest rate* and *informal business* are statistically significant from zero at 1 percent level; *years in microfinance* and *years in business* are statistically significant from zero at 5 percent level; and, *risk-avert* is statistically significant from zero at 10 percent level. *Log(microfinance loans value)* is statistically insignificant from zero.

The final regression output shows that the odds of better-perceived business profits increase by 3.48 for every additional year of involvement in microfinance and decrease by 27 percent for every one unit increase in *interest rate*. Furthermore, the OR increases dramatically by 55,338.33 for *business loan* but decreases by 40 percent for every additional year in business, and decreases by 89 percent for risk-avert borrowers.

Based on the above interpretation of regression results, the null hypothesis, H_{O2}, which states that microfinance and business development are not related, is rejected when *years in microfinance* is used to measure the impact of microfinance on *profits*, and the relationship is positive. It is also rejected when *interest rate* is used to measure the impact of microfinance, yet the relationship in this case is negative. However, it is not rejected when *log(microfinance loans value)* is used to measure the impact of microfinance on this business development indicator.

5.2.2.3 Business Capital

The results of the regression model testing the impact of microfinance variables on borrowers' perceptions of increased business capital were obtained after the omission of one

influential observation with dbeta value exceeding two.[44] The null hypothesis that coefficients of the logistic regression are jointly equal to zero is rejected based on the Wald Chi-Squared test statistic, and the null hypothesis that the model is fit is not rejected based on the Hoshmer-Lemeshow test statistic. No variables were dropped from the model for multicollinearity based on the VIF values presented in Table B.6 in Appendix B. While the number of observations used to estimate the model decreases to 69, the change in margin of error as a result cannot be determined since information on the total population of borrowers with business loans who were active back in 2013 is not accessible.

The regression results presented in Table 5.4 show that *risk-avert* is statistically significant from zero at 5 percent level while *years in microfinance* is statistically significant from zero at 10 percent level. *Log(microfinance loans value)*, *interest rate*, *years in business*, and *informal business* are statistically insignificant from zero.

The length of involvement in microfinance programs shows a positive impact on *capital.* The OR increases by 1.40 for every additional year in microfinance. However, the other microfinance variables do not show a significant impact on *capital.* Similarly, the control variables in the model do not have a significant impact on this business development indicator, except for *risk-avert*; the odds for *risk-avert* decreases by 86 percent.

Based on the above interpretation of regression results, the null hypothesis, H_{O2}, which states that microfinance and business development are not related, is rejected when *years in microfinance* is used to measure the impact of microfinance on *capital*. Nevertheless, it is not rejected when *log(microfinance loans value)* or *interest rate* are used to measure the impact of microfinance on this business development indicator.

[44] Observation 13 was omitted based on the diagnostic plots in Appendix B (Figure B11).

The above results of the three logistic regressions concerning the impact of microfinance on business development show that the ORs of increased business sales, profits and capital increase with the length of involvement in microfinance. On the other hand, neither *log(microfinance loans value)* nor *interest rate* affects business development. Other control variables that negatively influence the ORs are *years in business* and *risk-avert. Informal business*, however, causes a drastic positive change to the OR of *profits*.

Chapter 6 : Discussion

This research aims to explore the impact of microfinance variables on the multi-dimensional indicators of household welfare on the one hand and on business development on the other hand. This chapter provides an analysis of the empirical results and compares them to findings of previous studies.

6.1 Client Targeting

In this research, more than 50 percent of respondents were young adults aged between 18 - 30 years. This finding conforms to the life-cycle theory of consumption which postulates that households attempt to maintain a smooth consumption pattern over their lifetimes. At a young age, households are likely to have a higher demand for credit, and are willing to consume part of their future income which they expect to increase in the long run to acquire assets and durables (Andreou, 2011). In terms of gender distribution, the share of men outweighs that of women; 60 percent for men versus 40 percent for women. While the gender distribution of the sample is close to that of *Sharakeh's* members - where the share of women of outstanding portfolio is 38 percent (The Palestinian Network for Small and Micro Finance, 2016a) -, it questions the claims of MFIs serving both genders to outreach to women who are more vulnerable than men in the Palestinian community. A closer look at the gender distribution of each MFI involved in this study shows that 98 percent of Asala's portfolio goes to women, 54 percent of ACAD's outstanding portfolio is granted to women and the percentage declines to 34 percent for Faten despite its strong emphasis on serving women (The Palestinian Network for Small and Micro Finance, 2016a).

While MFIs do not have minimum education requirements for credit eligibility, data collected shows that around 60 percent of borrowers have completed their tertiary education. Nevertheless, there are compelling figures that are indicative of the additional educational

needs of some groups of borrowers who are running businesses. About 23 percent of borrowers who took business loans did not have any prior business experience, and of those around 68 percent have less than primary education. Unfortunately, respondents' answers show that MFIs have not invested enough in their training programs, where only 10 percent of respondents confirmed participating in training workshops through MFIs.

Data on household income and household size shows that average household monthly income is NIS 5,359 and average monthly per capita income is NIS 1,180. Average monthly household income is higher than PCBS's poverty lines for 2011; the relative poverty line (NIS 2,293) and the deep poverty line (NIS 1,832) (PCBS, 2014).[45] Only 5.7 percent of sampled borrowers live in poverty, and the ratio increases to 9.0 percent when considering only those who reported their household income. The ratio of sampled borrowers who live in deep poverty is 2.8 percent and it increases to 4.5 percent when only those who reported their household income are considered. These results confirm that fact that MFIs do not have eligibility requirements to ensure that their programs serve the poor (Elayyan, 2017).

Another way of scrutinizing whether MFIs target the poor could be achieved by comparing the percentage of served refugees in the sample in spite of income variations within and across camps. As mentioned in Chapter 4, refugees make up around 29 percent of Ramallah's population and they are poorer than non-refugees (PCBS, 2015a).[46] The percentage of refugees in the research sample is 19 percent. This share sheds light on the strong efforts of some MFIs to reach to this marginalized group. In fact, these efforts have translated into establishing MFI branches in camps such as Faten's branch which was opened in *Al Jalazone*

[45] PCBS uses a standard budget for a household of five (two adults and three children) to define poverty lines. The absolute poverty line covers "food, clothing, housing, health care, education, transportation, and housekeeping supplies". The deep poverty line covers "food, clothing and housing costs" only (Ghazawneh, 2012).

[46] Poverty rate in Palestine among refugees was 31 percent in 2011 compared to 22 percent among non-refugees (PCBS, 2015a).

Camp in 2016 and its other branches in remote areas such as *Bedya, Biddo*, and *Ni'lin*.

The research shows that three MFIs in Palestine whose market share in the West Bank exceeds 60 percent offer credit only against collateral including personal guarantees. Such requirements represent major hurdles to access to finance for those who live in the vicious cycle of poverty and lack acceptable collateral or social networks. It is crucial to mention that the founding principle of microfinance is to support those who lack acceptable collateral to borrow from the formal banking systems. Around 22 percent of the sample indicated their unwillingness to obtain another loan because of the loan requirements including collaterals.

To summarize, the demographic characteristics of the sample reveal that MFIs offer financial services to young borrowers. Credit, however, is more targeted at men and is only offered against collateral. As for the complementary non-financial services, MFIs target a relatively low percentage of borrowers through training programs.

6.2 Impact of Microfinance on Household Welfare

In this research, measures of microfinance including the cumulative number and value of microfinance loans, length of involvement in microfinance programs, and average annual interest rate are used in the regression models to look for any significant relationship with household welfare. Control variables are also included in the models to account for other influential factors that could affect perceptions. These include access to other sources of funding, exposure to positive or negative external shocks in the past three years, gender, marital status, refugee status, type of loan, improved accessibility to educational or health facilities as a result of becoming in closer proximity, age, education, household income, and household size.

The length of involvement in microfinance programs is considered to be one of the major microfinance variables of interest. From a positive angle, it can be assumed that a sustainable

positive impact of microfinance manifests better with time. For instance, the impact of microfinance on the household welfare of a new borrower is expected to be different from that of an older borrower. From a negative perspective, however, longer involvement means that borrowers are becoming more dependent on MFIs to improve their living – even if loans get repaid on time-. In this research, the ORs of better-perceived income, per capita consumption expenditure, and social empowerment are found to increase with the length of involvement in microfinance.

Unlike length of involvement in microfinance programs, interest rate has a significant negative association with the ORs of better-perceptions of household welfare indicators including income, per capita consumption expenditure, nutrition, education, housing and social empowerment. The relationship is extremely negative with the monetary indicators; for interest rate represents the cost of borrowing that is directly deducted from disposable income. Assuming the poor spend their income on basic needs only, a higher interest rate results in a decreased income and subsequently decreased subsistence expenditure. Subsistence living does not translate into improved quality of food, education, housing conditions or increased ability to meet non-basic household needs. Thus, the weak association between interest rate and the ORs of better-perceptions on nutrition, education, housing and social empowerment can be explained by the limited ability of the poor to spend on higher standards of living. The impact of interest rate is even insignificant for health and non-land assets, implying that the portion of household income used to cover health expenses and acquire assets is minimal.

The cumulative value of microfinance loans also displays a negative impact on income, consumption expenditure, education and health care. The relationship is extremely significant for the monetary indicators and health care. This finding challenges the underlying assumption of Neoliberalism that access to credit alleviates poverty. It turns that an increase

in the amount of accessed credit decreases the odds of perceiving improvements in some household welfare indicators.

As for the number of microfinance loans, it does not have a significant relationship with household welfare indicators, except for health care. An increase in the number of microfinance loans results in higher OR of better-perceived health care. This could be attributed to the main use of loans; borrowers tend to use the first few loans to finance businesses and repay debt and then resort to additional loans for health care.

After testing the relationships between four microfinance variables and eight household welfare indicators, this research finds that only four out of 32 examined relationships support the positive impact of microfinance. The other existing relationships which count to ten are negative while the rest of tested associations are non-existent. Thus, the findings of this research do not support the Neoliberal argument on the positive impact of microfinance.

The results of this research are in disagreement with those of Pitt and Khandker (1998) which find a positive association between microfinance and non-land assets and education. They are also in disagreement with the findings of Optimum for Consultancy and Training (2009) which concludes that loans increase the capacity of around 80 percent of borrowers to save emergency cash for food and housing. Moreover, the finding that microfinance (as measured by number of loans) is positively associated with better-perceived health care is in disagreement with the study of Banerjee *et al.* (2015a) which finds that microfinance has no impact on health.

In addition to the microfinance variables, some control variables are found to be statistically significant. These include exposure to external shocks, gender, marital status, refugee status, type of loan, improved accessibility to educational and health facilities, age, education,

average household income and household size. Access to other sources of funding does not show any significant impact.

Exposure to external shocks plays a positive impact on the ORs of better-perceived income and consumption expenditure. This indicates that these external shocks are positive from a monetary perspective. The OR, however, decreases for housing, implying that such shocks may be reallocating expenditure from housing to other basic consumption patterns.

Gender also has a positive impact on borrowers' perceptions. The ORs of better-perceived impact of microfinance on income, consumption expenditure and health care are higher for females than for males. This is consistent with the belief that women use their loans in productive activities in order to improve household welfare (Brau & Woller, 2004).

Marital status affects perceptions of changes in income, consumption expenditure and education. The ORs of better-perceived income and consumption decrease for single borrowers; for they do not necessarily use their income to contribute to household income or consumption expenditure. On the contrary, single borrowers tend to invest their income in education.

Refugee status stands out as another crucial variable when analyzing the impact of microfinance on non-land asset holdings, housings conditions and social empowerment. The ORs of perceiving a positive impact of microfinance on these indicators are lower for registered refugees than for non-registered refugees and non-refugees. This is a reflection of the reality that refugees face. Many registered refugees live in very poor housing conditions and spend their income on subsistence living. Their income is rarely invested in non-land assets, housing improvements, or spent to meet other basic family needs. As for education and health, registered refugees receive these services for free through UNRWA, which

explains why refugee status has a statistically insignificant impact on the ORs of better-perceived education and health.

The type of microfinance loan is another variable that significantly affects borrowers' perceptions. The ORs of perceiving positive impacts of microfinance on income, consumption, nutrition and health care increase for business loans. According to the Neoclassical model, financing microenterprises should help the poor escape poverty. The results show that the ORs of increased business profits increase with the length of involvement in microfinance programs. Therefore, it can be assumed that some of the made profits are used by entrepreneurs as a source of income to cover household expenditure on consumption of food items and non-food items such as health care.

Increased accessibility to educational facilities increases the OR of perceiving a positive impact of microfinance on education. This finding shows that microfinance does not have a significant impact on education compared to the public and private investments in educational facilities. Likewise, increased accessibility to health facilities increases the OR of perceiving a positive impact of microfinance on health care to a greater extent than microfinance variables.

Age is among the main influential variables that affect the ORs of better-perceived income, consumption expenditure, housing conditions and social empowerment. Age decreases the ORs of better-perceived income and per capita consumption expenditure but increases the ORs of better-perceived housing conditions and social empowerment. Older borrowers seem to link the positive impact of microfinance to non-monetary indicators while younger borrowers seem to link the positive impact of microfinance to monetary indicators.

Education and average household income affect the odds ratios of improved access to health care. University degree holders have higher odds of perceiving improvements in health care

than non-university degree holders, for higher education plays a crucial role in raising awareness on the importance of health care. In addition, an increase in household income increases the odds of better–perceived health care. This is explained by the relatively expensive cost of accessing the privatized health care facilities in Ramallah, which are known for their higher quality, when compared to the public facilities. Not all borrowers with low-income are capable of affording these services at high cost.

While one would expect household size to have a negative association with per capita consumption expenditure, quality of food and housing conditions, this research does not find any significant impact of household size on the ORs of any of these variables. Nonetheless, household size decreases the ORs of better-perceived education and non-land asset holdings. This is of no surprise as the ability to spend on education and assets is limited when the household size is big and household income is low; the head of the household is forced to meet the most basic needs at the expense of other needs such as education and asset holdings.

This research thus far has provided evidence that microfinance's contribution to improved household welfare is very poor, and thus, refutes the Neoliberal claims on the positive impact of microfinance. Although the findings of this research do not entirely replicate findings of any of the other previously examined studies, they do add to the existing body of literature which by itself includes contradictory findings influenced by time, place and methodology of study.

6.3 Impact of Microfinance on Business Development

The results of this research show that length of involvement in microfinance programs has a positive impact on business sales, profits and capital, implying that the ORs of a productive use of loan to establish or expand profitable activities increase with the duration of involvement in microfinance. On the contrary, interest rate displays a negative relationship

with profits. This finding on interest rate is not surprising, given that an increase in the cost of borrowing would decrease profits. The log-transformed variable for the value of microfinance loans does not have any significant positive association with business development variables.

Unlike interest rate, the legal registration status of businesses has a very strong positive and significant association with business profits. This finding is in line with the expectation that such variable would have a positive significant impact for non-registered businesses due to the absence of registration expenses and tax fees.

Business age decreases the OR of reporting increased sales and profits as a result of access to credit. Businesses in the growth and expansion phases experience growth in sales and profits. Start-ups, on the contrary, cannot attribute the increase in business sales or profits to years in business but to microfinance.

Another variable that affects the OR of positive business development is risk-aversion. The ORs for risk-avert respondents decrease in the logistic models testing the impact of microfinance on profits and capital. Entrepreneurs who consider themselves risk-averts prefer to stick to low risk decisions and associate risk with loss. In this research, it turns out that risk-takers have higher ORs to use microfinance to fund risky decisions needed for business growth in terms of profits and capital.

The findings of this research on the positive impact of microfinance on sales and capital are in agreement with those of Kevane and Wydick (2001), Coleman (2006) and of Al Markaz for Development and Marketing Consultancies (2012). However, the findings on the impact of microfinance on business profits are in disagreement with Banerjee et al. (2015a), who finds that most enterprises do not increase their profits although the upper tail of profitability increases.

To summarize, this research finds that the length of involvement in microfinance increases the ORs of reporting increased business sales, profits and capital after taking microfinance loans while interest rate decrease the odds of reporting increased profits after gaining access to credit. The log-transformation of microfinance loans value does not show any significant positive or negative impact on the ORs of better-perceived business development indicators. While three out of nine tested relationships between microfinance variables and business development indicators are positive, there is one negative relationship and five non-existing ones. Thus the overall impact of microfinance on business development is weak, and is alarming of the credit-dependent businesses that microfinance can create with time, for the positive impact is association with longer involvement.

Chapter 7 : Conclusion

This study contributes to the growing body of literature on the impact of microfinance on poverty alleviation by testing the neoclassical theory and Neoliberal perspective on the role of microfinance in helping the poor. It examines the perceptions of borrowers from ACAD, Asala and Faten's branches in Ramallah on improvements in household welfare and business development indicators.

The study finds that longer involvement in microfinance programs increases the ORs of perceiving improvements in income, per capita consumption expenditure, social empowerment as well as business sales, profits and capital. In contrast, the study finds that higher interest rates decrease the ORs of better-perceived household income, per capita consumption expenditure, nutrition, education, housing conditions, social empowerment and profits. The study also finds that the value of microfinance loans (log-transformed) decreases the ORs of income, consumption, education and health care. Furthermore, the OR of better-perceived access to health care is found to increase with the number of microfinance loans.

The findings of this work challenge the Neoliberal perspective on the positive impact of microfinance and finds that there is not a strong positive impact of microfinance on household welfare or business development. While the positive relationships between length of involvement in microfinance programs and income, consumption expenditure, social empowerment, sales, profit and capital can be considered as an evidence of the positive impact of microfinance that manifests with time, it spells out major concerns regarding the dependency relationship microfinance programs create. Further investigation is crucial to examine the extent to which borrowers depend on microfinance to sustain achieved improvements in their household welfare and business activities.

The main recommendations of this study are addressed to policy makers, international organizations and NGOs. The situation on the ground shows that microfinance is not the appropriate poverty alleviation tool at this stage and alternative programs targeted at creating employment for the poor are needed. Until an effective poverty-alleviation program is identified, the government needs to ensure that social assistance programs reach the poor and public goods are of high quality.

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Appendix A : Questionnaire

Dear Respondent,

I am working on my Master's thesis and I would highly appreciate your kind contribution to my research by filling out this questionnaire which is designed to investigate the impact of microfinance on household welfare and businesses. Please rest assured that your privacy will be protected. Only the general results, conclusions and recommendations drawn out of this questionnaire will be included in my thesis.

Loan Features

1. Which of the following microfinance institutes have you been borrowing from? Please check all that apply.
   - Faten
   - Asala
   - ACAD
2. For how many years have you been involved in microfinance?_____
3. Please specify the total number of months needed to repay all your loans (both active and paid off loans)?_____
4. How many times have you been granted a microfinance loan?_____
5. What is the total value of your active microfinance loans in USD?_____
6. What is the total value of your paid off microfinance loans in USD?_____
7. Were your loans based on *Murabaha*-financing?
   - Yes
   - No
8. What are the annual interest rates on your loans? Please list them all if the rate is different from loan to another._____
9. Please rank the applicable reasons for borrowing these loans in order of loan value (largest first)?

   _ Business _ Debt _ Family expenses
   _ Education _ Marriage _ Medication
   _ Housing _ New Car _ Other_____
10. What is your main source of payment for loan installments?
    - Micro-business revenues
    - Wage
    - Other loan(s)
    - Borrowing from informal networks
    - Other_____
11. a) Have you ever been late in repaying your loan installments?
    - Yes
    - No

b) If yes, what is the main reason?

- Business loss
- Natural disaster
- Market recession
- Financial needs of the family
- Other_____

12. Have you made any savings after taking microfinance loans?
    - I could not make any savings
    - I became indebted
    - I saved less than NIS 2,500
    - I saved between NIS 2,500 - 10,000
    - I saved more than NIS 10,000
13. What types of collateral have you provided against obtaining a microfinance loan?_____
14. Have you ever obtained a group loan?
    - Yes
    - No
15. Have you ever borrowed from other sources such as your family, friends, informal lenders, or other microfinance institutes?
    - Yes
    - No
16. a) Are you satisfied with the loans' terms, conditions and repayment schedule?
    - Yes
    - No

    b) If not, why? Please check all that apply.

    _ Too many requirements and papers needed
    _ High interest rates
    _ Short grace periods
    _ No grace periods
    _ Bad treatment by loan officers
    _ Loan value is small
    _ High penalty fees on late repayment
    _ Hard loan conditions
    _Other_____

17. a) Would you like to have another loan?
    - Yes
    - No

    b) If you would like to take another loan, what would you do with it? Please check all that apply.

    _ Expand my business
    _ Start a new business
    _ Cover personal/family expenses
    _ Other_____

    c) If not, why wouldn't you take another loan? Please check all that apply.

    _ Prohibition of interest in Islam
    _ Inability to pay the loan and interest and become subject to jail
    _ Loans are not that useful

_ Country conditions are bad and the business does not make much profit to repay the installments with interest

_ People do not accept you as a woman involved in business

_ In order to avoid family problems with my spouse who does not like loans

_ Requirements to obtain a license for the business

_ Difficulty to access supplies

_ Taxes

_ Other_____

Business Activity

Please skip this section only if you did not obtain credit for the purpose of financing an income generating business activity.

18. What kind of business activity are you engaged in? _____

19. Did you have any business experience before starting your own?

- Yes
- No

20. For how many years have you been in your business?_____

21. Where is your business located?

- City
- Town
- Village
- Camp

22. How much was your capital when you started the business (in NIS)? _____

23. How much is your business capital now (in NIS)? _____

24. Why did you take business loans?

- Start a new business
- Expand current business
- Both
- Other_____

25. What other sources do you depend on to finance your business? Please check all that apply.

- Another business project
- Public/private sector job
- Revenues from properties
- Pension
- Savings
- Another loan
- Borrowing from informal networks
- Other_____

26. Is your business legally registered?

- Yes
- No

27. Have your business sales increased after obtaining microfinance loans?

- Yes
- No

28. a) Does your business make profits?

- Business is making no profits
- Business is resulting in financial losses
- Business is making profits

b) If you make business profits, how much are your average monthly profits in NIS?

- Less than NIS 1,000
- NIS 1,000 – 2,000
- More than NIS 2,000

c) Have your business profits increased after obtaining microfinance loans?

- Yes
- No

29. What do you mainly do with your business profits? Please check all that apply.

_ Use to them to cover daily/family expenses
_ Save them
_ Reinvest them in my business
_ Use them to repay debt
_ Use them to cover unexpected expenses
_ Use them to improve housing
_ Other_____

30. If you reinvest your profits, what kind of investment do you make?

- Buy new equipment or materials
- Hire workers
- Both
- Other_____

31. Who works with you?

- Family members with wages
- Family members without wages
- Paid workers
- Other

32. Have you received any kind of training through your microfinance institute? If the answer is yes, please specify type of training.

- Yes (type: _____)
- No

33. Are you willing to take the risk to adopt new business strategies?

- Yes
- No

34. Have you ever developed and sold new types of products or services during the period of borrowing?

- Yes
- No

Household Information

35. What is the main source of you family income?

- Wage
- Pension
- Addressed social assistance
- Income from rent
- Income from agriculture
- Income from micro-financed business
- Other_____

36. On average, what is the total monthly income of your household in NIS?_____

37. After becoming involved in microfinance, how do you perceive the following?

	Better	**Same**	**Worse**
Your monthly income			
Total household monthly income			
Per capita consumption expenditure			
Monthly household savings			
Quantity of food			
Quality of food (consumption of meat, poultry, vegetables, fruits and milk)			
Children's completed level of education compared to what they should have completed at their age			
Spending on education			
Spending on medication			
Access to medical services			
Having family health insurance			
Quantity of clothes per person			
Quality of family clothes			
Ownership of non-land assets			
Ownership of land assets			
Use of solar power			
Accessibility to electricity			
Sources of drinking water			
Type of latrines used			
Overall condition of the house (tile, roof, walls)			
Feeling independent			
Harmony inside the family			
Mood in terms of ability to meet household needs			
Involvement in household decision making			
Influence in community decision making			

General Information

38. How old are you? _____

39. What is your gender?

- Male
- Female

40. What is your marital status?

- Single
- Married

41. Are you a Palestine refugee?

- Registered refugee
- Unregistered refugee
- Non-refugee

42. Do you know how to read?

- Yes
- No

43. What is your highest educational attainment?

- Not educated
- Less than Primary Education
- Primary Education
- *Tawjihi*
- Polytechnic College
- University

44. What is the number of your family members (including yourself)?_____

45. Have your household's access to educational facilities improved since 2013 as a result of changing your residence or opening new schools or educational centers in close proximity to your residence place?

- Yes
- No

46. Have your household's access to health facilities improved since 2013 as a result of changing your residence or opening new health centers in close proximity to your residence place?

- Yes
- No

47. How many sources of income do you have?_____

48. Have you been exposed to any major positive or negative external shock that has affected you financially during the last three years?

- Yes
- No

Please add any comments below:

_____

_____

Thank you very much for your time.

إستبيان المقترضين

عزيزي/تي القارئ/ة،

يرجى العلم بأنني أعمل حالياً على بحث أثرالتمويل المتناهي الصغر على الرعاية المنزلية والأعمال التجارية، وإنني لأقدر مساهمتكم الكريمة في هذا البحث والخاص برسالتي الماجستيرمن خلال تعبئة هذا الاستبيان. يرجى التأكد بأنني أحترم خصوصيتكم ولهذا السبب سيتم تضمين النتائج العامة والاستنتاجات والتوصيات المستمدة من هذا الإستبيان فقط في رسالتي.

خصائص القرض

1. أي من مؤسسات الإقراض التالية قمت/ي بالإقتراض منها؟ يرجى وضع دائرة حول جميع ما ينطبق.
   - فاتن • أصالة • أكاد
2. كم عدد سنوات انخراطك/ي بالتعامل في التمويل المتناهي الصغر؟_____
3. يرجى تحديد عدد الأشهر المطلوبة لسداد أقساط جميع القروض التي حصلت/ي عليها (بما فيها القروض الحالية والقروض التي تم تسديدها)._____
4. كم عدد المرات التي حصلت/ي فيها على قروض التمويل المتناهي الصغر؟_____
5. ما القيمة الإجمالية لقروض التمويل المتناهي الصغر القائمة عليك/ي حالياً (بالدولار الأمريكي)؟_____
6. ما القيمة الإجمالية لقروض التمويل المتناهي الصغرالمسددة من قبلك/ي (بالدولار الأمريكي)؟_____
7. هل تم تمويل قروضك/ي على مبدأ المرابحة؟
   - نعم • لا
8. ما هي نسب/ة الفائدة السنوية على قروضك/ي؟ يرجى ذكرها جميعها في حال إختلافها من قرض إلى آخر._____
9. يرجى ترتيب أسباب الإقتراض التي تنطبق على قروضك/ي بحسب قيمة القرض (الأكبر أولاً).

_ أعمال تجارية	_ ديون	_ نفقات عائلية
_ تعليم	_ زواج	_ علاج
_ السكن	_ سيارة جديدة	_ أخرى_____

10. ما هو المصدر الرئيسي لسداد أقساط القروض الخاصة بك/ي؟
    - إيرادات من العمل التجاري الصغير • أجور • قروض أخرى
    - الإقتراض من الشبكات غير الرسمية • أخرى_____
11. أ- هل سبق وأن تأخرت/ي عن سداد أقساط القروض الخاصة بك/ي؟
    - نعم • لا

ب- إذا كانت الإجابة نعم، فما هو السبب الرئيسي؟

- خسارة مالية في العمل التجاري • كوارث طبيعية • ركود في السوق
- إحتياجات مالية للعائلة • أخرى_____

12. هل وفرت/يأية مبالغ مالية بعدالحصول على قروض التمويل المتناهي الصغر؟

- لم أتمكن من توفير أية مبالغ
- أصبحت مديناً/ة
- وفرت أقل من 2,500 شيقل
- وفرت ما بين 2,500 – 10,000شيقل
- وفرت أكثر من 10,000 شيقل

13. ما هي الضمانات التي تم تقديمها مقابل الحصول على قروض التمويل المتناهي الصغر؟_____

14. هل سبق وأن حصلت/ي على قرض مجموعة؟

- نعم
- لا

15. هل سبق وأن اقترضت/ي من مصادر أخرى كالعائلة، الأصدقاء، مقرضين غير رسميين، أو مؤسسات أخرى للتمويل الصغير؟

- نعم
- لا

16. أ) هل أنت/ي راض/ية عن أحكام وشروط القروض وإجراءات السداد؟

- نعم
- لا

ب) إذا كانت الإجابة لا، فلماذا؟ يرجى وضع دائرة حول جميع ما ينطبق.

- كثرة المتطلبات والأوراق اللازمة
- إرتفاع نسب الفائدة
- فترة السماح قصيرة
- لا يوجد فترة سماح
- معاملة سيئة من قبل موظفي الإقراض
- قيمة القرض صغيرة
- شروط قاسية على القروض
- رسوم العقوبات على التأخر في السداد عالية
- أخرى_____

17. أ) هل ترغب/ين في الحصول على قرض آخر؟

- نعم
- لا

ب) إذا كنت/ي تريد/ين الحصول على قرض آخر، فماذا ستفعل/ين به؟ يرجى وضع دائرة حول جميع ما ينطبق.

- توسيع عملي
- تأسيس عمل تجاري جديد
- تغطية نفقات شخصية/عائلية
- أخرى_____

ج) إذا لم ترغب/ي في الحصول على قرض آخر، فلماذا؟ يرجى وضع دائرة حول جميع ما ينطبق.

- حظر الفائدة في الإسلام
- عدم القدرة على دفع القرض مع الفائدة وتعريض نفسي للسجن
- القرض غير مفيد
- أوضاع البلد سيئة والأعمال التجارية لا تنتج الكثير من الأرباح لتسديد أقساط القرض مع الفائدة
- الناس لا تتقبل عمل المرأة في النشاطات التجارية
- من أجل تجنب المشاكل العائلية مع زوجي/تي الذي/التي لا يحب/تحب القروض
- شروط الحصول على ترخيص العمل
- صعوبة الحصول على البضائع

- الضرائب
- أخرى_____

النشاط التجاري

يرجى تخطي هذا الجزء والإنتقال إلى الجزءالذي يليه فقط في حال عدم حصولك/ي على قروض لأغراض تمويل أعمال مدرة للدخل.

18. ما هي طبيعة نشاطك/ي التجاري؟_____
19. هل كانت لديك/ي أيةخبرة في مجال العمل قبل تأسيس عملك/ي التجاري؟
    - نعم
    - لا
20. ما عدد سنوات عملك/ي في نشاطك/ي التجاري الخاص بك/ي؟_____
21. أين يقع عملك/ي؟
    - مدينة
    - بلدة
    - قرية
    - مخيم
22. كم كان رأس المال الخاص بك/ي عندما بدأت/ي بالعمل (بعملة الشيقل)؟_____
23. كم رأسمال عملك/ي الآن (بعملة الشيقل)؟_____
24. ما أسباب الحصول على القروض التجارية؟
    - بدء عمل تجاري جديد
    - توسيع عمل تجاري
    - البدء بعمل تجاري جديد ومن ثم توسيعه
    - أخرى_____
25. ما هي المصادر الأخرى التي تعتمد/ين عليها في تمويل عملك/ي؟ يرجى وضع دائرة حول جميع ما ينطبق.
    - مشروع تجاري آخر
    - وظيفة في القطاع العام أو الخاص
    - إيرادات من ممتلكات أخرى
    - تقاعد
    - مدخرات
    - قرض آخر
    - الإقتراض من الشبكات غير الرسمية
    - أخرى_____
26. هل عملك/ي قانوني ومسجل لدى الدوائر الرسمية؟
    - نعم
    - لا
27. هل زادت مبيعاتك/ي بعد الحصول على قروض التمويل المتناهي الصغر؟
    - نعم
    - لا
28. أ- هل يحقق عملك/ي التجاري أرباحاً؟
    - الأعمال التجارية لم تحقق أية أرباح
    - الأعمال التجارية أسفرت عن خسائر مالية
    - الأعمال التجارية تحقق الأرباح

ب- إذا كنت/ي قد حققت/ي أرباحاً تجارية، فما معدل الأرباح الشهرية بعملة الشيقل؟

- أقل من 1,000 شيقل
- ما بين 1,000 - 2,000 شيقل
- أكثر من 2,000 شيقل

ج- هل زادت الأرباح بعد الحصول على قروض التمويل المتناهي الصغر؟

- نعم
- لا

29. ما الإستخدام الأساسي للأرباح المتحققة من عملك/ي؟يرجى وضع دائرة حول جميع ما ينطبق.

- أستخدمها لتغطية نفقات يومية/عائلية
- أقوم بتوفيرها
- أعيد إستثمارها في عملي التجاري
- أستخدمها في سداد الديون
- أستخدمها لتغطية نفقات غير متوقعة
- أستخدمها لتحسين السكن
- أخرى_____

30. إذاكنت/ي تعيد/ين إستثمار الأرباح الخاصة بك/ي، فما نوع الإستثمار الذي تقوم/ين به؟

- شراء معدات/مواد جديدة
- توظيف عمال
- شراء معدات/مواد جديدة وتوظيف عمال
- أخرى_____

31. من يعمل معك/ي؟

- أفراد الأسرة مقابل أجور
- أفراد الأسرة بدون أجور
- عمال مقابل أجر
- أخرى_____

32. هل حصلت/ي على أي نوع من التدريب من خلال مؤسسات الإقراض؟ إذا كانت الإجابة نعم، يرجى تحديد مجال التدريب.

- نعم
- لا

(مجال التدريب:_____)

33. هل أنت/ي على إستعداد للمخاطرة لتبني إستراتياجات جديدة بالعمل؟

- نعم
- لا

34. هل قمت/ي بتطوير وبيع أصناف جديدة من البضائع أو الخدمات التي تقدم من خلال عملك/ي التجاري خلال فترة الاقتراض من مؤسسات التمويل المتناهي الصغر؟

- نعم
- لا

معلومات خاصة بالمنزل

35. ما هو المصدر الرئيسي لدخل الأسرة؟

- الأجور
- التقاعد
- المساعدات الإجتماعية
- دخل من الإيجار
- دخل من الزراعة
- دخل من الأعمال التجارية الصغيرة
- أخرى_____

36. ماهو متوسط الدخل الشهري للأسرة الكلي بعملة الشيقل؟_____

37. بعد الإنخراط بالتمويل المتناهي الصغر، كيف تنظر/ين إلى ما يلي؟

	أفضل	لا تغيير	أسوء
دخلك/ي الشهري			
مجموع دخل عائلتك/ي الشهري			
إنفاق الإستهلاك على الفرد			
مدخرات العائلة الشهرية			
كمية المواد الغذائية			
نوعية المواد الغذائية (إستهلاك اللحوم والدواجن والخضار والفواكه والحليب)			
مستوى إكمال الأبناء والبنات للمراحل التعليمية مقارنة بما ينبغي أن يتم إكماله في سنهم			
الإنفاق على التعليم			
الإنفاق على الدواء			
الحصول على الخدمات الطبية			
وجود تأمين صحي للعائلة			
كمية الملابس للشخص الواحد			
نوعية ملابس الأسرة			
ملكية الأصول (باستثناء الأراضي)			
ملكية الأراضي			
إستخدام الطاقة الشمسية			
الوصول إلى الكهرباء			
مصادر مياه الشرب			
نوع المراحيض المستخدمة			
الحالة العامة للمنزل (البلاط والسقف والجدران)			
الشعور بالإستقلال			
الإنسجام داخل العائلة			
الحالة المزاجية فيما يخص القدرة على تلبية إحتياجات العائلة			
المشاركة في إتخاذ القرارات التي تخص العائلة			
التأثير في إتخاذ قرارات تخص المجتمع			

معلومات عامة

38. العمر؟_____

39. الجنس؟

- ذكر
- أنثى

40. الحالة الزوجية؟

- أعزب/عزباء
- متزوج/ة

41. هل أنت لاجئ/ة فلسطيني/ة ؟

- لاجئ/ة مسجل/ة
- لاجئ/ة غير مسجل/ة
- غير لاجئ/ة

42. هل تعرف كيف تقرأ/ين ؟

- نعم
- لا

43. ما أعلى تحصيل علمي حصلت/ي عليه؟

- غير متعلم
- أقل من تعليم إبتدائي
- تعليم إبتدائي
- توجيهي
- كلية
- جامعة

44. ما عدد أفراد عائلتك/ي (بما في ذلك نفسك/ي)؟_____

45. هل تحسن وصول عائلتك/ي للمؤسسات التعليمية منذ العام 2013 نتيجة تغيير مكان المسكن أو نتيجة إفتتاح مدارس أو مراكز تعليمية بالقرب من مكان سكنك/ي؟

- نعم
- لا

46. هل تحسن وصول عائلتك/ي للمنشآت الطبية منذ العام 2013 نتيجة تغيير مكان المسكن أو نتيجة إفتتاح مراكز طبية بالقرب من مكان سكنك/ي؟

- نعم
- لا

47. كم عدد مصادر دخل عائلتك/ي؟_____

48. هل تعرضت/ي لصدمة خارجية (سواء إيجابية أو سلبية) منذ العام 2013 أدت إلى التأثير على أوضاع العائلة المالية؟

- نعم
- لا

الرجاء إضافة أي تعليق أدناه:

_____

_____

شكرا جزيلاً على وقتك

Appendix B : Regression Diagnostics

This appendix presents the regression results before omitting outliers and influential observations. It also presents the results of tests used to assess the validity of estimated regression models. These include diagnostic plots for detecting outliers and influential observations and tests for multicollinearity.

B.1 Regression Results Before Omitting Outliers and Influential Observations

Table B.1 presents the results of eight regression models examining the impact of microcredit on household welfare variables and Table B.2 presets the results of three additional regression models that examine the impact of microcredit on business development. These logistic regression results were obtained before the omission of any outlier or influential observation.

B.2 Outlier and Influence Diagnostic Plots

Outlier and influence diagnostic plots were generated for each of the regression models used in this research. For each model, plots of standardized Pearson residuals and Pregibon's dbeta points against predicted probabilities and against each other were generated.[47] The plots for each logistic regression model are presented under Figures B.1 – B.11.

B.3 Multicollinearity Diagnostics

The VIF and tolerance values were obtained to test for multicollinearity among the different sets of variables employed in the logistic regression models. The VIF values in Table B.3

[47] The standardized Pearson residuals are plotted against the predicted probabilities to detect residuals with high absolute values which appear as extremes on the left and right of the plot. Pregibon's dbetas are plotted to examine observations that stand out in the plot with the highest values of dbeta. The leverage statistics (standardized Pearson residuals and Pregibon's dbeta) are then plotted against each other to identify influential observations with high dbeta values.

show that the independent variables used in the regression models examining the impact of microfinance on income, consumption expenditure, nutrition, non-land asset holdings, housing conditions, and social empowerment do not have nearly perfect linear relationships among each other. Given that none of the VIF values exceeds five, none of the independent variables was omitted for multicollinearity.

New VIF values were obtained and examined after adding an additional independent variable to the model for education, which is *improved access to educational facilities*. The VIF values presented in Table B.4 show that the independent variables do not have perfectly linear relationships among each other and therefore, all of the independent variables are retained in the model. Similarly, new VIF values were computed and examined after introducing *improved access to health facilities* to the model on health. The results in Table B.5 confirm the absence of multicollinearity.

The same diagnostic technique was applied to test for multicollinearity among variables employed in the logistic regression models testing the impact of microfinance on business development in terms of sales, profits and capital. The results presented in Table B.6 show that there is no multicollinearity, and thus none of the variables was omitted.

Table B. 1: Logistic Regression Results Including Outliers and Influential Observations - Household Welfare

Variable	*Income*	*Consumption*	*Nutrition*	*Education*	*Health Care*	*Non-Land Assets*	*Housing Conditions*	*Social Empowerment*
	OR (Robust SE)	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**	**OR (Robust SE)**
Log(Value of Microfinance Loans)	0.02*** (0.03)	0.02*** (0.03)	0.57 (0.49)	0.19 (0.20)	0.03** (0.05)	0.57 (0.58)	0.70 (0.68)	0.14* (0.16)
Years in Microfinance	1.47 (0.35)	1.47 (0.35)	0.89 (0.13)	1.01 (0.17)	0.80 (0.12)	1.17 (0.18)	1.30 (0.30)	1.95** (0.54)
Number of Microfinance Loans	1.67 (0.57)	1.67 (0.57)	0.98 (0.19)	1.10 (0.27)	1.33 (0.30)	1.16 (0.27)	1.61 (0.65)	0.87 (0.23)
Interest Rate	0.00* (0.00)	0.00* (0.00)	0.91*** (0.02)	0.96* (0.02)	0.96** (0.02)	0.01 (0.06)	0.88*** (0.04)	0.89*** (0.02)
Access to Other Sources of Funding	0.47 (0.35)	0.47 (0.35)	0.78 (0.40)	0.45 (0.28)	0.87 (0.59)	1.10 (0.57)	1.04 (0.61)	0.73 (0.50)
Exposure to External Shocks	5.63** (3.91)	5.63** (3.91)	0.93 (0.47)	0.81 (0.42)	1.03 (0.57)	0.77 (0.39)	0.50 (0.27)	2.63 (1.70)
Female	5.28*** (3.42)	5.28*** (3.42)	1.82 (0.96)	2.17 (1.37)	5.75** (4.30)	0.65 (0.34)	0.72 (0.42)	0.72 (0.43)
Single	0.29* (0.20)	0.29* (0.20)	0.89 (0.50)	3.43* (2.24)	0.70 (0.42)	0.65 (0.36)	0.55 (0.28)	0.92 (0.52)
Refugee	1.07 (1.01)	1.07 (1.01)	0.60 (0.39)	0.66 (0.42)	1.23 (0.83)	0.17** (0.13)	0.17*** (0.11)	0.12*** (0.09)
Business Loan	16.78*** (12.63)	16.78*** (12.63)	4.13*** (2.22)	0.87 (0.55)	2.64 (1.80)	1.35 (0.70)	1.02 (0.63)	2.32 (1.63)
Improved Access to Educational Facilities	-	-	-	5.08*** (3.09)	-	-	-	-
Improved Access to Health Facilities	-	-	-	-	21.49*** (14.64)	-	-	-
Age	0.93 (0.04)	0.93 (0.04)	1.01 (0.04)	0.98 (0.04)	1.00 (0.04)	0.95 (0.03)	1.00 (0.04)	1.08 (0.07)
Non-University Education	0.68 (0.42)	0.68 (0.42)	0.57 (0.30)	1.06 (0.58)	0.73 (0.48)	1.05 (0.55)	1.27 (0.65)	0.46 (0.31)
Log(Average Household Income)	3.64 (7.87)	3.64 (7.87)	2.24 (3.00)	4.13 (5.65)	2.54 (4.15)	2.99 (4.28)	0.58 (0.95)	0.21 (0.40)
Household Size	0.97 (0.14)	0.97 (0.14)	0.93 (0.09)	0.82* (0.09)	0.91 (0.14)	0.87 (0.09)	0.83 (0.10)	0.94 (0.13)
Constant	186,900 (1,728,132)	186,900 (1,728,132)	0.45 (1.85)	4.10 (17.03)	4,453.38* (19,345.35)	1.70 (8.03)	56.04 (300.42)	32,658.44 (212,548.70)
Number of Observations	103	103	103	103	102	103	103	103
Wald Chi-Squared	27.66**	27.66**	36.23***	35.22***	44.59***	11.51	33.07***	53.41***

Source: Thesis analysis.

Notes: * denotes 10 percent level of significance, ** denotes 5 percent level of significance, and *** denotes 1 percent level of significance.

- means that variable is not included in the model.

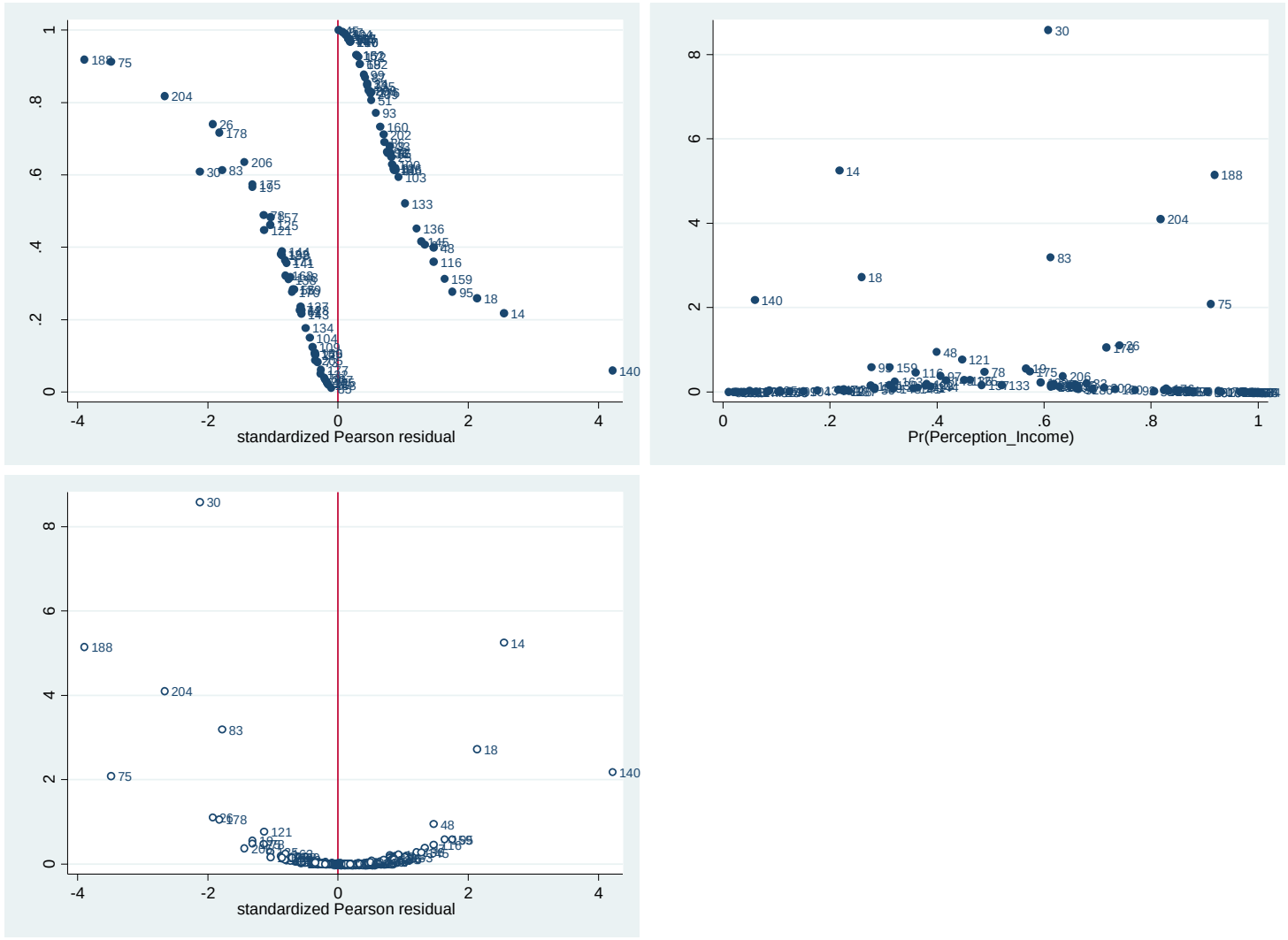
Table B. 2: Logistic Regression Results Including Outliers and Influential Observations – Business Development

Variable	*Sales*	*Profits*	*Capital*
	OR (Robust SE)	**OR (Robust SE)**	**OR (Robust SE)**
Log(Microfinance Loans Value)	1.41 (2.92)	2.15 (2.69)	0.70 (0.97)
Years in Microfinance	1.70** (0.37)	1.57 (0.55)	1.36* (0.22)
Interest Rate	$1.87 \times 10^{+11}$ $(3.75 \times 10^{+12})$	0.77*** (0.03)	1.12 (0.08)
Years in Business	0.88 (0.10)	0.87 (0.14)	0.99 (0.10)
Informal Business	0.77 (0.64)	4,626.34*** (5,058.89)	1.45 (1.14)
Risk-Avert	0.44 (0.35)	0.41 (0.40)	0.23** (0.17)
Constant	0.09 (0.85)	0.14 (0.66)	15.60 (79.43)
Number of Observations	69	67	70
Wald Chi-Squared	8.28	96.13***	10.06

Source: Thesis analysis.

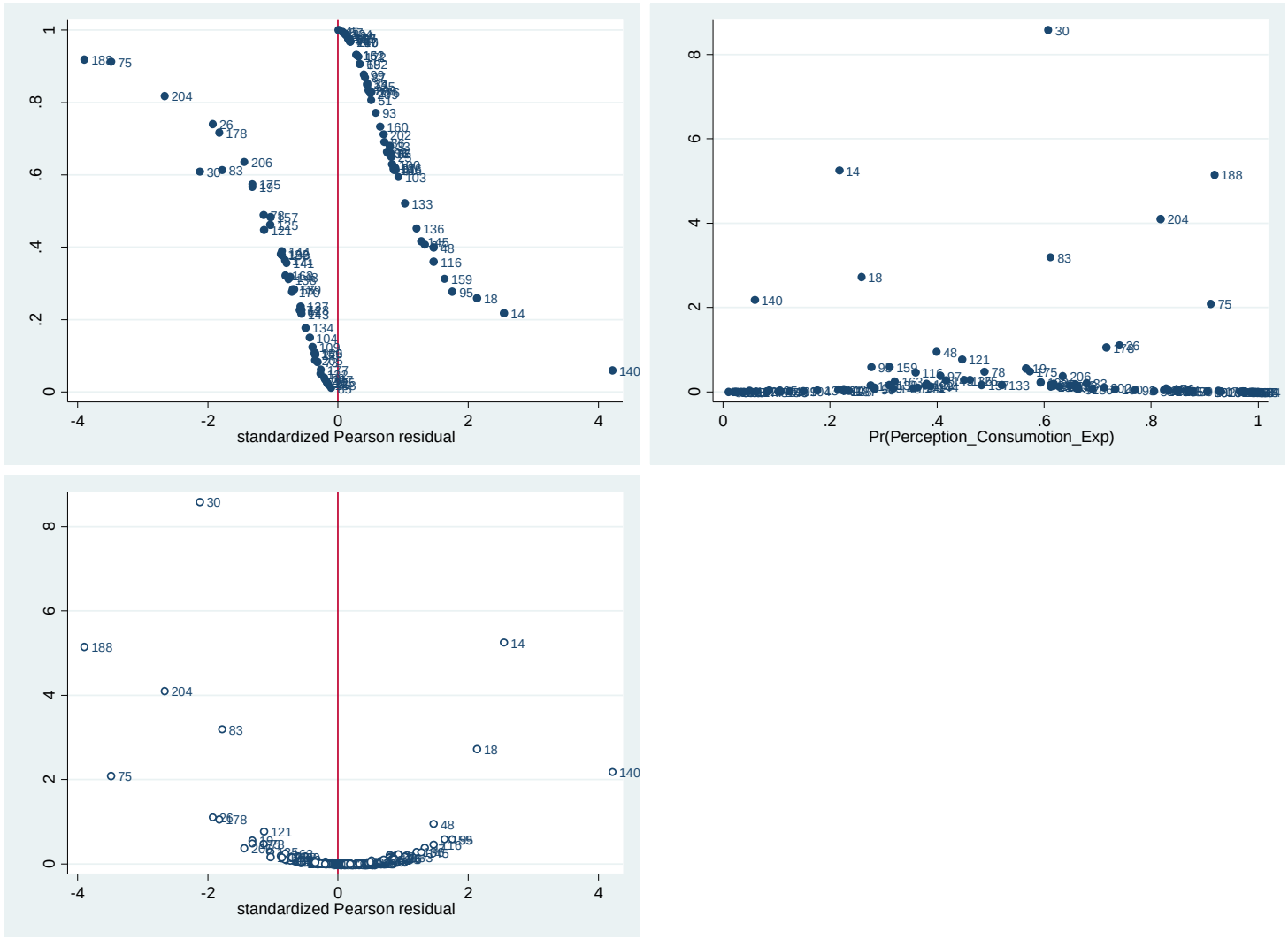
Notes: * denotes 10 percent level of significance, ** denotes 5 percent level of significance, and *** denotes 1 percent level of significance.

Figure B. 1: Outlier and Influence Diagnostic Plots – Income



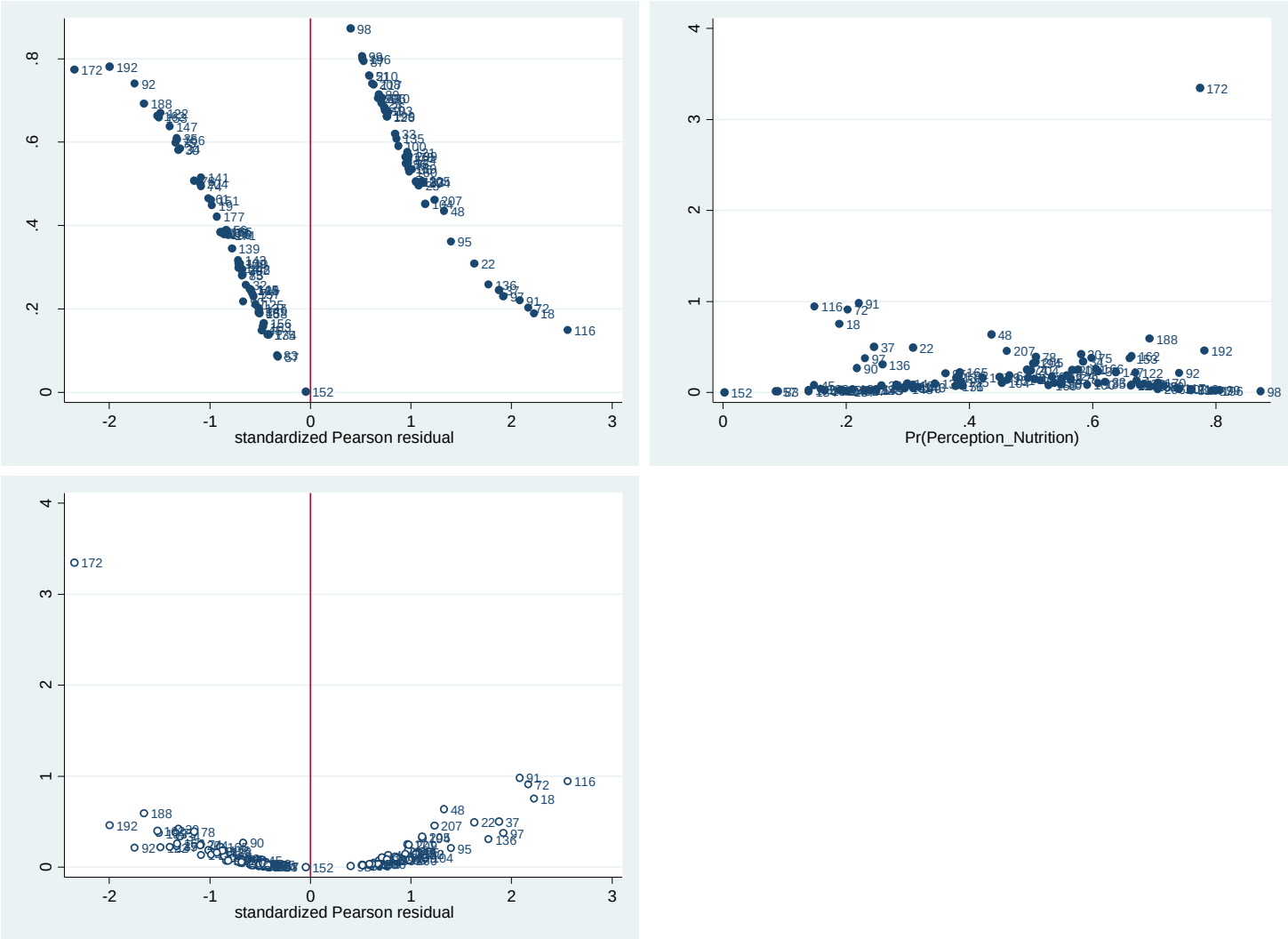
Source: Thesis analysis.

Figure B. 2: Outlier and Influence Diagnostic Plots – Consumption Expenditure



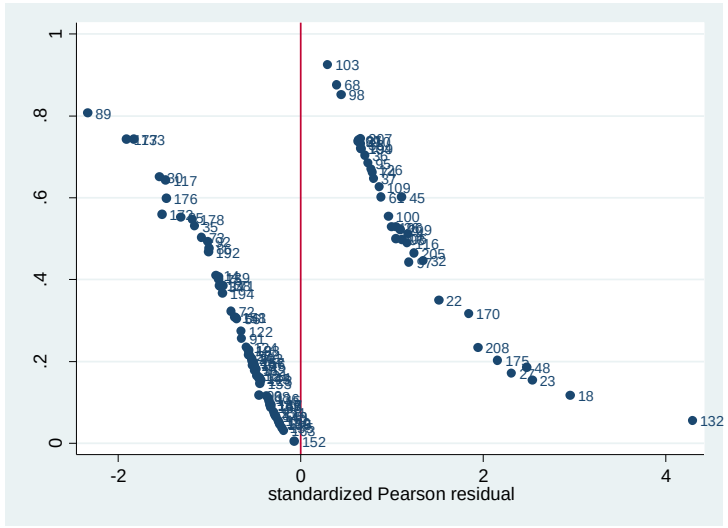
Source: Thesis analysis.

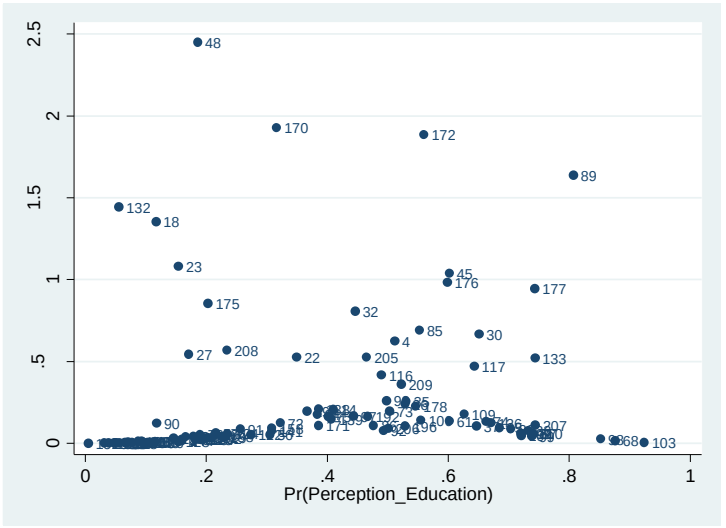
Figure B. 3: Outlier and Influence Diagnostic Plots - Nutrition

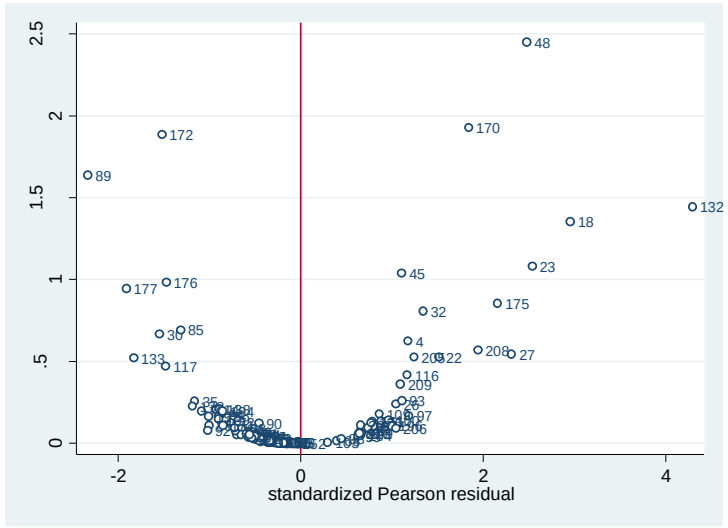


Source: Thesis analysis.

Figure B. 4: Outlier and Influence Diagnostic Plots - Education

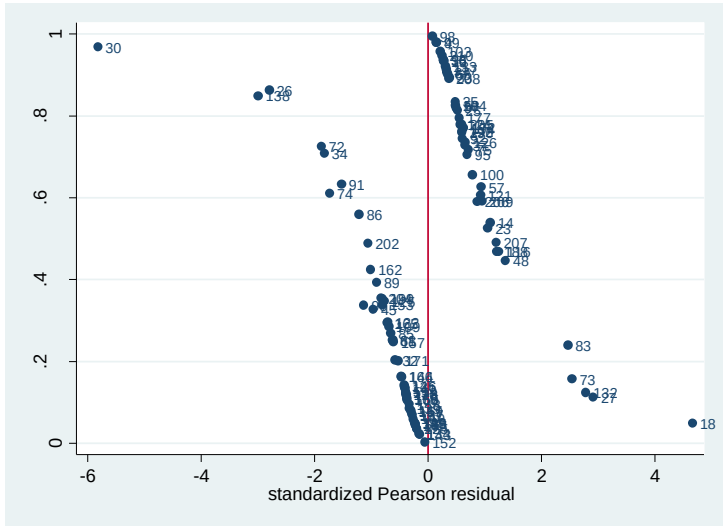


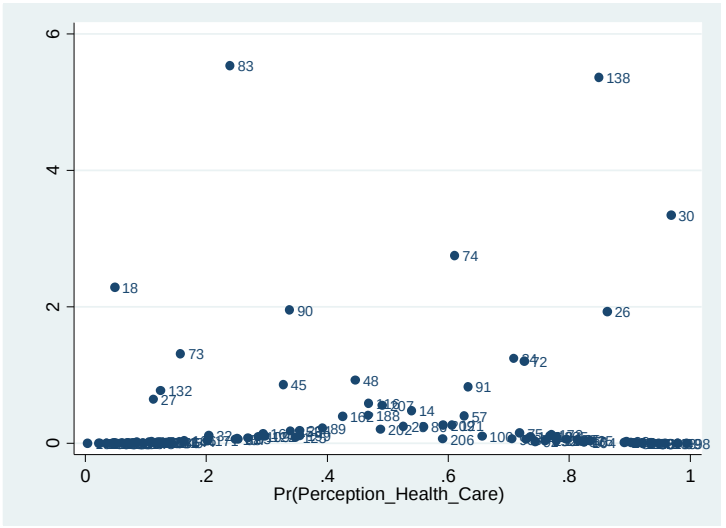


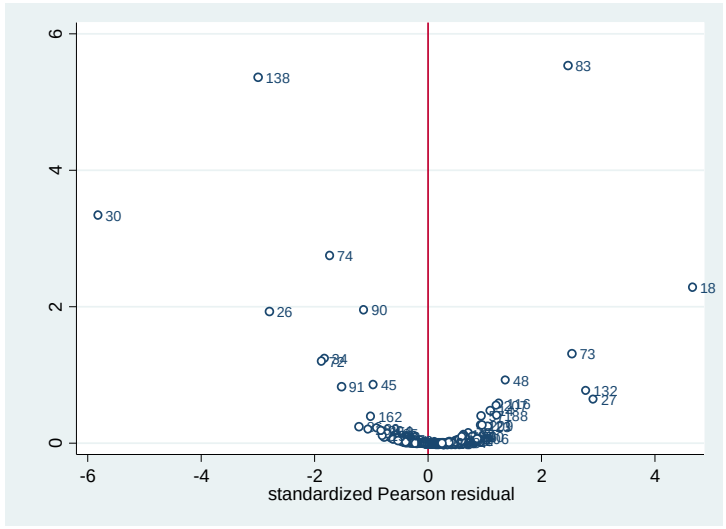


Source: Thesis analysis.

Figure B. 5: Outlier and Influence Diagnostic Plots – Health Care

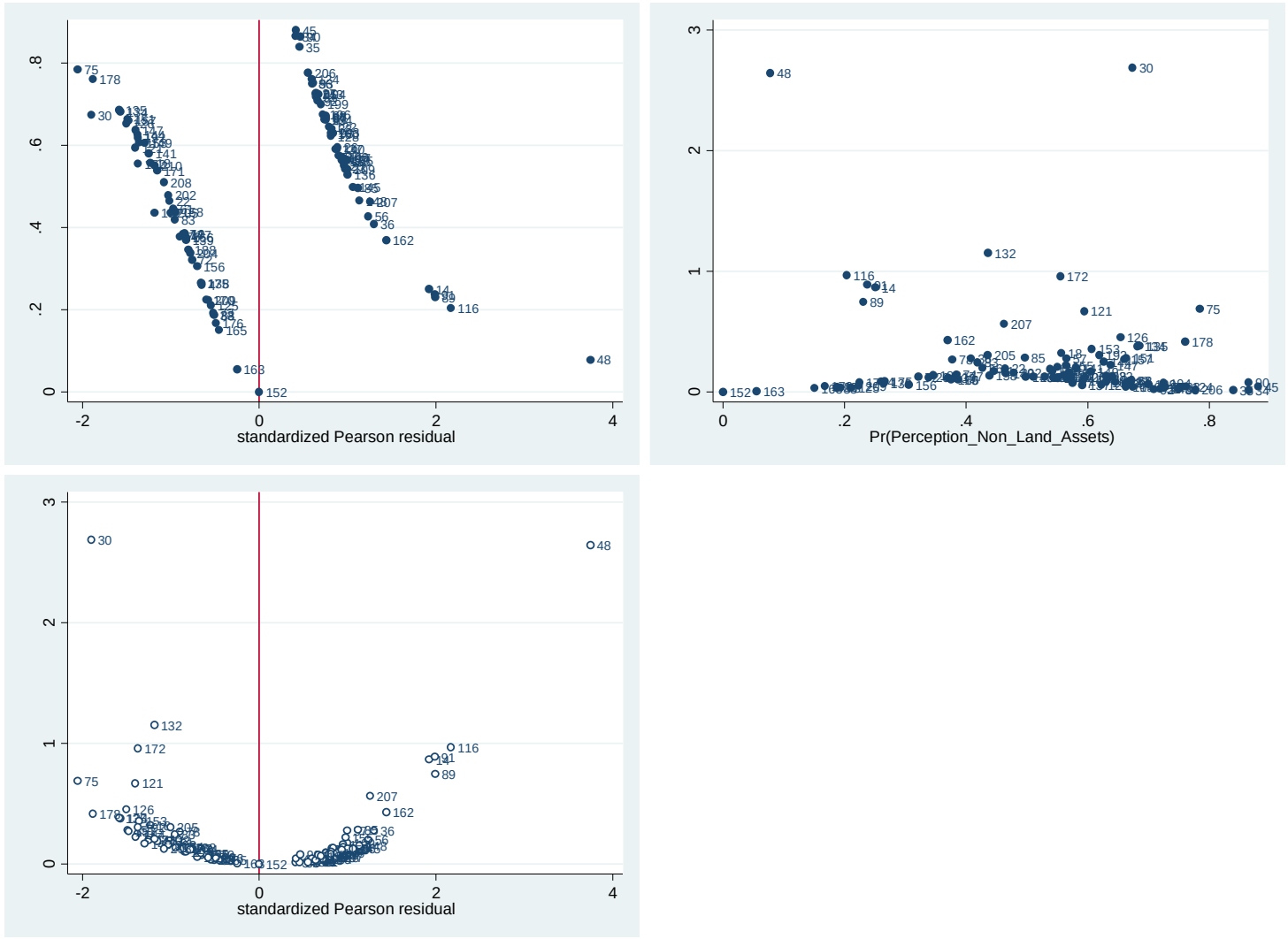






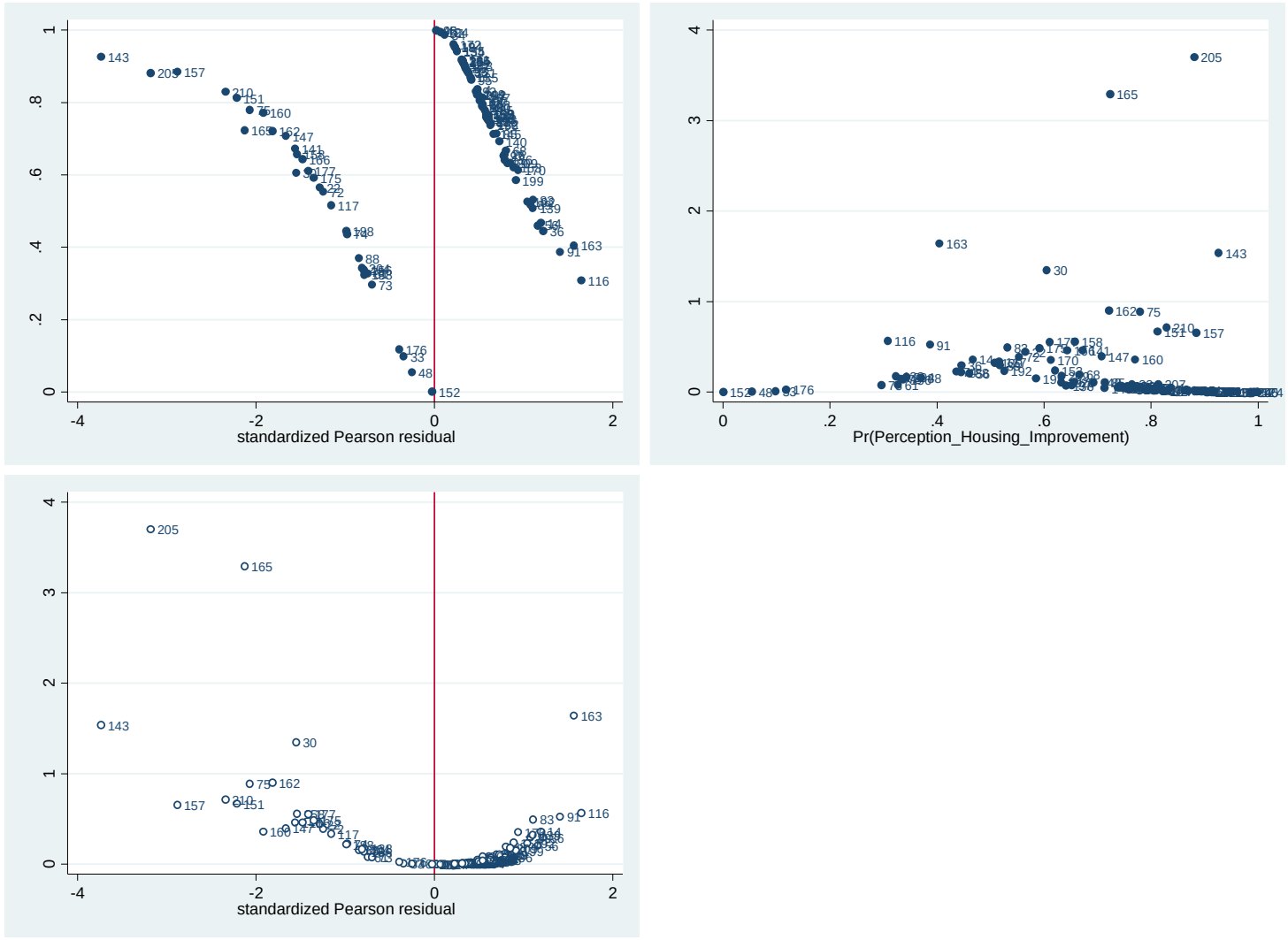
Source: Thesis analysis.

Figure B. 6:Outlier and Influence Diagnostic Plots - Non-Land Assets



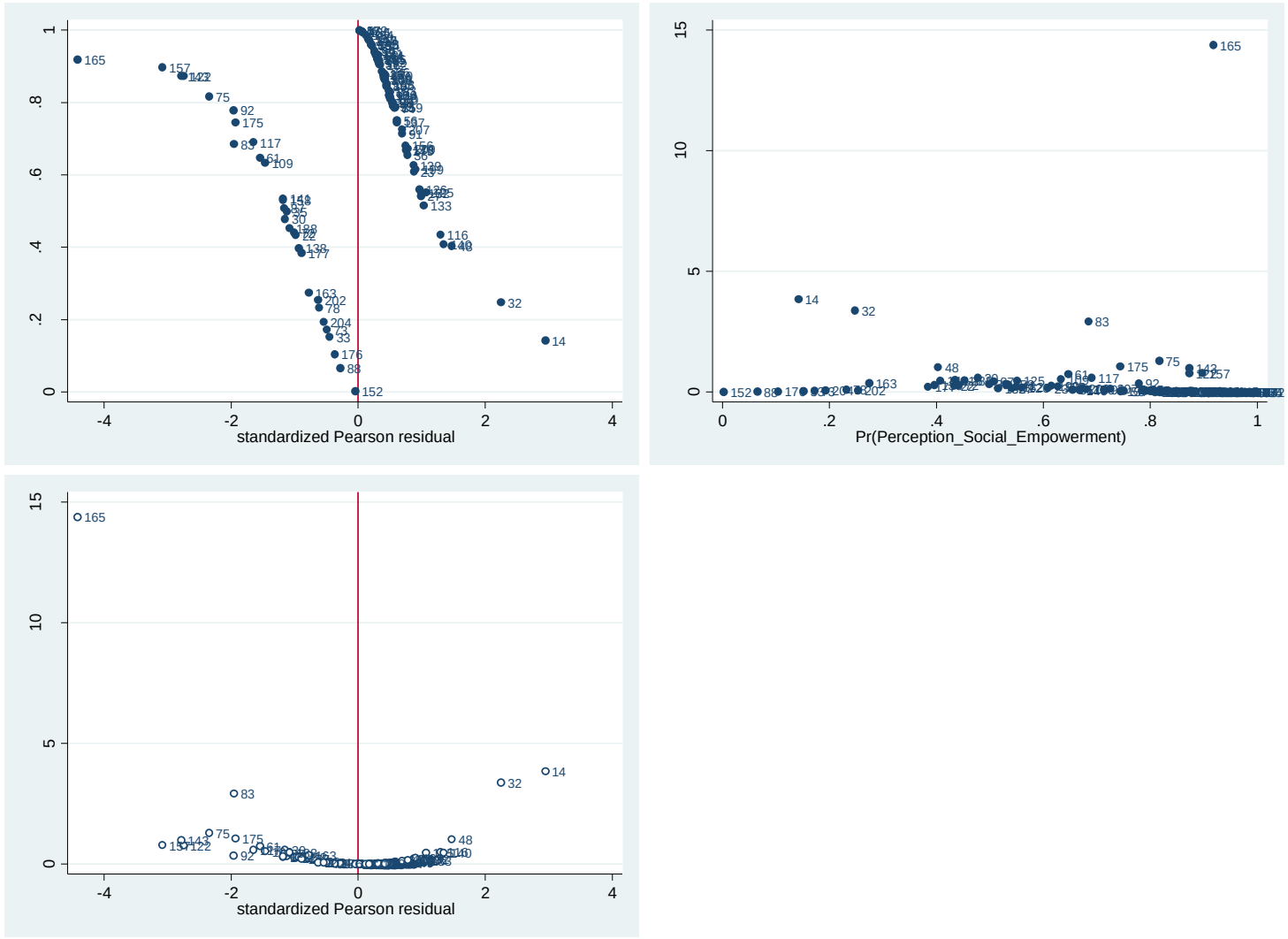
Source: Thesis analysis.

Figure B. 7: Outlier and Influence Diagnostic Plots - Housing Conditions



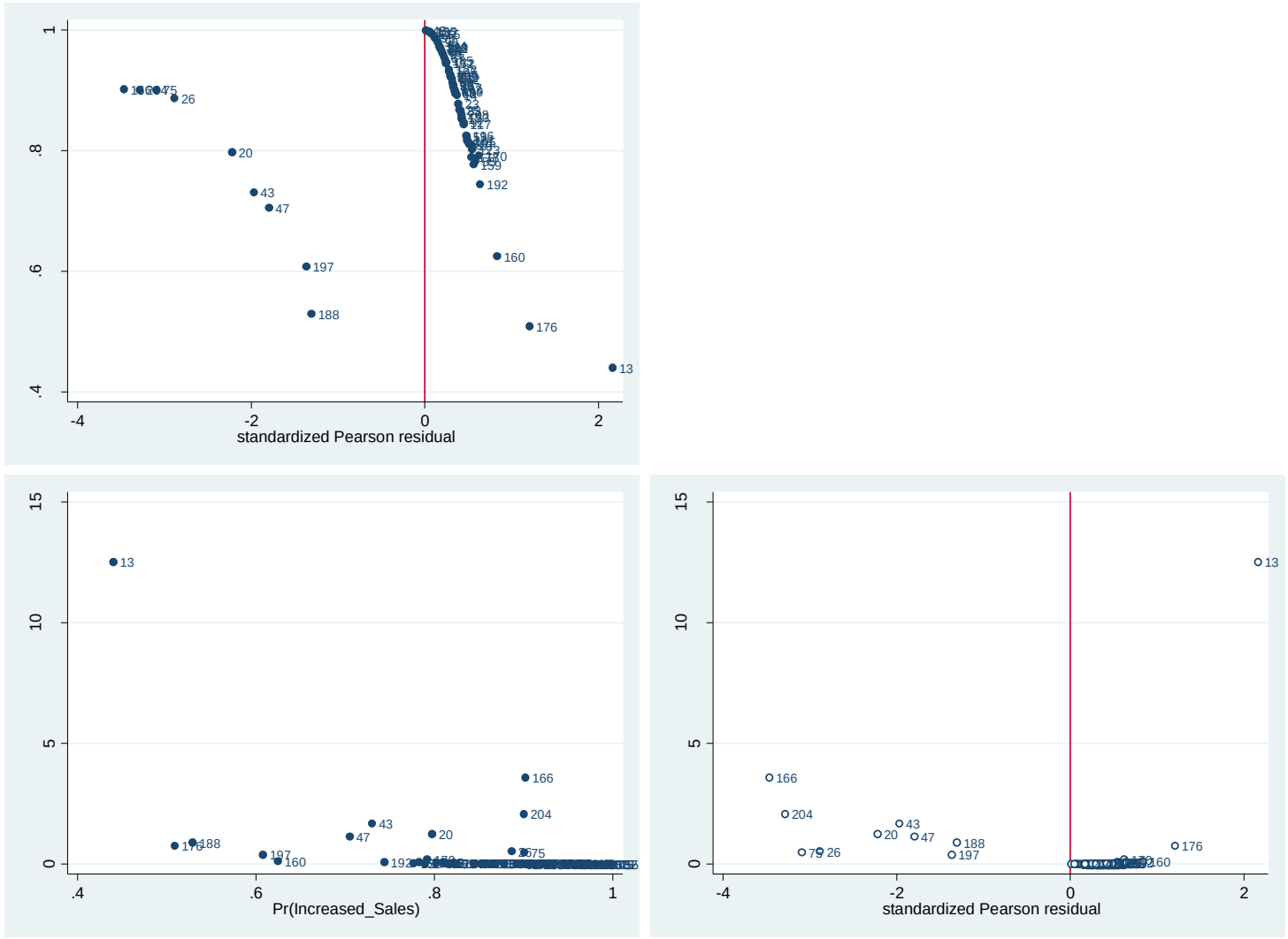
Source: Thesis analysis.

Figure B. 8: Outlier and Influence Diagnostic Plots - Social Empowerment



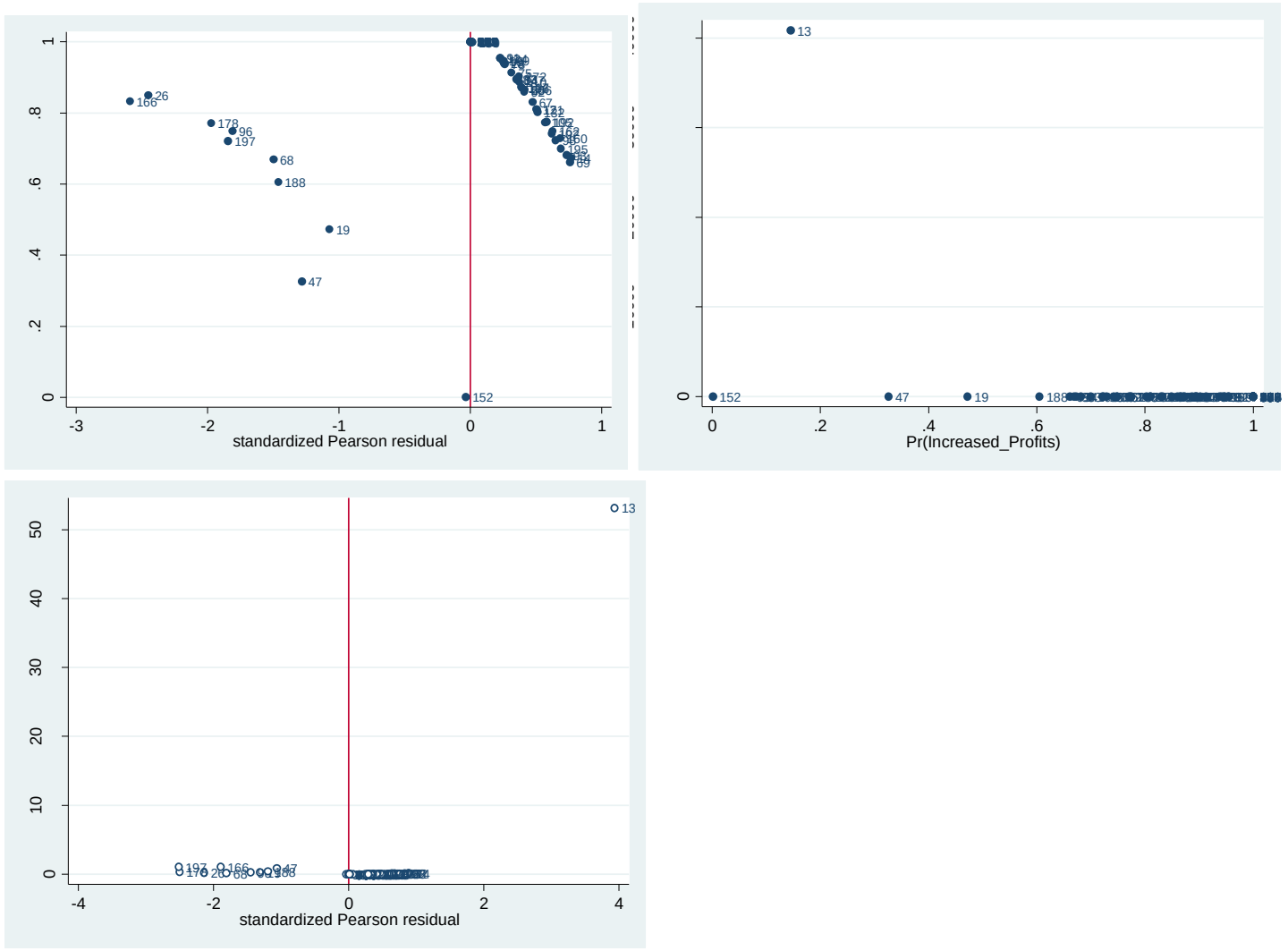
Source: Thesis analysis.

Figure B. 9: Outlier and Influential Diagnostic Plots - Sales



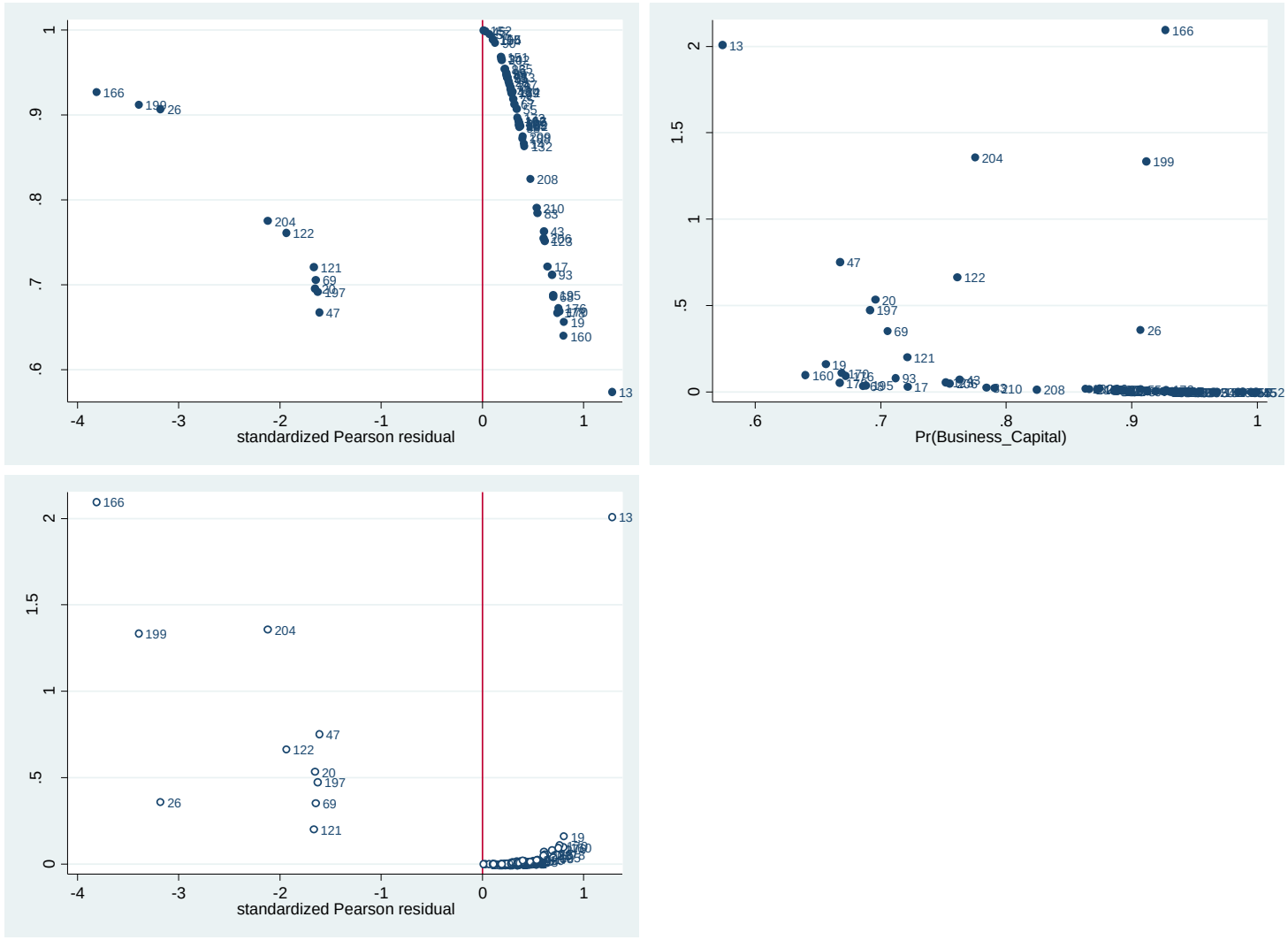
Source: Thesis analysis.

Figure B. 10: Outlier and Influential Diagnostic Plots - Profits



Source: Thesis analysis.

Figure B. 11: Outlier and Influence Diagnostic Plots - Capital



Source: Thesis analysis.

Table B. 3: Results of Multicollinearity Diagnostic Test for Household Welfare Models

Variable	VIF	Tolerance
Log(Microfinance Loans Value)	2.31	0.43
Years in Microfinance	3.53	0.28
Number of Microfinance Loans	3.17	0.32
Interest Rate	1.09	0.92
Access to Other Sources of Funding	1.40	0.71
Exposure to External Shocks	1.17	0.85
Female	1.38	0.72
Single	1.20	0.84
Refugee	1.15	0.87
Business Loan	1.48	0.68
Age	1.84	0.54
Non-University Education	1.36	0.73
Log(Average Household Income)	1.73	0.58
Household Size	1.25	0.80

Source: Thesis Analysis

Notes: This diagnostic test applies to models examining perceptions on income, consumption expenditure, nutrition, non-land assets, housing conditions and social empowerment.

Table B. 4: Results of Multicollinearity Diagnostic Test for Model on Education

Variable	VIF	Tolerance
Log(Microfinance Loans Value)	2.32	0.43
Years in Microfinance	3.53	0.28
Number of Microfinance Loans	3.24	0.31
Interest Rate	1.10	0.91
Access to Other Sources of Funding	1.41	0.71
Exposure to External Shocks	1.18	0.85
Female	1.40	0.72
Single	1.22	0.82
Refugee	1.15	0.87
Business Loan	1.56	0.64
Improved Access to Educational Facilities	1.29	0.78
Age	1.88	0.53
Non-University Education	1.40	0.71
Log(Average Household Income)	1.79	0.56
Household Size	1.25	0.80

Source: Thesis Analysis

Table B. 5: Results of Multicollinearity Diagnostic Test for Model on Health

Variable	VIF	Tolerance
Log(Microfinance Loans Value)	2.38	0.42
Years in Microfinance	3.66	0.27
Number of Microfinance Loans	3.24	0.31
Interest Rate	1.09	0.91
Access to Other Sources of Funding	1.41	0.71
Exposure to External Shocks	1.17	0.85
Female	1.39	0.72
Single	1.26	0.80

Variable	VIF	Tolerance
Refugee	1.17	0.85
Business Loan	1.53	0.65
Improved Access to Health Facilities	1.34	0.75
Age	1.86	0.54
Non-University Education	1.45	0.69
Log(Average Household Income)	1.81	0.55
Household Size	1.28	0.78

Source: Thesis Analysis

Table B. 6: Results of Multicollinearity Diagnostic Tests for Business Models

Variable	VIF	Tolerance
Log(Microfinance Loans Value)	1.59	0.63
Years in Microfinance	2.37	0.42
Interest Rate	1.08	0.92
Years in Business	1.71	0.59
Informal Business	1.09	0.92
Risk-Avert	1.07	0.94

Source: Thesis Analysis

Notes: These include models examining the impact of microfinance on business sales, profits and capital.