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The Impact of Microcredit on Poverty in Pakistan

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Declaration

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Table of Contents

List of Tables

List of Figures

Abstract

Microfinance Institutions (MFIs), which provide small loans to poor households, are growing rapidly. Governments and donors across the globe are spending billions of dollars to increase the outreach of MFIs. Supporters of microfinance claim that it enables poor households to raise their income and living standard by investing in small businesses. This increase in income helps the poor to increase their health and education expenditures, accumulate capital and exit poverty.

These claims of the proponents of microfinance, however, are not always supported by empirical evidence. Empirical research on the effectiveness of microfinance is mixed. Some of the studies find that microfinance has positive impacts on household outcomes while others find no impacts. Research also suggests that MFIs often fail to lend to very poor households.

This study investigates the impact of microfinance in Pakistan. It attempts to determine the poverty status of microfinance clients. Data were collected from the clients of three Pakistani MFIs. Data were also collected from non-borrowers. Four types of households are included in the sample, which include current borrowers, pipeline borrowers, dropouts and non-borrowers. With this unique data set, it is possible to control for some of biases that arise in the impact assessment of microfinance.

The results suggest that very few microfinance clients in Pakistan are very poor. The results also suggest that microfinance does have some positive impacts on household outcomes. However, the impact is not statistically significant for any of the outcome variables except one. The only statistically significant and positive impact is found on subjective poverty in one of the models. On the basis of the results, the study concludes that microfinance is not a “panacea” for poverty alleviation.

Chapter 1: Introduction

1.1 Background

Microfinance Institutions (MFIs), which provide small loans to poor households, are growing rapidly these days. In 2007, these institutions provided loans to approximately 150 million clients worldwide (MSC, 2009). Most MFIs lend to women on a priority basis. Its proponents portray microfinance as a "rock star" in the poverty alleviation debate and international donors and governments are spending billions of dollars to establish and expand microfinance institutions all over the world. To acknowledge the contribution of microfinance in reducing poverty, the Grameen Bank and its founder Professor Muhammad Yunus were awarded the Noble Peace Prize in 2006.

Like many other developing countries, the popularity of microfinance is also increasing in Pakistan. With donors' support, the government of Pakistan launched various programmes to promote microfinance in Pakistan. As a first major step in this direction, Pakistan launched the Microfinance Sector Development Programme (MSDP) in 2000, with the financial support of the Asian Development Bank (ADB). The establishment of MSDP led to the establishment of Khushhali Bank Limited (KBL) – the second largest provider of microfinance in Pakistan in 2009.

Despite the widespread acceptance of the role of microfinance in poverty reduction and Professor Muhammad Yunus' assertion that "we will create a poverty museum by 2030", empirical evidence on the impact of microfinance on poverty is

mixed. For example, Pitt and Khandker (1998) show that microfinance has a statistically significant positive impact on household outcomes. However, Morduch (1998) refuted these findings using the Pitt and Khandker (1998) data. Two recent studies, Banerjee et al. (2009) and Karlan and Zinman (2009), which use randomized experiments to assess the impact of microfinance, also conclude that microfinance does not have any significant impact on households. Similarly in Pakistan, the research shows that microfinance has a positive impact on some of the household outcomes while it has no impact on some others.

Moreover, some empirical research challenges the poverty reduction claims on the grounds that most of the borrowing households are not very poor to start with. For example, Hulme (1999) concludes that in East Africa most of the microcredit borrowers are non-poor and moderate poor. Similarly, in Bolivia, Philippines, Uganda and Bangladesh, most of the microcredit clients are moderate poor and vulnerable non-poor (Cohen & Sebstad, 2000). There is also some evidence that microfinance institutions deliberately exclude very poor households because they believe that the very poor are not credit worthy.

Given the fact that donors and governments are spending huge sums of money to promote microfinance around the world, there is a need to carefully investigate the benefits of microcredit. From a resource allocation perspective this investigation is vital because the money spent on microfinance could be spent on other development activities e.g. the improvement of health and education services. Therefore, this study attempts to investigate who are microcredit clients in Pakistan i.e. whether they are very poor, poor or non poor. Second, it attempts to find the

impact of microcredit on household income, expenditures, assets, consumer durables and poverty. However, before gauging the impact of microfinance, a review of the Pakistani microfinance sector is presented.

Hence the objectives of this study are:

- To review the microfinance sector of Pakistan.
- To identify the poverty status of microfinance clients in Pakistan.
- To assess the impact of microfinance on borrowing households in Pakistan.

The rest of the chapter is structured as follows. Section 1.2 presents is an introduction to the key issues in microfinance. Section 1.3 examines the global outreach of microfinance. An overview of the dissertation is presented in Section 1.4.

1.2 Microfinance: An Introduction

Microfinance is the provision of financial services to poor households. The most important services include small loans without collateral (usually called microcredit)[1], saving facilities and insurance. Generally, microcredit loans are provided to invest in small businesses, although some microfinance institutions provide loans for housing and emergency consumption purposes. Potential borrowers have to form groups by self selecting their group members before they can receive a loan. Although the loan is provided to an individual, every group member is responsible for the repayment of the loans of the other group members. This is

[1] In this thesis we use Microcredit and Microfinance interchangeably.

termed as “joint liability”. All the group members are denied future credit if any member of the group fails to repay their loan.

Microfinance, in its present form, was started in Bangladesh in 1976 by Muhammad Yunus (a professor of economics) as an experimental project. Yunus found that middlemen were exploiting local craftswomen because the women did not have necessary capital to buy raw material and had no access to formal sources of credit. The middlemen provided raw material to the craftswomen, on the condition that final products would only be sold to them, at a lower than market price. Shocked by the exploitation of the craftswomen, Yunus lent some craftswomen from his own pocket. Later on he persuaded a local bank to provide loans to the craftswomen on his personal guarantee. In 1983, Yunus founded the Grameen Bank, which is now the most famous microfinance institution of the world (Yunus & Jolis, 2003).

Today MFIs are lending to millions of clients around the world. The majority of the clients are women. MFIs claim that they lend to households that are poor and are generally denied credit from formal financial institutions. Despite the fact that most of the borrowers are poor and loans are granted without any collateral, the repayment rate of microcredit loans is above 90 percent (de Aghion & Morduch, 2005). The success of MFIs in terms of lending to poor households, who are denied credit by formal banks because of moral hazard and adverse selection problems, is believed to be the result of the special lending mechanism used by MFIs. The important features of this lending mechanism include joint liability, progressive lending, compulsory savings, regular meetings of borrowers with MFI staff, loan

repayment by frequent installments, lending to women and economies of scale. These features are described in more detail below.

1.2.1 Joint Liability

To solve the lack of collateral problem, MFIs mostly lend through the group lending method. In a group lending method all the group members are responsible for the repayment of the loans of the other group members. If one member of a group fails to repay his/her loan, other group members have to pay for the defaulting member. This feature of microfinance is often called "joint liability" and thought to be the major factor behind the high repayment rate of microfinance loans.

It is argued that as the group members are responsible for each other, they use local information about one another in selecting the group members and avoid selecting members who are assumed to be "bad credit risks". Second, joint liability induces the borrowers to monitor each other's projects. Because all the group members monitor the investment of the other group members (because of their own stake in case of a loss), each group member invests in projects with high degree of success. Finally, all the group members belong to the same neighbourhoods and they can apply social sanctions on the defaulting members to ensure the repayment of the loan. These factors help to overcome the problems of adverse selection and moral hazard that formal banks often face and consequently the repayment rate improves.

Theoretical studies by Ghatak (1999, 2000) show that when borrowers are offered joint liability contracts, and have information about one another , they use this information in selecting group members. Because borrowers use local

information, they avoid selecting risky borrowers. This results in high repayment rate, since risky borrowers are excluded from lending.

Wenner (1995) found that in Costa Rica, the credit groups which have a formal screening mechanism, in the form of a written code, have higher repayment rates. Moreover, Sharma and Zeller (1997), in their study of credit groups in Bangladesh, found that when the groups are formed by self selection of the members, repayment rate is higher compared to when the groups are formed by MFI staff. These findings strengthen the view that group members use information about each other in selecting the group members and as a result the repayment rate improves.

Stiglitz (1990) shows that when borrowers are jointly liable, the repayment rate increases compared to individual lending since borrowers have incentives to monitor each other. As they are being monitored, they do not invest in risky projects which have a lower probability of success. The author further argues that joint liability imposes extra costs on the borrowers. But with the joint liability banks offer lower interests rates and benefits of lowers interest rates are greater than the cost of joint liability.

Wydick (1999a) in his study of credit groups in Guatemala found that peer monitoring, measured by the knowledge of sales of the other group members and average distance between members' businesses, has a positive impact on loan repayment. These findings indicate that when the borrowers are jointly liable they monitor each other. This mitigates ex-ante moral hazard as borrowers do not invest in risky projects and repayment rates improve.

Besely and Coate (1995) show that when group members have strong social ties and if there is no ex-ante moral hazard, group lending results in higher repayment rates compared to lending to individuals. They argue that when one group member defaults, other members have to pay his/her loan. Those members who pay for the defaulting member become worse off and impose social penalties on the defaulting member. These penalties can be in the form of lack of cooperation in the future and reporting the default to other community members. Faced with the social penalties in addition to penalties from the bank, group members avoid defaulting and repayment rates improve. This mitigates ex-post moral hazard, a situation in which borrowers can refuse to repay even when their projects are successful, and repayment rates improve.

1.2.2 Progressive Lending

Progress lending is another important feature of microfinance that leads to high repayment rates. Microfinance institutions start lending with a small amount of loan and increase the loan amount after each loan cycle, depending upon the repayment record of the borrowers. Hence the borrowers have strong incentive to repay the loan as they expect to receive a larger loan after repayment.

For example, one of the MFIs in Pakistan, National Rural Support Programmes, increases the loan by a certain percentage after successful completion of each loan cycle of 5-6 months. A new loan application is generally processed within two to three weeks. As the borrowers know that they will receive a larger loan within two to three weeks of the repayment, they try hard to repay their loan and sometimes borrow from friends, relatives or even moneylenders.

The majority of MFIs follow similar practices. As Table 1.1 shows that in the Grameen Bank, the average amount of loan doubles in sixth loan cycle although the amount of increase is different for individual borrower as shown by borrower A, B and C, randomly selected from the sample. These figures were calculated from 1991-1992 samples of 30 Grameen Bank borrowers by de Aghion and Morduch (2005).

Table 1.1: Increase in Loan Size (Taka), Grameen Bank Bangladesh

No. of loans	Borrower A	Borrower B	Borrower C	Sample Average
1	2000	2000	3500	2124
2	2500	2500	4000	2897
3	3000	3000	3000	3656
4	3500	4000	4000	4182
5	4000	4000	5000	4736
6	4000	5000	4000	4983

Source: de Aghion and Morduch (2005)

Progressive lending not only creates incentives for borrowers to repay but it also provides lenders an opportunity to assess the riskiness of the borrowers. With the passage of time, the lenders know more about the borrowers and can lend larger amounts with confidence. Another advantage of the progressive lending is that it reduces the average cost of lending as in practice the cost of processing a loan of $100 or $500 to an individual borrower is the same. Therefore as the amount of loan increases, the average cost decreases and lenders can earn more profit (de Aghion & Morduch, 2005).

1.2.3 Compulsory Savings

Compulsory savings also play an important role in the high repayment rate of MFIs. Most of the MFIs require their clients to open a saving account with them or

with one of the local bank branches. Borrower groups are required to deposit a certain percentage of the loan in these saving accounts. Although borrowers can deposit money in these saving accounts, generally they cannot withdraw any amount without the permission of MFIs. Furthermore because of the joint liability, if one borrower fails to repay his/her loan, the whole group cannot withdraw their savings. Hence these savings function as collateral for MFIs and reduce the risk of default.

For example in Pakistan, National Rural Support Programme (NRSP) requires its borrowers to deposit 10 percent of the loan in their saving account before the disbursement of a loan. The borrowers are also expected to deposit savings during the fortnightly group meetings although it is not mandatory. Borrowers cannot withdraw these savings before the repayment of their loans. Even after the repayment of the loans, the borrowers have to seek permission from NRSP staff to withdraw these savings.

Similarly, the Grameen Bank also requires compulsory savings from its borrowers. According to de Aghion and Morduch (2005), in 2003 Grameen Bank borrowers had to deposit 5 to 50 taka (c.US$ 0.07-0.7) per week in their personal saving accounts. The amount of these savings depends on the amount of loan. Besides the above mentioned savings, 2.5 percent of the loan is also deducted and deposited in the saving account. An additional amount of 2.5 percent is deposited in a “special savings” account. Borrowers, who take a loan of more than 8000 taka (c.US$ 115), have to open a Grameen Pension Scheme account and have to deposit at least 50 taka monthly for five to ten years. Although the borrowers can withdraw

from personal saving accounts by visiting the Grameen Bank with their passbooks, they cannot withdraw from special saving accounts for the first three years.

This special mechanism of compulsory savings reduces the risk of default by borrowers as the borrowers lose their savings if they fail to repay their loan. One can argue that these savings are always less than the amount of the loan and cannot prevent the default. However, these savings become crucial when the other features of microfinance especially joint liability and progressive landing are considered. When some of the group members have repaid their loan, they have strong incentives to pressurize the other group members who have not paid their loan because in case of default they not only lose the subsequent loan but also lose their savings, which are used to clear the loans of the defaulting members.

1.2.4 Regular Meeting of Borrowers with MFI Staff

Most of the MFIs require their clients to meet regularly at a specified place, which is normally the house of one of the borrowers. MFI staff also attend these meetings. The frequency of these meetings varies from one institution to other. For example Grameen Bank borrowers meet weekly while in Pakistan NRSP requires its clients to meet fortnightly. In these meetings borrowers usually deposit their savings and make the loan installments. Moreover, these meetings provide an opportunity for MFI staff to monitor the borrowers. If MFI staff realize that any borrower group is in difficulty of repaying the loan, they can increase the monitoring of those groups.

In Costa Rica, Wenner (1995) found a positive relationship between non-payment of loans and MFI staff visits to borrowers. He suggests that regular meetings provide timely information about the financial circumstances of the

borrowers. If MFI staff notice that a group is in financial difficulty they increase their visits to that group. Hence regular meetings provide another advantage to MFIs that is not available to formal banks. For the formal banks these types of meetings can be costly as they provide individual loans. Microfinance institutions lower the cost of the meetings by lending to groups and attending the meetings of the groups instead of meeting with individual borrowers.

1.2.5 Loan Repayment by Frequent Installments

Microfinance institutions require their clients to repay the loan by frequent installments (i.e. weekly, fortnightly or monthly). For example, Grameen Bank borrowers repay their loan by weekly installments and the first installment is due immediately after the disbursement of a loan. MFIs in Russia and Eastern Europe also require their borrowers to pay by regular installments (de Aghion & Morduch, 2000, 2005). Similarly in Pakistan most of the MFIs require their clients to repay by monthly installments although some MFIs provide the option to repay after six months or a year.

Frequent installments also improve the repayment rate for a number of reasons. First, frequent installments provide an early warning system for MFIs. If any of the borrowers fail to repay a loan installment, it sends a warning signal to MFI staff and the staff can take necessary actions to recover this loan. Second, by requiring frequent and early installments, MFIs expect their borrowers to repay the loan from other sources of their income instead of relying on the income of the project for which the loan is disbursed. This mechanism ensures that the loan will be repaid even when the project is not successful. Third, the system of frequent

installment also provides an alternative to savings. For example, some borrowers have a regular source of income and they find it difficult to save because the money can be spent on other household expenditures. In these circumstances, regular installments provide the easiest way to save the money (de Aghion & Morduch, 2000, 2005).

The empirical evidence also suggests that that repayment by frequent installments improves the recovery rate. Silwal (2003) found that in Nepal delinquency rate, defined as the percentage of the loan paid after the due date, was 11 percent where the repayment was by weekly installments. However, the delinquency rate was 19.8 percent in case of lump sum repayment after 3-4 months. According to de Aghion and Morduch (2005), when BRAC experimented with fortnightly installments, its delinquency rate increased and it suspended the experiment. Hence, repayment by frequent instalments is a crucial mechanism employed by MFIs and boosts the repayment performance of MFIs.

1.2.6 Lending to Women

Women constitute the majority of microfinance clients worldwide and most MFIs lend exclusively to women. For example, in its early days, the Grameen Bank had both male and female borrowers. However, in the 1980s more female borrowers were recruited and by 2002, 95 percent were women (de Aghion & Morduch, 2005). Similarly in Pakistan some MFIs lend to women only.

Several arguments are presented in the favour of lending only to women. First, it is argued that lending to women is more beneficial for households compared to lending to men. Khandker (1998) finds that an additional 100 taka (c. US$ 1.4) of

loan to women leads to an 18 taka (c. US$ 0.25) increase in household expenditures while the same amount of loan to men leads to only a 11 taka (c. US$ 0.15) increase. This study also finds that Grameen Bank loans to women have a positive impact on schooling and nutrition of children, while the loans to men have no significant impact on the nutrition of children.

Second, it is argued that lending to women leads to female empowerment, which enhances women's status in the family. The empirical evidence on the impact of microfinance on female empowerment is inconclusive. Some of the studies (e.g. Hashemi, Schuler, & Riley, 1996; Pitt, Khandker, & Cartwright, 2006) conclude that microfinance leads to female empowerment while others (e.g. Goetz & Gupta, 1996; Rahman, 1999) find that microfinance does not have any impact on female empowerment.

Third, the evidence suggests that women are more reliable in terms of repayment. Hossain (1988), in his survey of Grameen Bank borrowers, found that 81 percent of women had no overdue payment while the corresponding figure for men was 74 percent. This suggests that by lending to women, MFIs can improve their repayment rates.

1.2.7 Economies of Scale

The group lending methodology allows MFIs to have economies of scale, which help to overcome high transaction costs. Instead of processing many individual small loan applications, microfinance institutions save time by processing a group loan application. They achieve further economies of scales by progressive lending. With progressive lending, the amount of loan increases after every loan

cycle. Total revenues also increase, although processing time remains the same. Hence, the average cost of lending decreases with the passage of time, which improves the profitability of MFIs.

1.3 Global Outreach of Microfinance

Microfinance industry is growing rapidly. However, the exact number of microfinance clients is not known. Various organisations estimate the number of microfinance clients and data are provided to these organisations by microfinance institutions voluntarily. As a result, many MFIs that do not report to any organisation are excluded from these estimates. According to Rhyne and Otero (2007, p. 92), "*there are several competing data sources, all incomplete and most based on self reporting. Each database reveals something slightly different about the scale of supply*". Despite the shortcomings of these datasets, one can get an approximate picture of microfinance industry worldwide.

A recent study by Gonzalez (2008) combines data maintained by three organisations and provides an estimate of worldwide microfinance clients. The three organisations that maintain the data include: (1) Microfinance Information Exchange (MIX), (2) Microcredit Summit Campaign (MCS) and (3) Inter American Development Bank (IADB). MIX and MCS maintain data reported by leading MFIs voluntarily. While IADB complied data of Latin American and Caribbean MFIs in 2005 and the data were updated in 2007. Most of the data in the study are for 2007. However, previous years' data have been used in some cases where recent data are

not available. As Table 1.2 shows that there are 2,420 MFIs worldwide with the total number of borrowers reaching to 100 million.

Table 1.2: Regional Distribution of MFIs and Borrowers

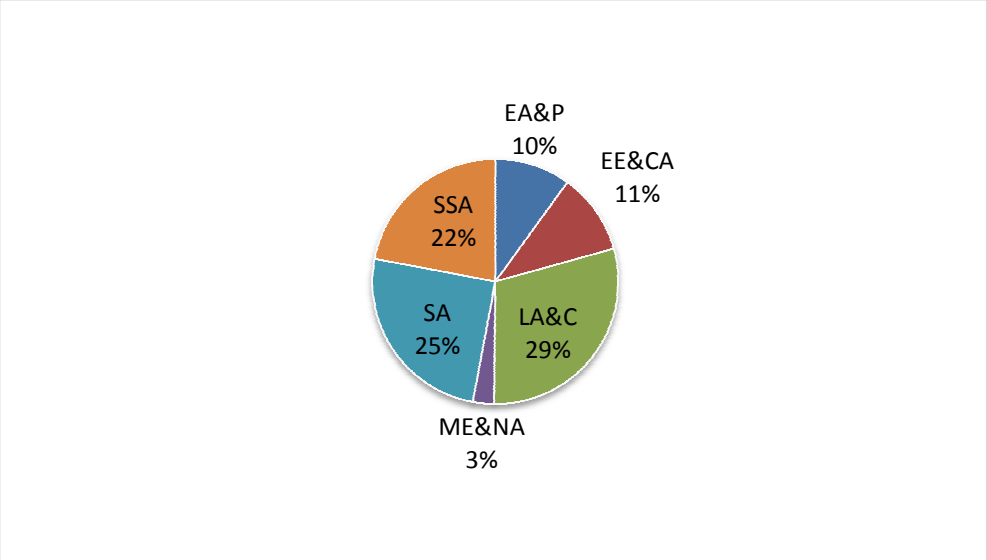
Region	No. of Borrowers (millions)	No. of MFIs
East Asia and Pacific (EA&P)	18.4	241
Eastern Europe and Central Asia (EE & CA)	2.6	259
Latin America and Caribbean (LA&C)	13.8	714
Middle East and North Africa (ME&NA)	2.5	67
South Asia (SA)	52.4	606
Sub-Saharan Africa (SSA)	9.6	533
Total	**99.4**	**2420**

Source: Gonzalez (2008)

As Table 1.2 shows, Latin America and the Caribbean regions have the largest number of MFIs, followed by South Asia and Sub-Saharan Africa. The Middle East and North Africa has the smallest number of MFIs. This is also evident from Figure 1.1, which shows the distribution of MFIs across various regions. South Asia, on the other hand, has the largest number of MFI clients. As Figure 1.2 shows, approximately 53 percent of MFI clients are located in South Asia. The second largest percentage of the clients (18 percent) is located in East Asia and Pacific

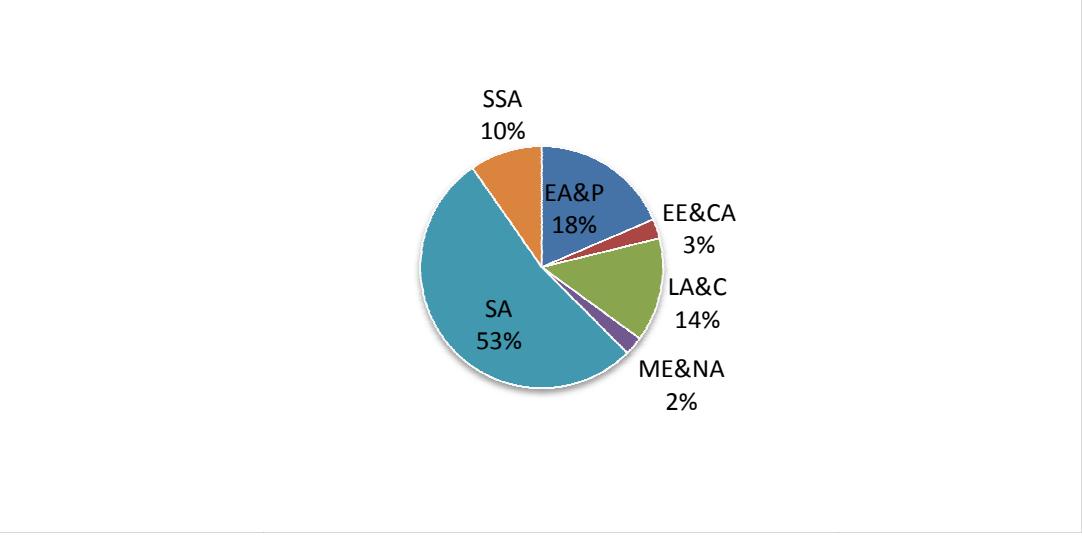
(although this region has only 10 percent of the MFIs) followed by Latin America and the Caribbean, Sub-Saharan Africa, Eastern Europe and Central Asia and Middle East and North Africa.

Figure 1.1: Distribution of MFIs by Region



Source: Data from Gonzalez (2008)

Figure 1.2: Distribution of Borrowers by region



Source: Data from Gonzalez (2008)

The "State of the Microcredit Summit Campaign Report" (2009) provides another estimate of global outreach of microfinance. This report compiles data voluntarily reported by MFIs to Microcredit Summit Campaign (MCS). Some of the data are verified by MCS through third parties such as donors and research organisations. The report suggests that, as of December 2007, 3,552 MFIs reported data to Microcredit Summit Campaign. These MFIs had approximately 1.54 million borrowers. The distribution of microfinance clients across various regions is given in Table 1.3.

Table 1.3: Total MFIs and Borrowers by Region

Region	No. of MFIs	No. of Clients
Sub-Saharan Africa	935	9,189,825
Asia and Pacific	1,727	129,438,919
Latin America and Caribbean	613	7,772,769
Middle East and North Africa	85	3,310,477
North America and Western Europe	127	176,958
Eastern Europe and Central Asia	65	4,936,877
Total	**3,552**	**154,825,825**

Source: State of the Microcredit Summit Campaign Report (2009)

Table 1.3 shows that the majority of microfinance clients (83 percent) are located in the Asia and Pacific region and this region also has the largest number of microfinance institutions. Sub-Saharan Africa has the second largest number of MFIs and microfinance clients followed by Latin America and the Caribbean region. It is interesting to note that North America and Western Europe region (high-income countries) also has 127 MFIs, which is more than in the Middle East and North

Africa region and Eastern Europe and Central Asia region. The number of microfinance clients is fewer in the North America and Western Europe region compared to other regions.

To sum up, there are more than 150 million microfinance clients worldwide served by 3,552 MFIs. Currently, microfinance institutions are working all over the world including the high-income and low income-countries. Nonetheless, the majority of clients and MFIs are located in the poorer parts of the world i.e. Asia and Pacific, Sub-Saharan Africa, and Latin America and the Caribbean. Interestingly, some of the MFIs are also operating in the high-income countries although they are reaching a very small number of clients.

1.4 Overview of Dissertation

Chapter 1 presents an introduction to microfinance. It describes the important features of microfinance and explains how these features contribute towards the success of MFIs. Finally, the chapter examines the global outreach of microfinance and distribution of microfinance clients across various regions of the world.

Chapter 2 presents an overview of the economy of Pakistan, the extent of poverty, the banking sector and the emergence of microfinance. The discussion of Pakistan's economy shows that it relies heavily on agriculture. The agricultural sector employs approximately half of the labour force and provides raw materials for certain major industries. Nonetheless, the contribution of the agricultural sector to GDP is relatively small. The largest contribution to GDP comes from the services

sector. The share of the industrial sector in the GDP is slightly greater than the agricultural sector.

Pakistan has an estimated population of 167 million and the majority of the population lives in rural areas. A large percentage of the population (44%) was illiterate in 2008 and the extent of the illiteracy is even more severe in rural areas and among women. Poverty is also widespread in Pakistan. Although, there are conflicting claims about the extent of poverty, most of the estimates show that approximately one third of the population lives below the official poverty line. Moreover, the extent of the poverty is deeper in rural areas compared to urban areas (GOP, 2009).

The discussion of the banking sector shows that the Pakistani banking sector has made considerable progress in the last six decades. However, the majority of the population still does not have access to banking services. From 1947 to 1967, the banking sector in Pakistan was largely privately owned. The government nationalised all the domestic banks in 1974. The nationalisation of the banks led to political intervention in the banking sector. As a result of political intervention, the efficiency of the banking sector declined, the rate of nonperforming loans increased and the quality of the services deteriorated.

The government introduced a financial reforms programme in order to improve the efficiency of the banking sector in the early 1990s. As a result of these reforms, shares of the nationalised banks were sold to the private sector, new banking licenses were issued and new banking regulations were imposed. The reforms led to a decline in nonperforming loans and an improvement in the quality of banking

services. Despite the improvement, banking services are still concentrated in urban areas and only a small percentage of the population has access to banking services.

Microfinance emerged in Pakistan in the early 1980s in the form of Rural Support Programmes (RSPs). The sector remained peripheral until the late 1990s. In 2000, the government of Pakistan, with the support of the Asian Development Bank (ADB), launched the Microfinance Sector Development Programme (MSDP) in order to promote microfinance in the country. In the same year the government established the first specialised microfinance bank. The government also passed a microfinance ordinance in 2001, which provided the regulatory framework for MFIs. Various other steps were taken by the government and the State Bank of Pakistan during the 2000s, to promote the microfinance sector. This included launching the Expanding Microfinance Outreach Strategy (EMO) in 2007 and introducing the Financial Inclusion Programme (FIP) in 2008.

Despite all the measures taken by the government and donors, the outreach of microfinance is limited in Pakistan. By the end of 2009, the microfinance sector was reaching 1.83 million clients. Hence, the sector is only reaching approximately 7 percent of potential clients, which are estimated in total to be 27 millions. The sector is also dominated by a few MFIs with the majority of clients being located in the Punjab province (PMN, 2009a).

In Chapter 3, the literature on impact assessment is reviewed. It is often argued that the poor are generally excluded from credit markets. It is also argued that the provision of microcredit to poor households can increase their income by enabling them to invest in their businesses. The resulting increase in income enables

the poor to leave poverty. It is also argued that the provision of microfinance to women can lead to female empowerment. Nonetheless, empirically it is difficult to estimate the benefits of microfinance because of self-selection by clients, non-random programme placement and a high dropout rate.

A number of authors have attempted to estimate the impact of microfinance on various household and business outcomes. So far there is no consensus about the impact of microfinance as some of the researchers find positive effects, while others find no effect. For example, Hulme and Mosley (1996), Pitt and Khandker (1998), Wydick (1999b), Chowdhury, Ghosh, and Wright (2005) and Tedeschi (2008) find that microfinance has a positive and significant impact on a number household and business outcomes. On the other hand Morduch (1998), Coleman (1999), Karlan and Zinman (2009) and Banerjee et al. (2009) do not find any significant impact of microfinance. Therefore, it is still not clear whether there is any impact of microfinance on household and business outcomes or not.

Similarly, the research on the impact of microfinance on female empowerment is also inconclusive. Some of the studies find that the provision of microfinance does lead to female empowerment. These studies include Hashemi et al. (1996) and Pitt et al. (2006). On the other hand, Goetz and Gupta (1996) and Rahman (1999) find no impact of microcredit on female empowerment. These studies found that the majority of women, who take microcredit loans, do not have any control over the loan usage – male household members use most of the loans.

Chapter 3 also reviews some of the studies that attempt to identify the poverty status of microfinance clients. The findings of these studies indicate that most

microfinance clients are moderately poor or non-poor. The research also indicates that MFI staff deliberately exclude extremely poor households from lending because the staff is more concerned about the loan repayment compared to poverty alleviation.

Chapter 4 presents the research methodology of this study and summary statistics of the data collected. It also presents an introduction of the MFIs included in this study. In order to develop the research framework, it is argued that income of a household depends upon a number of household characteristics and local and national economic environment. Furthermore, if a household is credit constrained, the provision of microfinance can increase household income because with the access to microfinance, a household can expand its existing business or start a new business. This increase in income leads to higher level of consumption and lower level of poverty.

To estimate the impact of microfinance in Pakistan, data were collected from three Pakistani MFIs. These are National Rural Support Programme (NRSP), Khushhali Bank Ltd (KBL) and Akhuwat. NRSP is an NGO and it is the largest provider of microfinance in Pakistan. NRSP mainly provides loans in rural areas. However, it also has a separate programme for urban areas. KBL is a specialized microfinance bank. It is the second largest provider of microfinance in Pakistan. Akhuwat is also an NGO but its outreach is very limited. However, it is a unique MFI as it provides interest free loans.

To collect the data, one branch of each of the MFIs was selected from the Punjab province. Data were collected by randomly selecting the groups of borrowers

or individuals (where lending was to individuals) from the list of borrowers. Data were gathered from four types of households: (1) households that were taking microcredit loan for a number of years – categorized as "current borrowers", (2) households that had been approved for a microcredit loan but they had not received the loan at the time of the survey – categorized as "pipeline borrowers", (3) households that had been taking microcredit loans in the past but had stopped borrowing (for whatever reason) at the time of the survey – categorized as "dropouts", and (4) households who were not taking microcredit loans because they were living in the areas where no microfinance programme was available – categorized as "non-borrowers". In total data were gathered from 553 households.

In Chapter 5, the impact of microfinance on a number of household outcomes is estimated and an attempt is made to identify the poverty status of the microfinance clients. The results indicate that most of the microfinance clients in Pakistan are poor. However, only a small percentage of the clients are "very poor". To find the poverty status of the microfinance clients, objective and subjective poverty status of pipeline borrowers is examined. The subjective poverty status of current borrowers before taking the microcredit loan is also examined. It is assumed that the poverty status of current borrowers might have changed because of taking out microcredit loans. Therefore, to determine the poverty status of the microfinance clients, only the poverty status of pipeline borrowers and the poverty status of current borrowers before taking out a microcredit loan are considered.

The results also indicate that microfinance does not have any significant impact on any of the household outcome. Three different versions of the regression

model are used to estimate the impact. The impact is estimated on household monthly income, various categories of household monthly expenditures, value of the household assets, value of the durables owned, objective poverty and subjective poverty. The impact of access to microfinance is positive on most of the outcomes. However, it is not statistically significant for all the outcome variables, except one. The only significant impact is found for subjective poverty in one of the models.

Conclusions of the study are presented in Chapter 6. This chapter presents a summary of the main findings. Furthermore, it discusses the policy implications of the study and also provides some suggestions for the future research.

Chapter 2: Microfinance in Pakistan

2.1 Introduction

In the development literature, microfinance is viewed as a solution to poverty. Despite its popularity and widespread acceptability, it is not clear what conditions allow microfinance to flourish and make it an effective tool for poverty reduction. Given its less than universal success, it is obvious to argue that to understand the effectiveness or ineffectiveness of a specific microfinance programme, one needs to take into consideration the socioeconomic and institutional structure in which a microfinance programme is being evaluated.

From this perspective, it is useful to understand the economic, social and demographic conditions that influence programme outcomes along with the situation of the formal banking sector. This chapter covers these aspects. It presents an overview of Pakistan's macro-economy, the extent and depth of poverty, the banking system and the emergence of microfinance.

The Islamic Republic of Pakistan emerged as an independent state in 1947, due to partition of British controlled India. Geographically, the country shares borders with India to the Southeast, China to the Northeast, Afghanistan to the Northwest, and Iran to the West. About 95 percent of Pakistan's population are Muslims, with small minorities of Hindus, Christians and Parsees (Crompton, 2007).

Pakistan is an agrarian economy with a population of 167 million, out of which 64 percent lives in rural areas. Though it is difficult to achieve agreement,

according to some estimates, one third of the population lives below the national poverty line (GOP, 2009). Like most of the other low-income countries, the poor are concentrated in rural areas. Consequently they have limited access to formal financial services, which means limited access to credit, other banking services and business opportunities since the formal financial services are mainly located in urban areas. The absence of formal financial services makes the local moneylenders the main source of credit for poor households.

The financial access gap between rural and urban population is quite wide. In December 2006, only 14 percent of the adult rural population held a bank account. In comparison, 75 percent of the urban adult population had a bank account (Haq, 2008). The situation worsens as one move towards the poorest of the poor. Fernando (2007) states that formal and semi-formal financial institutions only reach 10 percent of the potential poorest clients. Given this situation, the importance and the role of MFIs becomes vital, especially in view of the fact that in most of the low-income countries MFIs are often successful in reaching the poor.

The rest of the chapter is structured as follows. Section 2.2 presents a brief review of the macro-economy of Pakistan and Section 2.3 describes the poverty situation. Section 2.4 reviews the Pakistani banking sector and discusses major reforms. This section analyses the outreach of the formal financial sector to the poor segments of the population and illustrates how financial sector reforms have addressed the issue of limited financial access.

Section 2.5 discusses the evolution of the microfinance sector, in light of the financial sector reforms. The main focus of this section is to discuss the

establishment and progression of the microfinance sector in Pakistan. A detailed discussion of the structure of the microfinance sector is presented in Section 2.6. Section 2.7 considers the outreach of the microfinance sector. The financial performance and productivity of the microfinance sector is described in Section 2.8. The microfinance sector of Pakistan is compared to some other Asian countries in Section 2.9. A summary of the chapter follows in Section 2.14.

2.2 Overview of the Economy of Pakistan

Agriculture forms the core of Pakistan's economy, as this sector employs 44.7 percent of the labour force, and contributes heavily to the industrial and exports sectors. Interestingly, despite employing almost half of the labour force, agricultural sector contributes only 21.8 percent to GDP (GOP, 2009). This imbalance between the labour force and contribution indicates the fact that people living in rural areas have limited access to alternative economic activities and are mostly under-employed in the agricultural sector.

The industrial sector is the second largest sector in the economy, contributing 24.3 percent to GDP. Within the industrial sector, manufacturing (both small and large) has the largest share. The other minor industrial sectors include mining and quarrying, construction, and electricity and gas distribution (GOP, 2009). It is noteworthy that most of the manufacturing is directly or indirectly related to the agriculture.

Table 2.1: Sector-Wise Share of GDP in Pakistan

Sector	Share (Percentage)
Agriculture (total)	**21.8**
Major Crops	7.3
Minor Crops	2.6
Livestock	11.3
Fishing	0.4
Forestry	0.2
Industry (total)	**24.3**
Large Scale Manufacturing	12.1
Small Scale Manufacturing	4.7
Slaughtering	1.4
Mining and Quarrying	2.5
Construction	2.1
Electricity and Gas distribution	1.5
Services (total)	**53.8**
Wholesale and Retails Trade	17.5
Transport and Communication	10.3
Finance and Insurance	6.2
Ownership of the Dwellings	2.7
Public Admin. and Defence	6.1
Community, Social and Personal services	11.1
Gross Domestic Product	**100**

Source: Pakistan Economic Survey 2008-09

The service sector is the largest contributor to GDP, with 53.8 percent share. In the service sector, wholesale and retail trade is the largest contributor, 17.5 percent of GDP. The second largest contributor to the service sector is community, social and personal services, which contributes 11.1 percent to GDP. This is followed by transport and communication, which contributes 10.3 percent to GDP. The other

minor services sectors include finance and insurance, public administration and defence and ownership of dwellings (GOP, 2009). Table 2.1 shows the contribution of each sector in the economy of Pakistan.

The above discussion suggests that the economy of Pakistan relies heavily on agriculture. There is a widespread underemployment and lack of economic opportunities in rural areas. Therefore the improvement of financial services is crucial for rural areas of Pakistan. With better access to financial services, the poor in rural areas can improve their existing economic activities and initiate new economic activities, which can improve the situation of underemployment and household income in rural areas.

2.3 Poverty in Pakistan

This section focuses on the poverty situation in Pakistan in order to understand the need for microfinance. Poverty and need for microfinance go hand in hand as the poor segments of the society have limited access to formal financial services in almost every low-income country. After the failure of the subsidized credit programmes of the 1960s and 1970s, microfinance is providing the latest hope for the poor.

Pakistan is the seventh most populous country in the world. The majority of the population (64 percent) lives in rural areas, while the remaining 36 percent lives in urban areas. This split is important to note because urban and rural areas offer a very different set of conditions with reference to access to public services, financial services and economic opportunities.

Literacy rate across urban and rural areas depicts this difference quite clearly. The overall literacy rate in Pakistan is not impressive, as only 56 percent of the population was literate in 2008. However, urban areas have significantly higher literacy rate, 71 percent. On the other hand, the literacy rate is only 49 percent in rural areas. From gender point of view, the situation is even more unequal. Data from 2008 show that 69 percent of men are literate, while only 44 percent of women are literate (GOP, 2009). These differences indicate a deeper problem: poverty, especially among rural communities and women.

Pakistan is one of the poorest countries of the world, with a real per capita income of US$ 1,046 in 2009. The human development situation is even less promising. In the Human Development Report of 2009, Pakistan was ranked 141th out of 182 countries, with a Human Development Index of 0.572. The same report ranks Pakistan 101th for Human Poverty Index, with 33.4 percent of the population living below the poverty line of US$ 1.25 a day (UNDP, 2009).

It is very difficult to find an agreed upon estimate of poverty. During 2005-06, using a national poverty line of PKR 944.47 (c.US$ 11), the government estimates showed that 22.3 percent of the population lived below the poverty line. The next year, the Poverty Reduction and Social Policy Development Centre of Pakistan (CPRSPD) estimated a decline in the poverty rate. However, their estimates of poverty have been disputed. For example, the World Bank estimated an increase of 4-5 percentage points in poverty rate during the last quarter of 2007-08.

Similarly, a panel of the economists, selected by the Government of Pakistan, suggested in their interim report that the poverty rate increased from 23.9 percent in

2004-05 to 29.9 percent in 2008-09. Some other estimates suggest that more than 12-14 million people have slipped into poverty between 2005 and 2008-09, and the poverty rate has increased from 22.3 percent in 2005-06 to 30-35 percent in 2008-09 (GOP, 2009). The poverty rate in Pakistan for the various years has been shown in Table 2.2.

As Table 2.2 shows, the poverty rate decreased from 1998-99 to 2005-06. However, in view of the above discussion, these gains in poverty reduction have been lost in the recent years. The table also indicates that the incidence of the poverty is more severe in rural areas compared to urban areas. The high level of poverty, limited access to financial services and heavy dependence on agriculture make the rural areas of Pakistan a needed location for the placement of the microfinance programmes.

Table 2.2: Poverty in Pakistan

	Poverty Rate (Percentage)		
Year	**Urban**	**Rural**	**Overall**
1998-99	20.9	34.7	30.6
2000-01	22.7	39.3	34.5
2004-05	14.9	28.1	23.9
2005-06	13.1	27.0	22.3

Source: Pakistan Economic Survey 2008-09

2.4 Overview of the Banking Sector in Pakistan

Given the above discussion, it seems appropriate to ask whether the formal banking sector has tailored to the needs of the population which is illiterate, mostly lives in rural areas and has low income. An overview of the Pakistani banking sector

indicates that although the banking sector of Pakistan has made significant progress in the last six decades; it is still not able to cater the needs of the wider population.

This is apparent from the percentage of population without a bank account. Only 30 percent of the adult population had a bank account in 2007 and out of 1000 people only 30 had a loan account. The majority of borrowing is concentrated within 3 percent of the population (Akhtar, 2007). In Pakistan a bank branch serve 20,450 persons and it is one of the highest numbers of persons served by a bank branch in the region (Haq, 2008). This section describes the structure and functioning of the financial sector, along with the discussion of recent financial sector reforms and post-reform situation.

2.4.1 Structure of Banking Sector before Reforms

The Pakistani banking sector has changed considerably over the last six decades. During the first two decades since the creation of Pakistan, from 1947-1967, banks were largely private and the government mainly owned development finance institutions. However, in 1974, the government nationalised all the domestic banks. These banks are called Nationalised Commercial Banks (NCBs). The only exception to this nationalisation was the foreign banks. The objective of the nationalisation of the banks was to promote socio-economic development by providing credit to specific sectors and achieve economic equality (M. K. N. Khan, 2008).

As a result of the nationalisation, Nationalised Commercial Banks (NCBs) controlled over 90 percent of total assets and total deposits of the banking sector until the 1990s. In June 1990, 24 banks (7 domestic and 17 foreign) were operating in Pakistan. The share of the foreign banks in the assets and deposits was only 7

percent. The operation of the foreign bank was also limited to the cities because of restriction on the number of branches (SBP, 2000). Table 2.3 shows the structure the banking sector in 1990.

Table 2.3: Structure of Banking Sector in Pakistan

Category	No. of Banks	No. of Branches	Assets %	Advances %	Investment %
State Owned	7	7043	92.2	92.1	93.5
Private	0	0	-	-	-
Foreign	17	45	7.8	7.9	6.5
Total	**24**	**7088**	**100**	**100**	**100**

Source: State Bank of Pakistan (2000)

The regulatory system for the financial sector was also ineffective. There were three regulatory institutions in 1990. The first institution – State Bank of Pakistan (SBP), the central bank of the Pakistan – worked under the SBP Act, 1956. SBP regulated monetary policy, exchange rate and supervised the commercial banks. The second institution, Pakistan Banking Council (PBC), was established under the Bank Nationalisation Act, 1974. Its role was to ensure the achievement of the broader objectives of the nationalisation of the banks. PBC also supervised the commercial banks and some of its functions were similar to SBP (SBP, 2000).

The third institution, Corporate Law Authority (CLA), supervised capital market and worked under the Ministry of Finance. The capital market was also regulated by Controller of the Capital Issues (CCI) and Monopoly Control Authority (MCA). The multiplicity of the regulatory bodies weakened the whole regulatory system, with some of the institutions remaining unregulated (SBP, 2000).

Nationalisation of the banks opened the way for political intervention into the banking sector. Politician, bureaucrats and heads of the banks (who were appointed by the politicians) had complete control over the banks and the allocation of loans. The politicisation of the banking sector, coupled with the weak regulatory system, undermined the banking system, resulting in inefficiency, high rates of nonperforming loans and poor quality services (M. K. N. Khan, 2008).

2.4.2 Banking Sector Reforms

In 1989, the government realized, mostly on the motivation of the World Bank, the IMF and the Asian Development Bank, that the financial system was inefficient and initiated various financial reform programmes, which continued throughout the 1990s and 2000s. The major objectives of these reforms were the provision of level playing field to all the financial institutions, the improvement of the competition among the financial institutions and the improvement of the regulatory system. The reforms were also aimed at the improvement of the quality of financial services, financial liberalisation and the revision of the banking laws. (M. K. N. Khan, 2008).

As a first step towards the reforms, the Banks Nationalisation Act, 1974 was amended in 1990 that paved the way for the privatization of the NCBs. As a result of this amendment, the shares of the NCBs were sold to the private sector. To improve competition, the government issued new banking licenses to the private sector. In August 1991, ten new private banks started to operate and between 1991 and 1995, 11 new banks started their operation (SBP, 2000).

To improve the "self-governance" Banking Companies Ordinance, 1962 was amended. Disruptive union activities and disposal of the pledged goods was made illegal and hence punishable. Approval of the loans on verbal instruction was made illegal. SBP also set guidelines for the recovery of bad loans.

Before the reforms, NCBs had greatly extended their branch network in order to provide banking services in remote areas. The size of the work force had also increased considerably. Because of the inefficient branch networks, the restructuring of the NCBs became inevitable. Accordingly, the government started the restructuring of the banks. The inefficient and loss making bank branches were closed and the workforce of the banks was reduced (SBP, 2000).

New measures were introduced to improve the *capital adequacy* and the *loan recovery system*. By the end of December 1997, all the banks were required to maintain a minimum capital that should not be less than 8 percent of their "risk-weighted assets". Furthermore, banks were required to achieve a minimum paid-up capital of PKR 500 million by the end of December 1998 and this was increased to PKR 1000 million by the end of December 2003 (SBP, 2000).

SBP also issued detailed guidelines for banks to improve loan recovery process. Banks were advised to "set quarterly recovery targets, submit progress reports and form strategies to improve future recovery process". To prevent the defaulters from obtaining new loans, banks were asked to provide a list of the defaulters – who had outstanding loan of PKR one million (c. US$ 11,668) or above. Banks were also required to obtain clearance from the Credit Information Bureau before granting a loan of PKR 0.5 million or more. In June 1997, SBP initiated a loan

recovery scheme. In this scheme, defaulters were encouraged to settle their loans. The defaulters who did not participate in this scheme by September 5, 1997 were to be prosecuted in the new banking courts (SBP, 2000).

To improve its efficiency and functioning, SBP was also restructured. To keep the record of the defaulters who had an outstanding loan of PKR one million or above, the Credit Information Bureau was set up in 1991. In January 1992, SBP set up NBFIs Regulation and Supervision Department to monitor the performance of Non-Bank Financial Institutions (NBFIs) and Development Finance Institutions (DFIs). All the NBFIs were required to submit their periodic returns to this department for evaluation. To evaluate the performance of the banks and NBFIs, *Capital Adequacy, Asset Quality, Earnings and profitability, Liquidity and Sensitivity to Market Risks* (CAELS) and *Capital Adequacy, Asset Quality, Management Soundness, Earning and Profitability, Liquidity and Sensitivity to Market Risks* (CAMELS) were introduced (SBP, 2000).

Pakistan Banking Council was dissolved and Board of Directors of SBP was given full autonomy to regulate the banks. Public and private sector banks and DFIs were required to acquire the approval of SBP to appoint Chairman/President and members of the Board of Governors (SBP, 2000).

New measures were taken to make SBP an efficient and modern institution. These measures include direct recruitment of middle and senior management staff through open competition, early retirement incentive scheme for the staff and the improvement of the training facilities. To achieve decentralization, administrative

and financial powers were transferred to lower level management. SBP also launched its website to easily disseminate information (SBP, 2000).

2.4.3 Post Reforms Banking Structure

The banking sector reforms brought major changes to the banking sector of Pakistan. It improved the efficiency of the banking system and transferred ownership from the public sector to the private sector. The share of the private banks in total banking assets increased from less than ten percent in 1990 to more than 90 percent in 2009. Market concentration also decreased, with the share of the three largest banks decreasing from 90 percent in 1990 to 45 percent in 2006. Competition increased as the total number of banks increased significantly (M. K. N. Khan, 2008; SBP, 2009a).

Financial soundness of the banking institutions also improved. Capital Adequacy Ratio (CAR), which is defined as the ratio of bank's capital and risk-weighted assets, of commercial banks improved considerably. CAR improvement was most significant for the public sector banks where it increased from -5 percent in 1997 to 15.6 percent in September 2009. Overall, CAR for all the commercial banks went up from almost 5 percent in 1997 to almost 15 percent in September 2009.

Recovery of the loans also improved and rate of nonperforming loans (NPLs) declined considerably. The NPLs, as a share of total loans, declined from almost 20 percent in 1997 to almost 6 percent in 2006. Nonetheless, it has started increasing again due to deteriorating macroeconomic conditions. In September 2009, the overall share of NPLs was 11.7 percent of total loans (M. K. N. Khan, 2008; SBP, 2009a).

With the increasing share of the private sector in the banking sector, use of e-banking and electronic services increased significantly. Number of online bank branches increased from 322 in 2000 to 6,040 in 2009. Similarly, the number of the ATMs increased from only 206 in 2000 to 3,999 in 2009. Use of credit, debit and ATM cards has increased considerably. By June 2009, 8.9 million cards were in circulation. In September 2009, 40 banks were operating in Pakistan. The private sector owns majority of these banks. The public sector owns only four commercial banks and four specialized banks (SBP various reports).

Despite all the developments, financial access remains a big challenge in Pakistan, especially in rural areas. This is because the focus of the reforms was to improve the banking system at a macro level and not financial access for rural areas. In fact, to achieve efficiency the rural branches, which were making losses, were closed during the reforms process. Interestingly, although 67 percent of the population lives in rural areas, only 33 percent of the branches are located in these areas and only 14 percent of the adult population has a bank account (Haq, 2008).

The expansion of the microfinance sector has the potential to overcome this challenge of financial access for the rural poor. Realizing the effectiveness of microfinance in reaching the poor, the government, with the support of international donors, has taken a number of steps to promote microfinance. The next section discusses the developments of the microfinance sector in Pakistan.

2.5 Evolution of Microfinance in Pakistan

Microfinance institutions have been operating in Pakistan since the early 1980s in the form of Rural Support Programmes (RSPs) and NGOs. Nonetheless, microfinance achieved greater significance in the late 1990s when the government realized the importance of microfinance in poverty reduction. In view of this fact and successive success stories from both high-income and low-income countries, the government and SBP played a significant role in providing a policy environment that allowed microfinance institutions to take roots. International donors also contributed significantly by encouraging policy reforms as well as by providing necessary funds to establish various microfinance institutions. This section reviews various institutional and policy measures taken by the government, SBP and donors to promote microfinance in Pakistan.

The first important step in developing the microfinance sector was the establishment of the Pakistan Poverty Alleviation Fund (PPAF) in 1999 with financial assistance from the World Bank. PPAF is an apex institution and its objective is to provide subsidized funds for lending to microfinance institutions on a sustainable basis (SBP, 2006).

In 2000, the government launched the Microfinance Sector Development Programme (MSDP) with the financial assistance from the Asian Development Bank (ADB) in order to provide sustainable financial services to the poor. According to ADB (2008, p. 2), MSDP had ten objectives:

1. Developing government policies, law and regulations that would facilitate the growth of microfinance services in Pakistan;
2. Establishing and providing long-term funding for a lead microfinance bank –Khushhali Bank (KB) – whose success would catalyze the establishment of additional microfinance banks;
3. Developing a framework for the establishment and supervision of these additional microfinance banks;
4. Establishing and maintaining a fund for the benefit of depositors of the lead microfinance banks;
5. Providing financial assistance to clients of the lead microfinance banks whose income-generating assets are lost due to unforeseen circumstances beyond their control;
6. Creating basic community infrastructure for poor people;
7. Enhancing the ability of the poor, especially women to effectively utilize microfinance services organizing them into groups commonly known as community organizations, a process known as social mobilizations;
8. Initiating the restructuring of the two development finance institutions – the Federal Bank for Cooperatives (FBC) and the Agriculture Development Bank of Pakistan (ADBP) – whose politically influenced operations were believed to be retarding the entry into rural areas of the other providers of the microfinance services;

9. Strengthening the ability of the lead microfinance bank to achieve its mandate of providing a full range financial services to the poor by providing it with grants; and

10. Strengthening the ability of the State Bank of Pakistan (SBP) to achieve its mandate of effectively supervising and regulating microfinance banks by providing it with capacity building grants.

In order to achieve the objectives of the MSDP, the government passed the microfinance ordinances in 2000 and 2001. The microfinance ordinance of 2000 provided the necessary institutional framework, which led to the establishment of the Khushhali Bank Ltd. This was the first microfinance bank in Pakistan (ADB, 2008).

The microfinance ordinance of 2001 provided the regulatory framework for MFIs. In this ordinance, the government specified the definitions, functions, powers, capital requirement and ownership structure of MFIs. According to the MFIs ordinance 2001, a microfinance institution is "a company that accepts deposits from the public for the purpose of providing microfinance services". An MFI can operate at the district, province and national level. The minimum paid up capital requirement is PKR 100 million (c. US$ 1,158,077) for an MFI to operate at the district level, PKR 250 million (c. US$ 2,895,193) to operate at the provincial level and PKR 500 million (c. US$ 5,790,387) to operate at the national level (GOP, 2001).

In November 2001, the government of Pakistan published its Interim Poverty Reduction Strategy Paper (I-PRSP). The objective of the I-PRSP was to integrate poverty reduction efforts at various administrative levels and across various governments departments. In I-PRSP, the government acknowledged the importance

of microfinance and emphasised that microfinance was an important tool for poverty reduction and empowerment of the poor (I-PRSP, 2001).

The government in its Poverty Reduction Strategy Paper of 2003 called microfinance "*a viable tool to address the question of poverty reduction*". Furthermore, it recognized that microfinance "…*enables the poor (i) gradually build their assets (ii) develop their microenterprises (iii) enhance their income earning capacity (iv) smoothen consumption (v) manage risks better (vi) empowers poor, especially women (vii) enhances economic growth (viii) contribute to integration of financial markets*" (PRSP, 2003, p. 81).

2.5.1 Role of SBP in the Development of the Microfinance Sector

SBP played an important role in the development of the microfinance sector in Pakistan. It performed the dual role of regulator and facilitator. SBP interacted frequently with the stakeholders in order to help establish policy environment for the growth of the microfinance sector. It also set up a separate Microfinance Support Division to facilitate MFIs. It provided training to the officers working in this division in order to effectively perform their duties (OPM, 2006; SBP, 2006).

SBP also issued prudential regulations for MFIs and microfinance banks and simplified licensing procedures. These regulations set up the guidelines for paid-up capital, cash reserve and maximum exposure limit. Under these regulations, MFIs and MFBs should maintain an equity level equivalent to at least 15 percent of their risk-weighted assets. Similarly, MFIs and MFBs should maintain a cash reserve of a minimum of 5 percent of their time and demand liabilities in a current account opened with SBP. They should also maintain a minimum 10 percent of their time and

demand liabilities in the form of liquid assets. MFIs and MFBs should not lend more than PKRs 100,000 (c. US$ 1,160) to a single borrower (SBP, 2005b).

In 2007, SBP in consultation with the other stakeholders launched the Expanding Microfinance Outreach Strategy (EMO) in order to promote the growth of microfinance sector. This strategy set the goal of providing microfinance services to 3 million clients by the end of 2010 and to 10 million by 2015. To achieve the goals of this strategy SBP took several steps. It encouraged MFIs to use the network of post offices to expand the outreach of microfinance in remote areas. SBP established a Credit Information Bureau to facilitate information sharing between MFIs. Furthermore, it provided new banking licences to two NGOs that were already providing microfinance services. In order to promote the use of new technology, SBP issued Branchless Banking Regulations and granted a branchless banking licence to Tameer Microfinance Bank. SBP also encouraged international MFIs to start their operation in Pakistan and as result two prominent MFIs (BRAC and ASA) started operating in Pakistan (SBP, 2009b).

In July 2008, SBP launched the Financial Inclusion Programme (FIP) with the assistance of Department of International Development (DFID), UK. The objectives of this programme included the enhancement of the capacity of the microfinance sector, transformation of the microfinance sector from a subsidy based sector to a market based formal sector and the promotion of branchless banking and rural finance (SBP, 2009b).

Under FIP, SBP launched the Microfinance Credit Guarantee Facility (MCGF). The objective of this facility was to encourage the banks and DFIs to

provide credit facilities to MFIs so that they could maximise their outreach. SBP would provide partial guarantee to banks against the risk of default by MFIs. This facility would also bring the lending of the banks to MFIs under formal banking regulations.

SBP also set up an Institutional Strengthening Fund (ISF) in December 2008. The objective of the fund was to "*strengthen the human resource base, improve governance mechanism, introduce new products and delivery system hinging on technology and refining strategic direction of microfinance organizations*" (SBP, 2009b, p. 34). ISF would provide one time grants to MFIs for investment in capacity building although receiving institution also had to contribute a proportion of the investment.

In December 2008, SBP established the Improving Access to Financial Services Fund (IAFSF) with the assistance of ADB. The objective of this fund was the capacity building of MFIs and regulatory bodies. Another objective of the fund was to provide financial literacy services to the clients and potential clients in order to improve access to financial services (SBP, 2009b).

2.5.2 Role of Donors in the Development of the Microfinance Sector[2]

International donors played an important role in the development of the microfinance sector in Pakistan. Kashf Foundation, an NGO that provides microfinance services mainly in the district of Lahore, was established with the

[2] This section is based mostly on (OPM, 2006).

support of DFID. PPAF, an apex institution that provides soft loans to MFIs, was established with financial support from the World Bank.

Khushhali Bank Ltd was the first licensed microfinance bank of Pakistan. It was established with the support of ADB in 2000. ADB provided a credit line of US$ 68 million to Khushhali Bank Ltd. The First Microfinance Bank Limited was also established with the help of donors. The Agha Khan Rural Support Programme (AKRSP), the Agha Khan Fund for Economic Development Geneva, and the International Finance Corporation provided financial support for the establishment of the First Microfinance Bank Limited.

During 2001 the government, with the assistance of international donors, set up four funds worth more than US$ 70 million to support the microfinance sector. These funds included: Microfinance Social Development Fund, Community Investment Fund, Risk Mitigation Fund, and Deposit Protection Fund. The objective of the Microfinance Social Development Fund was to provide funding to MFIs for social mobilization and community capacity building. The Community Investment Fund aimed at providing grants for the "projects of mutual-interest". The purpose of the Risk Mitigation Fund was to protect poor borrowers in the event of failure of their business. The Deposit Protection Fund was aimed at the protection of the depositors of MFIs in the case of a bank failure.

The Swiss government and the Swiss Agency for Development Cooperation (SDC) also supported the microfinance sector in Pakistan. They launched the Financial Sector Strengthening Programme (FSSP) in 2003 to remove the problems of institutional capacity, which could hinder the growth of the microfinance sector.

International donors are also supporting the functioning of the Pakistan Microfinance Network, which is a network of microfinance providers in Pakistan.

USAID also supported the development of the microfinance sector in Pakistan. During 2003-07, it provided approximately US$ 3.2 million for the expansion of the microfinance services in the previously neglected areas of Baluchistan and Sindh provinces. It also provided US$ 3.5 million under its Innovation in Microfinance Programme. The purpose of this programme was to support local microfinance providers and develop microfinance products according to the needs of the communities. USAID also assisted PPAF in the development of new microfinance products.

DFID supported the Financial Inclusion Programme in 2008 with a grant of £50 million. Under this programme, SBP launched Microfinance Credit Guarantee Facility and Institutional Strengthening Fund that had been discussed in detail in the previous section. The overall objective of the FIP was to enhance the growth of microfinance sector (SBP, 2009b).

ADB had been providing continuous support to the microfinance sector in Pakistan. In 2008, SBP launched Improving Access to Financial Services (IAFSP) with the support of ADB. The objective of this program was the capacity building of MFIs and the provision of basic financial literacy services to microfinance clients (SBP, 2009b).

The above discussion suggests that donors have made a significant contribution to the development of the microfinance sector in Pakistan. As a result of

various measures taken by the government and donors, the microfinance sector has grown significantly in the last decade. Despite this growth, the sector is only serving a small percentage of the potential clients.

2.6 Structure of the Microfinance Sector in Pakistan

The microfinance institutions of Pakistan can be classified into four broader categories: (1) Rural Support Programmes (RSPs), (2) Specialised Microfinance Institutions (SMFIs) (3) Microfinance Banks (MFBs), and (4) Others. This classification is used by Pakistan Microfinance Network (PMN) which is a network of microfinance organisations in Pakistan (although the actual term used by PMN for the second type of institutions is "Microfinance Institutions" but in this study we use "Specialised Microfinance Institutions"). The first three categories of the microfinance providers serve 95 percent of the microfinance market, in terms of number of active borrowers, savers, and micro insurance policy holders (PMN, 2009a). This section briefly reviews these four types of microfinance institutions.

2.6.1 Rural Support Programmes (RSPs)

RSPs are considered the pioneer of microfinance in Pakistan, because the microfinance in Pakistan was formally started by a RSP. Legally RSPs are registered under the section 42 of the Companies Ordinance 1984. RSPs mobilize the local community through Community Organization (COs). They use COs as a conduit for rural development and poverty alleviation. In addition to mobilizing savings and providing credit, RSPs provide training and assist local communities to develop

infrastructure. Thus, RSPs follow a holistic approach towards the development of local communities (OPM, 2006; SBP, 2005b).

The Agha Khan Rural Support Programme (AKRSP) was founded in the early 1980s and was the first RSP. It operated in the northern areas of Pakistan and provided credit to poor farmers who were not able to obtain credit from conventional banks. This model of lending through community organisations proved very successful. They had a very high repayment rate, approximately 98 percent (SBP, 2005b).

The success of AKRSP led to the establishment of more RSPs across the country during the 1990s. Both the federal and the provincial governments, along with international donors, provided the funding for the establishment of RSPs. By 2009, eight RSPs were operating in Pakistan. These are: AKRSP, National Rural Support Programme (NRSP), Punjab Rural Support Programme (PRSP), Sarhad Rural Support Programme (SRSP), Sindh Rural Support Organization (SRSO), Lachi Poverty Reduction Project (LPRP), Thardeep Rural Development Programme (TRDP) and Ghazi Barotha Taraqiati Idara (GBTI) (RSPN, 2009).

Currently RSPs are operating in almost every part of Pakistan. As shown in Table 2.5, in 2009, RSPs were providing microcredit to approximately 0.5 million clients which was 30 percent of the total microcredit clients. The average loan size of the RSPs was PKR 14,098 (c. US$ 164) in 2009. RSPs had 1.6 million savers which were 76 percent of the total number of savers in the microfinance sector. RSPs also provided micro insurance services to approximately one million clients in 2009 and controlled 40 percent of the market share (PMN, 2009a).

Table 2.4: Outreach of RSPs

Category	Total	Market Share (%)
No. of Active Borrowers	543,116	30
Average Loan Size (PKR)	14,098	NA
No. of Savers	1,626,687	76
Average Savings (PKR)	766	NA
No. of Policy Holders	991,101	40

Source: Pakistan Microfinance Network (2009)

2.6.2 Specialised Microfinance Institutions (SMFIs)

Specialised Microfinance Institutions, like RSPs, are registered under the section 42 of Companies Ordinance 1984. While RSPs follow a holistic approach towards development, SMFIs focus solely on the provision of microfinance. The Kashf Foundation was the first such institution that was established in 1996 with the assistance of DFID. Its main objective was to provide cost-effective microfinance to poor women in order to improve their income and pull them out of poverty. Kashf only provides loans and it is delivered through a group lending methodology. The success of Kashf led to the establishment of a number of SMFIs, based on the same lending model (OPM, 2006; PMN, 2002).

Currently eight SMFIs are members of Pakistan Microfinance Network. These institutions are: Akhuwat, ASA International, Asasah, Community Support Concern (CSC), Development Action for Mobilization and Emancipation (DAMEN), Kashf Foundation, Orangi Pilot Project (OPP) and Sindh Agricultural and Forestry Workers Cooperative Organization (SAFWCO).

In 2009, these SMFIs had 458,587 active borrowers with a market share of 25 percent. The share of SMFIs in the saving market was negligible and they had only 30,514 active savers in 2009. Nonetheless, SMFIs had a significant share (28 percent) in the micro insurance market, with 682,187 policy holders in 2009 (PMN, 2009a). Table 2.6 shows the outreach indicators of SMFIs.

Table 2.5: Outreach of SMFIs

Category	Total	Market Share (%)
No. of Active Borrowers	458,587	25
Average Loan Size (PKR)	15,341	NA
No. of Savers	30,514	1
Average Savings (PKR)	176	NA
No. of Policy Holders	682,187	28

Source: Pakistan Microfinance Network (2009)

2.6.3 Microfinance Banks (MFBs)

Microfinance Banks (MFBs) are specialized banks that provide microfinance services. The first MFB was established in 2000 in the public sector with the support of ADB. Currently there are seven MFBs operating in Pakistan namely Kashf Microfinance Bank, Khushhali Bank Limited (KBL), Network Microfinance Bank Limited (NMFB), Pak-Oman Microfinance Bank Limited (PPMFB), Rozgar Microfinance Bank Limited (RMFB), Tameer Microfinance Bank Limited (TMFB) and The First Microfinance Bank Limited (FMFB) (PMN, 2009a).

MFBs, like most of the other MFIs in Pakistan, use a group lending methodology. They are the largest provider of microfinance in terms of number of

active borrowers. In 2009, MFBs had 0.72 million active borrowers and a 40 percent market share. The share of MFBs was relatively small in savings. They had 396,689 savers and had a market share of 19 percent in 2009. MFBs had a significant share in micro insurance, with 0.69 million policy holders and a 29 percent market share in 2009 (PMN, 2009a). Table 2.7 shows the outreach indicators of MFBs.

Table 2.6: Outreach of MFBs

Category	Total	Market Share (%)
No. of Active Borrowers	729,206	40
Average Loan Size (PKR)	16,634	NA
No. of Savers	396,689	19
Average Savings (PKR)	14,641	NA
No. of Policy Holders	696,939	29

Source: Pakistan Microfinance Network (2009)

2.6.4 Other Microfinance Providers

The institutions included in this category are mostly NGOs that are registered under the section 42 of Companies Ordinance 1984. However, not all of them are NGOs with some being banks and leasing companies. Nonetheless, their overall share in the microfinance sector is negligible. These institutions had a 5 percent share of active borrowers, a 5 percent share of the active savers and a 3 percent share of the micro insurance clients in 2009 (PMN, 2009a). Table 2.8 shows the outreach indicators of these institutions.

Table 2.7: Outreach of Other Institutions

Category	Total	Market Share (%)
No. of Active Borrowers	100,623	5
Average Loan Size (PKR)	15,973	NA
No. of Savers	88,293	4
Average savings (PKR)	371	NA
No. of Policy Holders	82,730	3

Source: Pakistan Microfinance Network (2009)

The comparison of all the four categories of microfinance providers in Pakistan suggests that there are no significant differences among them in terms of lending methodologies and the depth of outreach. All the major providers of the microfinance use a group lending methodology and mainly rely on joint liability to enhance repayment. There is no significant difference in the average loan size which is used as a proxy for the depth of outreach. Hence in terms of reaching to the poor, various types of microfinance providers in Pakistan are similar.

MFIs in Pakistan, however, are not homogenous. Although the majority are NGOs, some are specialised microfinance banks while some others are commercial banks and leasing companies. Not only are there variations in the legal status of the institutions, but there is variation in the range of development activities they are involved in. For example, RSPs provide vocational training and health and educations facilities along with credit while SMFIs and MFBs only provide microcredit. Similarly RSPs employ compulsory saving mechanism to deliver microcredit loans while SMFIs and MFBs do not use compulsory savings. Some

SMFIs, like Kashf, only lend to women while most of the RSPs and MFBs lend to both men and women.

The microfinance sector of Pakistan is diverse. This implies that potential borrowers have a range of MFIs to choose from especially in those parts of the country where more than one MFI is operating. Such choice is not available in all the areas of Pakistan. With the passage of the time, the people of Pakistan will have greater choice as microfinance sector grows. Table 2.9 provides a category wise list of the microfinance institutions operating in Pakistan.

Table 2.8: Microfinance Institutions by Various Categories

Category	Institutions
MFBs	Kashf Microfinance Bank Khushhali Bank Ltd Network Microfinance Bank Ltd Pak-Oman Microfinance Bank Ltd Rozgar Microfinance Bank Ltd Tameer Microfinance Bank Ltd The First Microfinance Bank Ltd
SMFIs	Akhuwat ASA International Asasah Community Support Concern (CSC) Development Action for Mobilization and Emancipation (DAMEN) Kashf Foundation Orangi Pilot project (OPP) Sindh Agricultural & Forestry Workers Cooperative Organization
RSPs[3]	Agha Khan Rural Support Programme (AKRSP) Ghazi Barotha Taraqiati Idara (GBTI) Lachi Poverty Reduction Project (LPRP) National Rural Support Programme (NRSP) Punjab Rural Support Programme (PSRSP) Sarhad Rural Support Programme (SRSP) Sindh Rural Support Organization (SRSO) Thardeep Rural Development programme (TRDP)
Others	BRAC Centre for Women Cooperative Development (CWCD) Jinnah Welfare Society (JWS) Narowal Rural development Programme (NRDP) Organization for Participatory Development (OPD) Rural Community Development Society (RCDS) Save the Poor (STP) Sungi Development Foundation (SDF) Swabi Women's Welfare Society (SWWS) ORIX Leasing Pakistan Ltd. (OLP) Bank of Khyber

Source: Pakistan Microfinance Network (2009)

[3] AKRSP and GBTI is not member of PMN and are not included in their list.

2.7 Outreach of Microfinance in Pakistan

The microfinance sector of Pakistan has made a significant progress over the last decade. The number of active borrowers has increased from 240,000 in 2003 to 1.83 million in 2009. The average loan size has increased from PKR 6,629 (c. US$ 77) in 2004 to PKR 15,532 (c. US$ 180) in 2009. The number of savers has also increased significantly reaching 2.1 million in 2009. In the last few years, the micro insurance market has also made significant progress. There were 2.4 million micro insurance policy holders in the third quarter of 2009. The total number of MFI branches has grown considerably reaching to 1,498 in 2009 (PMN, 2009a; Rauf & Mahmood, 2009).

Most MFIs use a group lending methodology. Approximately 90 percent of the loans were disbursed through group lending in 2009. Women constitute 51 percent of the active borrowers and 56 percent of the borrowers reside in rural areas. Table 2.10 shows the total outreach of the microfinance sector in Pakistan.

Table 2.9: Outreach of Microfinance in Pakistan

Category	
No. of MFIs Branches	1,498
No. of Active Borrowers (million)	1.83
Average Loan Size (PKR)	15,532
No. of Savers (millions)	2.1
No. of Micro Insurance Clients (million)	2.4

Source: Pakistan Microfinance Network (2009)

Despite the tremendous growth in the last decade, microfinance is only reaching to 6.7 percent of the potential clients estimated to be 27.4 million. The

outreach of microfinance is the highest in the Punjab province and the lowest in the Baluchistan province. There are 1.26 million active borrowers in Punjab, which is approximately 70 percent of total active borrowers in Pakistan. Nonetheless, it is only 8.3 percent of the potential clients in this province.

The province of Sindh has the second largest (22 percent) share of active borrowers. There are 0.4 million active borrowers in Sindh but it is only 6.4 percent of the potential microfinance market. There are 98,288 active borrowers in NWFP and they are only 2.4 percent of the potential market. In Baluchistan, the total number of active borrowers is only 19,213 and they are 1.2 percent of the potential microfinance clients in the province. The rest of the borrowers are located in Azad Jammu and Kashmir (AJK), Federally Administrated Northern Areas (FANA), Federally Administrated Tribal Areas (FATA) and Islamabad Capital Tertiary (ICT) (PMN, 2009a).

The majority of the saving and insurance clients are also located in Punjab. Likewise most of the branches of the MFIs are located in Punjab. This is the largest province in terms of population with more than 50 percent of the population residing in this province. Table 2.11 shows the provincial distribution of microfinance clients in Pakistan.

Table 2.10: Distribution of Microfinance Clients by Province

Province/Region	No. of MFI Branches	Active Borrowers	Active Savers	Insurance Policy Holders	Potential MF Clients	Market Coverage (%)
Punjab	982	1,261,188	1,240,667	1,759,640	15,233,924	8.3
Sindh	338	405,151	553,446	485,725	6,357,795	6.4
N.W.F.P	86	98,288	122,990	124,337	4,083,817	2.4
Baluchistan	33	19,213	42,891	19,433	1,656,762	1.2
AJK	31	22,936	135,518	37,227	NA	NA
FANA	15	19,898	45,030	19,898	NA	NA
FATA	5	2,416	NA	2,416	NA	NA
ICT	8	2,442	1,641	4,461	74,750	3.3
Total	**1,492**	**1,831,532**	**2,142,183**	**2,452,957**	**27,407,048**	**6.7**

Source: Pakistan Microfinance Network (2009)

Another interesting feature of microfinance in Pakistan is that only a few organisations dominate the market. The five largest MFIs, which include NRSP, KBL, Kashf Foundation, FMFBL and PRSP, have the major share of active borrowers. NRSP is the largest microfinance provider in Pakistan and has 23.4 percent share of active borrowers. KBL is the second largest institution with 22.1 percent share of active borrowers. The third largest, Kashf, has a 15.7 percent market share. These three organisations, along with FMFBL and PRSP, have a 78 percent share of active borrowers. Table 2.12 shows the five largest MFIs in terms of number of active borrowers.

Table 2.11: Largest Microcredit Providers

MFI	Active Borrowers	Market Share (%)
NRSP	428,075	23.4
KBL	405,111	22.1
Kashf Foundation	288,076	15.7
FMFBL	229,443	12.5
PRSP	78,878	4.3

Source: Pakistan Microfinance Network (2009)

The micro saving and micro insurance market is also dominated by a few organisations. NRSP has the largest number of active savers, controlling 53.9 percent of the market. TRDP has the second largest number of active savers, followed by PRSP, FMFBL and TMFB. RSPs have the highest number of savers since it is mandatory for their clients to deposit savings before they can receive credit. NRSP is also the largest

provider of micro insurance and has 32.6 percent share of the micro insurance market. Kashf is the second largest provider followed by KBL, FMFBL and TRDP. Tables 2.13 and 2.14 show the five largest MFIs in terms of active savers and micro insurance policy holders.

Table 2.12: Largest Providers of Savings

MFI	Active Saver	Market Share (%)
NRSP	1,152,532	53.9
TRDP	269,738	12.6
PRSP	204,417	9.6
FMFBL	181,546	8.5
TMFB	113,725	5.3

Source: Pakistan Microfinance Network (2009)

Table 2.13: Largest Provider of Micro Insurance

MFI	Insurance Policy Holders	Market Share (%)
NRSP	799,537	32.6
Kashf	576,152	23.5
KB	405,111	16.5
FMFBL	229,443	9.4
TRDP	112,686	4.6

Source: Pakistan Microfinance Network (2009)

2.8 Financial Performance and Productivity of the Microfinance Sector

The microfinance sector of Pakistan is not financially viable and overall its profitability is negative. The overall Adjusted Return on Assets (AROA) in CY2008 was -7.5 percent while overall Adjusted Return on Equity (ROE) was -29.4 percent. PMN (2008) defines AROA as the ratio of after tax operating income and average total assets while ROE as the ratio of after tax operating income and average total equity. Data are adjusted by PMN to make it comparable for various MFIs since they have different level of subsidy. Two other measures of the financial performance of MFIs are "operational self sufficiency" and "financial self sufficiency". Operational self sufficiency is calculated by dividing financial revenue by financial expenses, operating expenses and net loan loss provision. To calculate financial self sufficiency, financial revenues are divided by financial expenses, operating expenses, net loan loss provisions and an inflation adjustment.

Operating self sufficiency and financial sufficiency show whether a microfinance institution is able to cover its expenses or not. As shown in Table 2.15 operating self sufficiency and financial sufficiency of the microfinance sector of Pakistan is less than 100 percent. This means the microfinance sector is still not able to meet its operating expenses and this undermines its long term sustainability.

Table 2.14: Financial Performance of the Microfinance Sector

Category	2006	2007	2008
Adjusted Return on Assets (%)	-6.7	-6.4	-7.5
Adjusted Return on Equity (%)	-19.0	-20.9	-29.4
Operational Self Sufficiency (%)	80.4	89.0	80.8
Financial Self Sufficiency (%)	66.5	74.0	70.8

Source: Pakistan Microfinance Network (2008)

The comparison of various types of MFIs suggests that RSPs were the most successful and SMFIs were the least successful in 2008. Nonetheless, the performance of the SMFIs was better than other categories of microfinance providers from 2005 to 2007. One of the main contributors to the deteriorating financial performance of the SMFIs was the Kashf Foundation, which had been highly successful from 2003 to 2007. In 2008, however, its return on assets declined to -20.1 percent. Similarly, its financial self sufficiency declined to 57.6 percent in 2008 from 163 percent in 2007 (PMN, 2008).

The performance of the RSPs has been improving continuously since 2005. NRSP was one of the main contributors to this improvement. Financial self sufficiency of NRSP increased from only 75 percent in 2005 to 117 percent in 2008. There was no significant change in the performance of MFBs since 2005. In 2008, all the MFBs had negative return on assets and equity (PMN, 2008). Table 2.16 shows the performance indicators of various types of MFIs.

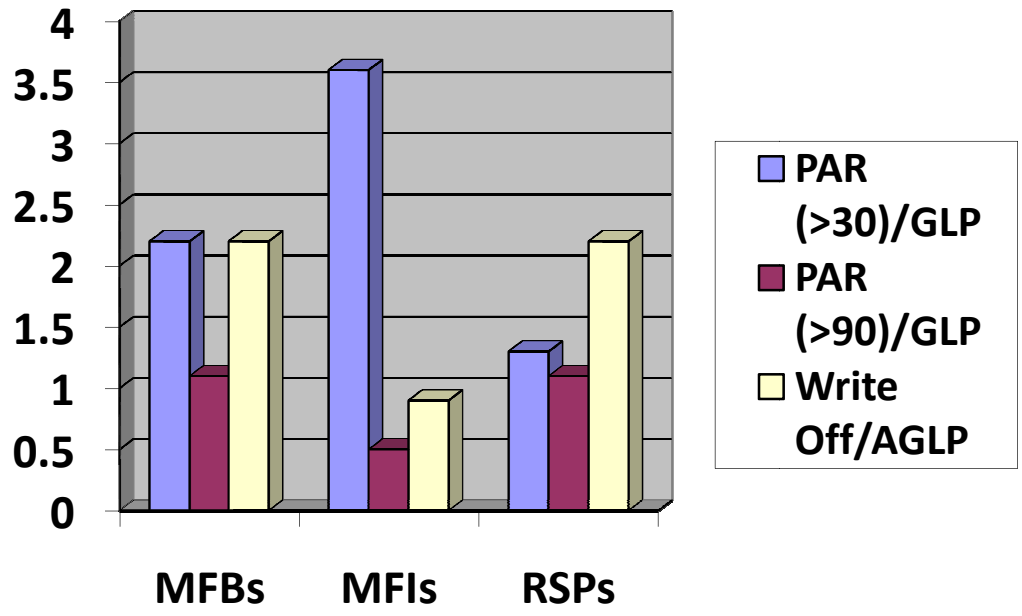
Table 2.15: Performance Indicators of MFIs

	MFBs				SMFIs				RSPs			
Indicator	2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
Average Return on Assets (%)	-8.1	-7.2	-10.6	-9.2	2.5	-0.5	5.7	-15.8	-6.9	-7.8	-7.0	0.0
Adjusted Return on Equity (%)	-20.3	-19.0	-33.2	-29.4	4.8	-1.1	16.4	-64.4	-21.8	-27.5	-29.6	1.2
Operational Self Sufficiency (%)	74.6	77.4	70.6	73.5	151.6	114.8	139.5	67.5	77.6	72.8	83.5	111.6
Financial Self Sufficiency (%)	53.2	60.6	56.5	60.1	114.1	97.9	125	62.4	62.6	65	70.8	100.2

Source: Pakistan Microfinance Network (2008)

The performance of RSPs was excellent in terms of Portfolio at Risk (PAR), which is the measure of the quality of the loan portfolio. PAR is defined as the value of all loans outstanding that have one or more installments of principle past due more than certain (30, 60) number of days. In 2008, Ratio of Portfolio at Risk (>30 days) to Gross Loan Portfolio was 1.3 percent for RSPs while it was 2.2 percent for MFBs and 3.6 percent for SMFIs. This ratio was the highest for the Kashf Foundation (4.3 percent) among SMFIs. Similarly it was the highest for RMFB (72.2 percent) among MFBs and the highest for TRDP among RSPs (PMN 2008).

Figure 2.1: Portfolio at Risk and Write off Ratios (Weighted Average)



Source: Pakistan Microfinance Network

The ratio of Portfolio at Risk (>90 days) to Gross Loan Portfolio (GLP) was 1.1 percent for both MFBs and RSPs and 0.5 percent for SMFIs. The percentage of Average Gross Loan Portfolio that was written off during 2008 was also the same for MFBs and RSPs at 2.2 percent. It was the lowest, 0.9 percent, for SMFIs.

The comparison of the productivity of microfinance sector in terms of number of borrowers and savers per staff and borrowers and savers per loan officer, suggests that SMFIs are the most productive in terms of borrowers per staff and borrowers per loan officer. However, SMFIs are the least productive in terms of savers per staff and savers per loan officer. MFBs and RSPs have approximately the same borrowers per loan officer but RSPs have higher borrowers per staff. RSPs also have the highest number of savers per staff. This is probably because RSPs use compulsory saving mechanism to build savings and all of their borrowers are savers as well. Table 2.17 shows the different productivity indicators of MFIs in 2008.

Table 2.16: Productivity Indicators

Category	MFBs	MFIs	RSPs	Overall
Borrowers per Staff	112	165	182	147
Borrowers per Loan	226	326	225	245
Loans per Loan Officer	226	397	225	259
Saver per Staff	50	46	251	114

Source: Pakistan Microfinance Network

2.9 Comparison of Microfinance in Asia

Table 2.18 presents some indicators of the microfinance sector of selected Asian countries. In terms of outreach, the microfinance sector in Pakistan is lagging behind most of other Asian countries. The total number of borrowers in Pakistan is only 0.6 percent of the population. The analogous estimate for Bangladesh is 12 percent. The performance of Sri Lanka and India is also better than Pakistan. Nonetheless, these results should be interpreted with caution, as all the microfinance providers of Pakistan, and that of other countries as well, do not report to the Microfinance Information Exchange (MIX) that reports data for various countries. This means that it is difficult to make comparison on a like-for-like basis.

Average loan balance, calculated by dividing the gross loan portfolio by number of active borrowers, in Pakistan is significantly higher than in India and Bangladesh but it is lower than in Sri Lanka, Afghanistan and China. Average cost of a loan in Pakistan again is higher than in India, Bangladesh and Sri Lanka, but it is lower than in Afghanistan and China. One of the apparent reasons for the high loan cost in Pakistan is that it has a lower number of borrowers per loan officer compared to other countries.

The financial performance of Pakistani MFIs in terms of return on assets and operational self sufficiency is also worse than all the countries in the comparison group except Afghanistan. The loan portfolio at risk >30 days is low in Pakistan but still higher than in India and China. Finally, the loan loss rate in Pakistan is also higher than all the countries except Afghanistan.

Table 2.17: Comparison of Microfinance in Asia

Category	Pakistan	Bangladesh	India	Afghanistan	Sri Lanka	China
Population (million)	166.0	160.0	1,139.9	NA	20.1	1,325.6
Poverty (Head Count %)	33	40	29	NA	23	3
Total MFIs	25	70	123	15	19	17
No. of MFIs Reporting to MIX	12	14	65	14	8	12
No. of Active Borrowers (million)	0.93	20.1	16.0	0.3	0.9	0.4
Gross Loan Portfolio (million US$)	144.5	1,900.0	2,100.0	109.3	234.7	26.2
Average Loan Balance (US$)	150.4	96.9	108.7	190.0	156.8	327.1
Return on Assets (%)	-4.7	0.9	1.9	-11.9	0.04	0.2
Return on Equity (%)	-12.2	7.1	15.3	-20.9	0.3	0.2
Operational Self Sufficiency (%)	79.4	105.8	112.8	65.8	102.5	101.9
Cost per Loan (US$)	37	15	11	93	25	47
Borrowers per Loan Officer	182	272	421	117	309	193
Portfolio at Risk > 30 days	2.2	4.5	0.4	12.5	4.6	0.00
Loan Loss Rate (%)	0.8	0.00	0.00	1.8	0.00	0.00

Source: Microfinance Information Exchange, World Bank: data for population and poverty rate are from WDI, population figures are for 2008 while poverty rate is for the latest available year.

2.10 Summary

This chapter shows that a vast majority of the population in Pakistan is illiterate and lives in rural areas where the main source of income is agriculture and access to financial services is very limited. Poverty is widespread in the country and about one third of the population lives below the national poverty line. Moreover, the incidence of poverty is more severe in rural areas compared to urban areas.

The banking sector of Pakistan has made a considerable progress in the last six decades since the creation of Pakistan in 1947. However, the majority of the population, especially low income households, still do not have access to formal financial services. In 2007, only 30 percent of the adult population had a bank account. People who borrow from formal sources are only 3 percent of the population.

Recognising widespread poverty and financial exclusion, the government has taken a number of steps to promote microfinance in order to tackle the problem of poverty and financial exclusion. In the last decade, the microfinance sector has made significant progress and it is serving 1.83 million borrowers throughout the country. Nonetheless, the sector is serving only 6.9 percent of the potential 27.4 million clients.

The Pakistani microfinance sector is not sustainable yet as it has not achieved the operational and financial self sufficiency and has a negative return on assets and equity. The average cost of a microcredit loan is higher in Pakistan compared to other Asian countries. The financial performance of Pakistani microfinance sector is also worse than

most of other Asian countries. In order to achieve the objective of the provision of financial services to the poor segments of the society on sustainable basis, microfinance sector needs to improve its efficiency and find new ways to expand its outreach.

The next chapter reviews the studies that have assessed the impact of microfinance on household and business outcomes in Pakistan and in other countries across the world.

Chapter 3: Review of Literature

3.1 Introduction

Microfinance can affect borrowing households in many ways. Household income can increase as a result of access to microfinance because households can expand their existing businesses or they can start new businesses. This increase in income can lead to higher level of consumption, more demand for children, health and education services and leisure activities. At the same time, the expansion of the businesses can increase the opportunity cost of time. This may result in less demand for children, children schooling and leisure activities.

Moreover, the provision of microfinance to women can lead to female empowerment since greater financial control may give them more power in household decision making. MFIs also provide non financial services such as training, advice on family planning and education. Such interventions can also affect household decisions regarding birth control and schooling of children (de Aghion & Morduch, 2005; Weiss & Montgomery, 2005).

Researchers have attempted to estimate the impact of microfinance on a number of household and business outcomes including, income, consumption, health expenditures, child schooling, poverty, business profit, labour supply and female empowerment. However, assessing the impact of microfinance is quite complex. It requires a careful investigation of what would have been the outcomes of the

borrowers, had they not participated in the microfinance programme. As Weiss and Montgomery (2005, p.397) state:

> "Accurate assessment requires a rigorous test of the counterfactual – that is, how income (or whatever measure is used) with microcredit compares with what it would be without it, with the only difference in both cases the availability of credit. This requires a control group, identical in characteristics to the recipient of credit and engaged in the same productive activities, that has not received credit, and whose income (or other measure) can be traced through time to compare with that the credit recipient."

For a number of reasons, use of a control group can produce the biased estimates of the impact of microfinance if the control group and treatment group is not selected carefully. First, microfinance clients participate in a microfinance programme by self selection. That is, when a microfinance programme is introduced in a village, some households decide to participate while some others decide not to participate. It is argued that the households who decide to participate in the programme have some unobservable characteristics (such as motivation, entrepreneurial abilities), which might not be present in the households who do not participate. Therefore, when selecting a control group and estimating the impact, these unobservable characters should be taken into account. Neglecting these unobservable characteristics can produce biased estimates.

Second, microfinance programmes are introduced in some carefully selected villages. These villages can be relatively poorer or relatively better off. Furthermore,

these villages can also be either more organised or they can have better community leaders. These characteristics make these villages different from the other villages where the microfinance programmes are not placed. Because of these characteristics, households residing in these villages can also be different from those residing in non programme villages. Therefore, it is important to consider these village characteristics when selecting a control group and estimating the impact. If the control group is selected from a village which does not have a microfinance programme, households in this village can be different from the households in the programme villages and estimates of the impact can be biased (Coleman, 1999).

Third, the dropout rate is very high in microfinance programmes and in some countries dropout rate is up to 60 percent per year (de Aghion & Morduch, 2005). (Dropouts are the borrowers who stop borrowing after some time for any reason). These dropouts can leave the programme either because they are better off or because they are worse off as a result of participation in a microfinance programme. Even if they are neither better off nor worse off, they can be relatively poorer or relatively richer clients (Karlan, 2001). A careful impact study should not only include current borrowers in the treatment group but also the dropouts as well. Neglecting dropouts can also bias estimates.

Ignoring the unobservable characteristics of microfinance clients, results in "self selection bias". "Programme placement bias" results from the placement of the microfinance programmes in carefully selected villages. "Attrition bias" results from the dropouts. These issues and methods to overcome them are discussed in more detail in Chapter 4.

A number of authors have attempted to control the above mentioned biases by using various methodologies. Researchers have also attempted to determine the poverty status of microfinance clients. This chapter reviews the studies on the impact assessment of microfinance and also the studies that attempt to find the poverty status of microfinance clients. Section 3.2 discusses the impact assessment studies that focus on household and business outcomes (such as income, expenditures, business sales and profits) in various countries. Section 3.3 reviews the studies on the impact of microfinance on female empowerment. This is followed by a discussion of impact assessment studies in Pakistan in Section 3.4. Section 3.5 reviews some of the studies which investigate the poverty status of microfinance clients. Finally, Section 3.6 summarises the discussion in this chapter.

3.2 Impact of Microcredit on Household and Enterprise

The evidence on the impact of microfinance on household outcomes is not very clear so far. On the one hand there are some studies which find positive and significant impacts of microfinance on a number of household outcomes including income, consumption, and schooling of the children and female empowerment. On the other hand, some studies find no impact on any household and business outcomes. This section reviews the studies which assess the impact of microfinance on household and business outcomes.

Hulme and Mosley (1996) carried out impact assessment studies in a number of countries, including Bangladesh, India and Bolivia. They attempted to control for self selection bias by selecting control groups from the borrowers who had been

approved for a microcredit loan but had not received the loan. These borrowers are referred to as “pipeline borrowers”. The authors assumed that the control group had the same unobservable characteristics as the treatment group because members of the control group had self selected in order to take out a microcredit loan. Furthermore, as the control group had not received the loan at the time of the survey, there was no impact of credit on it. Overall, they found a positive impact of microfinance on various household outcomes. However, the impact was greater for non-poor borrowers compared to poor borrowers.

These studies estimated the impact of microcredit on number of household outcomes, which include income, employment and investment in new technology. The authors found that on average borrowers’ income increased more than that of the control group during the period of the study (1988-1992). However, the increase in income was not homogenous and average increase in income varied from 0.5 percent in Kenya to 46 percent in India. Moreover, this increase in income was higher for the borrowers above the poverty line compared to those below the poverty line (Hulme & Mosley, 1996, pp. 88-89, table 4.1 and 4.2).

The impact on the adoption of new technology was not significant overall. In most of the countries, only one third or less of borrowers used the loans to invest in new technology. The studies found that adoption of new technology was higher among the clients of microfinance programmes, which mainly lent to relatively richer households e.g. BancoSol in Bolivia and BRI unit desas in Indonesia. The studies also found no significant difference in the number of workers employed by

the borrowers and the control group. At the time of the survey, on average the borrowers had 0.5 more workers in their businesses compared to the control group.

Generally, these studies found that the impact of microcredit on every outcome was greater on the less poor compared to core poor or very poor borrowers. In the words of Hulme and Mosley (1996, p.114):

> "In sum, while our study confirms the emerging consensus that well-designed credit schemes can raise the incomes of significant numbers of poor people, it also indicates that such schemes are not the panacea for poverty-reduction that has been claimed. There are trade-offs between the goals of poverty-alleviation and institutional performance, and credit has differential impacts on different groups within 'the poor' ".

These studies used innovative methodologies, as they were the first to use pipeline borrowers as a control group to assess the impact of microfinance. The use of pipeline borrowers as a control group enabled the authors to control for self selection bias. However, the other biases namely programme placement and attrition bias, which result from different village characteristics and dropouts respectively, were not addressed in these studies. The studies had been criticised for using very small sample in some cases and for the use of recall methods (Morduch, 1999; Weiss & Montgomery, 2005).

In a later study, Mosley (2001) examined the impact of four microfinance programmes in Bolivia. This study also used pipeline borrowers as a control group.

The study used the recall method to collect data. The data were collected in 1999. Respondents were asked to report their outcomes in 1993 in most of the cases. However, the respondents in one of the microfinance organisation were interviewed both in 1993 and1999.

The study found that microcredit had a positive impact on the income of the borrowers but the impact was lower for very poor borrowers compared to less poor borrowers. Between 1993 and 1999, 10-20 percent of the borrowers crossed the poverty line because of taking out a microcredit loan. Study also found a positive impact on asset accumulation and again the impact was lower for very poor borrowers. Like the earlier studies (Hulme & Mosley, 1996), this study also did not control for programme placement bias and attrition bias .

Another series of studies used data collected by the World Bank and the Bangladesh Institute of Development Studies. Three MFIs were included in these studies. These institutions were the Grameen Bank, BRAC and BRDB. The initial data were collected during 1991-92 and the same households were surveyed again in 1998-99. The data were collected from the villages that had a microcredit programme at the time of the survey and also from the villages that had no microcredit programme. Both eligible households (those who own less than half an acre of land) and ineligible households were surveyed.

The results based on 1991-92 data were reported in Khandker (1998) and Pitt and Khandker (1998). The studies found positive impacts of microcredit on a number of household outcomes and the impact was generally higher for women compared to men. The studies found a statistically significant positive impact on per capita

expenditures amongst women borrowers for all the three MFIs. However, borrowing by men did not have a statistically significant impact on per capita expenditures.

The studies also found a positive impact on household net worth. However, the impact was greater for borrowing by men compared to borrowing by women. The impact of borrowing by men was statistically significant on household net worth for all the three MFIs. However, in case of women borrowers, it was only statistically significant for the Grameen Bank.

The impact of microcredit was positive on the schooling of children especially the schooling of boys. Credit to women from the Grameen Bank had a statistically significant positive impact on the schooling of girls. However, credit to women from the other two MFIs included in the studies, did not have a statistically significant impact on the schooling of girls. Credit to women from the Grameen Bank and BRDB had a statistically significant positive impact on the schooling of boys. In case of male borrowers, only credit from the Grameen Bank had a statistically significant positive impact on the schooling of boys.

The studies found a positive impact of credit on the nutrition of children. Credit to women had a statistically significant impact on the two measures of nutrition of boys and girls. However, the credit provided to men had a statistically significant impact only on one of the measures of nutrition of girls.

These studies were well designed and they controlled for self selection and programme placement bias. However, no attention was paid to attrition bias resulting from dropouts. The dropout rate was 9 percent in the Grameen Bank programme

villages, 8 percent in the BRAC programme villages and one percent in the BRDB programme villages (Khandker, 1998).

The results of these studies had been challenged by Morduch (1998). He used the same data as used by Pitt and Khandker (1998) but a different methodology. He found no significant impact of participation in the credit programmes on the consumption of households and the schooling of children. Nonetheless, he found that access to credit enables the households to diversify the labour supply across various seasons.

Khandker (2005) in a follow up study used panel data (collected in 1991-92 and 1998-99) to assess the impact. The study found that credit to women had a statistically significant positive impact on household consumption. However, credit to men had a negative impact on household consumption. Specifically, the author found that an additional loan of 100 taka to women during 1998-98 increased the household annual expenditures by 20.5 taka while the same amount of credit to men decreased the household annual expenditures by 16.6 taka although it was not statistically significant.

Coleman (1999) carried out an innovative study in Thailand. This study covered 14 villages. Out of 14 villages included in the study, 8 villages had a microfinance programme while 6 villages had no microfinance programme at the time of the survey. In the 6 villages where the microfinance programme was not available, the staff of the microfinance institutions organized the villagers into groups through the normal process of group formation (self selection). These newly formed groups were told that they will not receive a loan for a year. These "would be

borrowers" form the control group for this study. Since they had joined the programme through self selection, Coleman assumed that they had similar unobservable characteristics as old borrowers.

Data were collected from the members and non members from all the 14 villages. The author found no impact of credit on any of the household outcomes including assets, production, sales and health and education expenditures. For a few outcome variables, the study even found a negative impact.

This study controlled for self selection bias by carefully selecting a control group. Programme placement bias was controlled for by using village fixed effects. Attrition bias was controlled for by selecting the sample from the members who initially joined the programme instead of the existing borrowers. Hence this study attempted to control all the potential biases which are encountered in the impact assessment of microcredit.

In a later study, Coleman (2006) estimated the programme impact separately for ordinary members and committee members (president and treasurer of the group). He found that microcredit had no impact on ordinary members. However, he found a statistically significant positive impact on the sales, production, assets and savings of the committee members. Coleman argues that the committee members are able to obtain larger loans by using the name of their relatives who do not even live in the village. Therefore they can invest in different types of projects, which require larger amounts of capital. In this way they might be able to earn more profits, which justify the positive impact of programme.

Wydick (1999b) assessed the impact of microcredit on the schooling of children in Guatemala. Overall, he found that microcredit had a positive impact on the schooling of children. An increase in the amount of credit reduces the probability of a child being withdrawn from a school. However, he found that in certain types of micro enterprises, for example the retail sector where moral hazard is greater, provision of credit resulted in lower schooling for children since parents substituted child labour for hired labour to avoid moral hazard.

The provision of microcredit for certain micro enterprises that require intensive training, for example textile manufacturing, resulted in lower schooling for children since parents preferred to provide training to their children instead of sending them to schools. He also found that if the provision of credit increased the enterprise capitalisation it could lower children schooling. As greater enterprise capitalisation increased the return to child labour and the opportunity cost of schooling. This study controlled for self selection bias by using an instrumental variable method. However, it did not control for programme placement and attrition bias.

Copestake et al. (2001), in their study of Zambian microcredit, found that microcredit borrowers had higher profits compared to the control group. They also found that the second loan had a positive impact on business profits and household income while the first loan had no impact. Nonetheless, they found that borrowing made some of the households worse off. In addition, approximately 50 percent of borrowers left the programme after the first loan. This study attempted to control for self selection bias by drawing a control group from the micro entrepreneurs who had

been approved for a loan but had not received the loan at the time of the survey. However, programme placement and attrition bias were not controlled for in this study.

Park and Ren (2001) investigated the impact of three microfinance programmes in China. They collected data from borrowers and non-borrowers. Hence the control group in this study consists of non-borrowers. The authors found that the participation in the microcredit programme had a positive impact on the household income. This study attempted to control for self selection bias by using an instrumental variables method. Nonetheless, it did not control for programme placement and attrition biases.

Chowdhury et al. (2005) estimated the impact of three microfinance programmes (the Grameen Bank, ASA and BRAC) in Bangladesh. They collected data from two types of borrowers. The first type of the borrowers had received a loan for less than a year while the second type of the borrowers had received a loan for more than a year. Among the borrowers who had received a loan for less than a year, 45 had not received a loan at the time of the survey although they had joined the microfinance programme.

The authors found that microcredit had a positive impact on objective and subjective poverty. The study also found that the poverty rate decreased with the microcredit loan duration. This study controlled for self selection bias by sampling some pipeline borrowers and programme placement is controlled by using village characteristics. However, no attempt was made to control for attrition bias.

Tedeschi (2008) examined the impact of microfinance on business profits in Peru. The study used panel data. To collect data, the first round of the survey was carried out in 1997 and the second round was carried out in 1999. The study collected data from four types of households. The first category of the households had taken out a loan in both rounds of the survey. The second category of the households took out a loan in 1999 but not in 1997. The third category took out a loan in 1997 but not in 1999. Finally, the fourth category included entrepreneurs who were eligible to borrow but did not take out a loan in either 1997 or 1999.

The author estimated the impact on microenterprise profits both with cross sectional and panel data. In the cross sectional estimates, the study found a positive impact of credit on monthly and weekly profits. The impact was statistically significant. The study also found positive and statically significant impacts on profits with panel data. The author controlled for all the biases, which arise in the impact assessment of microfinance, by using a methodology similar to Coleman (1999).

Karlan and Zinman (2009) used a randomised experiment to assess the impact of microfinance in Manila, Philippines. In this study the applicants, who met the basic requirements of microcredit, but had less than 100 percent probability of receiving a microcredit loan, were randomly placed into treatment and control groups. Neither the loan officer nor the applicants were informed about the experiment. The data were collected from treatment and control groups after (on average) 411 days. Only 70 percent of the applicants, who were placed in the treatment and control group, could be traced and interviewed in the survey.

The authors reported that participation in the microcredit programme had no significant impact on business profits of the treatment group when study used the full sample. When the impact was estimated separately for men and women, they found positive and significant impacts on profits of men but no significant impacts were found for women. It is important to note that 85 percent of the sample consisted of women. This suggests that there is no impact on the majority of borrowers. The study also found that the impact on profits was higher for higher income households compared to lower income households.

The authors found further that there was no significant impact on the assets and the building materials used for walls and floors. They also did not find any significant impact on savings and remittances. Similarly, the study did not find any significant impact on household income, household expenditures and various measure of well-being. Interestingly when the measures of well-being were combined, the study found a statistically significant negative impact on the well-being of the treatment group. The only statistically significant and positive impact was found on school enrolment of children and formal sector borrowing.

Banerjee et al. (2009) also carried out a randomised experiment in Hyderabad, India to examine the impact of microfinance. In this experiment one MFI (Spandana) identified 104 potential localities to start its microfinance programme. However, the programme was only started in 52 localities. Since the microfinance programme was not introduced in the remaining 52 localities, these were considered as control or comparison localities in the experiment. Although later on, some other MFIs started their microcredit programme in the control localities.

The data were collected from both the programme and control localities at least 12 months after the programme was introduced. The authors found that business owners in the treatment areas reported more profits than those of control areas. This difference was statistically significant. However, there was no significant difference in business revenues, input spending and the number of employees in treatment and control areas.

The authors further reported that there was no significant difference in total household expenditures in treatment and control areas. Nonetheless, households in the treatment areas spent significantly more on durable goods. This increase in spending on durables in the treatment areas was offset by a decrease in spending on temptation goods (such as alcohol, tobacco and gambling). The study found that the spending on temptation goods was less in treatment areas compared to control areas and this difference was statistically significant.

The study also investigated the impact of microfinance on female empowerment, health and education. The results suggest that women in treatment areas were not more empowered, in terms of making decisions on household spending, investment, savings and education, compared to control areas. Similarly, there was no significant difference in health expenditures and school enrolment in treatment and control areas.

Karlan and Zinman (2009) and Banerjee et al. (2009) used randomised experimental method to assess the impact of microfinance. This method is considered to be the preferred method to assess the impact of any programme. The results of these studies show that microfinance does not have any significant impact

on important household outcomes including household income, assets, total expenditures, and spending on health and education.

To sum up, the evidence on the impact of microfinance brings into question the effectiveness of microfinance to reduce poverty. The studies which use innovative designs e.g. Coleman (1999) and Banerjee et al. (2009) and Karlan and Zinman (2009) find no positive impact of microfinance on most household outcomes. Even the studies that find a positive impact of microfinance, acknowledge that the impact is lower for the very poor compared to moderate poor. Moreover as mentioned earlier, the methodologies and results of the studies that find positive impacts have been questioned on a number grounds. Table 3.1 presents a summary of the studies on the impact assessment of microfinance on household and business outcomes.

Table 3.1: Studies on the Impact of Microfinance on Household and Business Outcomes

Study	Country	Methodology	Results
Hulme and Mosley (1996)	Various	Pipeline Borrowers as control group, before and after comparison	Positive impact on household outcomes but the impact is greater for less poor compared to hard core poor
Pitt and Khandker (1998)	Bangladesh	Instrumental variable and village fixed effects method	Positive impact on household outcomes and impact is greater for women compared to men
Morduch (1998)	Bangladesh	Comparison of treatment and control group outcomes	No impact on household outcomes but positive impact on labour supply diversification
Coleman (1999)	Thailand	Pipeline and non-borrowers as control group	No impact on household and business outcome
Wydick (1999b)	Guatemala	Instrumental variable methods	Positive impact on schooling of children
Mosley (2001)	Bolivia	Pipeline Borrowers as control group, before and after comparison	Positive impact on household outcomes but the impact is greater for less poor compared to hard core poor

Study	Country	Methodology	Results
Copestake et al. (2001)	Zambia	Pipeline borrowers as control group	Positive impact of second loan on business profit but no impact of first loan
Park and Ren (2001)	China	Instrumental variable method	Positive impact on household income
Chowdhury et al. (2005)	Bangladesh	New borrowers as control group	Positive impact on household poverty
Khandker (2005)	Bangladesh	Panel data	Positive impact on household outcomes
Coleman (2006)	Thailand	Pipeline and non-borrowers as control group	No impact on ordinary members but positive impact on committee members
Tedeschi (2008)	Peru	Panel data	Positive impact on business profits
Karlan and Zinman (2009)	Philippine	Randomized experiment	No positive impact on most of household and business outcomes
Banerjee et al. (2009	India	Randomized experiment	No positive impact on most of the outcomes

3.3 Impact of Microcredit on Female Empowerment

The majority of microfinance clients are women and some MFIs exclusively lend to women. For example in 2008, 97 percent of Grameen Bank clients were women (GB, 2008). According to some estimates approximately 70-80 percent of microfinance borrowers worldwide are women (de Aghion & Morduch, 2005). Several arguments are presented in the favour of targeting women for microfinance. First, it is argued that women constitute the majority of the poorest and have a higher unemployment rate compared to men. Also the majority of women are involved in the informal sector, which benefits most often from microcredit programmes. Thus provision of microcredit to women can be an effective way of reducing the poverty.

Second, it is argued that women spend their income more effectively to raise the welfare of a household. Therefore the increase in women's income resulting from microcredit investment would be more welfare enhancing compared to increase in men's income. Third, the provision of credit to women leads to female empowerment since women gain more control over household decision making by taking out a microcredit loan. Finally, targeting of women as microcredit clients is advocated on the grounds of financial sustainability of the MFIs. It is believed that women are more reliable clients and their repayment performance is better than men (Cheston & Kuhn, 2002; de Aghion & Morduch, 2005).

There is also some empirical evidence to support the idea that credit to women has greater impacts on household welfare. As mentioned earlier, Khandker (1998, 2005), in his studies of the impact assessment of microfinance in Bangladesh,

found that credit to women had a greater impact on household outcomes. However, the empirical evidence on the impact of microcredit on female empowerment is not conclusive. On the one hand, there are some studies which find that credit to women leads to female empowerment by giving them more say in the household decision making. On the other hand, some other studies find that women do not have any control over the use of the loans. Research also suggests that because of taking credit women face increased violence. These studies are reviewed in more details in this section.

Hashemi et al. (1996) examined the impact of microcredit on female empowerment in Bangladesh. They collected data from three categories of women which included Grameen Bank and BRAC clients, women living in programme villages (and eligible to borrow) and women eligible to borrow but living in non programme villages. They used eight indicators to measure the impact on female empowerment.

Their results show that participation in the microcredit programme had positive impacts on most of the indicators of female empowerment. The impact was statistically significant for three indicators. The participation in the credit programme also had statistically significant positive impacts on the composite indicator of female empowerment. The results further show that women's participation in the credit programme increased the probability of the empowerment even if they did not have any control over the loan.

Similar results were found by Pitt et al. (2006). They estimated the impact of microcredit on female empowerment in Bangladesh using the data collected by the

World Bank and the Bangladesh Institute of Development Studies. Only data collected during 1998-99 were used in this study. The results show that the presence of a female microcredit programme had a positive impact on female empowerment. The results were statistically significant. On the other hand, the presence of male credit programme had a negative effect on female empowerment.

The study further shows that women's participation in the microcredit programme had a statistically significant positive impact on the composite indicator of the female empowerment. Also women's participation in the credit programme had a positive impact on the individual measures of female empowerment. The impact was statistically significant for 9 out of 10 indicators.

Similarly, Kabeer (2001) also found positive impacts of credit on female empowerment in Bangladesh. Her findings show that access to credit decreased violence against women. It gave women more say in the household decision making. However, her study covers the clients of Small Enterprise Development Programme, which is different from typical MFIs as this programme does not lend to the poor and its loan size is also considerably greater than that of a typical MFI.

On the other hand there are some studies which show that there is no impact of microcredit on female empowerment. Goetz and Gupta (1996) investigated the impact of four credit programmes on female empowerment in Bangladesh. They considered control over loan use as a proxy for female empowerment. The authors created five categories of control over loan use namely full control, significant control, partial control, very limited control and no control. If women had control over every aspect of production process started by the loan, they were considered to

have full control. If the women had no involvement in the production process, they were considered to have no control over loan. The remaining three categories lay between these two extreme cases.

The study found that only 17.8 percent of women in the sample had full control over the loan use and 19.4 percent had significant control. Among the remaining 63 percent, 22 percent had no control over the loan use, 24 percent had partial control and 17 percent had very limited control. The study further found that widows and separated women had more control over the loan use compared to married women. This suggests that the presence of a man in the household decreases women's control over loan.

The control over loan also varied with the nature of the investment undertaken with the loan. Women had more control when the loan was invested in poultry, sericulture and fish farming as these are traditionally women's work in Bangladesh. The control over loan was very limited when the loan was invested in Rickshaw and rice trading, which are considered male activities. The control over loan varied with the amount of loan as well. Women's control over loan decreased as the amount of loan increased.

The study also found that MFI staff often approached men and convinced them to allow their wives to join the credit programme. The staff promised that the husbands would actually receive the loan. There was also some evidence that although men receive the loan, they did not repay the loan in some cases. In these cases women had to repay the loan with their savings or with the income from other

sources, for example by selling eggs or fruits. In some cases this unwillingness of men to repay the loan led to violence in the household.

Similar evidence was found by Rahman (1999) in his study of a Bangladeshi village. He observed that banks targeted women because of their "positional vulnerability" i.e., "limited physical mobility" and submissiveness. The loan was mostly used by men and they often forced their wives to join the programme so they could use the loan. Like Goetz and Gupta (1996), he also found that MFI staff often approached men and persuaded them to send their wives to join credit groups on the promise that men would actually receive the loan for their own use.

He also found that when there was a problem of repayment by some group members, women had to remain in the loan centre for longer time since they were not allowed to leave the centre until all the group members had paid their installments. This prolonged stay in the centre led to domestic violence against women. Women also had to face the violence from their husbands if there was a delay in the loan disbursement. The study also found that more than 60% of women's loans were used by men.

Summing up, like the empirical evidence on the impact of microfinance on household and business outcomes, the evidence on the impact of microfinance on female empowerment is also not clear-cut. There is a need to further investigate this issue.

3.4 Impact Assessment Studies in Pakistan

In Pakistan a few studies have attempted to estimate the impact of microfinance. In one of the earliest studies, M. H. Khan (2001) examined the impact of National Support Programme (NSRP). The sample for this study was drawn from eight Pakistani villages. Four of the villages had a NRSP programme for four to eight years and households were taking out loans in these villages. These villages are categorized as treatment villages in the study. In the remaining four villages, the households had joined the microcredit programme but they had not received the loan at the time of the survey. These villages are categorized as control villages in the study.

The sample was drawn from the treatment and control villages and both borrowers and non-borrowers were included in the sample. The study found that a NRSP programme had a positive impact on all the dependent variables, which included household income, expenditures, consumer durables and household net worth. The impact was statistically significant for all dependent variables except household net worth. This study followed Coleman (1999) methodology and attempted to control for self selection bias and programme placement bias. Nonetheless, no attempt was made to control for attrition bias in this study.

Lohano and Jamal (2003) studied the impact of two microcredit programmes in Pakistan. They collected data from two types of households. The first type of households had been using microcredit loans for more than a year while the second type of households had joined the programme but they had not received the loan.

Second, some of the respondents belonged to urban areas while others belonged to rural areas. The results were reported separately for urban and rural areas.

The study found that microcredit had a positive impact on family employment in rural areas and this effect was statistically significant. There was no significant impact of credit on hired workers in rural areas. In urban areas, the study did not find any statistically significant positive impact on either family employment or hired workers. Similarly the study found positive and statistically significant impacts on business sales in rural areas but there were no statistically significant impacts on sales in urban areas.

The study also estimated the impact on household outcomes. The results show that in rural areas, the income of old borrowers was greater than that of new borrowers (pipeline borrowers) and this difference was statistically significant. However, there was no difference between old and new borrowers in terms of expenditures in various categories. In urban areas, the income of new borrowers was greater than that of old borrowers although this difference was not statistically significant. In terms of expenditures in various categories, old borrowers had more expenditure on education than new borrowers and this difference was statistically significant.

Overall, this study presented a mixed picture of the impact of microcredit. The study used pipeline borrowers to control for self selection bias but no attempt was made to control for programme placement and attrition bias. Moreover study used recall method to estimate the impact on business outcomes and compared the

means of old and new borrowers in order to estimate the impact on household outcomes.

Montgomery (2005) assessed the impact of KBL microcredit programme in Pakistan. This study also used pipeline borrowers as a control group. Data were collected from non-borrowers along with borrowers. The study found that microcredit had no impact on most of the expenditures categories of borrowers. The only statistically significant impact was found on the educational expenditures of very poor borrowers. The study also found that children of the borrowing households were more likely to receive medical treatment.

The study did not find any positive impact on the profits and sales of animal raising activities. However, the study found a positive impact on profits and sales of urban micro enterprise and on the sales of agriculture products. The impact on the sales of agriculture products was greater for the poorest clients. Hence the results of this study are mixed and there is no clear evidence of the impact of microcredit. This study followed Coleman (1999) methodology and attempted to control for self selection and programme placement bias. However, like most of the other studies, it did not make any attempt to control for attrition bias.

Setboonsarng and Parpiev (2008) used the same data as Montgomery (2005) to assess the impact of microfinance in Pakistan. However, they changed the methodology and used propensity score matching method to estimate impacts. This study found that participation in the microfinance programme had a positive and statistically significant impact on agriculture production and animal raising activities.

There was also a positive and statistically significant impact on the value of farm equipment and rental income from farm equipment.

However, the study found that consumption expenditures of the participants were less than that of non participants although the difference was not statistically significant. Similar results were found for consumer durables, household savings, school expenditures per child and monthly health expenditures per capita. On the other hand, the study found that microfinance borrowers were more likely to seek treatment when ill and were also more likely to have funds for medical treatment. The study also estimated the impact separately for poorer clients and found no significant difference in the results.

The results of this study are similar to Montgomery (2005) although there are some notable differences. Overall both studies found no positive impact on household expenditures and agriculture production. Montgomery (2005) found no impact on animal raising activities. However, Setboonsarng and Parpiev (2008) found a positive and statistically significant impact on animal raising activities. The results of Setboonsarng and Parpiev (2008) should be interpreted with caution as the study uses the propensity score matching method. In this method treatment group and control group are matched on the basis of observable characteristics. Hence, this method fails to control for self selection bias and also programme placement and attrition bias.

Jamal (2008) examined the impact of six microfinance programmes in Pakistan. This is so far the largest impact study carried out in Pakistan, in terms of number of MFIs included in it. This study controls for self selection bias by

following Coleman's methodology. The study collected data from old borrowers, pipeline borrowers and non-borrowers. Non-borrowers were selected both from programme and non programme areas. Like most of other studies of impact assessment in Pakistan, the results of this study are also mixed.

The study found that microfinance had positive and statistically significant impact on household income, expenditures and assets. The study also found a statistically significant impact on health expenditures and female empowerment. However, the study did not find any significant impact on household expenditures of education.

To sum up, like most of the other countries, the impact of microfinance in Pakistan is not very clear so far. Almost all the studies in Pakistan find positive impacts on some of the outcomes while there is no impact on some other outcomes. Therefore, the issue of the impact of microfinance still remains unresolved and requires further investigation

3.5 Studies on the Poverty Status of Microfinance Clients

Although recent estimates by the Microcredit Summit Campaign show that microfinance is reaching to more than 150 million clients and approximately 106 million among them are the poorest. A number of studies have attempted to measure the poverty status of microfinance clients. There seems to be a general consensus among researchers that most of the microfinance clients are "clustered" just below or above the poverty line.

Microfinance does reach some of the poorest clients but their percentage is very low and most of the poorest clients are located in South Asia only. As Woller (2002, p. 306) states, *"....customers in these MFIs tend to be clustered around the poverty line, being predominantly "moderately poor" (top 50th percentile of household below the poverty line) or "vulnerable non-poor"(household above the poverty line but vulnerable to slipping back into poverty). Exclusion of very poor…. appears to be a widespread phenomenon"*.

Navajas et al. (2000) studied five Bolivian MFIs and collected data from 588 rural and urban borrowers. They found that borrowers of urban individual lenders were slightly above the poverty line while the borrowers of urban group lenders were on average poor. Similarly, the clients of rural lenders were slightly below the poverty line. Therefore they conclude that MFIs in Bolivia do not lend to the poorest instead they lend to the people who are just below or above the poverty line.

Similar results were found by Hulme (1999) who studied 13 MFIs in East Africa. He found that African MFIs did not work with the very poor (i.e. landless, household head with no education and unskilled labourers). The author also found that most of the clients were not poor or they were moderately poor. The author argues that the very poor are excluded from lending because MFI staff does not want to work with the poor clients. The staff find it difficult to achieve their target of disbursement and recovery if they work with the poorest. Group members also do not want to select the poorest households because of repayment concerns. Some of the poorest also do not want to take out a loan because of the fear of losing assets or

being arrested in case of default, forced saving, inconvenient timing and place of group meetings.

Cohen and Sebstad (2000) investigated the poverty status of the microfinance clients in four countries namely Uganda, Philippines, Bolivia and Bangladesh. Their results show that the majority of microfinance clients are the moderately poor and the vulnerable non poor. The authors found that in Uganda only a few clients were extremely poor. In Philippines some of the clients were extremely poor. In Bolivia none of the clients were extremely poor. In Bangladesh, 40 percent of the clients were extremely poor. The authors further found that none of the clients were destitute and also none of them were non poor.

It emerges from the results of the above considered studies that MFIs generally fail to reach the poorest segment of the society. Woller (2002) calls it "marketing failure" or lack of "market orientation". He argues that most of the MFIs explicitly ignore the very poor. MFIs employ the policy of high interest rate, small loans, forced savings and regular weekly meetings to "weed out" better off individuals. However, these policies also "weed out" the very poor as well. Moreover MFI staff and group lending are biased against very poor because of the credit worthiness concerns.

3.6 Summary

This chapter described that microfinance provides an opportunity to the poor to expand their small businesses and start new businesses. This investment in small businesses is expected to raise the income and expenditures of the households and

pull them out of poverty. It is also expected that the provision of microfinance to women can lead to female empowerment and that is why most microfinance programmes lend exclusively to women. Nonetheless, practically it is hard to measure the impact of microfinance and researchers have to face various problems while assessing the impact.

Notwithstanding the problems of impact assessment, researchers have attempted to estimate the impact of microfinance worldwide by using various methods, which aim to control for these problems. The results so far show that there is no clear evidence of the impact of microfinance on any of the outcomes. There are some studies which find that microfinance has a positive impact on household income, expenditures, business profits and female empowerment. But this evidence has been refuted by some other studies, which find no impact of microfinance. These studies are more innovative in terms of their methodologies.

In Pakistan, a few researchers have attempted to assess the impact of microfinance. As with other countries, the evidence in Pakistan is also not very clear. Some studies find positive impacts on some of the outcomes but there is no impact on the other outcomes. Interestingly researchers get different results from the same data set when a different methodology is used.

The research also shows that most of the MFIs lend to households who are either moderate poor or non poor. MFIs staff deliberately exclude extremely poor households from lending because the staff are more concerned about repayment of the loan and fear that if they lend to the poorest households they will not be able to

repay the loan. Hence MFIs fail to reach the segments of the society which might be more in need of credit.

Chapter 4: Methodology and Data

4.1 Introduction

Impact assessment of any programme poses the problem of missing data. We do not know the outcomes of participants, had they not participated in the programme. The best way to overcome this problem is to randomly assign "some well-defined set of people" into treatment and comparison groups. Then there would be no significant differences between the two groups except one group would receive the treatment while the other would not. The difference between the outcomes of participants (treatment group) and non participants (comparison group or control group) would then reveal the impact of the programme (Ravallion, 2001).

Randomized experiments, however, are very rare in economics and social sciences. In microfinance programmes they are almost impossible because of self selection and repayment concerns. As the objective of microfinance programmes is poverty alleviation, the programmes are placed in carefully selected areas. Moreover, participation in the programme is by self selection and subject to approval by other group members and MFI staff. Given that randomization is very rare, the impact assessment of microfinance programmes is often carried out by carefully selecting a control group or a comparison group.

This chapter discusses the problems involved in the impact assessment of microfinance and the various methods that can be used to overcome these problems. It also discusses the methods and data used in this study. The remainder of this

chapter is organized as follows. Section 4.2, describes the various issues in the impact assessment of microfinance. Section 4.3 describes different methods that can be used for the evaluation of any programme. Section 4.4, discusses the research framework of this study followed by the discussion of the objectives and hypothesis of the study in Section 4.5. Details of the case study MFIs are provided in Sections 4.6 to 4.10. Data collection is described in Section 4.11 and the summary statistics of the data are presented in Section 4.12. Finally Section 4.13 presents a summary of the chapter.

4.2 Issues in the Impact Assessment of Microfinance

Microfinance programmes are mostly implemented through group lending. With group lending, group members self select into the programme and are selected by other group members as well. For example, if a microfinance programme is introduced in a village, some of the villagers participate in the programme while others do not. Those who decide to participate are then screened by the other group members. After self selection and selection by the group members, the participants can finally apply for a loan.

Coleman (1999) argues that there can be significant differences between the participants (those who self select) and the non participants (those who do not self select). If the differences are observable (e.g. age, education, or gender), they can be controlled for statistically in a regression framework. If such differences are unobservable (e.g. entrepreneurship, motivation, or risk preference), they cannot be controlled for and comparison of members and non members can produce biased

results. The bias can arise as the unobservable characteristics, which lead to self selection, can also affect outcome measures such as income and consumption. This bias is usually called "self selection bias".

Another bias arises when the control group is selected from a village where no microfinance programme is available. If microfinance programmes select villages which are relatively poorer, comparison of the treatment and control group will produce biased results as the treatment group belongs to poorer villages. On the other hand, if the programmes are placed in villages which are better organised and have dynamic leaders, results will again be biased as the treatment group might already be relatively richer. This is called "programme placement bias" (Coleman, 1999).

To further elaborate these biases, suppose the following simple equation is used to compare the outcomes of treatment and control groups

$$Y_i = \alpha X_i + \beta T_i + \mu_i \tag{4.1}$$

In equation (4.1) Y_i is an outcome variable, X_i is a vector of observables characteristics, T_i is a dummy variable which is equal to 1 for participants and 0 for non participants and μ_i is an error term. The estimation of equation (4.1) produces biased results as the error term would be correlated with the treatment dummy because it does not control for unobservable household characteristics which lead to self selection (WBI, 2008).

The results would be further biased if the control group is selected from a village where there is no microfinance programme. As Coleman (1999) argues, the villages where microfinance programmes are introduced can be different from those where no programme is introduced. Programme villages can be more organised or they can have better leaders or they can be poorer. If the programme is placed in a village because of these characteristics, the error term would be correlated with the treatment variable and hence the results would be biased.

Karlan (2001) identifies two more biases, resulting from dropouts when cross sectional data are used and the control group is selected from new programme participants or pipeline borrowers. The first bias is "incomplete sample bias". Karlan argues that microfinance programmes can make some borrowers better off and others worse off. If the borrowers who become worse off leave the programme after some time, only successful borrowers will stay in the programme in the longer run. The selection of the treatment group from the remaining successful borrowers will ignore the negative impact of the programme. When this treatment group of successful borrowers is compared with the control group of new programme participants (who include potential dropouts), results will be biased. Similarly, results will also be biased if the successful borrowers dropout and only unsuccessful stay in the programme.

Second, Karlan (2001) argues that even if the programme has no positive impact or negative impact, one needs to find who leaves the microfinance programme. If relatively rich leave the programme after some time, only poor will stay in the programme. The comparison of existing borrowers with new borrowers

will again produce biased results as treatment group would comprise of only poor while control group would include both poor and relatively rich. Results will also be biased if poor dropout and relatively rich stay in the long run. This is called "attrition bias". Both of these biases can be controlled by selecting the treatment group from existing borrowers and dropouts.

The next section reviews the various methods that are generally used for evaluation of any programme and attempt to overcome the problems discussed above.

4.3 Methods of Impact Assessment

In essence the purpose of all the methods of impact assessment is to find a counterfactual. A counterfactual is what would have happened without the programme. All the methods try to find the counterfactual by carefully selecting a comparison group, which is very similar to the treatment group (Ravallion, 2001).

Different methods used for impact assessment are given below:

- Randomized Evaluation Method
- Propensity Matching Method
- Double Difference Method
- Instrumental Variable Method
- Pipeline Method

4.3.1 Randomized Evaluation Method

In this method a two stage process is followed. In the first stage, a representative sample of the potential participants is selected from the population. In the second stage, some of the potential participants are randomly assigned to a treatment group and others are assigned to a control group i.e., some of the potential participants actually participate in the programme while some others are excluded from the programme. Hence there is no self selection involved in this process. This process ensures that there are no differences between a treatment and a control group before the treatment (Ravallion, 2001; WBI, 2008).

If the randomization is done by following the above mentioned two stage process, the treatment and the control group would have the similar expected outcomes in the absence of treatment. As treatment is purely random and does not depend on unobservable characteristics, the problem of the self selection is eliminated (WBI, 2008). Now if equation (4.1) is used to estimate the treatment effect, unbiased estimates would be achieved as the treatment dummy T_i and the error term μ_i would not be correlated.

The use of randomization in the evaluation of microfinance is very rare. So far there are only a few studies which use randomization to assess the impact of microfinance. These include Banerjee et.al (2009) and Karlan and Zinman (2009).

4.3.2 Propensity Matching Method

In this method a comparison group is selected from a large sample of non participants on the basis of some pre treatment observable characteristics. The

purpose is to find a comparison group which is similar to the treatment group in terms of some observable characteristics. As it is very hard to find households who have exact matching of observable characteristics, a probability score of participation in the programme – called propensity score – is calculated on the basis of observable characteristics. Participants and non participants are then matched on the basis of this score. The mean difference in the outcomes of these two groups then provides the average treatment effect (WBI, 2008).

This method assumes that participation in the programme is based on some observable characteristics. When the programme participation is influenced by some unobservable characteristics, the propensity matching method is not appropriate for programme evaluation. Given the fact that participation in microfinance programmes depends on some unobservable characteristics, as participants self select, the use of propensity matching score methods is not very useful in the evaluation of microfinance programmes. Nonetheless a few studies have used this method to assess the impact of microfinance. These studies include Arun et al.(2006), Setboonsarng and Parpiev (2008) and Aroca (2002).

4.3.3 Double Difference Method

In the double difference (DD) method, the treatment and control group are compared before and after the programme implementation. Data are collected from both the treatment and control group before and after the programme implementation. DD method can be implemented by collecting data from the same individuals/units before and after the programme implementation (panel data) or by

collecting the data from the same localities before and after the programme implementation (repeated cross section data) (WBI, 2008).

Let Y_0^T be the outcome of the treatment group before the programme implementation and Y_0^C be the outcome of the control group before the programme implementation. Likewise let Y_1^T be the outcome of the treatment group after the programme and Y_1^C be the outcome of the control group after the programme implementation. One can measure the average programme effect by equation (4.2)

$$DD = (Y_1^T - Y_0^T) - (Y_1^C - Y_0^C) \tag{4.2}$$

The DD method can be applied using a multiple regression framework. In the DD method it is assumed that unobserved characteristics, which lead to the self selection bias, are time invariant. The bias resulting from unobservable characteristics is cancelled out by differencing. Similarly unobservable village characteristics, which lead to programme placement bias, are also cancelled out by differencing. Therefore, one obtains unbiased programme estimates by this method (WBI, 2008). DD method has been used in the impact assessment of microfinance by some researchers such as Tedeschi (2008) and Khandker (2005).

4.3.4 Instrumental Variables Method

As discussed earlier when treatment is not random using a simple equation like equation (4.1) produces biased estimates because of self election and non random programme placement. The results are biased because the treatment variable T_i is correlated with the error term μ_i.The instrumental variables method removes

the correlation between T_i and the error term μ_i. To remove this correlation between T_i and μ_i one needs to find another variable (Z) called an instrument which satisfies two conditions:

- Correlated with T_i
- Uncorrelated with μ_i

Thus the instrument Z is correlated with programme participation but it is uncorrelated with the outcomes of the programme (Stock & Watson, 2003; WBI, 2008).

The Instrumental variables method is implemented through a two stage regressions. In the first stage T_i is regressed on the Z and other control variables to obtain predicted value of T_i ($\hat{T}_i$). $\hat{T}_i$ gives the component of T_i which is uncorrelated with the error term. This $\hat{T}_i$ is then used in equation (4.1) to find the unbiased programme impact (Stock & Watson, 2003; WBI, 2008).

In the impact assessment of microfinance it is hard to find any variable which can be used as an instrument. Some of the studies which have sued instrumental variables methods to assess the impact of microfinance include Pitt and Khandker (1998) and Khandker (1998) among others. They used the loan eligibility criteria (ownership of half an acre of land) as an instrument. However, this type of eligibility criteria is used by few MFIs. Therefore, it cannot be used as an instrument in every impact assessment study.

4.3.5 Pipeline Method

In the pipeline method, new participants (who have joined the programme but have received no treatment) are compared with old participants or "veterans". In this method it is assumed that new participants have same unobservable characteristics as those of "veterans" because the new participants have also joined the programme by self selection. The method is usually implemented through a cross sectional design. Since new participants have not received any treatment and old participants have received the treatment for some time, any difference between the two groups is considered to be the impact of the programme (Karlan, 2001).

This method leads to "incomplete sample bias" and "attrition bias" as discussed in Section 4.2 if the dropouts are not included in the treatment group. This problem can be overcome by selecting the treatment group from the dropouts and the existing programme participants. This method has been used in many studies such as Hulme and Mosley (1996) and Coleman (1999), to assess the impact of microfinance.

4.4 Research Framework: How Access to Credit Reduces Poverty?

Poor people are mostly excluded from the formal credit market as they do not have any credit history or collateral or political influence. Hence the poor are often credit constrained and cannot invest in their profitable investment projects, which can increase their income and help pull them out of poverty. Improving the access to credit for the poor can improve their lives by providing them the opportunity to invest in their profitable activities (Levine, 2004).

Some empirical evidence shows that access to finance does reduce poverty at macro level and that the poor do benefit from the improvement of credit markets. For example, Beck, Demirguc-Kunt and Levine (2004) investigate the relationship between "financial intermediary development" and poverty in 52 developing countries. They find that in the countries with "better-developed financial intermediaries" income of the poorest quintile grows faster compared to average GDP per capita growth rate and income equality also improves. They also find a positive relationship between financial development and school enrolment.

Honohan (2004) also finds that financial development is correlated with lower level of poverty at the macro level. He investigates the relationship between financial development and poverty in 70 developing countries. He finds that financial development, as measured by ratio of private credit to GDP, has a positive impact on poverty reduction.

Despite the evidence that financial development leads to a lower level of poverty, some argue that rich people obtain more benefits from financial development. Others argue that the poor benefit more from the financial market development (See Levine, 2004 for a review). However, the case of microfinance is different from the general financial development as microfinance programmes are designed for poor people and generally only the poor benefit from these programmers. Although some argue these programme do not reach the very poor or the poorest of the poor but generally it is acknowledged that people who obtain the microcredit loan are not rich (Woller, 2002).

The provision of microfinance removes the credit constraints faced by the poor. As poor households have access to microfinance, their income can increase by investing in their businesses. As a result of this increase in income their consumption and demand for health and education of their children also increases (de Aghion & Morduch, 2005). In the longer run, they can accumulate more assets and consumer durables. Ultimately this increase in income can pull the poor out of poverty trap.

To empirically estimate the impact of microfinance access on household income and other variables of interest, a simple model is developed. The income of any household depends upon a number of factors which include the nature of the job or the business of the household members, level of education of the household members, number of working age household members and entrepreneurial abilities of the household members. Income also depends upon local and overall economic environment in the country. For example if a household is located in an area which has well developed infrastructure and easy access to markets, the income of the household would be higher compared to when the household is located in a relatively underdeveloped area with poor infrastructure and no access to markets. Similarly the income of the households would be relatively higher if the macro-economy of the country is stable, state institutions are well functioning and infrastructure is well developed.

One can illustrate the relationship of household income to its determinants by the following expression

$$Y_{ij} = f(X_i, V_j) \tag{4.3}$$

Where Y_{ij} is the household income, X_i is the vector of household characteristics and V_j is the vector of local characteristics. Assuming that a household is credit constrained, access to microfinance would have a positive impact on household income as the household would be able to invest in its existing business or it would be able to start a new business. Thus with access to microfinance, the above equation can be modified as follows

$$Y_{ij} = f(X_i, V_j, F_i) \tag{4.4}$$

In equation (4.4) F_i represents access to microfinance and all the other variables are same as in equation (4.3). This equation shows that household income is a function of household characteristics, local characteristics and access to microfinance.

The above general model can be used to assess the impact of microfinance on a number of outcomes besides household income by using the following empirical model

$$Y_{ij} = \alpha X_{ij} + \beta V_j + \delta C_{ij} + \mu_{ij} \tag{4.5}$$

In equation (4.5) Y_{ij} is an outcome variable, X_{ij} is the vector of household characteristics, V_j is the vector of local characteristics, C_{ij} is the amount of microcredit loan, μ_{ij} is an error term and α, β and δ are the parameters to be estimated. As discussed in the previous section, the estimation of this type of simple model will produce biased estimate due to correlation between the error term and the

treatment variable. Various methods to overcome these problems are also discussed in Section 4.3.

This study uses the pipeline method as used by Coleman (1999). In his study Coleman collected data from 14 Thai villages. At the time of the survey 8 villages had a microfinance programme while 6 villages did not have any microfinance programme. Nonetheless, these 6 villages had been selected by the microfinance institutions to start their microcredit programme in the future. For the purpose of the study, the staff of the microfinance institutions organised the villagers into groups following the normal procedure of self selection.

However, the villagers in these newly selected villages were told that they would not receive credit for one year. Thus members of these newly formed groups acted as a control group in the study. Coleman argues that these new members have the unobservable characteristics similar to microfinance clients as they have joined the microfinance programme by the normal selection procedure. After the group formation in the newly selected villages, data were collected from both the members and the non members from all the 14 villages.

With this unique survey design, Coleman argues that the unbiased impact of the microfinance programme can be estimated by the following simple model

$$Y_{ij} = \alpha X_{ij} + \beta V_j + \gamma M_{ij} + \delta D_{ij} + \mu_{ij} \qquad (4.6)$$

In equation (4.6) M_{ij} is a membership dummy which is equal to one for microfinance borrowers and zero for non-borrowers. Thus it would be one for both the new and old borrowers and zero for the non-borrowers. The membership dummy

variable M_{ij} captures the unobservable household characteristics. Thus it removes the bias resulting from the correlation between the treatment variable and the error term. D_{ij} is the microcredit loan duration. All the other variables are same as in equation (4.5).

The programme placement biased can be overcome by including a vector of village characteristics V_j if the programme placement is random. However, if the programme placement is not random and depends upon some unobservable village characteristics, inclusion of V_j will not produce unbiased estimates. Coleman argues in that case unbiased estimates can be achieved by using a fixed effects method. Thus with the above specification one can achieve the unbiased estimate microfinance programme access. The above model can be estimated using OLS if Y_{ij} is continuous or by logit/probit if Y_{ij} is a binary variable.

The above model can be modified by replacing microcredit loan duration variable with dummy variables representing various loan durations as used by Chowdhury et al. (2005). In their study to assess the impact of microcredit on poverty in Bangladesh, Chowdhury et al. (2005) used a number of dummy variables in one of the specification of their models. They constructed a separate dummy variable for every six months of loan duration. Thus by modifying the Coleman (1999) specification with dummy variables approach of Chowdhury et al. (2005), we can find which years of the programme access has a positive or a negative impact on household outcomes.

Accordingly, the data were collected from four types of households (data collection will be explained in more detail in Section 4.10). The first category included old borrowers or current borrowers – those who had been taking out microcredit loans for some time. The second category included new borrowers or pipeline borrowers – those who had joined the programme and were in the process of receiving the loan. These pipeline borrowers are supposed to have same unobservable characteristics as the old borrowers and this is our main control group. The third category included dropouts – those who had left the microfinance programmes for any reason. This was done in order to control for the bias resulting from the exclusion of dropouts from the sample. The final category of the respondents included non-borrowers.

With this type of data, one can replicate Coleman's model. The model can be modified by replacing the loan duration with dummy variables representing various loan durations. Thus the study uses following models to estimate the impact of microfinance on various outcomes

$$Y_{ij} = \alpha X_{ij} + \beta V_j + \gamma M_{ij} + \delta D_{ij} + \mu_{ij} \tag{4.7}$$

$$Y_{ij} = \alpha X_{ij} + \beta V_j + \gamma M_{ij} + \delta_0 L_0 + \delta_1 L_1 + \delta_2 L_2 + \delta_3 L_3 + \delta_4 L_4 + \delta_5 L_5 + \delta_6 L_6 + \delta_7 L_7 + \delta_8 L_8 + \delta_9 L_9 + \mu_{ij} \tag{4.8}$$

Equation (4.7) is same as equation (4.6). In equation (4.8) L_0 is a dummy variable coded 1 if the loan duration is zero and zero otherwise as in the case of new borrowers and non-borrowers. L_1 is a dummy variable coded one if the loan duration

is between one and twelve months and zero otherwise, L_2 is equal to one if the loan duration is between 13 and 24 months and zero otherwise and so on. Finally L_9 is a dummy variable coded one if the loan duration is more than 96 months and zero otherwise. All the other variables are same as in equation (4.7). OLS and logit/probit regression are used to estimate the above models depending upon the nature of dependent variable.

4.5 Research Objectives and Hypothesis

Generally all microfinance programmes aim to remove credit constraints faced by the poor by providing them with small loans, which gives poor households an opportunity to invest in small businesses. The ultimate objective of the provision of microfinance is the improvement of income and hence consumption and poverty reduction. Given this "promise" of microfinance, in the broader sense there are two main objectives of the study. The first objective is to find the poverty status of microfinance clients and the second objective is to find the impact of microfinance on borrowing households.

In order to achieve the first objective, the study investigates what percentage of microfinance borrowers are below the national poverty line and how far they are below the poverty line. Here the main focus is on pipeline borrowers as the poverty status of current borrowers might have changed as result of taking out microcredit loans.

To achieve the second broader objective, the study focuses on a number of household outcomes, which can change as result of access to microcredit. Improvement in these outcomes can be used as a proxy for poverty reduction. First, the study examines the impact of microfinance on household income. If microfinance has a significantly positive impact on the household income, one can assume that in the longer run household will come out of poverty.

Second, the impact of microfinance is gauged on various categories of household monthly expenditures, which can also increase as result of access to microfinance. Third, the impact of microfinance is examined on total household assets and consumer durables. Finally, the impact is assessed directly on poverty. Subjective and objective poverty measures are used for this purpose.

Hence objectives of this study are given below:

1. To determine the poverty status of microfinance clients
2. To determine the impact of microfinance on household monthly income
3. To determine the impact of microfinance on household total monthly expenditure
4. To determine the impact of microfinance on household monthly expenditure on food
5. To determine the impact of microfinance on household monthly expenditures on clothing
6. To determine the impact of microfinance on household monthly expenditure on rent

7. To determine the impact of microfinance on household monthly expenditure on transport
8. To determine the impact of microfinance on household monthly expenditure on utilities
9. To determine the impact of microfinance on household monthly expenditure on medical
10. To determine the impact of microfinance on household monthly expenditure on education
11. To determine the impact of microfinance on the value of household assets
12. To determine the impact of microfinance on the value of consumer durables
13. To determine the impact of microfinance on objective and subjective poverty

4.5.1 Hypotheses

Given the objectives of the study above, we have following hypotheses:

1. The households who join microfinance are not very poor
2. There is no impact of microfinance on household monthly income
3. There is no impact of microfinance on household total monthly expenditures
4. There is no impact of microfinance on household monthly expenditures on food
5. There is no impact of microfinance on household monthly expenditures on clothing
6. There is no impact of microfinance on household monthly expenditures on rent

7. There is no impact of microfinance on household monthly expenditures on transport
8. There is no impact of microfinance on household monthly expenditures on utilities
9. There is no impact of microfinance on household monthly expenditures on medical
10. There is no impact of microfinance on household monthly expenditures on education
11. There is no impact of microfinance on household total assets
12. There is no impact of microfinance on the value of household consumer durables
13. There is no impact of microfinance on objective and subjective poverty

4.6 Case Study Institutions

Various factors influenced the selection of MFIs for this study. These include type of the MFI, overall outreach of the MFI, presence in terms of geographical area and cooperation from the MFI. As discussed in Section 2.6, there are four categories of MFIs in Pakistan. The first three categories of the MFIs (RSPs, SMFIs and MFBs) dominate the sector and their overall share in terms of number of active borrowers is 95 percent.

Against this backdrop, it was decided to choose the largest MFI from each of the three categories in order to make the sample representative of the wider population of microfinance clients. The three largest MFIs are NRSP, KBL and the

Kashf Foundation. Before the field survey, the author communicated to these three MFIs for formal agreement of participation in the study and each MFI agreed to participate. However, at the time of the survey the management of the Kashf Foundation refused to participate as they claimed that they were having problems in repayment and their clients were not cooperating with them.

Given this change, it was decided to replace the Kashf Foundation with another MFI. Another SMFI, Akhuwat, was contacted and it agreed to participate in the survey. Although Akhuwat is a relatively small MFI, it is unique in terms of its lending methodology and service charges (discussed in detail below). Accordingly, the data were gathered from the clients of NRSP, KBL and Akhuwat. The introduction of these MFIs is presented below.

4.7 National Rural Support Programme (NRSP)

National Rural Support Programme (NRSP) is an NGO and was established in November 1991 as a public limited company. Until 1992, it was operating in only eight villages near the capital city of Islamabad. In 1992, the government of Pakistan provided a grant to NRSP to implement its Social Action Programme (SAP) through Community Organisations (COs). The objective of the SAP was to improve the quality of life in rural areas of Pakistan. This grant was converted into an endowment fund and it was the main source of income for NRSP. In later years, NRSP received funding from international donors including ADB, Save the Children, DFID and UNDP. For its microcredit lending programme, NRSP borrows funds from a private bank and the Pakistan Poverty Alleviation Fund (M. H. Khan, 2001).

With the provision of the funding from the government of Pakistan, NRSP started the process of COs formation in eight districts of Pakistan in 1993. By the end of 2009, it was operating in 46 districts of Pakistan. NRSP is the largest provider of microfinance services in Pakistan; nonetheless its activities are not limited to microfinance. NRSP follows a holistic approach towards development. It provides support for other development activities such as skills improvement, natural resource management, physical infrastructure development, and health and education (M. H. Khan, 2001; NRSP, 2009).

According to NRSP (2009, p. 2) its objective is *"To foster a countrywide network of grassroots level organisations to enable rural men & women to plan, implement and manage developmental activities and programmes for the purpose of ensuring productive employment, poverty alleviation and improvement in the quality of life*". However, as this study is about the impact of microfinance it will only focus on the activities related to microfinance.

4.7.1 Lending Methodology of NRSP

NRSP has two types of credit programmes namely Microfinance and Enterprise Development Programme (MEDP) and Urban Poverty Alleviation Programme (UPAP). MEDP focuses on rural areas while UPAP focuses on urban areas. NRSP started its MEDP programme in 1995/96. NRSP delivers all its services, including microcredit, through Community Organisations (COs). CO is a group of 10-15 people living in the same village although there are no rigid rules about the size of the group. The process of the CO formation starts with the programme

introduction in a village by NRSP staff. Subsequently, individuals who are willing to provide guarantees for each other form a CO and choose a president and a manager.

Following the CO formation, NRSP staff prepares poverty profiles of the CO members and ask them to rank themselves according to their poverty status into five categories: (1) destitute, (2) very poor, (3) poor, (4) better off and (5) well to do. After the completion of poverty profiles, NRSP staff and CO members prepare a micro-investment plan for each member to identify their needs. Finally, CO members formally apply for credit and it takes about one to four weeks before the credit is disbursed.

All the members have to deposit a compulsory savings equivalent to 10 percent of the value of the loan before receiving it. These savings are deposited in a local commercial bank in the CO's account and CO members cannot withdraw these savings before the repayment of their loans. Hence these savings effectively act as partial collateral for the loan (M. H. Khan, 2001). COs are required to meet fortnightly on a pre specified date, time and location. All the members have to participate in these meetings and have to contribute a certain amount towards the savings, which is later deposited in the CO's saving account.

In its MEDP, NRSP provides four types of loans, which include (1) Agriculture Inputs Loan, (2) Livestock Loan, (3) Small Business Loan, and (4) Small Infrastructure Loan. The purpose of the agriculture loan is to facilitate the farmers in the purchase of agriculture inputs such as fertilizers, seeds and pesticides. The livestock loan is for the purchase of farm animals such as goat, sheep and cattle. Small business loans are provided to the existing small business owners to expand

their business. Finally infrastructure loan is provided for productive infrastructures such as irrigation technology.

There is a ceiling of PKR 10,000 (c. US$ 116) on the first loan and the maximum loan limit for the repeat borrowers is PKR 30,000 (c. US$ 349). NRSP like other MFIs uses progressive lending and the loan amount is increased after each loan cycle of six months. As most of the loans are for agriculture in rural areas, borrowers repay the full balance of their loan after six months. Nonetheless, they have the option to repay in installments before six months and interest is adjusted accordingly. Thus NRPS is quite flexible with the repayment of the loans and its borrowers do not have to repay weekly like with the Grameen Bank (NRSP, 2009).

In September 1996, NRSP started its Urban Poverty Alleviation Programme (UPAP) to provide microfinance services to poor people living in urban areas. The urban credit is provided for small businesses. The credit is mainly delivered through groups and only women can borrow under this programme; though men can utilize the credit. The amount of first UPAP loan is PKR 15,000 (c. US$ 174) and the loan amount is increased after each loan cycle of 12 months, with a maximum loan ceiling of PKR 30000 (c. US$ 349). As these loans are for small businesses, repayment is through monthly installments (SAMN, 2010).

4.7.2 Savings in NRSP

NRSP borrowers are required to deposit a saving amount equivalent to 10 percent of the loan in a group savings account. The savings account is opened in a local commercial bank and borrowers cannot withdraw these savings before the repayment of their loan. Apart from compulsory savings, borrowers have to

contribute a certain amount (this amount is decided by the CO members) toward the savings during fortnightly meetings. These savings are also deposited into the savings account by one of the CO members (usually the manager or president).

With the passage of time these savings keep on increasing and on average each NRSP clients had an average savings balance of PKR 5,038 (c. US$ 58) while the average loan balance of NRPS clients was PKR 9,751(c. US$ 113) in the sample. Hence in the sample, each borrower had a saving balance roughly equal to half of the loan balance. These savings generally do not earn any interest as all the respondents in the sample reported that they do not receive any interest on their savings.

4.7.3 NRSP Insurance Scheme

NRSP clients pay a mandatory insurance premium of PKR 100 in every loan cycle. Since MEDP loans are renewed every six months, MEDP borrowers have to pay the insurance premium twice a year. UPAP loans are renewed annually. Therefore UPAP borrowers pay the insurance premium once a year. This insurance scheme covers borrowers for the loan duration.

NRSP insurance provides a cover of up to PKR 15,000 to all members of borrowers' household in the case of hospitalization and day care treatment. It also provides a cover of up to PKR 15,000 to a borrower if he/she is household head and dies in an accident or has a permanent disability. Furthermore, the insurance scheme provides a cover of up to PKR 15,000 in case of natural death of a borrower for funeral expenses and repayment of outstanding loan (NRSP, 2009).

4.7.4 Outreach of NRSP

NRSP is the largest provider of microfinance in terms of number of active borrowers. According to PMN (2009), NRSP had 428,075 active borrowers by the end of September 2009. Approximately 25 percent of the active borrowers were located in urban areas while the remaining 75 percent were located in rural areas. As is shown in Table 4.1, by October 2009, NRSP, through its MEDP, had disbursed cumulatively 2.24 million loans. 61 percent of the loans were for agriculture inputs, 17 percent for livestock, 22 percent for enterprise development and only a negligible amount for infrastructure. Overall, 77 percent of the loans were disbursed to men and 23 percent of the loans were disbursed to women (NRSP, 2009).

Table 4.1: Total Number of Loans by Category

Category	Men	Percentage	Women	Percentage	Total	Percentage
Agriculture	1,321,855	97	42,125	3	1,363,980	61
Livestock	207,084	53	185,450	47	392,534	17
Enterprise	202,014	42	283,221	58	485,235	21
Infrastructure	4,978	92	458	8	5,436	0.24
Total	1,735,931	77	511,254	23	2,247,1855	100

Source: NRSP (2009)

4.7.5 Cost of NRSP Loans

For MEDP loans, NRSP charges an annual interest rate of 28 percent. However, borrowers also have to pay PKR 400 for loan processing and PKR 100 for micro insurance. As insurance is mandatory, it can also be considered as the cost of loans. Furthermore, borrowers also have to deposit compulsory savings before

receiving the loan. They also have to deposit savings in the fortnightly meetings as well. These savings are on average equal to half the amount of the loan and borrowers do not receive any interest on these savings. Hence these savings are an additional cost of borrowing as the value of the savings depreciates over the years because of high inflation rate in Pakistan (author's personal communication).

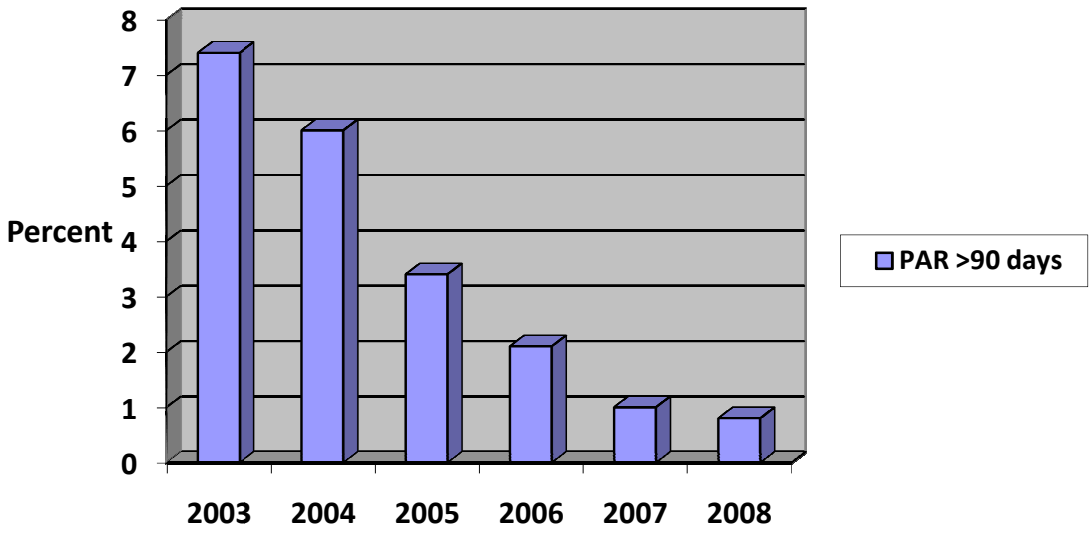
In rural areas, the loan is renewed every six months. Borrowers have to pay loan processing and insurance fee twice a year. An average borrower, in rural areas with a loan amount of PKR 10,000, has to pay PKR 2,800 for interest payment and PKR 1,000 for loan processing and insurance fee in a year. Thus, the effective cost of the loan is 38 percent without taking into account the additional cost in terms of depreciating savings and opportunity cost of the time spent on fortnightly meetings. It is interesting to note that the cost of the loan decreases as the amount of loan increases because loan processing and insurance fees are fixed and do not vary with the amount of loan.

UPAP loans in urban areas are provided for 12 months. They must be repaid in 12 equal monthly installments. NRSP charge an annual interest rate of 35 percent calculated on a declining balance. The borrowers also have to pay a loan processing fee equivalent to one percent of the loan amount and a mandatory insurance fee of PKR 100. Thus the effective cost of an average UPAP loan of PKR 10000 is 37 percent, approximately equal to the cost of MEDP loan when we take into account the loan processing and the insurance fee (SAMN, 2010).

4.7.6 Recovery Performance and Financial Viability of NRSP

NRSP has an excellent recovery rate. Its UPAP project has a 100 percent recovery rate and its rural credit programme also has an overall recovery rate of 98.8 percent. The quality of its portfolio has improved significantly. NRSP has managed to bring down its portfolio at risk (>90 days) from 7.4 percent in 2003 to 0.8 percent in 2008 as shown in Figure 4.1 (NRSP, 2008, 2009).

Figure 4.1: NRSP's Portfolio at Risk (>90 days)



Source: NRSP (2008)

NRSP achieved operational and financial self sufficiency in 2008 and it has improved its returns on equity and assets. Its operational self sufficiency was 122.3 percent and financial self sufficiency was 111.1 percent in 2009. Its adjusted return on assets was 2.2 percent and adjusted return on equity was 20.2 percent in 2009 as is shown in Table 4.2 (PMN, 2008, 2009b).

Table 4.2: Performance Indicators of NRSP

Category	Percentage
Operation Self Sufficiency	122.3
Financial Self Sufficiency	111.1
Adjusted Return on Assets	2.2
Adjusted Return on Equity	20.3

Source: PMN (2009b)

4.8 Khushhali Bank Limited (KBL)

Khushhali Bank Ltd (KBL) is the first licensed microfinance bank in Pakistan and is currently the largest. It was established in 2000 by a special ordinance promulgated by the government of Pakistan. The main objective of KBL is to increase the outreach of microfinance in the country as part of the Microfinance Sector Development Programme (KBL, 2008).

Currently KBL has 107 branches in 93 districts across Pakistan. It has 405,111 active borrowers. KBL is the second largest provider of microcredit in Pakistan after NRSP and the third largest provider of micro insurance. KBL does not have a mandatory saving mechanism so its share in savings is insignificant (PMN, 2009a).

4.8.1 Lending Methodology of KBL

Like NRPS, KBL provides its microcredit loan through group lending. The size of the group varies from 3 to 20 members. Group formation is followed by the programme introduction by the staff in a village. Potential borrowers choose their

members themselves and are responsible for the repayment of the other members. There are no compulsory savings and regular meetings of the borrowers. To be eligible for a loan, the yearly income of an individual should be less than PKR 300,000 (c. US$ 3,492). The loan size varies from PKR 5,000-40,000. KBL, like most of the MFIs, uses progressive lending and the loan amount is increased after successful repayment of each loan.

KBL offers 5 types of loans: (1) Agriculture Inputs, (2) Livestock, (3) Assets Purchase, (4) Working Capital and (5) New Business. The purpose of the agriculture inputs loan is to facilitate the farmers in the purchase of agriculture inputs such as fertilizers, seeds and pesticides. The livestock loan is for the purchase of farm animals such as goats, sheep and cattle. Assets purchase loan is provided for the purchase of productive assets such as sewing machines and tools. Working capital loan is provided to expand the existing business while new business loan is provided to start a new small business (KBL, 2010).

4.8.2 Savings in KBL

KBL started lending by using NRSP's lending methodology. Its borrowers were required to deposit compulsory savings. However, later on it abolished the compulsory savings component. KBL borrowers are no longer required to deposit any saving to receive a loan. Since it does not use compulsory savings, it has small number of savers. In 2008 it had only 3,477 savers (PMN, 2008). KBL has recently started full banking services although it is still in the pilot phase. The full banking service has the potential of increasing the number of savers with KBL.

4.8.3 KBL Insurance Scheme

KBL clients have to pay a mandatory loan processing and insurance fee of PKR 500. KBL does not sate clearly how much of this amount is goes toward the insurance premium. This amount is deducted from each new loan. Since loans are generally renewed annually, borrowers have to pay this fee once a year. The borrowers are covered for the loan duration. The insurance scheme covers the outstanding loan (including interest charges) in case of death or permanently disability of a borrower (author's personal communication).

4.8.4 Outreach of KBL

Currently KBL has 107 branches in 93 districts. KBL provides microfinance services both in urban and rural areas. It has 405,111 active borrowers with an average loan size of PKR 10,250 (c. US$ 119). Approximately 20 percent of the clients of the KBL are women (KBL, 2010).

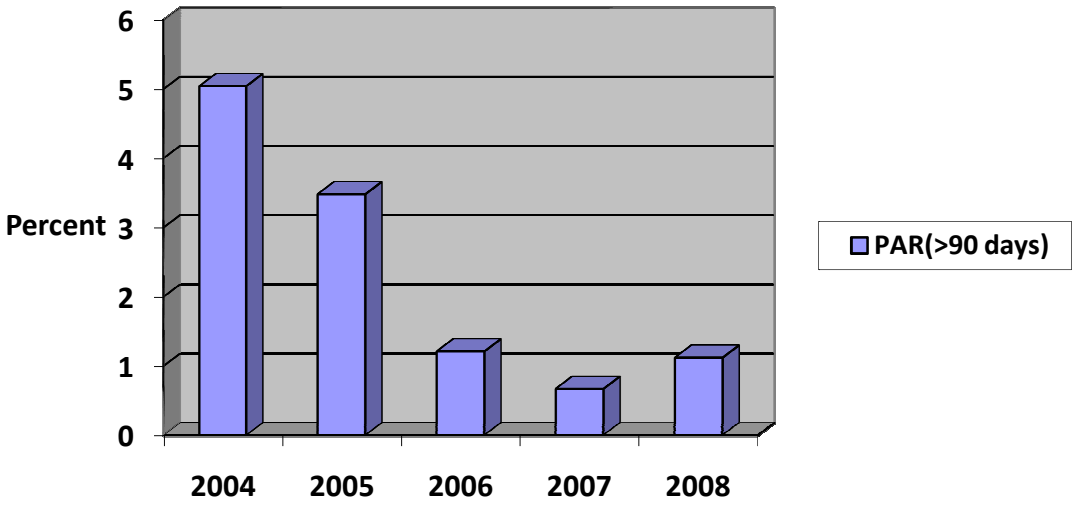
4.8.5 Cost of KBL loans

KBL charge an annual interest rate of 29 percent. Borrowers have to pay a loan processing and insurance fee of PKR 500 (c. US$ 6). A loan is for one year. The effective cost of loan is comparatively less than that of NRSP. For an average borrower with a typical loan of PKR 10,000, the annual cost is approximately 34 percent, including the loan processing and insurance fee. Unlike NRSP, KBL lending model does not impose any additional cost in terms of compulsory savings and fortnightly meetings (KBL, 2010).

4.8.6 Recovery Performance and Financial Viability of KBL

The recovery rate of KBL is approximately 99 percent and its portfolio quality has improved considerably over the years. The portfolio at risk (>30 days and >90 days) has decreased considerably. Its portfolio at risk (>90 days) has come down from 5 percent in 2004 to 1.1 percent in 2008 as shown in Figure 4.2.

Figure 4.2: KBL's Portfolio at Risk (>90 days)



Source: Microfinance Information Exchange

KBL has achieved operational self sufficiency in 2009. However, it has not achieved financial self sufficiency yet. KBL has significantly improved its operational self sufficiency, which increased from 75.5 percent in 2006 to 118.9 percent in 2009. Its adjusted return on assets was -2.5 percent and adjusted return on equity was -8.4 percent in 2009 (PMN, 2009b). Table 4.3 shows the performance indicators of KBL.

Table 4.3: Performance Indicators of KBL

Category	Percentage
Operation Self Sufficiency	118.9
Financial Self Sufficiency	90.9
Adjusted Return on Assets	-2.5
Adjusted Return on Equity	-8.4

Source: PMN (2009b)

4.9 Akhuwat

Akhuwat was established in 2001 with the objective of providing interest free loans to poor households. Akhuwat is run by the funding of local philanthropists. Its founder Dr. Amjad Saqib was an employee of another MFI – Punjab Rural Support Programme (PRSP). Until 2003, he was running the operation of Akhuwat from PRPS office with the help of another colleague. It was formally registered in 2003 as an NGO (Akhuwat, 2008).

By the end of 2009, Akhuwat was working in 16 cities through 28 branches. It had 15,350 active borrowers. Although its total share in the microfinance market is negligible, it has made considerable progress when one considers its unique lending methodology and funding sources (Akhuwat, 2009).

4.9.1 Lending Methodology of Akhuwat

In the beginning Akhuwat used group lending methodology for its microcredit programme. In 2006, it abolished group lending and adopted individual lending. During the survey, we came to know that Akhuwat was again starting group

lending. Therefore, it is still in the experimental stages regarding its lending methodology.

In the individual lending method, a borrower submits a loan application at the local branch. After submission, the staff visit the applicant's residence and evaluates his/her economic and social conditions. The applicant also brings along two guarantors, who along with the applicant, are interviewed in a local mosque. The loan application is then appraised by the branch manager and the area manager. The loan is normally processed within 30 days. After the appraisal, the loan is disbursed in a local mosque and the borrower has to bring along one of his guarantors to receive the loan (Akhuwat, 2008).

Akhuwat provides seven types of loans. However, the majority (91 percent) consists of family enterprise loans. The purpose of this loan is to expand an existing business or to establish a new business. The loan amount varies from PKR 10,000 to PKR 25,000. Akhuwat also uses progressive lending like other MFIs.

Another important type of loan is liberation loan. The purpose of this loan is to liberate a borrower from moneylenders who normally charge very high interest rates. Akhuwat lends to borrowers in order to repay to moneylenders. Borrowers later on repay the loan to Akhuwat in installments. The other loan products of Akhuwat include education loan, marriage loan, housing loan, emergency loan and silver loan. The education loan is provided for the payment of tuition fees and the purchase of books. The marriage loan is provided for marriage expenditures. The purpose of housing loan is to facilitate borrowers in the construction of their houses. The emergency loan is provided to cope with any emergency. Finally the silver loan

is provided to the experienced borrowers to further expand their business. The size of this loan is larger than family enterprise loan (Akhuwat, 2008).

4.9.2 Savings in Akhuwat

Akhuwat does not require any savings from its borrowers so it does not have active savers.

4.9.3 Akhuwat Insurance Scheme

Akhuwat borrowers are required to pay one percent of loan amount as a mandatory insurance fee. This amount is paid before the disbursement of a new loan. Borrowers are covered for the loan duration. This insurance scheme provides cover for death and permanent disability. In case of death of a borrower, the loan is written off and the family is given PKR 5,000 for funeral expenses. If the borrower was the only earning member of household, the household is also given PKR 1,000 a month for three months for household expenditures. If a borrower becomes permanently disabled, the loan is written off and the borrower is provided with a wheelchair (Akhuwat, 2008).

4.9.4 Outreach of Akhuwat

By the end of 2009, Akhuwat was working in 16 cities. It cumulatively had disbursed 53,175 loans out of which 26 percent were disbursed to women. It has 15,350 active loans. Most of the loans (91 percent) are for family enterprise followed by liberation loans (5 percent). The rest of the loans include housing, education, marriage, emergency and sliver loans (Akhuwat, 2009).

4.9.5 Cost of Akhuwat loans

Akhuwat used to charge 5 percent of the loan amount as a membership fee and one percent of the loan amount as an insurance fee until 2009. The borrowers had to pay these fees before receiving the loan (Akhuwat, 2008). However, it has abolished the membership fee recently. It only charges PKR 100 for an application form and one percent of the loan for insurance. With these changes, the cost of Akhuwat loan is negligible, given the fact that no additional costs are involved in the form of meetings and compulsory savings (author's personal communication).

4.9.6 Recovery Performance and Financial Viability of Akhuwat

Akhuwat has an excellent recovery rate: 100 percent. However, its return on assets and equity is negative. Its operational and financial sufficiency is very low since it earns very little income from the membership fee. In 2009, its adjusted return on assets was -20.2 percent and adjusted return on equity was -20.7 percent. In the same year its operational self sufficiency was 70.5 percent and financial self sufficiency was 35.5 percent (PMN, 2009b).

4.10 Comparison of Case Study MFIs

A comparison of the case study MFIs shows that NRSP is the largest institutions in terms of number of active borrowers. On the other hand, Akhuwat is the smallest. KBL has slightly less borrowers than NRSP. However, KBL is operating in 93 districts of Pakistan while NRSP is operating only in 46 districts (NRSP, 2009; PMN, 2009a). Hence the operation of KBL is thinly spread compared to NRSP. This nature of KBL operation might be inflicting more costs on KBL.

The cost per loan indeed reflects the above observation. KBL has the highest cost per loan among the three case study institutions. In 2009, the cost of a KBL loan was PKR 3,065 (c. US$ 35). While the cost of a loan from the other two MFIs was approximately PKR 1,365 (c. US$ 16), which is less than 50 percent the cost of a KBL loan (PMN, 2009b).

In terms of staff productivity, there are no significant differences among the three institutors. Borrowers per staff are equal for Akhuwat and KBL but slightly less for NRSP. In 2009, there were 165 borrowers per staff member for Akhuwat and KBL. The corresponding number for NRSP was 132 (PMN, 2009b).

NRSP charges the highest interest rate on its loans and imposes further costs in the form of compulsory savings and fortnight meetings. The interested charged by NRSP is approximately 38 as discussed earlier. The interest rate charged by KBL is slightly less than NRSP. It also does not impose any extra costs in the form of compulsory savings and meetings. Akhuwat used to charge 5 percent of the loan amount as a membership fee and one percent of the loan amount as an insurance fee. As mentioned earlier, Akhuwat has abolished membership fee recently. Hence the cost of Akhuwat loans is the lowest among the three case study institutions.

Financial performance of NRSP is better than the other two case study MFIs. NRSP's operational self sufficiency was 122.3 percent in 2009. In the same year, its adjusted return on assets was 2.2 percent and adjusted return on equity was 20.3 percent. KBL has also achieved operational self sufficiency but its return on assets and equity is still negative. Akhuwat has negative return on assets and equity and its operational self sufficiency was less than 100 percent in 2009 (PMN, 2009b). Given

the interest rate structure of Akhuwat, it is not plausible for it to achieve operational self sufficiency unless it makes significant changes to its interest rate.

Table 4.4: Performance Indicators of MFIs

MFI	Performance Indicators			
	Cost Per Loan (PKR)	Borrowers Per Staff	Operation Self Sufficiency (%)	Financial Self Sufficiency (%)
Akhuwat	1,364	165	70.5	35.5
KBL	3,065	165	118.9	90.9
NRSP	1,367	132	122.3	111.1

Source: Pakistan Microfinance Network

Table 4.4 shows some performance indicators of the three case study institutions. It is clear from the table that KBL has the highest cost per loan. As mentioned earlier, the operation of KBL is thinly spread and this can be one of the reasons of the higher costs. Cost per loan of Akhuwat and NRSP is approximately same. In terms of number of borrowers per staff, NRSP is lagging behind the other two institutions.

The table also indicates that Akhuwat, which mainly relies on local philanthropists, has the lowest level of operational self sufficiency and financial self sufficiency. This nature of Akhuwat operation makes it extremely vulnerable. It may have to cease its entire operation if the funding from the philanthropists is stopped. The other two institutions, KBL and NRSP, have achieved operational self sufficiency and would be able to improve it further by benefitting from economies of scale as their outreach expands.

There are some other notable differences among the three case institutions. For example, both KBL and NRSP mainly operate in rural areas and mostly lend for agriculture activities. Akhuwat mainly operates in urban areas and the majority of its clients are small business owners. NRSP and KBL employ a group lending method to disburse microcredit loans while Akhuwat mainly utilise individual lending method. NRSP requires compulsory savings from its clients while KBL and Akhuwat do not require compulsory savings. NRSP borrowers have to meet fortnightly while two other institutions have no meetings requirement.

Summing up, the institutions included in this study are quite diverse in terms of their operation. They employ group lending methods as well as individual lending. Their interest rate structure is different. They provide a range of microfinance products. However, despite the differences all the institutions have one unifying goal, which is poverty reduction through microcredit loans.

4.11 Data

This section explains the data collection process for this study.

4.11.1Questionnaire Design

The questionnaire was designed by keeping in mind the objectives of the study. A number of questionnaires used in the previous studies of impact assessment of microfinance were consulted during this process. After the completion of the initial questionnaire, a number of the executives of the MFIs, included in this study, were consulted. The author also consulted some academics from Pakistan working in related fields. Before the final survey, a pilot test was conducted. During the pilot

phase about twenty microfinance clients were interviewed and necessary changes were made in the questionnaire after the pilot test.

4.11.2 Data Collection

Data were collected through face to face interviews, from December 2008 to February 2009, by the author along with a small team of local universities students. Before the survey the students were trained by the author and the questionnaire was fully explained to them. During the survey, the author accompanied the team and also conducted the majority of the interviews.

A three stage sampling design was used to collect the data. In the first stage, three MFIs were selected. It was decided to select the largest MFI from the three main categories of the MFIs operating in Pakistan. The three largest MFIs are: NRSP, KBL and the Kashf Foundation. However, the Kashf Foundation was not ready to participate in the study. Therefore, it was replaced by Akhuwat, which has a relatively small outreach. In the second stage, one branch of each MFI, included in this study, was selected.

A number of criteria were used to select the branches. First, the branch must be at least four years old as the purpose was to measure the impact of loan duration. Second, the branch must be located in Punjab province as with the limited resources it was not possible to cover all the four provinces of Pakistan. Third, the development ranking of the districts, in which MFIs branches were located, was also considered. The districts of Pakistan are ranked according to their development level and some of the districts are more developed than others (Ghaus, Pasha, & Ghaus, 1996). In order to make sure that the sample is not entirely from a more developed or

less developed district, two branches were selected from district Dera Ghazi Khan which is relatively less developed district and one branch was selected from district Lahore which is the second most developed district of Pakistan.

In the third stage, the lists of borrowers were obtained from the selected branches and borrowers groups were selected randomly. All the three MFIs included in this study lend to both males and females. Therefore stratified random sampling was used to make sure that enough male and female borrowers are selected. After the selection of the groups, MFI staff arranged special meetings of the borrowers groups for the purpose of data collection. MFI staff also accompanied the interview teams. However, they did not conduct any interviews.

As Akhuwat does not use group lending, individual borrowers were randomly selected from the lists of male and female borrowers. The selected borrowers were then contacted for interviews. Borrowers were interviewed directly in majority of the cases. However, in some cases where borrowers were not available, another household member, usually the spouse of the borrower was interviewed.

Pipeline borrowers were selected from the same branches. Stratified random sampling was used to draw the sample of the pipeline borrowers. Special meetings were arranged for the pipeline borrowers in the case of NRSP and KBL in order to collect the data. However, Akhuwat borrowers were contacted individually as there were no groups.

Selection of the dropouts was more complicated as they did not have any contact with MFIs. So with the help of MFI staff, an attempt was made to locate as

many dropouts as possible in the limited time available. Interestingly, the response rate was very good and all the dropouts that were traced agreed for interviews.

Non-borrowers were selected from the villages where no microfinance programme was available. Non-borrowers were not selected from the programme areas on the assumption that these individual or households would be different, in terms of unobservable characteristics, from the participants of microfinance programmes as they had decided not to participate in the microfinance programmes. In the district of Dera Ghazi Khan, MFI staff identified some villages where no microfinance programmes were available. However, in the district of Lahore MFIs were operating in every area. Therefore, all the non-borrowers were selected from the district of Dera Ghazi Khan.

To collect the data from non-borrowers, the survey teams visited the selected villages independently. Households which were similar to borrowers were identified. The main indicator used to select a household was the quality of the house. Housing quality reflects the economic status of a household, so this indicator was used to select non-borrowers. The response rate was very encouraging as all the members of the survey team spoke the local language and it was easy to communicate and explain the purpose of the interview.

4.11.3 Distribution of the Sample

Table 4.4 shows the distribution of the sample by different categories of respondents. 44 percent of the sample consists of current borrowers while 24 percent are pipeline borrowers. Dropouts and the non-borrowers are approximately equal (15-16 percent).

Table 4.5: Distribution of the Sample

Borrowing Status	No. of Households	Percentage
Current Borrowers	243	43.94
Pipeline Borrowers	133	24.05
Dropouts	85	15.37
Non-Borrowers	92	16.64
Total	**553**	**100**

Table 4.5 shows the rural-urban distribution of different categories of respondents. The composition of the sample in terms of rural and urban was not in our control as one of the MFIs included in this study (Akhuwat) works only in urban areas. Secondly, all the urban areas in the survey districts had a microfinance programme, so non-borrowers were selected from rural areas only.

Table 4.6: Distribution of the Sample by Location

Borrowing Status	No. of Respondents	Rural %	Urban %	Total %
Current Borrowers	243	50.62	49.38	100
Pipeline	133	53.38	46.62	100
Dropouts	85	57.65	42.35	100
Non-Borrowers	92	100	0	100

Table 4.6 shows the distribution of different categories of respondents by gender. As mentioned earlier, stratified random sampling was used in order to make sure that the sample represents both male and female clients. Overall, one third of the

sample consists of female and this is consistent with the overall percentage of the female clients in the case study MFIs.

Table 4.7: Distribution of the Sample by Gender

Borrowing Status	No. of Respondents	Male %	Female %	Total %
Current Borrowers	243	56.38	43.62	100
Pipeline	133	65.41	34.59	100
Dropouts	85	82.35	17.65	100
Non-Borrowers	92	70.65	29.35	100

4.12 Summary Statistics of Key Variables

This section presents the summary statistics of the key variables of the data.

4.12.1Socio Economic Characteristics of the Sample Households

This section examines the socio economic characteristics of the different categories of households included in the sample. Table 4.7 presents the mean age of the various categories of respondents along with the minimum and maximum. All the categories of respondents, except pipeline borrowers, appear to have the similar mean age. There is no significant difference in the minimum age of the various categories but the maximum age varies from 56 years to 70 years.

Table 4.8: Age of the Respondents

Borrowing Status	Mean Age	Min Age	Max Age
Current Borrowers	37.31	18	65
Pipeline Borrowers	34.05	19	56
Dropouts	37.90	19	60
Non-Borrowers	37.76	18	70

Table 4.8 shows the mean years of schooling of respondents and the percentage of respondents who are illiterate. The pipeline borrowers have the highest mean years of schooling, followed by dropouts and current borrowers. Non-borrowers have the lowest mean years of schooling. Non-borrowers also have the highest percentage illiterate followed by current borrowers. On the other hand, dropouts have the lowest percentage illiterate. Dropouts also have the highest number of adults with formal education as can be seen from second column of Table 4.8. Non-borrowers have the lowest number of adults with formal education. These figures suggest that either the non-borrowers live in areas which have fewer educational facilities or they are very poor and cannot afford educational expenditures.

Table 4.9: Educational Status of the Respondents

Borrowing Status	Average No. of Adults with Formal Education	Mean Years of Schooling of Respondents	Percentage of Respondents with no Education
Current Borrowers	1.75	3.75	52
Pipeline Borrowers	1.98	4.57	48
Dropouts	2.10	4.48	45
Non-Borrowers	1.15	2.15	64

Table 4.9 shows the marital status of various categories of respondents. Almost 90 percent of the respondents in each category are married and a very small percentage of respondents are widowed. The majority of widowed respondents are

from one MFI (Akhuwat) and a small of percentage of non-borrowers are also widowed as can be seen from Table 4.10.

Table 4.10: Marital Status of the Respondents

	Marital Status			
Borrowing Status	**Married %**	**Unmarried %**	**Widowed %**	**Total %**
Current Borrowers	88.48	9.88	1.65	100
Pipeline Borrowers	88.72	8.72	3.01	100
Dropouts	91.76	5.88	2.35	100
Non-Borrowers	91.30	7.61	1.09	100

Table 4.11: Martial Status of the Respondents by MFI

	Marital Status		
MFI	**Married (%)**	**Unmarried (%)**	**Widowed (%)**
KB	92.41	7.59	0
NRSP	95.77	4.23	0
Akhuwat	73.68	17.54	8.77
Non-Borrowers	91.30	7.61	1.09

Table 4.11 shows the average household size and the percentage of respondents who are household heads. The household size of dropouts is close to 10 persons. It is approximately 9 for other three categories. The composition of the households suggests that on average there are approximately 5 young persons aged 1-19 and approximately 4 adults aged 19-60+ in the households of every category. Thus there seems to be no difference in the composition of the households across various categories of respondents.

Table 4.12: Composition of the Household

Borrowing Status	Household Size	Mean no. of Young (Aged 1-19)	Mean no. of Adult (Aged 19- 60+)
Current Borrowers	8.64	4.69	3.99
Pipeline Borrowers	9.29	5.07	4.18
Dropouts	9.95	5.60	4.38
Non-Borrowers	8.85	5.21	3.72

4.12.2 Housing and Facilities in the House

The majority of respondents in the sample have their own houses as can be seen from Table 4.12. The ownership of a house is the lowest among pipeline borrowers although it is still above 90 percent. Surprisingly the ownership of a house is the highest among non-borrowers who appear to be poorer by looking at the other indicators. Nonetheless, non-borrowers own mainly poor quality houses. As shown in Table 4.13, non-borrowers mainly own bricked and mud houses, which are considered inferior quality houses. This again strengthens the impression that non-borrowers are relatively poorer compared to other categories of respondents. There are no significant differences across the other three categories of respondents in terms of the quality of the houses they own.

Table 4.13: Ownership of the House

Borrowing Status	Percentage of Borrowers Who Own a House
Current Borrowers	92.59
Pipeline Borrowers	90.23
Dropouts	95.29
Non-Borrowers	97.83

Table 4.14: Types of the House

	House Type (Percentage)			
Borrowing Status	**Cemented**	**Bricked**	**Mud**	**Other**
Current Borrowers	46.91	28.40	24.69	0
Pipeline borrowers	42.11	35.34	22.56	0
Dropouts	38.82	30.59	30.59	0
Non-Borrowers	22.83	48.91	26.09	2.17

Table 4.14 shows the average number of rooms in a house for each category of respondents and number of rooms per person. There is no significant difference across various categories of respondents and on average each type of respondent has approximately 2.5 rooms in his house. There is no significant difference among the various categories in terms of number of rooms per person. On average there is approximately one room for three persons.

Table 4.15: No of Rooms in the House

Borrowing Status	No of Rooms in the House	No of Rooms per Person
Current Borrowers	2.58	0.34
Pipeline Borrowers	2.37	0.29
Dropouts	2.72	0.30
Non- Borrowers	2.52	0.33

Table 4.15 shows the presence of the basic facilities in a house. Over 90 percent of the respondents have electricity available in their houses but very few have landline telephone. In the case of non-borrowers, none of the respondents have a landline telephone. One of the reasons for this is that all the non-borrowers reside in rural areas and there are very few landline telephone facilities available in rural areas of Pakistan, so they have very little choice. Second, the mobile phone network is available in almost every part of the country, so people do not feel any need for landline telephones. The figures for a mobile phone connection show that more than 80 percent of dropouts have mobile phones. While approximately 70 percent of current and pipeline borrowers and approximately 50 percent of non-borrowers have mobile phones.

Natural gas facility is available to almost 40 percent of current borrowers, 32 percent of pipeline borrowers and 27 percent of dropouts. None of the non-borrowers have natural gas facility in their houses. As already mentioned, sample of non-borrowers was drawn only from rural areas and in rural areas natural gas facility is generally not available. Toilet facility is available to almost 70 percent of dropouts,

66 percent of current borrowers, 61 percent of pipeline borrowers and 59 percent of non-borrowers.

Table 4.16: Basic Facilities in the House

Basic Facilities (Percentage)					
Borrowing Status	**Electricity**	**Telephone**	**Mob. Phone**	**Natural Gas**	**Toilet**
Current Borrowers	91.36	12.35	72.43	39.51	66.26
Pipeline borrowers	91.73	5.26	73.68	32.33	61.65
Dropouts	95.29	5.88	81.18	27.06	69.41
Non-Borrowers	91.30	0	52.17	0	58.70

Table 4.16 shows the source of water supply for various categories of respondents. The major source of water supply is hand pump for all categories except for non-borrowers, for whom the major source is government water supply. A large proportion of the sample of non-borrowers was drawn from a semi mountainous area where the only source of water supply was the government water supply. Therefore a large proportion of them acquire water from the government water supply.

Table 4.17: Source of Water Supply

Source of Water Supply (Percentage)			
Borrowing Status	**Hand Pump**	**Electric Motor**	**Govt Supply**
Current Borrowers	48.56	11.93	39.51
Pipeline Borrowers	58.65	12.78	28.57
Dropouts	49.41	21.18	29.41
Non-Borrowers	40.22	10.87	48.91

4.12.3 Ownership of Assets and Consumer Durables

Table 4.17 shows the ownership of land for various categories of respondents. On average, both dropouts and pipeline borrowers have approximately 3 acres of land, which is almost double that of other two categories of respondents. Overall, land ownership is the lowest among non-borrowers.

Table 4.18: Ownership of land

Borrowing Status	Land ownership (Acres)
Current Borrowers	1.69
Pipeline Borrowers	2.96
Dropouts	3.06
Non-Borrowers	1.34

Table 4.18 shows the total value of assets and consumer durables for various categories of respondents in Pakistani rupees. The average value of the assets, which includes land, house, livestock, machinery, tools, raw material, final goods for sales, money receivable from customers and any other asset, is the highest for dropouts followed by pipeline borrowers, current borrowers and non-borrowers. Similarly the mean value of the consumer durables is also the highest for dropouts. Current borrowers have the second highest value of the consumer durables, followed by pipeline borrowers and non-borrowers.

Table 4.19: Value of Assets and Consumer Durables

Borrowing Status	Mean Value of Assets (PKR)	Mean Value of Durables (PKR)
Current Borrowers	1,862,790	40,729
Pipeline Borrowers	2,421,096	39,159
Dropouts	2,496,375	43,214
Non-Borrowers	452,166	15,985

Table 4.19 shows the ownership of consumer durables for various categories of respondents. Approximately 43 percent of current borrowers and pipeline borrowers own at least one refrigerator while 35 percent of dropouts have one in their house. Among the non-borrowers, only 18 percent own a refrigerator. Approximately 20 percent of all the groups own a radio, although ownership of a radio is slightly higher among non-borrowers compared to other groups. Ownership of a TV is the highest among pipeline borrowers. Approximately 60 percent of pipeline borrowers own at least one TV set while it is 58 percent for current borrowers, 54 percent for dropouts and approximately 34 percent for non-borrowers.

Very few households own a camera. Camera ownership is only 1 percent among non-borrowers, which is significantly different from other groups. The ownership of a washing machine is approximately 50 percent among current borrowers and dropouts. It is 44 percent for pipeline borrowers and only 15 percent for non-borrowers. The ownership of a sewing machine is the highest (60 percent approx) among pipeline borrowers while it is approximately 55 percent for current borrowers and dropouts and only 24 percent for non-borrowers.

The ownership of a bicycle is almost 50 percent for all the categories except non-borrowers, where it is 27 percent. The ownership of a motorbike is the highest among pipeline borrowers at 37 percent. Dropouts have the second largest ownership at 35 percent. Among the current borrowers 28 percent own a motorbike, while the corresponding estimate for non-borrower is 15 percent. Lastly the ownership of a rickshaw and a car is very rare among all the categories and there is no significant difference among various categories.

Table 4.20: Ownership of Consumer Durables

Ownership of Consumer Durables (Percentage)										
Borrowing Status	**Refrigerator**	**Radio**	**TV**	**Camera**	**Washing Machine**	**Sewing Machine**	**Bicycle**	**Motorbike**	**Rickshaw**	**Car**
Current Borrowers	43.62	17.7	58.02	14.4	51.03	56.79	51.85	27.57	2.06	1.65
Pipeline Borrowers	42.86	20.3	59.4	13.53	44.36	59.4	47.37	36.84	0.75	1.5
Dropouts	35.29	20	54.12	5.88	49.41	54.12	56.47	35.29	1.18	2.35
Non-Borrowers	18.48	23.91	33.7	1.09	15.22	23.91	27.17	15.22	0	1.09

Table 4.21: Main Income Sources of the Respondents

	Main Source of Income (Percentage)										
Borrowing Status	**Agriculture**	**Livestock**	**Shop**	**Hawking**	**Trading**	**Cottage Industry**	**Job**	**Rent**	**Property dealer**	**Beauty Parlour**	**Rickshaw/Taxi**
Current Borrowers	36.39	4.12	23.63	2.47	1.23	8.23	23.87	0	0.41	0	1.65
Pipeline Borrowers	34.59	3.76	21.05	3.76	0	12.78	21.8	0	0	0	2.26
Dropouts	38.82	1.18	24.71	2.35	2.35	8.24	21.18	1.18	0	0	0
Non-Borrowers	39.13	0	19.57	5.43	0	4.35	31.52	0	0	0	0

Table 4.22: Second Income Source of the Respondents

	Second Source of Income (Percentage)											
Borrowing Status	**Agriculture**	**Livestock**	**Shop**	**Hawking**	**Trading**	**Cottage Industry**	**Job**	**Rent**	**Property dealer**	**Beauty Parlour**	**Rickshaw/Taxi**	**None**
Current borrowers	10.29	31.28	11.93	0.82	1.23	13.99	11.52	2.06	0	0.41	0.41	16.1
Pipeline Borrowers	12.78	29.32	8.27	0	3.01	13.53	6.02	0.75	0	0	0	26.32
Dropouts	8.24	30.59	3.53	1.18	3.53	4.71	10.59	0	0	0	0	37.65
Non-Borrowers	5.43	13.04	15.22	1.09	0	1.09	15.22	0	0	0	0	48.91

Table 4.23: Third Source of Income of the Respondents

	Third Source of Income											
Borrowing Status	**Agriculture**	**Livestock**	**Shop**	**Hawking**	**Trading**	**Cottage Industry**	**Job**	**Rent**	**Property dealer**	**Beauty Parlour**	**Rickshaw/Taxi**	**None**
Current borrowers	0	0.82	0.82	0.41	0.41	1.65	3.29	0.41	0	0	0	92.18
Pipeline Borrowers	0	0	0.75	0	0.75	0	4.51	0.75	0	0	0	93.23
Dropouts	0	5.88	0	0	0	1.18	8.24	1.18	0	0	1.18	82.35
Non-Borrowers	0	0	0	0	1.09	0	0	0	0	0	0	98.91

4.12.4 Sources of Income

Table 4.20 shows the main sources of income for various categories of respondents. For the majority of respondents, the main source of the income is agriculture. Two other important sources are shops (small grocery shops) and job. The fourth important source of the income is "cottage industry", which includes handicrafts, embroidery, tailoring and carpet weaving.

Most of the respondents have more than one source of income. Table 4.21 shows, for the majority of respondents, the second important source of income is livestock farming. The other important second source of income is agriculture, shops, cottage industry and job. Approximately 50 percent of non-borrowers do not have any second source of income. Similarly 38 percent of dropouts, 26 percent of pipeline borrowers and 16 percent of current borrowers do not have any second source of income. The respondents were asked about their all sources of income. However, most of the respondents have only two sources of income. Table 4.22 shows that more than 90 percent of the respondents do not have any third source of the income.

Table 4.24: No of Workers in Business

Borrowing Status	Total No of Workers in Business (Mean)	No of Paid Workers (Mean)	Percentage of Respondents with no Paid Worker
Current Borrowers	2.55	0.08	95.06
Pipeline Borrowers	2.63	0.08	95.49
Dropouts	3.01	0.22	90.49
Non-Borrowers	2.55	0.03	97.83

Having examined sources of income of respondents, the scale of the business of respondents is examined. Table 4.23 shows that all the respondents have approximately 3 workers in their business. However, the majority of the workers are household members. Approximately 95 percent of current and pipeline borrowers do not have any paid worker in their business. Similarly 97 percent of non-borrowers do not have any paid worker in their business and 90 percent of dropouts do not have any paid worker in their business.

4.12.5 Monthly Income and Expenditures

This section discusses the monthly income and the monthly expenditures of the sample households. Table 4.24 shows the household monthly income in Pakistani rupees, per capita income both in Pakistani rupees and US dollar along with the percentage of the households whose daily per capita income is less than 1 US$ and ½ US$. The average household monthly income is the highest for dropouts followed by pipeline borrowers, current borrowers and non-borrowers. Monthly per capita income of current borrowers, however, is slightly higher than for pipeline borrowers. Dropouts have the highest monthly per capita income and non-borrowers have the lowest per capita income.

Per capita income per day of most of the respondents is less than one US dollar. For some of the respondents, it is even less than half a US dollar. Over 90 percent of non-borrowers have daily per capita of less than one US dollar and 42 percent of them have daily per capita income of less than half a US dollar. Per capita income per day of 78 percent of pipeline borrowers is below one US dollar.

However, a relatively small percentage of them have daily per capita income of less than half a US dollar.

The percentage of current borrowers and dropouts whose daily per capita income is less than one US dollar is approximately equal, 72 percent. However, a slightly higher percentage of dropouts have daily per capita income of less than half a US dollar.

Table 4.25 shows the household monthly expenditures of various categories of respondents. Dropouts spend the highest amount on food compared to other categories, while pipeline borrowers have the second highest food expenditures. The monthly food expenditure of current borrowers is less than both dropouts and pipeline borrowers. On the other hand, non-borrowers have the lowest monthly expenditures among all the categories.

The dropouts have also the highest level of monthly expenditures on two other important categories, health and education. There is no difference between pipeline borrowers and current borrowers for monthly expenditures on medical services. However, current borrowers spend more on education compared to pipeline borrowers. For other categories, the monthly expenditures of pipeline borrowers and dropouts are higher than that of current borrowers.

Table 4.25: Monthly Income of the Sample Households

Borrowing Status	Average Monthly Income of HH (PKR)	Average Per Capita Monthly Income (PKR)	Average Per Capita Monthly Income (US$)	% of HH with Per Capita Income below 1US$ a Day	% of HH with Per Capita Income below ½ US$ a Day
Current Borrowers	14862	1927	24.09	71.60	30.45
Pipeline Borrowers	15992	1879	23.49	78.20	24.81
Dropouts	17270	1943	24.29	72.94	34.12
Non-Borrowers	11250	1409	17.62	90.22	42.39

HH= Household

Table 4.26: Monthly Expenditures of the Sample Households

	Average Monthly Expenditures (PKR)						
Borrowing Status	**Food**	**Clothing**	**Rent**	**Transport**	**Utilities**	**Medical**	**Education**
Current Borrowers	6355	741	403	1039	1350	937	1173
Pipeline Borrowers	6760	900	581	1189	1483	939	926
Dropouts	7756	994	536	1357	1447	1250	1861
Non-Borrowers	5652	679	264	851	773	701	500

4.12.6 Loans and Savings

Table 4.26 shows the average loan size and the average loan duration for the sample borrowers of the three MFIs included in this study. The average loan balance is the highest for NRSP borrowers while it is the lowest for Akhuwat borrowers. The average loan duration is the highest for KBL borrowers and the lowest Akhuwat borrowers. Akhuwat borrowers have the lowest average loan balance and the lowest loan duration as it is relatively a new MFI.

Table 4.27: Loan Size and Duration by MFI

MFI	Average Loan (PKR)	Average Loan Duration (No of Months)
KB	16,623	43
NRSP	19,400	39
Akhuwat	12,788	27

Table 4.28: User of Microcredit Loan

	User of Microcredit Loan (Percentage)			
MFI	**Borrower**	**Spouse**	**Relatives**	**Borrower & Spouse**
KB	66	26	1	7
NRSP	84	4	5	6
Akhuwat	74	13	10	3

Table 4.27 shows who is the actual user of microcredit loans. For all three MFIs included in this study, the majority of borrowers are using the loan themselves. In some cases, however, the actual user is either the spouse or a relative (usually son or daughter) or both the borrowers and the spouse. Most of the borrowers who were

not using their loan were females. 93 percent of the male borrowers were using the loan themselves. However, only 54 percent of the female borrowers were using the loan themselves.

Table 4.29: User of Microcredit Loan by Gender

	User of Microcredit loan (Percentage)			
Gender	**Borrower**	**Spouse**	**Relatives**	**Borrower & Spouse**
Male	93	0	4	3
Female	54	31	7	8

Table 4.29 shows the purpose for taking out a microcredit loan as reported by the respondents. In the case of KBL and NRSP, the majority of the borrowers take out a loan for agriculture related activities, which include cropping and livestock/poultry farming. Two other important categories, for which borrowers take out a loan, are small grocery shops and cottage industry, which include embroidery, handicrafts and carpet weaving.

In the case of Akhuwat, 60 percent of the sample borrowers take out a loan for grocery shops and 24 percent take out a loan for cottage industry. A small percentage of the borrowers also take out a loan for hawking and house building. None of the sample borrowers of Akhuwat take out a loan for agricultural purposes as Akhuwat operates mainly in urban areas.

The respondents were also asked what other sources they borrow from. Table 4.30 shows that the most important source of credit for all the groups is family and

friends. 12 percent of the current borrowers and 19 percent of the pipeline borrowers borrow from family and friends. However, the percentage of dropouts and non-borrowers who borrow from family and friends is 36 percent and 54 percent, respectively. On the other hand, 49 percent of dropouts and 32 percent of non-borrowers do not borrow from any source at all.

Table 4.30: Purpose of the Microcredit Loan

Purpose of the Microcredit Loan (Percentage)										
MFI	**Agriculture**	**Livestock**	**Shop**	**Hawking**	**Trading**	**Cottage Industry**	**Build House**	**Beauty parlour**	**Educational Expenditures**	**Medical Expenditures**
KB	35	25	18	1	1	16	1	1	1	0
NRSP	64	1	15	1	2	17	0	0	0	0
Akhuwat	0	0	60	6	4	24	4	0	0	1

Table 4.31: Other Sources of Credit by Borrowing Status

	Other Sources of Credit (Percentage)						
Borrowing Status	**Family/Friends**	**Money lenders**	**Local traders**	**Agri. Bank**	**Comer. Bank**	**Other**	**None**
Current Borrowers	12	0.41	1	1	0.41	0.41	85
Pipeline Borrowers	19	0.75	2	5	1	0.75	71
Dropouts	36	1	1	7	4	1	49
Non Borrowers	54	1	9	2	1	0	33

These estimates suggest that people who do not borrow from MFIs are not strictly credit constrained. This fact is also obvious from Table 4.31, which shows the total loan amount of the sample households. This total loan amount includes the borrowing by all the members of the household from all the sources including MFIs. Thus for current borrowers this include the microcredit loan and loans from any other sources. As other categories of respondents were not borrowing from MFIs at the time of the survey, their borrowing is only from the sources other than MFIs.

Table 4.32: Total Loan and Savings of the Sample

Borrowing Status	**Total Loan(mean) PKR**	**Total Savings(mean) PKR**
Current Borrowers	26,129	3018
Pipeline Borrowers	29,530	885
Dropouts	28,223	1317
Non-Borrowers	19,641	54

Table 4.31 shows that pipeline borrowers have the highest loan amount followed by dropouts. The total loan balance of current borrowers is actually less than that of pipeline borrowers and dropouts. However, non-borrowers have the lowest total loan balance.

Total savings are the highest for current borrowers followed by dropouts and pipeline borrowers. The savings of non-borrowers are negligible. Some of the current borrowers, who are NRSP clients, have to participate in compulsory savings schemes and that has pushed up the average savings of current borrowers.

4.13 Summary

This chapter discussed the major problems faced during the impact assessment of microfinance along with the various methods to overcome these problems. These methods include: Randomized Evaluation Method, Propensity Matching Method, Double Difference Method, Instrumental Variables Method, and Pipeline Method. This study uses Pipeline Method to assess the impact of microfinance in Pakistan.

The data were collected from the clients of three MFIs namely NRSP, KBL and Akhuwat. These MFIs are considered as representative of the microfinance sector in Pakistan. Data were gathered from four types of households. These include current borrowers, pipeline borrowers, dropouts and non-borrowers. The data were collected for a total of 553 households through face to face interviews. Current borrowers are approximately 44 percent of the sample while pipeline borrowers are 24 percent of the sample. Dropouts and non-borrowers together make up 32 percent of the sample and their individual percentages are approximately equal.

The next chapter analyses the data and presents the results of this study.

Chapter 5: Results

5.1. Introduction

The literature on microcredit emphasises that microfinance transmits its impact through relaxing the credit constraints that poor households often face in low-income countries. Once microcredit relaxes this constraint, poor households can start new businesses or expand their existing businesses. Increased business activity, consequently, increases the disposable income of borrowers. With the increased disposable income, a household increases its savings, invests in its business, accumulates human capital through spending on health and education or increases current consumption expenditures. Whichever choice a household makes depends on particular circumstances but in the long-run borrowers are able to accumulate human and physical capital. If this virtuous cycle continues, as theory predicts, then borrowers eventually come out of poverty. Thus, microcredit is a way out of poverty.

Despite this plausible scenario, and some anecdotal and case study based evidence, the empirical literature offers mixed results. Earlier chapters have considered the various empirical studies in detail. This chapter estimate the impact of microfinance on household outcomes. Specifically, the empirical analysis estimates the impact of microcredit loan duration on: a) household monthly income, b) household total monthly consumption expenditures and c) monthly expenditures on food, clothing, rent, transport, utilities, health and education. As mentioned earlier economic theory predicts

asset accumulation resulting from access to microcredit. Therefore, testing this hypothesis is quite vital. Consequently, the impact is estimated on the value of consumer durables and the value of household assets. Finally, the impact is estimated on the poverty level of borrowing households.

As the ultimate objective of microcredit is poverty reduction, it is also crucial to determine the poverty status of microcredit borrowers. Establishment of the poverty status of microcredit borrowers is critical because it allows one to determine whether MFIs are meeting the objective of the poverty reduction. That is, whether MFIs are reaching poor households or not. Since the question of poverty reduction will not be important if MFIs fail to lend the poor. Therefore, it is important to identify the poverty status of microfinance borrowers in the sample.

The rest of the chapter is structured as follows. The next section presents the poverty status of microcredit borrowers. Section 5.3 examines the impact of microcredit on household income. Subsequently, Section 5.4 analyses the impact of microcredit on household expenditures. The impact on household assets and durables is considered in Sections 5.5 and 5.6 respectively. The impact on subjective and objective poverty is considered in Section 5.7. The results are discussed in Section 5.8. Finally, Section 5.9 summarises the chapter.

5.2 Poverty Status of Microcredit Borrowers

This section analyses the poverty status of microcredit borrowers. Determining the poverty status of borrowers is the first step towards impact assessment. As

mentioned earlier, the impact assessment question becomes less important, if the microfinance institutions fail to reach poor and very poor households. Two measures of poverty, subjective and objective poverty, are used to explore the poverty status of microfinance borrowers.

Furthermore, the objective is to determine the poverty status of borrowers at the time they joined the microcredit programme. Therefore, the focus is on the poverty status of pipeline borrowers and the poverty status of current borrowers before receiving a microcredit loan. The rationale behind this focus is that pipeline borrowers were joining the microcredit programme at the time of the survey and had not benefited from the microcredit loan. Therefore their poverty status illustrates what type of households join microcredit programmes. Similarly, the poverty status of current borrowers before joining the microcredit programme also reveals that what type of households join microcredit programmes.

Before analysing the poverty status of sample borrowers, it is important to understand the context and definition of poverty. Following Chowdhury et al. (2005), we define household's own perception of its poverty status as subjective poverty. The subjective poverty status indicates the relative position of a household in its locality, based on its own needs and relative deprivation. Assuming that a household is the best judge of its poverty status, the survey asked the respondents to classify themselves as: "very poor", "poor" or "not poor".

Objective poverty is the second measure of poverty. Although, objective poverty is defined from a number of perspectives, this study uses the national poverty line of

Pakistan to determine the poverty status of a household. For this purpose, the national poverty line was calculated first. The latest available national poverty line data are for 2005/06, with PKR 944.47 (c. US$ 11) per month per capita being the threshold. This poverty line was updated for 2008/09 by adjusting for inflation. The resulting national poverty line becomes PPK 1,395 (c. US$ 16) per month per capita. The interpretation of objective poverty is straightforward. A household with a monthly per capita income below PKR 1,395 is categorised as poor in this study.

Within the poor group income varies considerably. Therefore the poor are divided further into two sub-groups: very poor and poor. A household is classified as very poor if its per capita income is less than PKR 700 per month, approximately 50 percent of the poverty line. Households with a monthly per capita income between PKR 700-1400 are classified as poor.

The subjective poverty status of the sample borrowers is presented in Table 5.1. The table shows that the highest percentage (66 percent) of dropouts are non-poor. Almost half of the current borrowers are non-poor. 45 percent of pipeline borrowers and 44 percent of non-borrowers are non-poor. Dropouts also have the lowest percentage of the poor (30 percent) and very poor (4 percent).

The high percentage of the non-poor among dropouts suggests that either some of these households have benefited from the microcredit loan and have moved out of poverty or they were not poor at the time of joining the microcredit programme. They may have left the programme because of the stringent conditions such as high interest rate, regular meetings and compulsory savings.

The data suggest that a large percentage (23 percent) left the microcredit programme because they did not require credit any more. This does not mean that they had come out of poverty, as some of them were still poor after leaving the microcredit programme. The other major reasons of leaving the microcredit programme include: problems in repayment, default by other group members (as a result of which MFIs stop lending to the whole group), small loan amount and religious reasons. A few respondents reported that they stopped borrowing because of high interest rates and regular meetings.

The data do not support the argument that dropouts might have stopped borrowing because they had moved out of poverty. The data also do not support the argument that these households might have left the programme because of conditions attached with the microcredit loan. Based on the data, it is concluded that a) this group mainly include households who took a loan for some specific business or household needs and stopped borrowing after the fulfilments of their needs and b) most of them or their group members were having problems repaying the loan and MFIs stopped lending to them.

Table 5.1: Subjective Poverty Status of Respondents

Subjective Poverty Status (Percentage)			
Borrowing Status	**Not Poor**	**Poor**	**Very Poor**
Current Borrowers	51	40	9
Pipeline Borrowers	45	45	10
Dropouts	66	30	4
Non- Borrowers	44	48	8

Table 5.1 also shows that the percentage of the poor is the highest (48 percent) among non-borrowers. However, the percentage of very poor among them is slightly less than that of pipeline borrowers and current borrowers. Among the current borrowers, 40 percent are poor and 9 percent are very poor. Similarly among the pipeline borrowers, 45 percent are poor while 10 percent are very poor. Overall, the cumulative percentage of poor and very poor is the highest (56 percent) among the non-borrowers, followed by pipeline borrowers (55 percent). Dropouts have the lowest cumulative percentage of poor and very poor (34 percent), while it is 49 percent for current borrowers.

Subjective poverty measure indicates that the majority of households who join the microfinance programmes are poor, since 55 percent of pipeline borrowers are either poor or very poor. But the percentage of the very poor among them is only 10 percent. This indicates that by design microfinance institutions do not target very-poor households. Concerns, such as sustainability of the programme and target recovery rate

might heavily influence the target recipients. The results, however, are not surprising. This percentage is consistent with the findings of other studies. For example, Hulme (1999) and Cohen and Sebstad (2000) find that most of the microcredit clients around the globe are not very poor.

Another way of finding the poverty status of the microcredit borrowers is to examine the poverty status of current borrowers before taking out a microcredit loan. In the survey, current borrowers were asked about their poverty status before joining the microcredit programme. Table 5.2 compares subjective poverty status of current borrowers, before and after joining the microfinance programme. The results show that, before taking out a microcredit loan, 46 percent of current borrowers were not poor, 41 percent were poor and 13 percent were very poor. The low share of very poor, 13 percent, among current borrowers, before joining the microcredit programme, once again supports the view that microcredit only reaches to a small percentage of the very poor.

A comparison between before and after joining the programme can also indicate the impact of microcredit programmes on poverty. These preliminary results indicate that the percentage of poor remains almost the same. Only four percent of borrowers move from very poor status to not poor. These findings indicate that microcredit programmes under study might not affect poverty. This raises another question: Does access to microcredit increase income and wealth? This question is addressed later in this chapter.

Table 5.2: Subjective Poverty Status of Current Borrowers

	Poverty Status (Percentage)		
Loan Status	**Not Poor**	**Poor**	**Very Poor**
After Loan	51	40	9
Before Loan	46	41	13

A similar comparison is repeated with objective poverty measures. Table 5.3 compares the poverty status of various categories of respondents, based on the national poverty line of PKR 1,395 per month per capita. The table shows that non-borrowers have the highest percentage (59 percent) of poor, followed by dropouts (42 percent). Pipeline borrowers have the lowest percentage of poor (35 percent) while 38 percent of current borrowers are poor.

It is interesting to note the two poverty measures paint a different picture. Subjective poverty measure shows that almost 50 percent of current borrowers are either poor or very poor while objective poverty measure indicates that only 38 percent of them are poor. Similarly, 55 percent of pipeline borrowers are either poor or very poor according to subjective poverty criteria but the percentage of poor is only 35 percent with objective poverty measure.

Contrarily, in the dropout category only 34 percent of the households are either poor or very poor according to the subjective poverty criteria, while this percentage jumps to 42 percent with the objective poverty measure. The only exception to this

pattern is the non-borrowers category where the percentage of the poor approximately remains same no matter what poverty measure is used.

Naturally, subjective measure might be biased. Current and pipeline borrowers may over report their poverty, especially when they feel this might let them enter a microcredit programme. These biases can have huge impact on results. The programme may appear effective in targeting poor households when it is not. This difference in the poverty status could also be the result of misreporting of the data as is common problem in survey research.

Table 5.3: Poverty Status of Respondents Based on National Poverty Line

	Poverty Status (Percentage)	
Borrowing Status	**Poor**	**Non Poor**
Current Borrowers	38	62
Pipeline Borrowers	35	65
Dropouts	42	58
Non-Borrowers	59	41

To better understand the objective poverty status of pipeline borrowers, Table 5.4 further divides pipeline borrowers into five categories. The table shows that only 5 percent of pipeline borrowers are very poor and 33 percent of them are poor. The remaining 62 percent of pipeline borrowers are non-poor as their monthly per capita income is above the national poverty line.

These findings strengthen the earlier observation that microcredit programmes generally fail to reach very poor households. Earlier, using subjective poverty criteria, it

was found that 10 percent of pipeline borrowers are very poor and this percentage becomes only 5 percent with objective poverty measure. This difference in the percentage of the very poor, as mentioned previously, could be the result of misreporting. Notwithstanding this difference, it is clear that the percentage of very poor households is very small among microcredit borrowers.

Table 5.4: Various Categories of Pipeline Borrowers by Income

Monthly Per Capita Income (PKR)	Percentage	Poverty Status
0-700	5	Very Poor
700-1400	33	Poor
1400-2100	36	Non Poor
2100-2800	11	Non Poor
2800 or above	15	Non Poor

The above discussion shows that different estimates for the poverty status of sample borrowers are found with different poverty measures. For example, with subjective poverty measure it is found that 55 percent of pipeline borrowers and 49 percent of current borrowers are either poor or very poor. However, with objective poverty measure, it is found that 35 percent of pipeline borrowers and 38 percent of current borrowers are poor.

Regardless of poverty measure used, it is clear that households who join microfinance programmes are not very poor. This is evident from subjective poverty measure where only 10 percent of pipeline borrowers consider themselves as being very

poor. Similarly, only 13 percent of current borrowers reported that they were very poor before joining the microfinance programmes. Objective poverty measure shows that only 5 percent of pipeline borrowers are very poor. Hence, we can conclude that even though approximately half of the households who join the microfinance programmes are poor, only a small fraction of them are very poor.

5.2.1 Test of Hypothesis

In Chapter 4, the hypothesis regarding the poverty status of microfinance borrowers states that the households who join microfinance programme are not very poor. Given objective and subjective poverty status of pipeline borrowers and subjective poverty status of current borrowers before joining the microfinance programmes, we fail to reject this hypothesis, as the findings show that most of the households who join the microfinance are not very poor.

5.3 Impact of Microfinance on Household Income

In this section, the impact of microcredit is estimated on household monthly income. As argued above, access to microfinance can increase household income, through new businesses or the expansion of existing businesses. As a result of this increase in income, households can increase their consumption, improve their living standard, accumulate new assets and reinvest in their businesses. Therefore it is important to estimate the impact of microfinance on household income.

5.3.1 Regression Models

The general regression models are presented in Section 4.4 of Chapter 4. In this section, the specific regression models, used to assess the impact of microfinance on household monthly income, are presented. These models are given in equations (5.1), (5.2) and (5.3)

$$I_{ij} = \delta D_{ij} + \phi DSqu_{ij} + \alpha X_{ij} + \beta V_j + \gamma M_{ij} + \mu_{ij} \tag{5.1}$$

$$I_{ik} = \delta D_{ik} + \phi DSqu_{ik} + \alpha X_{ik} + \beta \sum_{k=1}^{29} UC_k + \gamma M_{ik} + \mu_{ik} \tag{5.2}$$

$$I_{ij} = \alpha X_{ij} + \beta V_j + \gamma M_{ij} + \delta \sum_{r=0}^{9} L_r + \mu_{ij} \tag{5.3}$$

Equation (5.1) presents the first model. In equation (5.1) I_{ij} is the household monthly income of household i in village j; D_{ij} is the microcredit loan duration (number of months) for household i in village j; $DSqu_{ij}$ is the square of the microcredit loan duration and M_{ij} is the membership dummy which is equal to one for current borrowers, pipeline borrowers and dropouts and it is zero for non-borrowers. X_{ij} is a vector of household characteristics which include age of the borrower, years of schooling of the borrower, total household members in the household, total household members employed, total household members self employed and total amount of household loan (total amount of loan includes loan from any source including microcredit loan).

V_j is a vector of village characteristics, which include distance of the village/mohalla from the Tehsile head quarter (main city), distance of a hospital from the village/mohalla, distance of a bank branch from the village/mohalla, distance of a post office from the village/mohalla, dummy for the availability of electricity, dummy for the availability of gas, dummy for the availability of a telephone, dummy for the availability of irrigation water, dummy for the availability of a water supply, dummy for a metalled road and dummy for the availability of sewage system . μ_{ij} is an error term.

In equation (5.2), fixed effects are used and the vector of village characteristics is replaced by Union Council dummies. All the other variables remain the same. A Union Council is geographical entity that is comprised of a few villages located nearby. As the villages in a Union Council are located nearby they have similar infrastructure and other facilities. It is plausible to assume that the villages in a Union Council have the same characteristics. Therefore, instead of using village dummies Union Council dummies are used to control for programme placement bias explained in Chapter 4.

The third model is given in equation (5.3). In this model all the variables are same as in the first two models. However, microcredit loan duration is replaced with dummy variables representing various loan durations. For example L_0 is equal to one if the loan duration is zero and zero otherwise, L_1 is equal to one if the loan duration is between one to 12 months and zero otherwise, L_2 is equal to one if the loan duration is between 13 and 24 month and zero otherwise and so on. Finally, L_9 is equal to one if

the loan duration is more than 96 month and zero otherwise. Hence, by using the various dummies it can be found what loan duration is significant in terms of impact.

5.3.2 Regression Results

OLS is used to estimate the above models and results are given in Tables 5.6-5.8 in the Appendix 1. The results show that overall there is no statistically significant impact of microfinance loan duration on household monthly income in any of the models. Only in the third model, where dummies are used for various loan durations, a statistically significant impact is found at 10 percent level for one of the dummies.

In the first and second model the microfinance access variable "loan duration" has a positive relationship with income, suggesting that access to microfinance has some positive impact on household income. Interestingly, the second microfinance access variable "square of loan duration" has a negative relationship with the income, which indicates that after the initial positive impact, access to microfinance has some negative impact on household income. However, the coefficients for both the variables are not statistically significant.

The impact on income is also estimated for individual microfinance organisations. For individual organisations, only the first two models (fixed effects and non fixed effects models) are used to assess the impact. The brief results for individual organisations are presented in Table 5.45 to Table 5.47 in the Appendix 1.

For KBL, there is no statistically significant impact on household monthly income in both the models. However, the sign of the coefficient for loan duration is

negative in one of the models. Similarly, there is no statistically significant impact for Akhuwat although the coefficient for loan duration is positive in both the models. Interestingly, for NRSP the impact is negative in both the models and the coefficients for loan duration are statistically significant at the five percent level, suggesting that lending from NRSP has a statistically significant negative impact on household monthly income.

To sum up, the results show that although microcredit has some positive impact on household income, the impact is not statistically significant in any of the models. For individual organisations, the impact is positive in the case of KBL and Akhuwat but it is not statistically significant. In the case of NRSP, the impact is negative and statistically significant.

5.3.3 Test of Hypothesis

The hypothesis regarding the household monthly income states that microfinance does not have any impact on household income. Given the overall regression results of the three models, we fail to reject this hypothesis. Therefore, on the basis of the available evidence it is concluded that microfinance does not have any statistically significant positive impact on household income.

5.4 Impact of Microfinance on Household Expenditures

In this section the impact of microfinance is estimated on various categories of household monthly expenditures. Consumption is often considered a good proxy for

income in low-income countries and the data on consumption are considered more reliable (M. J. A. Chowdhury, 2000). Hence, it is important to estimate the impact of microfinance on household consumption expenditures. We estimate the impact on total monthly expenditures and household monthly expenditures on food, clothing, rent, transport, utilities, medical and education.

5.4.1 Regression Models

We use the same three models as we used to estimate the impact on household monthly income in the previous section.

5.4.2 Regression Results

OLS is used to estimate the regression models and results are in presented in Tables 5.9 to 5.32 in the Appendix 1. Overall, we find a positive impact of loan duration in all the three models on total monthly expenditures. However, the impact is not statistically significant in any of the models. The value of the coefficient of loan duration in the first two models is also very small which shows that the impact is not economically significant either. In the third model, where we use dummies for various loan durations, all but one dummy shows a positive relationship with the total monthly expenditures. Nonetheless, the relationship is not statistically significant for any dummy.

Subsequently, we estimate the impact on various categories of household monthly expenditures. We find positive impacts of loan duration on the household monthly expenditures on food in the first two models. However, as before the impact is not statistically significant. In the third model some of the dummies have a positive

relationship with the monthly expenditures on food while some other show a negative relationship but the relationship is not statistically significant for any of the dummies.

We also find a positive impact of loan duration on household monthly expenditures on health in the first two models but the impact is not statistically significant. The coefficients of the loan duration are also very small, which also suggest that the impact is not economically significant as well. In the third model, where we use dummies for various loan durations, most of the dummies show a positive relationship with health expenditures and this is statistically significant at the five percent level for only one of the dummies (dummy for loan duration of 49-60 months). However, three dummies show a negative relationship with health expenditures but the relationship is not statistically significant.

The impact on household monthly expenditures on education also presents a similar picture. The first two models show that microfinance loan duration has a positive impact on household monthly expenditures on education. However, the impact is not statistically or economically significant. In the third model all but one dummy show a positive relationship with monthly expenditures on education. Nonetheless, only one dummy (dummy for loan duration of 25-36 months) shows a statistically significant and positive relationship at the five percent level.

Similar evidence is found for monthly expenditures on transport and utilities. For monthly expenditures on transports, the first two models show a positive impact but the impact is not statistically significant. In the third model some of the dummies show positive relationships with transport expenditures while some other show negative

relationships. Nonetheless, the relationship is not statistically significant for all but one dummy. The only statistically significant and positive relationship is found for loan duration dummy that represents loan duration of 73-84 months.

We only find a positive impact on monthly expenditures on utilities in one of the models while in the second model we find a negative impact. However, in both cases the impact is very small and statistically insignificant. In the third model, some of the dummies show positive relationships with monthly expenditures on utilities while other show negative relationships. However, the relationship is not statistically significant for any of the dummies.

We find a negative impact of microfinance loan duration on household monthly expenditures on clothing and rent. The first two models show that the loan duration has a negative impact on both clothing and rent expenditures. However, as with other categories of expenditure, the impact is very small in magnitude and not statistically significant. In the third model, most of the dummies show a negative relationship with clothing and rent expenditures. This relationship is only statistically significant for two dummies in the case of monthly expenditures on clothing.

We also estimate the impact on household expenditures for individual MFIs. Overall, we do not find any statistically significant impact on various categories of household monthly expenditures with only a few exceptions. For KBL, the impact is positive for most of the categories of household monthly expenditures except we find a negative impact on rental and transport expenditures in one of the models (non fixed effects model). We also find a negative impact on transport, health and education

expenditures in the second model (fixed effects model). We only find a statistically significant and positive impact at the 10 percent level on educational expenditures in the non fixed effect model.

Results are also mixed for NRSP. In the non fixed effects model, the impact is positive for total monthly expenditures, transport expenditures and educational expenditures with only statistically significant impact on transport expenditures. While the impact is negative for all the other categories of expenditures and it is statistically significant only for expenditures on utilities. The results are similar in the fixed effects model where we find a positive impact on some categories and a negative impact on some others. However, the impact is not statistically significant for any of the categories of household expenditures.

A Similar pattern is observed for Akhuwat as well. In both the models (non fixed effects and fixed effects), the impact is positive for four categories and negative for four other categories of monthly expenditures. Nonetheless, the impact is not statistically significant for most of the categories. We only find a statistically significant impact on rental expenditures in both the models and this impact is negative.

In summary, our results show that the access to microfinance does not have any statistically significant impact on household monthly expenditures. Although we find a positive impact of access to microfinance on most of the categories of household monthly expenditure, the effect is very small. These effects are neither economically nor statistically significant. We even find some negative impacts on some of the categories

of household expenditures. However, like the positive impact, the negative impact is also very small and not statistically significant.

5.4.3 Test of Hypotheses

The hypotheses concerning household monthly expenditure state that there is no impact of microfinance on various categories of household monthly expenditures (hypotheses 3 to 10 in Chapter 4). With the given evidence, we fail to reject any of the hypotheses related to household monthly expenditures. Hence, we can conclude that although microfinance has some positive impact on most of the categories of household monthly expenditures, this positive impact is not significant enough to enable us to reject any of the hypotheses related to household monthly expenditures.

5.5 Impact on Household Assets

Assets are an important measure of household wealth and welfare, and can be used as a measure of household socioeconomic status in low-income countries. The more assets a household owns the wealthier it is considered. For poor households, assets act as insurance and allow them to deal with economic difficulties. In the absence of insurance markets assets can be disposed off at the time of financial difficulties such as unemployment or sickness. Assets also enables households to smooth their consumption during economic crises (Cohen & Little, 1997; Morduch, 1995).

Assets can be classified into fixed assets (e.g., land and house) and variable assets (e.g., machinery, inventories and cash) (Cohen & Little, 1997). Although, all the

assets can be considered variable in the long-run, in the context of the low-income countries like Pakistan, fixed assets (especially land) is generally acquired through inheritance. Poor households find it relatively hard to purchase land as it requires large sums of money. Houses are also quite expensive to build. We do not expect microfinance to have any impact on assets like land and house.

As was argued in the previous chapter, with new investment resulting from access to microfinance, household income can increase and with this increase in income household can accumulate more assets. In this section we estimate the impact of microfinance on the value of total household assets. The value of total assets include value of land, value of house, value of livestock, value of machinery, value of tools and equipment, value of raw material, value of goods for sale, cash receivable and value of any other assets. As we mentioned earlier we do not expect any impact of microfinance on the value of land and house, we will use value of land and house as control variables in our regression estimates.

5.5.1 Regression Models

Same regression models are used to estimate the impact on the value of assets as used in the previous sections.

5.5.2 Regression Results

OLS is used to estimate the regression models. The results are presented in Tables 5.33-5.35 in the Appendix 1. Like most of the other outcome variables, overall we find a positive impact on the total value of household assets. Nonetheless, the impact

is not statistically significant. In the first two models (fixed effects model and non fixed effects model) the impact on the total value of household assets is positive but not statistically significant. In the third model, where we use various dummies for loan duration, most of the dummies show a positive relationship with the total value of household assets while a few dummies show a negative relationship. However, the relationship is not statistically significant in most of the cases. The only statistically significant and positive relationship is found for the dummy representing loan duration of 37-48 months.

Overall the impact for individual organisations is also positive though not statistically significant. For KBL, we find a positive impact of loan duration on household assets in both the fixed effects and non effects models. However, the impact is not statistically significant in both models. Similar picture also emerges for Akhuwat, where we find a positive but not statically significant impact. For NRSP, the impact is positive and it is statistically significant at the five percent level in the fixed effects model.

To sum up like other outcome variables, microfinance does not seem to have any significant impact on household assets. Though there is some positive impact, the magnitude is very small and not statistically and economically significant.

5.5.3 Test of Hypothesis

In Chapter 4, the hypothesis regarding household assets (hypothesis 11) states that there is no impact of microfinance on household total assets. With the available

evidence we fail to reject this hypothesis as the empirical evidence from the data suggest that microfinance does not have any statistically significant positive impact on household assets.

5.6 Impact on Consumer Durables

The increase in income resulting from microfinance investment can also lead to the purchase of more consumer durables, which can be considered an indicator of improvement in the standard of living. In this section, we estimate the impact of access to microfinance on the value of consumer durables owned by borrowing households. We asked respondents the questions that what consumer durables they own and what is the current value of the each item.

We estimate the impact on the total value of consumer durables that is derived by adding the current value of all the consumer durables owned by a household. These include TVs, refrigerators, radios, cameras, washing machines, sewing machines, mobile phones, bicycles, motorbikes, rickshaws, cars, jewellery and any other consumer durable owned by a household.

5.6.1 Regression Models

The regression models used to estimate the impact on the value of consumer durables are the same as in the previous sections.

5.6.2 Regression Results

OLS is used to estimate the regression models and the results are presented in Tables 5.36-5.38 in the Appendix 1. Overall, we do not find any statistically significant impact of microfinance loan duration on the total value of consumer durables. In the first model (non fixed effects model), loan duration has a positive impact on the value of consumer durables. However, the impact is not statistically significant.

In the second model (fixed effects model), loan duration has a negative impact on the total value of durables. However, the coefficient is very small and statistically insignificant. In the third model, where we use various dummies, some of the dummies show a positive relationship with the total value of durables while some others show a negative relationship. The relationship is only statistically significant for one of the dummies (i.e. dummy representing loan duration of 37-48 months).

We also estimate the impact on the total value of consumer durables for individual organisations. The results for individual organisations are presented in Table 5.45-5.47 in the Appendix 1. For KBL, the impact of loan duration is positive in both the models (fixed effects and non fixed effects models). However, it is only statistically significant in the non fixed effects model. For NRSP, loan duration has a positive impact in both the models and the impact is statistically insignificant in both the models. Interestingly, for Akhuwat, loan duration has a negative impact on the total value of durables. Nonetheless, the impact is not statistically significant in both models.

In summary, overall we do not find any significant impact of microfinance on the value of consumer durables. We even find some overall negative impact in one the models and a negative impact for one of the MFIs. However, neither the positive nor the negative impact is statistically significant.

5.6.3 Test of Hypothesis

Our hypothesis regarding consumer durables (hypothesis 12 in Chapter 4) states that there is no impact of access to microfinance on the total value of consumer durables. Given the evidence from the regression results, we fail to reject this hypothesis. Hence, we conclude there is no significant impact of access to microfinance on the total value of consumer durables.

5.7 Impact on Poverty

In the last chapter, we argued that microfinance investment can increase household income resulting in higher consumption levels, assets and consumer durable accumulation and in the longer run household can exit poverty. In the previous sections, we found that microfinance does have a positive impact on income and other outcome variables. However, the impact is not statistically significant.

In this section, we estimate the impact of microfinance on household poverty status. We estimate the impact on both subjective and objective poverty. Subjective poverty is the household's own perception of its poverty status. Objective poverty is

measured using a national poverty line. We also use some qualitative evidence to assess the impact of microfinance on household subjective poverty.

5.7.1 Regression Models

The regression models we use to estimate the impact of microfinance on objective and subjective poverty are the same as in the previous sections.

5.7.2 Regression Results

We use logit regression to estimate the regression models. The results are presented in Tables 5.39-5.44 in the Appendix 1. In the first two models (fixed effects and non fixed effects), objective poverty has a positive relationship with the microfinance loan duration, which suggests that objective poverty increases as the microfinance duration increases. Nonetheless, this relationship is not statistically significant.

In the third model, where we use dummies for loan duration, most of the dummies show a positive relationship with objective poverty and a few dummies show a negative relationship with objective poverty. However, like the previous models, this relationship is not statistically significant for all but one dummy. Loan duration of 61-72 months has a positive relationship and it is statistically significant at the ten percent level.

For subjective poverty, we find a negative relationship with the loan duration. This suggests that subjective poverty decreases with the increase in microfinance loan duration. In the first two models (fixed effects and non fixed effects models),

microfinance loan duration has a negative relationship with subjective poverty. This relationship is only significant in the fixed effects model at the five percent level.

In the third model, where we use dummies for various loan durations, most of the dummies show a negative relationship with subjective poverty. Only two dummies show a positive relationship. The negative relationship is statistically significant for four dummies. These finding also confirms that subjective poverty decreases as the microfinance loan duration increases.

The qualitative evidence also suggests that microfinance clients think their poverty has decreased to some extent by participating in microfinance programmes. During the survey, we asked current borrowers what is their current poverty status and what their poverty status was before joining a microfinance programme. As shown in Table 5.5 (reproduction of Table 5.2) before participating in the microfinance programme 46 percent of current borrowers thought they were not poor. However, this percentage increased to 51 percent after taking out a microcredit loan. This suggests that 5 percent of the borrowers came out of poverty by taking out a microcredit loan.

It is also interesting to note that there is only one percent change in the poor category while it is four percent for very poor category. As the table shows, 41 percent of current borrowers were poor before taking out a loan but this percentage decreased by one percentage point (to 40 percent) after taking out the loan. On the other hand 13 percent of current borrowers were very poor before taking out a loan and this was 9 percent after taking out a loan. These findings suggest that very poor households, who

are mostly excluded from microfinance programmes, think that they are benefiting from microcredit although quantitative evidence does not support it.

Table 5.5: Subjective Poverty Status of Current borrowers

	Poverty Status (Percentage)		
Loan Status	**Not Poor**	**Poor**	**Very Poor**
After Loan	51	40	9
Before Loan	46	41	13

5.7.3 Test of Hypothesis

The hypotheses regarding poverty (hypothesis 13 in Chapter 4) state that there is no impact of microfinance on objective and subjective poverty. The regression results clearly demonstrate that there is no significant impact of microfinance on the objective poverty. So we fail to reject the hypothesis that there is no impact of microfinance on objective poverty.

The evidence on subjective poverty is not very clear. Although we find a negative relationship of microfinance loan duration with subjective poverty, which suggests that subjective poverty decreases as the loan duration increases. However, the effect is statistically significant in only one of the two models. In the third model, not all the dummies show a negative relationship and where the relationship is negative, it is not always statistically significant. Therefore, we cannot either reject or accept the hypothesis that microfinance does not have any impact on subjective poverty.

5.8 Discussion of the Results

This study uses an innovative survey design, similar to that of Coleman (1999), to gather primary data in order to estimate the impact of microfinance in Pakistan. The data were gathered from four types of households that included current borrowers, pipeline borrowers, dropouts and non-borrowers. By including pipeline borrowers in the sample, we identify a control group that is similar to current borrowers in terms of unobservable characteristics as the former have also self-selected into the microfinance programme like the later. Inclusion of dropouts in the sample enables us to control for attrition and incomplete sample bias. Inclusion of non-borrowers in the sample enables us to use the membership dummy to control for unobservable household characteristics.

The study uses three regression models to assess the impact of microcredit loan duration. In all the models a membership dummy is used to control for unobservable households characteristics, which might affect the household outcomes. Similarly, household characteristics (such as age and education of the borrower, number of earners in the household) are used, to control for observable differences across the households that can also affect the household outcomes. Moreover, the first model uses village characteristics to control for differences across the villages while in the second model these differences are controlled by using fixed effects method. The third model uses dummies for various loan durations. The use of dummies enables us to find what loan duration is more important in terms of the impact on household outcomes, although we could not find any consistent pattern for the loan duration dummies.

As discussed in the previous sections, the study does not find any significant impact of microcredit loan duration on any of the outcome variables. The absence of any significant impact of microcredit challenges the theoretical predictions that the availability of microcredit can increase the household income by enabling the household to undertake new investment. The absence of any significance impact also raises the questions about the role of microcredit in poverty reduction.

In order to better understand these results we re-examine our theoretical model presented in Chapter 4. In this model we argued that income of a household depends upon a number of factors. The most important factors that affect household income include: nature of the business a household is engaged in, number of earners in a household, education level and entrepreneurial abilities of the household members. Moreover income also depends upon the overall local and national economic environment.

We argued that if a household is credit constrained, the availability of credit should enable the household to expand or start new businesses and this new investment can lead to increase in household income. Implicit in this argument is that the household members are capable of expanding or starting new businesses, and local and national environment is conducive for investment. That is, the macro-economy is stable, infrastructure is enabling and inputs and raw material are easily available.

A careful examination of the data, informal discussion with borrowers and the situation of Pakistani economy, reveal that most of the factors that affect household income and are necessary for business growth are lacking in Pakistan. Consequently, the

absence of any significant impact on most of the outcomes especially income is not surprising. We examine some of factors that can affect household income in more detail below.

First, our data show that almost 50 percent of the current and pipeline borrowers are illiterate and among the remaining 50 percent, who are literate, the mean years of schooling is only four. Moreover, on average, there are less than two adult (aged 19 years or above) literate members in a typical household of current and pipeline borrowers, although on average every household has 4 adult members. Hence, almost 50 percent of the adults in every household of the borrowers cannot read and write.

The results indicate that the education of a borrower has a significant positive impact on household monthly income and the coefficient for the years of schooling of borrowers is statistically significant in all three models. However, as discussed earlier, the data indicate that most of the borrowers are illiterate or have very little education. Moreover, the other household members have basic/primary education. Education is a significant determinant of household income and the lack of education among household members of the borrowers might be hampering the growth of income of borrowing households.

Second, the data indicate that 40 percent of current borrowers reported agriculture and livestock as their main source of income and on average a household owns less than two acre of lands. The other main sources of income include: small grocery shops, cottage industry (e.g. embroidery or tailoring), petty trading and paid employment. The nature of these businesses offers very limited scope for expansion as

only a certain amount of inputs can be applied on a small agriculture farm and the capacity of the other small businesses is also limited. Moreover, as Bateman (2010) argues that the "tiny plots of land" owned by the borrowers are not suitable for modern agriculture and economies of the scale are hard to materialize on small farms. And when agriculture inputs are purchased in small quantities, they are more expensive.

Because of limited scope for expansion offered by borrower's businesses, after some initial increase, the income stops rising. Our results are consistent with the observation that after some initial positive impact, the benefits of microfinance begin to disappear. We find that loan duration has a positive impact on household income. However, the square of loan duration has a very small and negative impact on household monthly income. It shows that the household income increases initially with the provision of microcredit. However, this initial impact disappears as the businesses of the borrowers reach their full expansion capacity.

Third, although entrepreneurial ability and motivation is hard to measure, we use a membership dummy in all the regression models to proxy for unobservable characteristics, which include entrepreneurial ability and motivation. Our results show that in one of the models, the membership dummy has a statistically significant positive impact on household monthly income. This underpins the argument that entrepreneurial ability is an important determinant of household income. It also shows that the borrowers have more entrepreneurial abilities and are more motivated compared to non-borrowers to some extent.

The data, however, cast doubt on the motivation and entrepreneurial abilities of the borrowers. As we know, the borrowers can use microcredit either to start new small businesses or expand the existing businesses. The data indicate, among the current borrowers only 16 percent took out a microcredit loan to start a new business while the remaining 84 percent took out a loan for their existing businesses. The absence of new business plans indicates that borrowers do not possess any exceptional business capabilities although they might be relatively more motivated and have greater entrepreneurial abilities compared to non-borrowers. This lack of businesses capabilities among the borrowers might also be hindering the growth of borrowers' income.

Fourth, the overall economic environment of Pakistan is also not conductive to businesses. During the survey, we came to know that most borrowers were finding it difficult to run their businesses owing to a shortage of inputs. Specifically, there was acute shortage of fertilizer and electricity in the country at the time of the survey. As the majority of the borrowers were farmers, they were finding it very difficult to achieve their production targets because of lack of fertilizer. The shortage of electricity was also adversely affecting almost every business.

The country has also been experiencing a very high rate of inflation in the last few years. The condition of infrastructure is not good in most parts of the country. The law and order situation has deteriorated considerably because of Pakistan's participation in the "war on terror". Most of the state institutions are corrupt and dysfunctional. The performance of the health and education system of Pakistan is very poor.

Given the malfunctioning health and education system, poor infrastructure, deteriorating law and order situation, lack of business inputs and limited capacity of the borrowers' businesses, one can hardly expect that mere provision of microfinance can significantly raise the income of the borrowers. In the absence of any significant impact on household monthly income, there cannot be any significant and sustainable impact on household consumption, assets and durables.

With no significant impact on household monthly income, the effectiveness of microfinance in poverty reduction also becomes doubtful and negates the claims of the donors and MFIs that microfinance is an effective tool of poverty reduction. Therefore, in order to eradicate poverty, governments and donors should not rely on microfinance only. But they should also focus on other measures, such as the improvement of health and education system, law and order and macro-economy, as well. As Hulme (2007, p. 21) states that:

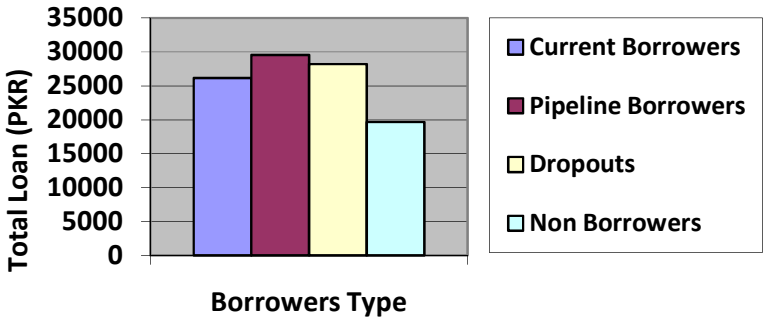
> "*MFI and donor hype has created the impression that microfinance is a cure for poverty.... This is a potentially dangerous line of argument as it distracts attention from the fact that poverty reduction requires action on many fronts: social safety nets for the poorest and most vulnerable, an effective education system, low cost and reliable health services, government that can provide social inclusion (and thus maintain law and order) and sound macroeconomic policies, and many other issues".*

The finding of this study strengthens the findings of Coleman (1999) who did not find any impact of microfinance in Thailand. Similar results are also reported by Banerjee et al. (2009) and Karlan and Zinman (2009) who used randomized experiments in India and Philippines respectively to assess the impact of microfinance. Randomized experiments are considered to be the ideal method for the impact assessment of any programme and our findings are similar to the studies that use these ideal methods for impact assessment.

Our data also reinforce the assertion of Adams and von Pischke (1992, p. 1468) that *"In most cases lack of formal loans is not the most pressing problem faced by these* [poor] *individuals"*. The data show that poor households manage to obtain credit they need even in the absence of microfinance programmes. Hence they are not strictly credit constrained although they might not be able to obtain credit from the formal sources. Figure 5.1 shows the total loan (credit) for each category of respondents. It is important to note that total loan, which includes loan received from MFIs and other sources by all the household members.

Interestingly, the two categories of respondents that were not taking out a loan from MFIs at the time of the survey (pipeline borrowers and dropouts) had a greater amount of total loan than current microfinance borrowers. Only the total loan amount of non-borrowers is less than that of current borrowers. Hence our data indicate the access to formal credit might not be as serious a problem for poor household, as often portrayed by international donors and MFIs.

Figure 5.1: Total Loan Balance of Respondents



To sum up, the results of this study demonstrate that microcredit does not have any significant impact on household outcomes. The results are not surprising as microcredit can affect household outcomes by enabling them to expand or initiate new businesses. However, only the provision of microcredit is not sufficient for the expansion of any business. The expansion and progress of a business depend upon multiple factors that include, among others, the nature of the business, abilities of the business owner and enabling business environment. Given the deteriorating macro-economic environment of Pakistan, widespread illiteracy among the borrowers and limited expansion capacity of their business, one can hardly expect any significant change in the life of borrowers with the availability of microcredit.

5.8.1 Discussion of the Results for Individual MFIs

Brief results for the impact of individual MFIs are presented in Tables 5.45 to 5.47. Overall, there is no statistically significant positive impact of lending from any of

the institutions. However, there are some significant differences among the three institutions in terms of impact on various household outcomes.

In the case of KBL, the impact is positive for most of household outcomes. This impact is statistically significant for monthly expenditures on education and value of household assets. Similarly, in the case of Akhuwat, the impact is positive for most of the household outcomes. However, it is not statistically significant. In the case of NRSP, the impact is negative for household income and most of household expenditures categories. The negative impact on household monthly income is statistically significant in both models.

These differences in impact can be the result of lending practices employed by MFIs. As discussed in the previous chapter, there are significant differences among the case study institutions especially in terms of cost of loans. The effective cost of NRSP loans is the highest among the case study institutions while the cost of Akhuwat loans is the lowest. There is little difference between KBL and NRSP in terms of interest rate and fees charged. However, the actual cost of NRSP loans is much higher when one considers the hidden costs in the form of compulsory savings and fortnightly group meetings.

The data show, on average NRSP borrowers spend 40 minutes in a fortnightly group meeting. These meetings might be beneficial for NRSP as they provide an opportunity to monitor the borrowers. However, for borrowers these meetings are an extra cost. Similarly, on average NRSP borrowers have PKR 5,040 (c. US$ 58) in group

savings account. These savings do not earn any interest and borrowers miss the opportunity of investing them in businesses. Real value of the savings also declines as a result of high inflation. These compulsory savings are an additional cost on NRSP borrowers. Hence the true of cost of NRSP loans include interest rate, fees, opportunity cost of time spent on meetings and cost of compulsory savings.

The negative impact of NRSP loans on household income suggests that the cost of NRSP loans outweighs the benefits of microcredit loans. This implies that a lending policy similar to NRSP can be harmful for poor households who take out microcredit loans to escape poverty trap. Therefore, lending practices of MFIs should be properly regulated. Otherwise microcredit loans can further exacerbate the poverty situation.

5.9 Summary

This chapter examined the poverty status of sample households and also estimated the impact of microfinance on various household outcomes using the data collected by the author. Various regression models were used to estimate the impact and various techniques were employed to control for the biases usually encountered in the impact assessment studies.

The results show that the majority of households who join microcredit programmes are poor. However, they are not very poor. The percentage of the very poor in the sample is very small and this suggests that very poor households are generally

excluded from microcredit programmes in Pakistan. We reach the same conclusion whether we use objective poverty criteria or subjective poverty criteria.

The results suggest that access to microfinance does not have any significant impact on any of household outcomes including household income, expenditures, assets and consumer durables. The study also estimates the impact on objective and subjective poverty of the borrowing households. No significant impact is found on objective poverty. However, some significant impact is found on subjective poverty, which suggests that the households who take out a microcredit loan feel that they come out of poverty by taking out a loan.

Appendix 1

Table 5.6: Impact on Household Monthly Income (Model 1)

Dependent Variable: Household Monthly Income (PKR)		
Regressors	**Coefficient**	**t**
Constant	-503.76	-0.12
Loan Duration (No. of Months)	40.68	1.08
Square of Loan Duration	-0.56	-1.46
Membership Dummy	296.88	0.20
Total Household Debt (PKR)	0.02*	4.48
Age of the Borrower (Years)	-16.46	-0.46
Years of Schooling of the Borrower	541.57*	6.17
Total Household Members	596.51*	6.00
Total Household Members Employed	1631.39*	3.71
Total Household Members Self Employed	1125.56*	3.41
Distance of Village from the Tehsile Headquarter (Km)	-6.87	-0.17
Distance of Hospital from the Village (Km)	125.22	0.53
Distance of Bank from the Village (Km)	-57.95	-0.41
Distance of Post Office from the Village (Km)	90.06	0.49
Availability of Electricity (Dummy)	827.31	0.28
Availability of Gas (Dummy)	-2813.41	-1.35
Availability of Telephone (Dummy)	6428.46*	3.79
Availability of irrigation Water (Dummy)	-540.08	-0.44
Availability of Water Supply (Dummy)	2323.57	1.38
Availability of Metalled Road (Dummy)	1220.89	0.94
Availability of Sewerage System (Dummy)	-2006.16	-1.28
Adjusted R^2	0.37	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.7: Impact on Household Monthly Income (Model 2)

Dependent Variable: Household Monthly Income (PKR)		
Regressors	**Coefficient**	**t**
Constant	2875.69	0.75
Loan Duration (No. of Months)	25.35	0.63
Square of Loan Duration	-0.62	-1.57
Membership Dummy	5524.62***	1.78
Total Household Debt (PKR)	0.02*	4.50
Age of the Borrower (years)	-25.41	-0.69
Years of Schooling of the Borrower	483.00*	5.17
Total Household Members	623.40*	6.02
Total Household Members Employed	1496.11*	3.34
Total Household Members Self Employed	1096.32*	3.25
Adjusted R^2	0.37	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.8: Impact on Household Monthly Income (Model 3)

Dependent Variable: Household Monthly Income (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1253.10	-0.31
Loan Duration 1-12 Months (Dummy)	-556.71	-0.47
Loan Duration 13-24 Months (Dummy)	-699.52	-0.58
Loan Duration 25-36 Months (Dummy)	2429.68***	1.81
Loan Duration 37-48 Months (Dummy)	1608.71	0.93
Loan Duration 49-60 Months (Dummy)	-531.07	-0.28
Loan Duration 61-72 Months (Dummy)	-2883.11	-1.32
Loan Duration 73-84 Months (Dummy)	-2178.22	-0.64
Loan Duration 85-96 Months (Dummy)	-2590.55	-0.88
Loan Duration more than 96 Months (Dummy)	-1763.91	-0.58
Membership Dummy	606.72	0.40
Total Household Debt (PKR)	0.02*	4.54
Age of the Borrower (years)	-20.17	-0.56
Years of Schooling of the Borrower	501.10*	5.65
Total Household Members	600.68*	5.94
Total Household Members Employed	1622.41*	3.67
Total Household Members Self Employed	1144.45*	3.44
Distance of Village from the Tehsile Headquarter (Km)	1.18	0.03
Distance of Hospital from the Village (Km)	89.74	0.38
Distance of Bank from the Village (Km)	-70.53	-0.48
Distance of Post Office from the Village (Km)	89.59	0.48
Availability of Electricity (Dummy)	999.22	0.33
Availability of Gas (Dummy)	-2445.16	-1.16
Availability of Telephone (Dummy)	6479.21*	3.81
Availability of irrigation Water (Dummy)	-429.41	-0.35
Availability of Water Supply (Dummy)	2006.93	1.17
Availability of Metalled Road (Dummy)	2114.68	1.52
Availability of Sewerage System (Dummy)	-2161.64	-1.37
Adjusted R^2	0.37	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.9: Impact on Household Total Monthly Expenditures (Model 1)

Dependent Variable: Household Monthly Total Monthly Expenditures (PKR)		
Regressors	**Coefficient**	**t**
Constant	-706.97	-0.37
Loan Duration (No. of Months)	6.36	0.86
Membership Dummy	600.97	0.89
Household Monthly Income (PKR)	0.77*	38.93
Age of the Borrower (years)	21.77	1.29
Years of Schooling of the Borrower	70.64***	1.64
Total Household Members	44.79	1.13
Distance of Village from the Tehsile Headquarter (Km)	5.22	0.28
Distance of Hospital from the Village (Km)	-100.85	-0.91
Distance of Bank from the Village (Km)	92.82	1.38
Distance of Post Office from the Village (km)	-155.11***	-1.81
Availability of Electricity (Dummy)	-587.40	-0.41
Availability of Gas (Dummy)	-1075.24	-1.09
Availability of Telephone (Dummy)	-145.15	-0.18
Availability of irrigation Water (Dummy)	-250.56	-0.43
Availability of Water Supply (Dummy)	-419.98	-0.53
Availability of Metalled Road (Dummy)	615.26	1.01
Availability of Sewerage System (Dummy)	1005.92	1.35
Adjusted R^2	0.81	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.10: Impact on Household Total Monthly Expenditures (Model 2)

Dependent Variable: Household Total Monthly Expenditures (PKR)		
Regressors	**Coefficient**	**t**
Constant	-3023.09***	-1.65
Loan Duration (No. of Months)	8.46	1.03
Membership Dummy	924.76	0.63
Household Monthly Income (PKR)	0.77*	37.95
Age of the Borrower (years)	26.30	1.51
Years of Schooling of the Borrower	67.34	1.47
Total Household Members	32.63	0.78
Adjusted R^2	0.81	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.11: Impact on Household Total Monthly Expenditures (Model 3)

Dependent Variable: Household Total Monthly Expenditures (PKR)		
Regressors	**Coefficient**	**t**
Constant	-822.59	-0.42
Loan Duration1-12 Months (Dummy)	292.26	0.52
Loan Duration 13-24 Months (Dummy)	227.21	0.39
Loan Duration 25-36 Months (Dummy)	688.31	1.07
Loan Duration 37-48 Months (Dummy)	13.85	0.02
Loan Duration 49-60 Months (Dummy)	-80.58	-0.09
Loan Duration 61-72 Months (Dummy)	444.33	0.42
Loan Duration 73-84 Months (Dummy)	1466.82	0.90
Loan Duration 85-96 Months (Dummy)	353.37	0.25
Loan Duration more than 96 Months (Dummy)	963.97	0.66
Membership Dummy	576.45	0.81
Household Monthly Income (PKR)	0.77*	38.35
Age of the Borrower	20.88	1.22
Years of Schooling of the Borrower	66.99	1.53
Total Household Members	43.96	1.08
Distance of Village from the Tehsile Headquarter (Km)	4.75	0.25
Distance of Hospital from the Village (Km)	-99.67	-0.89
Distance of Bank from the Village (Km)	80.73	1.15
Distance of Post Office from the Village (Km)	-146.72***	-1.66
Availability of Electricity (Dummy)	-602.95	-0.42
Availability of Gas (Dummy)	-1214.58	-1.21
Availability of Telephone (Dummy)	-131.60	-0.16
Availability of irrigation Water (Dummy)	-185.06	-0.31
Availability of Water Supply (Dummy)	-312.63	-0.38
Availability of Metalled Road (Dummy)	756.99	1.13
Availability of Sewerage System (Dummy)	989.81	1.31
Adjusted R^2	0.81	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.12: Impact on Household Monthly Expenditures on Food (Model 1)

Dependent Variable: Household Monthly Expenditures on Food (PKR)		
Regressors	**Coefficient**	**t**
Constant	-583.22	-0.50
Loan Duration (No. of Months)	2.41	0.54
Membership Dummy	-147.33	-0.36
Household Monthly Income (PKR)	0.30*	25.62
Age of the Borrower (years)	12.04	1.18
Years of Schooling of the Borrower	25.89	1.00
Total Household Members	175.26*	7.29
Distance of Village from the Tehsile Headquarter (Km)	16.96	1.49
Distance of Hospital from the Village (Km)	-58.71	-0.88
Distance of Bank from the Village (Km)	31.76	0.78
Distance of Post Office from the Village (Km)	-40.31	-0.78
Availability of Electricity (Dummy)	53.88	0.06
Availability of Gas (Dummy)	-84.38	-0.14
Availability of Telephone (Dummy)	-15.27	-0.03
Availability of irrigation Water (Dummy)	-424.28	-1.21
Availability of Water Supply (Dummy)	-113.47	-0.24
Availability of Metalled Road (Dummy)	722.13***	1.95
Availability of Sewerage System (Dummy)	-67.89	-0.15
Adjusted R^2	0.71	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.13: Impact on Household Monthly Expenditures on Food (Model 2)

Dependent Variable: Household Monthly Expenditures on Food (PKR)		
Regressors	**Coefficient**	**t**
Constant	564.11	0.51
Loan Duration (No. of Months)	4.66	0.95
Membership Dummy	-876.64	-1.00
Household Monthly Income (PKR)	0.31*	25.51
Age of the Borrower (years)	16.87	1.62
Years of Schooling of the Borrower	26.80	0.98
Total Household Members	166.70*	6.69
Adjusted R^2	0.71	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.14: Impact on Household Monthly Expenditures on Food (Model 3)

Dependent Variable: Household Monthly Expenditures on Food (PKR)		
Regressors	**Coefficient**	**t**
Constant	-594.28	-0.50
Loan Duration 1-12 Months (Dummy)	112.52	0.33
Loan Duration 13-24 Months (Dummy)	306.58	0.88
Loan Duration 25-36 Months (Dummy)	-15.75	-0.04
Loan Duration 37-48 Months (Dummy)	455.44	0.91
Loan Duration 49-60 Months (Dummy)	-133.41	-0.24
Loan Duration 61-72 Months (Dummy)	-312.68	-0.49
Loan Duration 73-84 Months (Dummy)	469.69	0.48
Loan Duration 85-96 Months (Dummy)	457.11	0.54
Loan Duration more than 96 Months (Dummy)	573.25	0.65
Membership Dummy	-219.62	-0.51
Household Monthly Income (PKR)	0.30*	25.27
Age of the Borrower (years)	12.69	1.23
Years of Schooling of the Borrower	24.42	0.92
Total Household Members	176.79*	7.21
Distance of Village from the Tehsile Headquarter (Km)	19.11	1.64
Distance of Hospital from the Village (Km)	-64.37	-0.95
Distance of Bank from the Village (Km)	33.25	0.78
Distance of Post Office from the Village (Km)	-37.45	-0.70
Availability of Electricity (Dummy)	4.83	0.01
Availability of Gas (Dummy)	-51.97	-0.09
Availability of Telephone (Dummy)	11.35	0.02
Availability of irrigation Water (Dummy)	-441.03	-1.24
Availability of Water Supply (Dummy)	-151.91	-0.31
Availability of Metalled Road (Dummy)	747.13	1.85
Availability of Sewerage System (Dummy)	-97.42	-0.21
Adjusted R^2	0.71	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.15: Impact on Household Monthly Expenditures on Health (Model 1)

Dependent Variable: Household Monthly Expenditures on Health (PKR)		
Regressors	**Coefficient**	**t**
Constant	853.71**	2.04
Loan Duration (No. of Months)	0.89	0.55
Membership Dummy	214.07	1.46
Household Monthly Income (PKR)	0.04*	10.88
Age of the Borrower (years)	0.45	0.12
Years of Schooling of the Borrower	-3.52	-0.38
Total Household Members	1.41	0.16
Distance of Village from the Tehsile Headquarter (Km)	-5.27	-1.29
Distance of Hospital from the Village (Km)	-13.10	-0.55
Distance of Bank from the Village (Km)	15.18	1.04
Distance of Post Office from the Village (Km)	-27.43	-1.48
Availability of Electricity (Dummy)	-381.21	-1.24
Availability of Gas (Dummy)	-85.83	-0.40
Availability of Telephone (Dummy)	-171.85	-0.99
Availability of irrigation Water (Dummy)	-15.97	-0.13
Availability of Water Supply (Dummy)	-81.88	-0.47
Availability of Metalled Road (Dummy)	-79.35	-0.60
Availability of Sewerage System (Dummy)	-90.08	-0.56
Adjusted R^2	0.24	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.16: Impact on Household Monthly Expenditures on Health (Model 2)

Dependent Variable: Household Monthly Expenditures on Health (PKR)		
Regressors	**Coefficient**	**t**
Constant	-946.81**	-2.43
Loan Duration (No. of Months)	0.76	0.44
Membership Dummy	313.48	1.00
Household Monthly Income (PKR)	0.04*	10.56
Age of the Borrower (years)	1.77	0.48
Years of Schooling of the Borrower	-3.60	-0.37
Total Household Members	2.05	0.23
Adjusted R^2	0.25	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.17: Impact on Household Monthly Expenditures on Health (Model 3)

Dependent Variable: Household Monthly Expenditures on Health (PKR)		
Regressors	**Coefficient**	**t**
Constant	966.52**	2.29
Loan Duration 1-12 Months (Dummy)	127.34	1.05
Loan Duration 13-24 Months (Dummy)	62.62	0.50
Loan Duration 25-36 Months (Dummy)	-3.34	-0.02
Loan Duration 37-48 Months (Dummy)	123.98	0.69
Loan Duration 49-60 Months (Dummy)	433.00**	2.19
Loan Duration 61-72 Months (Dummy)	247.59	1.10
Loan Duration 73-84 Months (Dummy)	39.30	0.11
Loan Duration 85-96 Months (Dummy)	-254.65	-0.84
Loan Duration more than 96 Months (Dummy)	-10.97	-0.04
Membership Dummy	169.22	1.10
Household Monthly Income (PKR)	0.04*	10.85
Age of the Borrower (years)	0.91	0.25
Years of Schooling of the Borrower	-1.65	-0.18
Total Household Members	0.44	0.05
Distance of Village from the Tehsile Headquarter (Km)	-6.72	-1.62
Distance of Hospital from the Village (Km)	-11.13	-0.46
Distance of Bank from the Village (Km)	11.57	0.76
Distance of Post Office from the Village (Km)	-23.95	-1.26
Availability of Electricity (Dummy)	-408.71	-1.32
Availability of Gas (Dummy)	-66.99	-0.31
Availability of Telephone (Dummy)	-226.54	-1.28
Availability of irrigation Water (Dummy)	-36.56	-0.29
Availability of Water Supply (Dummy)	-110.67	-0.63
Availability of Metalled Road (Dummy)	-129.04	-0.89
Availability of Sewerage System (Dummy)	-79.52	-0.49
Adjusted R^2	0.24	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.18: Impact on Household Monthly Expenditures on Education (Model 1)

Dependent Variable: Household Monthly Expenditures on Education (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1370.03	-1.15
Loan Duration (No. of Months)	4.13	0.97
Membership Dummy	-0.77	-0.00
Household Monthly Income	0.18*	16.62
Age of the Borrower	10.37	1.09
Years of Schooling of the Borrower	13.85	0.58
Total Household Members	-102.78*	-4.53
Distance of Village from the Tehsile Headquarter (Km)	17.64	1.17
Distance of Hospital from the Village (Km)	-22.28	-0.21
Distance of Bank from the Village (Km)	32.81	0.84
Distance of Post Office from the Village (Km)	-66.06	-1.34
Availability of Electricity (Dummy)	-287.45	-0.35
Availability of Gas (Dummy)	-871.22	-1.41
Availability of Telephone (Dummy)	97.13	0.18
Availability of irrigation Water (Dummy)	384.06	1.15
Availability of Water Supply (Dummy)	368.71	0.76
Availability of Metalled Road (Dummy)	122.97	0.35
Availability of Sewerage System (Dummy)	421.11	0.99
Distance of Primary School from Village	8.94	0.05
Distance of Middle School from Village	65.89	0.63
Distance of secondary School from Village	-6.63	-0.05
Distance of College from Village	-22.82	-1.14
Adjusted R^2	0.38	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.19: Impact on Household Monthly Expenditures on Education (Model 2)

Dependent Variable: Household Monthly Expenditures on Education (PKR)		
Regressors	**Coefficient**	**t**
Constant	-2306.00**	-2.27
Loan Duration (No. of Months)	3.61	0.80
Membership Dummy	1143.45	1.41
Household Monthly Income (PKR)	0.18*	16.32
Age of the Borrower (years)	10.20	1.06
Years of Schooling of the Borrower	24.64	0.97
Total Household Members	-102.31*	-4.44
Adjusted R^2	0.38	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.20: Impact on Household Monthly Expenditures on Education (Model 3)

Dependent Variable: Household Monthly Expenditures on Education (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1417.35	-1.18
Loan Duration 1-12 Months (Dummy)	390.81	1.24
Loan Duration 13-24 Months (Dummy)	98.88	0.30
Loan Duration 25-36 Months (Dummy)	752.69**	2.07
Loan Duration 37-48 Months (Dummy)	-190.91	-0.41
Loan Duration 49-60 Months (Dummy)	55.10	0.11
Loan Duration 61-72 Months (Dummy)	883.11	1.49
Loan Duration 73-84 Months (Dummy)	283.52	0.31
Loan Duration 85-96 Months (Dummy)	416.37	0.52
Loan Duration more than 96 Months (Dummy)	530.41	0.65
Membership Dummy	-40.59	-0.09
Household Monthly Income (PKR)	0.18*	16.45
Age of the Borrower (years)	9.36	0.98
Years of Schooling of the Borrower	13.00	0.53
Total Household Members	-103.06*	-4.46
Distance of Village from the Tehsile Headquarter (Km)	12.69	0.82
Distance of Hospital from the Village (Km)	-12.28	-0.11
Distance of Bank from the Village (Km)	26.72	0.66
Distance of Post Office from the Village (Km)	-66.67	-1.32
Availability of Electricity (Dummy)	-320.48	-0.38
Availability of Gas (Dummy)	-990.35	-1.58
Availability of Telephone (Dummy)	99.80	0.19
Availability of irrigation Water (Dummy)	417.08	1.23
Availability of Water Supply (Dummy)	405.92	0.82
Availability of Mettaled Road (Dummy)	203.05	0.54
Availability of Sewerage System (Dummy)	452.73	1.06
Distance of Primary School from Village	47.12	0.23
Distance of Middle School from Village	55.04	0.52
Distance of secondary School from Village	-13.13	-0.10
Distance of College from Village	-18.52	-0.90
Adjusted R^2	0.38	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.21: Impact on Household Monthly Expenditures on Clothing (Model 1)

Dependent Variable: Household Monthly on Clothing (PKR)		
Regressors	**Coefficient**	**t**
Constant	697.88*	2.78
Loan Duration (No. of Months)	-0.65	-0.68
Membership Dummy	70.81	0.80
Household Monthly Income (PKR)	0.04*	16.41
Age of the Borrower	-0.35	-0.16
Years of Schooling of the Borrower	14.17**	2.54
Total Household Members	-1.96	-0.38
Distance of Village from the Tehsile Headquarter (Km)	-8.97*	-3.67
Distance of Hospital from the Village (Km)	-25.05**	-1.74
Distance of Bank from the Village (Km)	13.50	1.54
Distance of Post Office from the Village (Km)	10.72	0.96
Availability of Electricity (Dummy)	-31.81	-0.17
Availability of Gas (Dummy)	-587.93*	-4.57
Availability of Telephone (Dummy)	153.85	1.48
Availability of irrigation Water (Dummy)	-96.62	-1.28
Availability of Water Supply (Dummy)	-11.40	-0.11
Availability of Metalled Road (Dummy)	-224.97*	-2.83
Availability of Sewerage System (Dummy)	8.81	0.09
Adjusted R^2	0.46	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.22: Impact on Household Monthly Expenditures on Clothing (Model 2)

Dependent Variable: Household Monthly Expenditures on Clothing (PKR)		
Regressors	**Coefficient**	**t**
Constant	-477.48**	-2.05
Loan Duration (No. of Months)	-0.49	-0.48
Membership Dummy	5.95	0.03
Household Monthly Income (PKR)	0.04*	17.03
Age of the Borrower (years)	-0.44	-0.20
Years of Schooling of the Borrower	18.16*	3.12
Total Household Members	-6.62	-1.25
Adjusted R^2	0.48	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.23: Impact on Household Monthly Expenditures on Clothing (Model 3)

Dependent Variable: Household Monthly Expenditures on Clothing (PKR)		
Regressors	**Coefficient**	**t**
Constant	618.05**	2.45
Loan Duration 1-12 Months (Dummy)	-173.05**	-2.38
Loan Duration 13-24 Months (Dummy)	-50.16	-0.67
Loan Duration 25-36 Months (Dummy)	21.99	0.26
Loan Duration 37-48 Months (Dummy)	-65.36	-0.61
Loan Duration 49-60 Months (Dummy)	-249.12**	-2.11
Loan Duration 61-72 Months (Dummy)	-54.25	-0.40
Loan Duration 73-84 Months (Dummy)	-151.28	-0.72
Loan Duration 85-96 Months (Dummy)	-201.20	-1.10
Loan Duration more than 96 Months (Dummy)	-31.33	-0.17
Membership Dummy	126.00	1.37
Household Monthly Income (PKR)	0.04*	16.08
Age of the Borrower (years)	-0.81	-0.37
Years of Schooling of the Borrower	12.80**	2.27
Total Household Members	-1.30	-0.25
Distance of Village from the Tehsile Headquarter (Km)	-8.40*	-3.38
Distance of Hospital from the Village (Km)	-27.50***	-1.90
Distance of Bank from the Village (Km)	15.72***	1.73
Distance of Post Office from the Village (Km)	6.50	0.57
Availability of Electricity (Dummy)	17.56	0.09
Availability of Gas (Dummy)	-585.54*	-4.51
Availability of Telephone (Dummy)	175.84***	1.66
Availability of irrigation Water (Dummy)	-94.94	-1.25
Availability of Water Supply (Dummy)	-17.35	-0.16
Availability of Mettaled Road (Dummy)	-173.18**	-2.01
Availability of Sewerage System (Dummy)	2.06	0.02
Adjusted R^2	0.46	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.24: Impact on Household Monthly Expenditures on Rent (Model 1)

Dependent Variable: Household Monthly Expenditures on Rent (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1059.48**	-2.04
Loan Duration (No. of Months)	-1.95	-0.97
Membership Dummy	29.88	0.16
Household Monthly Income (PKR)	0.01	1.12
Age of the Borrower (years)	1.60	0.35
Years of Schooling of the Borrower	20.99***	1.81
Total Household Members	32.20*	3.00
Distance of Village from the Tehsile Headquarter (Km)	5.19	1.02
Distance of Hospital from the Village (Km)	53.12***	1.78
Distance of Bank from the Village (Km)	-13.19	-0.73
Distance of Post Office from the Village (Km)	-41.33***	-1.79
Availability of Electricity (Dummy)	356.96	0.93
Availability of Gas (Dummy)	391.84	1.47
Availability of Telephone (Dummy)	197.06	0.91
Availability of irrigation Water (Dummy)	173.69	1.11
Availability of Water Supply (Dummy)	-354.80***	-1.65
Availability of Metalled Road (Dummy)	249.49	1.51
Availability of Sewerage System (Dummy)	447.94**	2.23
Adjusted R^2	0.10	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.25: Impact on Household Monthly Expenditures on Rent (Model 2)

Dependent Variable: Household Monthly Expenditures on Rent (PKR)		
Regressors	**Coefficient**	**t**
Constant	505.82	1.06
Loan Duration (No. of Months)	-0.42	-0.20
Membership Dummy	-31.56	-0.08
Household Monthly Income (PKR)	0.01	1.54
Age of the Borrower (years)	-0.66	-0.15
Years of Schooling of the Borrower	5.92	0.50
Total Household Members	28.57*	2.63
Adjusted R^2	0.14	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.26: Impact on Household Monthly Expenditures on Rent (Model 3)

Dependent Variable: Household Monthly Expenditures on Rent (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1090.88**	2.06
Loan Duration 1-12 Months (Dummy)	-69.97	-0.46
Loan Duration 13-24 Months (Dummy)	-19.68	-0.13
Loan Duration 25-36 Months (Dummy)	-187.50	-1.08
Loan Duration 37-48 Months (Dummy)	-186.40	-0.83
Loan Duration 49-60 Months (Dummy)	-83.40	-0.34
Loan Duration 61-72 Months (Dummy)	-283.78	-1.00
Loan Duration 73-84 Months (Dummy)	-90.77	-0.21
Loan Duration 85-96 Months (Dummy)	-217.93	-0.57
Loan Duration more than 96 Months (Dummy)	31.57	0.08
Membership Dummy	44.97	0.23
Household Monthly Income (PKR)	0.01	1.17
Age of the Borrower (years)	1.80	0.39
Years of Schooling of the Borrower	20.02	1.69
Total Household Members	32.36*	2.95
Distance of Village from the Tehsile Headquarter (Km)	5.49	1.06
Distance of Hospital from the Village (Km)	50.51***	1.67
Distance of Bank from the Village (Km)	-10.86	-0.57
Distance of Post Office from the Village (Km)	-40.99***	-1.72
Availability of Electricity (Dummy)	344.87	0.89
Availability of Gas (Dummy)	390.35	1.43
Availability of Telephone (Dummy)	228.30	1.03
Availability of irrigation Water (Dummy)	159.34	1.00
Availability of Water Supply (Dummy)	-338.37	-1.53
Availability of Metalled Road (Dummy)	286.42	1.59
Availability of Sewerage System (Dummy)	418.60**	2.05
Adjusted R^2	0.09	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.27: Impact on Household Monthly Expenditures on Transport (Model 1)

Dependent Variable: Household Monthly on Transport (PKR)		
Regressors	**Coefficient**	**t**
Constant	404.70	0.74
Loan Duration (No. of Months)	0.57	0.27
Membership Dummy	447.58**	2.34
Household Monthly Income (PKR)	0.08*	15.86
Age of the Borrower (years)	-5.04	-1.06
Years of Schooling of the Borrower	1.74	0.14
Total Household Members	-17.12	-1.52
Distance of Village from the Tehsile Headquarter (Km)	-7.17	-1.35
Distance of Hospital from the Village (Km)	-22.35	-0.71
Distance of Bank from the Village (Km)	17.76	0.93
Distance of Post Office from the Village (Km)	-4.83	-0.20
Availability of Electricity (Dummy)	-138.57	-0.35
Availability of Gas (Dummy)	-622.61**	-2.23
Availability of Telephone (Dummy)	-575.53**	-2.55
Availability of irrigation Water (Dummy)	-104.83	-0.64
Availability of Water Supply (Dummy)	289.01	1.28
Availability of Metalled Road (Dummy)	-92.43	-0.53
Availability of Sewerage System (Dummy)	167.74	0.80
Adjusted R^2	0.39	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level.

Table 5.28: Impact on Household Monthly Expenditures on Transport (Model 2)

Dependent Variable: Household Monthly Expenditures on Transport (PKR)		
Regressors	**Coefficient**	**t**
Constant	-1026.58**	-2.10
Loan Duration (No. of Months)	1.04	0.48
Membership Dummy	250.91	0.64
Household Monthly Income (PKR)	0.08*	15.74
Age of the Borrower (years)	-3.92	-0.85
Years of Schooling of the Borrower	4.17	0.34
Total Household Members	-21.43**	-1.93
Adjusted R^2	0.45	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.29: Impact on Household Monthly Expenditures on Transport (Model 3)

Dependent Variable: Household Monthly Expenditures on Transport (PKR)		
Regressors	**Coefficient**	**t**
Constant	346.58	0.63
Loan Duration 1-12 Months (Dummy)	-38.39	-0.24
Loan Duration 13-24 Months (Dummy)	-117.44	-0.73
Loan Duration 25-36 Months (Dummy)	143.31	0.80
Loan Duration 37-48 Months (Dummy)	-209.65	-0.91
Loan Duration 49-60 Months (Dummy)	-278.64	-1.09
Loan Duration 61-72 Months (Dummy)	-44.47	-0.15
Loan Duration 73-84 Months (Dummy)	1222.21*	2.69
Loan Duration 85-96 Months (Dummy)	360.45	0.91
Loan Duration more than 96 Months (Dummy)	-419.09	-1.03
Membership Dummy	500.40**	2.51
Household Monthly Income	0.08*	15.83
Age of the Borrower	-6.06	-1.27
Years of Schooling of the Borrower	1.22	0.10
Total Household Members	-21.81***	-1.92
Distance of Village from the Tehsile Headquarter (Km)	-6.03	-1.12
Distance of Hospital from the Village (Km)	-15.05	-0.48
Distance of Bank from the Village (Km)	7.76	0.39
Distance of Post Office from the Village (Km)	3.56	0.14
Availability of Electricity (Dummy)	-99.57	-0.25
Availability of Gas (Dummy)	-683.67**	-2.43
Availability of Telephone (Dummy)	-586.94**	-2.56
Availability of irrigation Water (Dummy)	-18.49	-0.11
Availability of Water Supply (Dummy)	405.42***	1.77
Availability of Metalled Road (Dummy)	-130.62	-0.70
Availability of Sewerage System (Dummy)	194.34	0.92
Adjusted R^2	0.40	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.30: Impact on Household Monthly Expenditures on Utilities (Model 1)

Dependent Variable: Household Monthly on Utilities (PKR)		
Regressors	**Coefficient**	**t**
Constant	261.03	0.48
Loan Duration (No. of Months)	0.18	0.09
Membership Dummy	-58.30	-0.30
Household Monthly Income (PKR)	0.09*	17.21
Age of the Borrower (years)	2.82	0.59
Years of Schooling of the Borrower	-2.83	-0.23
Total Household Members	-39.58	-3.53
Distance of Village from the Tehsile Headquarter (Km)	-3.64	-0.69
Distance of Hospital from the Village (Km)	-16.70	-0.54
Distance of Bank from the Village (Km)	-9.85	-0.52
Distance of Post Office from the Village (Km)	9.19	0.38
Availability of Electricity (Dummy)	114.43	0.29
Availability of Gas (Dummy)	454.83	1.63
Availability of Telephone (Dummy)	79.44	0.35
Availability of irrigation Water (Dummy)	-132.18	-0.81
Availability of Water Supply (Dummy)	-332.76	-1.48
Availability of Metalled Road (Dummy)	-125.88	-0.73
Availability of Sewerage System (Dummy)	133.08	0.63
Adjusted R^2	0.43	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.31: Impact on Household Monthly Expenditures on Utilities (Model 2)

Dependent Variable: Household Monthly Expenditures on Utilities (PKR)		
Regressors	**Coefficient**	**t**
Constant	663.84	1.31
Loan Duration (No. of Months)	-0.70	-0.31
Membership Dummy	119.15	0.29
Household Monthly Income (PKR)	0.09*	16.65
Age of the Borrower (years)	2.47	0.52
Years of Schooling of the Borrower	-8.75	-0.69
Total Household Members	-34.33*	-2.99
Adjusted R^2	0.45	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level

Table 5.32: Impact on Household Monthly Expenditures on Utilities (Model 3)

Dependent Variable: Household Monthly Expenditures on Utilities (PKR)		
Regressors	**Coefficient**	**t**
Constant	246.10	0.45
Loan Duration 1-12 Months (Dummy)	-92.17	-0.58
Loan Duration 13-24 Months (Dummy)	-103.04	-0.63
Loan Duration 25-36 Months (Dummy)	-78.72	-0.43
Loan Duration 37-48 Months (Dummy)	31.96	0.14
Loan Duration 49-60 Months (Dummy)	136.01	0.53
Loan Duration 61-72 Months (Dummy)	-73.22	-0.25
Loan Duration 73-84 Months (Dummy)	-383.56	-0.84
Loan Duration 85-96 Months (Dummy)	-258.53	-0.65
Loan Duration more than 96 Months (Dummy)	259.53	0.63
Membership Dummy	-20.88	-0.10
Household Monthly Income (PKR)	0.09*	16.93
Age of the Borrower (years)	3.13	0.65
Years of Schooling of the Borrower	-3.96	-0.32
Total Household Members	-38.07	-3.32
Distance of Village from the Tehsile Headquarter (Km)	-3.97	-0.73
Distance of Hospital from the Village (Km)	-20.58	-0.65
Distance of Bank from the Village (Km)	-6.83	-0.34
Distance of Post Office from the Village (Km)	6.99	0.28
Availability of Electricity (Dummy)	120.95	0.30
Availability of Gas (Dummy)	487.10***	1.71
Availability of Telephone (Dummy)	96.49	0.42
Availability of irrigation Water (Dummy)	-155.66	-0.93
Availability of Water Supply (Dummy)	-364.23	-1.58
Availability of Metalled Road (Dummy)	-86.85	-0.46
Availability of Sewerage System (Dummy)	109.41	0.51
Adjusted R^2	0.43	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.33: Impact on Value of Total Household Assets (Model 1)

Dependent Variable: Total Value of Household Assets (PKR)		
Regressors	**Coefficient**	**t**
Constant	-102029.80	-0.99
Loan Duration (No. of Months)	458.03	1.16
Membership Dummy	44213.28	1.22
Household Monthly Income (PKR)	4.13*	3.60
Total Household Debt (PKR)	0.84*	5.35
Value of Land (PKR)	1.01*	304.70
Value of House (PKR)	0.99*	88.98
Age of the Borrower (years)	148.93	0.17
Years of Schooling of the Borrower	3771.00***	1.64
Total Household Members	6361.95*	2.97
Distance of Village from the Tehsile Headquarter (Km)	-1846.15***	-1.82
Distance of Hospital from the Village (Km)	10557.73***	1.79
Distance of Bank from the Village (Km)	-5712.62	-1.60
Distance of Post Office from the Village (Km)	2573.32	0.56
Availability of Electricity (Dummy)	54439.58	0.72
Availability of Gas (Dummy)	-98051.83***	-1.80
Availability of Telephone (Dummy)	29276.05	0.68
Availability of irrigation Water (Dummy)	-43729.44	-1.41
Availability of Water Supply (Dummy)	-73652.08***	-1.72
Availability of Metalled Road (Dummy)	63350.56***	1.94
Availability of Sewerage System (Dummy)	1441.28	0.04
Adjusted R^2	0.99	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.34: Impact on Value of Total Household Assets (Model 2)

Dependent Variable: Value of Total Household Assets (PKR)		
Regressors	**Coefficient**	**t**
Constant	-17918.21	-0.18
Loan Duration (No. of Months)	115.84	0.27
Membership Dummy	-37476.69	-0.48
Household Monthly Income (PKR)	3.97*	3.42
Total Household debt (PKR)	0.90*	5.57
Value of Land (PKR)	1.01*	294.04
Value of House (PKR)	0.99*	86.52
Age of the Borrower (years)	-73.53	-0.08
Years of Schooling of the Borrower	4306.65***	1.78
Total Household Members	6536.42*	2.98
Adjusted R^2	0.99	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.35: Impact on Value of Total Household Assets (Model 3)

Dependent Variable: Value of Total Household Assets (PKR)		
Regressors	**Coefficient**	**t**
Constant	-99255.69	-0.95
Loan Duration 1-12 Months (Dummy)	-33679.68	-1.13
Loan Duration 13-24 Months (Dummy)	3291.44	0.11
Loan Duration 25-36 Months (Dummy)	-4456.72	-0.13
Loan Duration 37-48 Months (Dummy)	83833.68***	1.91
Loan Duration 49-60 Months (Dummy)	-60749.42	-1.26
Loan Duration 61-72 Months (Dummy)	80263.90	1.46
Loan Duration 73-84 Months (Dummy)	112248.40	1.32
Loan Duration 85-96 Months (Dummy)	-40170.98	-0.54
Loan Duration more than 96 Months (Dummy)	29160.88	0.38
Membership Dummy	52560.38	1.38
Household Monthly Income (PKR)	4.04*	3.51
Total Household Debt (PKR)	0.84*	5.36
Value of Land (PKR)	1.01*	302.11
Value of House (PKR)	0.99*	88.99
Age of the Borrower (years)	47.97	0.05
Years of Schooling of the Borrower	3581.96	1.54
Total Household Members	6114.03*	2.83
Distance of Village from the Tehsile Headquarter (Km)	-1745.28***	-1.70
Distance of Hospital from the Village (Km)	10145.88***	1.72
Distance of Bank from the Village (Km)	-6308.35***	-1.70
Distance of Post Office from the Village (Km)	2410.69	0.52
Availability of Electricity (Dummy)	67825.31	0.90
Availability of Gas (Dummy)	-95238.36***	-1.73
Availability of Telephone (Dummy)	32495.84	0.75
Availability of irrigation Water (Dummy)	-44132.13	-1.41
Availability of Water Supply (Dummy)	-82284.48***	-1.89
Availability of Mettaled Road (Dummy)	59769.37***	1.69
Availability of Sewerage System (Dummy)	3385.70	0.09
Adjusted R^2	0.99	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.36: Impact on Value of Consumer Durables (Model 1)

Dependent Variable: Total Value of Consumer Durables (PKR)		
Regressors	**Coefficient**	**t**
Constant	18595.98	0.74
Loan Duration (No. of Months)	127.58	1.32
Membership Dummy	3131.05	0.35
Household Monthly Income (PKR)	3.84*	14.60
Total Household Debt (PKR)	0.11*	2.96
Age of the Borrower (years)	-198.77	-0.91
Years of Schooling of the Borrower	654.75	1.17
Total Household Members	-2459.62*	-4.72
Distance of Village from the Tehsile Headquarter (Km)	-449.71***	-1.83
Distance of Hospital from the Village (Km)	-468.57	-0.33
Distance of Bank from the Village (Km)	39.98	0.05
Distance of Post Office from the Village (Km)	-1113.22	-0.99
Availability of Electricity (Dummy)	-1737.44	-0.09
Availability of Gas (Dummy)	-21741.50***	-1.69
Availability of Telephone (Dummy)	20630.76**	1.97
Availability of irrigation Water (Dummy)	-16083.91**	-2.13
Availability of Water Supply (Dummy)	60.90	0.01
Availability of Metalled Road (Dummy)	6259.19	0.79
Availability of Sewerage System (Dummy)	-6667.20	-0.69
Adjusted R^2	0.39	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.37: Impact on Value of Consumer Durables (Model 2)

Dependent Variable: Value of Consumer Durables (PKR)		
Regressors	**Coefficient**	**t**
Constant	-27772.52	-1.19
Loan Duration (No. of Months)	-10.30	-0.10
Membership Dummy	16420.28	0.88
Household Monthly Income (PKR)	3.72*	14.13
Total Household debt (PKR)	0.12*	3.23
Age of the Borrower (years)	-67.62	-0.31
Years of Schooling of the Borrower	1130.59***	1.95
Total Household Members	-2427.16*	-4.58
Adjusted R^2	0.41	
N	553	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10%level

Table 5.38: Impact on Value of Consumer Durables (Model 3)

Dependent Variable: Value of Consumer **Durables (PKR)**		
Regressors	**Coefficient**	**t**
Constant	19618.63	0.77
Loan Duration 1-12 Months (Dummy)	-1720.06	-0.24
Loan Duration 13-24 Months (Dummy)	310.55	0.04
Loan Duration 25-36 Months (Dummy)	9886.53	1.19
Loan Duration 37-48 Months (Dummy)	26604.77**	2.48
Loan Duration 49-60 Months (Dummy)	-1655.24	-0.14
Loan Duration 61-72 Months (Dummy)	5630.27	0.42
Loan Duration 73-84 Months (Dummy)	10154.45	0.48
Loan Duration 85-96 Months (Dummy)	-623.94	-0.03
Loan Duration more than 96 Months (Dummy)	9672.98	0.51
Membership Dummy	2721.12	0.29
Household Monthly Income (PKR)	3.77*	14.17
Total Household Debt (PKR)	0.11*	3.08
Age of the Borrower (years)	-212.88	-0.96
Years of Schooling of the Borrower	592.62	1.05
Total Household Members	-2424.18*	-4.58
Distance of Village from Tehsile Headquarter (Km)	-414.75	-1.66
Distance of Hospital from the Village (Km)	-583.89	-0.40
Distance of Bank from the Village (Km)	-162.69	-0.18
Distance of Post Office from the Village (Km)	-1055.15	-0.91
Availability of Electricity (Dummy)	-445.92	-0.02
Availability of Gas (Dummy)	-18915.46	-1.45
Availability of Telephone (Dummy)	19867.65***	1.86
Availability of irrigation Water (Dummy)	-15958.91**	-2.09
Availability of Water Supply (Dummy)	-3847.15	-0.36
Availability of Metalled Road (Dummy)	6932.14	0.80
Availability of Sewerage System (Dummy)	-6238.24	-0.64
Adjusted R^2	0.39	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.39: Impact on Objective Poverty (Model 1)

Dependent Variable: Objective Poverty (Dummy) = 1 if Household is below National Poverty Line and zero if above National Poverty Line		
Regressors	**Coefficient**	**z**
Constant	94.42*	9.09
Loan Duration (No. of Months)	0.007	0.85
Membership Dummy	0.61	0.92
Log of Household Monthly Income (PKR)	-11.28*	-9.11
Total Household Debt (PKR)	0.01	1.45
Age of the Borrower (years)	0.02***	1.67
Years of Schooling of the Borrower	-0.05	-1.18
Total Household Members	1.22*	8.98
Distance of Village from Tehsile Headquarter (Km)	-0.04***	-1.94
Distance of Hospital from the Village (Km)	0.12	1.19
Distance of Bank from the Village (Km)	-0.16*	-2.70
Distance of Post Office from the Village (Km)	0.08	1.11
Availability of Electricity (Dummy)	-1.18	-1.01
Availability of Gas (Dummy)	-0.59	-0.51
Availability of Telephone (Dummy)	-1.49	-1.32
Availability of irrigation Water (Dummy)	-0.78	-1.39
Availability of Water Supply (Dummy)	1.56***	1.91
Availability of Metalled Road (Dummy)	0.40	0.58
Availability of Sewerage System (Dummy)	-0.19	-0.25
Pseudo R^2	0.73	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level

Table 5.40: Impact on Objective Poverty (Model 2)

Dependent Variable: Objective Poverty (Dummy) = 1 if Household is below National Poverty Line and zero if above National Poverty Line		
Regressors	**Coefficient**	**z**
Constant	104.79*	8.53
Loan Duration (No. of Months)	0.006	0.75
Membership Dummy	0.03	0.02
Log of Household Monthly Income (PKR)	-12.69*	-8.84
Total Household debt (PKR)	0.001**	1.99
Age of the Borrower (years)	0.04**	2.26
Years of Schooling of the Borrower	-0.08	-1.53
Total Household Members	1.33*	8.79
Pseudo R^2	0.75	
N	549	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.41: Impact on Objective Poverty (Model 3)

Dependent Variable: Objective Poverty (Dummy) = 1 if Household is below National Poverty Line and zero if above National Poverty Line		
Regressors	**Coefficient**	**z**
Constant	102.56*	8.81
Loan Duration 1-12 Months (Dummy)	-0.04	-0.07
Loan Duration 13-24 Months (Dummy)	-0.14	-0.22
Loan Duration 25-36 Months (Dummy)	1.14	1.47
Loan Duration 37-48 Months (Dummy)	0.78	0.64
Loan Duration 49-60 Months (Dummy)	0.58	0.51
Loan Duration 61-72 Months (Dummy)	2.32***	1.94
Loan Duration 73-84 Months (Dummy)	0.06	0.03
Loan Duration 85-96 Months (Dummy)	1.14	0.83
Loan Duration more than 96 Months (Dummy)	-1.67	-1.13
Membership Dummy	0.72	0.97
Log of Household Monthly Income (PKR)	-12.20*	-8.85
Total Household Debt (PKR)	0.001***	1.65
Age of the Borrower (years)	0.02	1.35
Years of Schooling of the Borrower	-0.04	-0.76
Total Household Members	1.29*	8.79
Distance of Village from Tehsile Headquarter (Km)	-0.04**	-1.97
Distance of Hospital from the Village (Km)	0.18	1.62
Distance of Bank from the Village (Km)	-0.19*	-3.01
Distance of Post Office from the Village (Km)	0.08	1.03
Availability of Electricity (Dummy)	-0.95	-0.78
Availability of Gas (Dummy)	-0.69	-0.55
Availability of Telephone (Dummy)	-1.79	-1.50
Availability of irrigation Water (Dummy)	-0.74	-1.26
Availability of Water Supply (Dummy)	1.52	1.58
Availability of Metalled Road (Dummy)	-0.03	-0.04
Availability of Sewerage System (Dummy)	0.12	0.15
Pseudo R^2	0.74	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.42: Impact on Subjective Poverty (Model 1)

Dependent variable: Subjective Poverty (Dummy) = 1 if household is poor and zero if the household is not poor		
Regressors	**Coefficient**	**z**
Constant	17.66*	7.12
Loan Duration (No. of Months)	-0.005	-1.24
Membership Dummy	-0.11	-0.29
Log of Household Monthly Income (PKR)	-1.76*	-6.88
Total Household Debt (PKR)	-0.001	-0.28
Age of the Borrower (years)	-0.01	-0.40
Years of Schooling of the Borrower	-0.10*	-4.11
Total Household Members	0.03	1.52
Distance of Village from Tehsile Headquarter (Km)	0.01	1.30
Distance of Hospital from the Village (Km)	-0.07	-1.25
Distance of Bank from the Village (Km)	0.07***	1.74
Distance of Post Office from the Village (Km)	0.02	0.57
Availability of Electricity (Dummy)	-0.41	-0.52
Availability of Gas (Dummy)	1.67*	2.73
Availability of Telephone (Dummy)	-0.75	-1.51
Availability of irrigation Water (Dummy)	0.31	0.92
Availability of Water Supply (Dummy)	-0.79	-1.62
Availability of Metalled Road (Dummy)	-1.34*	-3.39
Availability of Sewerage System (Dummy)	0.76***	1.64
Pseudo R^2	0.20	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.43: Impact on Subjective Poverty (Model 2)

Dependent variable: Subjective Poverty (Dummy) = 1 if household is poor and zero if the household is not poor.		
Regressors	**Coefficient**	**z**
Constant	20.79*	7.61
Loan Duration (No. of Months)	-0.011**	-2.34
Membership Dummy	-1.03	-1.14
Log of Household Monthly Income (PKR)	-2.06*	-7.64
Total Household debt (PKR)	0.001	0.17
Age of the Borrower (years)	0.001	0.11
Years of Schooling of the Borrower	-0.11*	-4.31
Total Household Members	0.05**	2.00
Pseudo R^2	0.22	
N	549	

Coefficients for Union Council Dummies are not reported.*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.44: Impact on Subjective Poverty (Model 3)

Dependent variable: Subjective Poverty (Dummy) = 1 if household is poor and zero if the household is not poor.		
Regressors	**Coefficient**	**z**
Constant	18.22*	7.09
Loan Duration 1-12 Months (Dummy)	-0.64***	-1.90
Loan Duration 13-24 Months (Dummy)	-1.13*	-3.22
Loan Duration 25-36 Months (Dummy)	-0.42	-1.08
Loan Duration 37-48 Months (Dummy)	-1.22**	-2.31
Loan Duration 49-60 Months (Dummy)	-0.28	-0.54
Loan Duration 61-72 Months (Dummy)	-0.41	-0.68
Loan Duration 73-84 Months (Dummy)	0.69	0.68
Loan Duration 85-96 Months (Dummy)	0.01	0.01
Loan Duration more than 96 Months (Dummy)	-2.13**	-2.29
Membership Dummy	0.24	0.59
Log of Household Monthly Income (PKR)	-1.83*	-6.90
Total Household Debt (PKR)	-0.001	-0.30
Age of the Borrower (years)	-0.01	-0.62
Years of Schooling of the Borrower	-0.10*	-4.05
Total Household Members	0.02	1.14
Distance of Village from Tehsile Headquarter (Km)	0.01	1.27
Distance of Hospital from the Village (Km)	-0.06	-1.01
Distance of Bank from the Village (Km)	0.06	1.50
Distance of Post Office from the Village (Km)	0.04	0.75
Availability of Electricity (Dummy)	-0.23	-0.30
Availability of Gas (Dummy)	1.67*	2.61
Availability of Telephone (Dummy)	-0.80	-1.53
Availability of irrigation Water (Dummy)	0.52	1.45
Availability of Water Supply (Dummy)	-0.55	-1.06
Availability of Metalled Road (Dummy)	-1.62*	-3.56
Availability of Sewerage System (Dummy)	0.90***	1.83
Pseudo R^2	0.22	
N	553	

*shows that the coefficient is significant at 1% level, ** show that the coefficient is significant at 5% level and *** show that the coefficient is significant at 10% level.

Table 5.45: Impact of KBL Lending

	Non Fixed Effects Model		Fixed Effects Model	
Dependent Variable	**Coefficients**	**t**	**Coefficients**	**t**
Household Monthly Income	34.06	1.37	-24.20	-0.89
Household Total Monthly Expenditures	17.54	1.56	15.30	1.27
Household Monthly Expenditures on Food	6.73	0.97	9.65	1.30
Household Monthly Expenditures on Clothing	2.47	1.54	1.65	0.93
Household Monthly Expenditures on Rent	-0.21	-0.07	2.64	0.76
Household Monthly Expenditures on Transport	-2.75	-0.84	-0.78	-0.25
Household Monthly Expenditures on Utilities	4.85	1.29	3.08	0.76
Household Monthly Expenditures on Medical	1.03	1.21	-0.03	-0.01
Household Monthly Expenditures on Education	6.54***	1.95	-0.92	-0.27
Value of Total Household Assets	9387.27	1.47	3926.15	0.59
Value of Total Household Durables	236.97***	1.86	13.61	0.07
N= 250				

Only the coefficients for loan duration (No of Months) have been reported. All the dependent variables are in Pak Rupees.* shows that coefficient is significant at 1 percent, ** show that the coefficient is significant at 5 percent and *** show that the coefficient is significant at 10 percent .In fixed effect model we use union council dummies while in non fixed effect model we use village characteristics.

Table 5.46: Impact of NRSP Lending

	Non Fixed Effects Model		Fixed Effects Model	
Dependent Variable	**Coefficients**	**t**	**Coefficients**	**t**
Household Monthly Income	-45.62**	-2.03	-54.80**	-2.01
Household Total Monthly Expenditures	0.51	0.05	5.97	0.45
Household Monthly Expenditures on Food	-4.25	-0.62	-5.27	-0.64
Household Monthly Expenditures on Clothing	-0.01	-0.00	0.14	0.09
Household Monthly Expenditures on Rent	-0.63	-0.33	0.82	0.36
Household Monthly Expenditures on Transport	6.70**	2.13	5.96	1.60
Household Monthly Expenditures on Utilities	-5.51***	-1.66	-5.84	-1.47
Household Monthly Expenditures on Medical	-0.97	-0.46	1.50	0.60
Household Monthly Expenditures on Education	4.47	0.63	8.64	1.06
Value of Total Household Assets	746.35	1.59	1255.25**	2.24
Value of Total Household Durables	36.59	0.29	144.02	0.96
N= 281				

Only the coefficients for loan duration (No. of Months) have been reported. All the dependent variables are in Pak Rupees.* shows that coefficient is significant at 1 percent, ** show that the coefficient is significant at 5 percent and *** show that the coefficient is significant at 10 percent. In fixed effect model we use union council dummies while in non fixed effect model we use village characteristics.

Table 5.47: Impact of Akhuwat Lending

	Non Fixed Effects Model		Fixed Effects Model	
Dependent Variable	**Coefficients**	**t**	**Coefficients**	**t**
Household Monthly Income	17.52	0.52	15.54	0.43
Household Total Monthly Expenditures	13.87	0.76	9.76	0.50
Household Monthly Expenditures on Food	13.09	1.05	17.09	1.29
Household Monthly Expenditures on Clothing	-0.32	-0.17	-1.36	-0.67
Household Monthly Expenditures on Rent	-16.39**	2.43	-12.79***	-1.79
Household Monthly Expenditures on Transport	-2.96	-0.53	-6.37	-1.06
Household Monthly Expenditures on Utilities	-1.93	-0.29	-2.77	-0.39
Household Monthly Expenditures on Medical	5.92	1.29	3.05	0.63
Household Monthly Expenditures on Education	12.93	1.29	12.92	1.30
Value of Total Household Assets	651.96	1.30	654.25	1.22
Value of Total Household Durables	-5.17	-0.03	-216.31	-1.12
N= 206				

Only the coefficients for loan duration (No of Months) have been reported. All the dependent variables are in Pak Rupees.* shows that coefficient is significant at 1 percent, ** show that the coefficient is significant at 5 percent and *** show that the coefficient is significant at 10 percent .In fixed effect model we use union council dummies while in non fixed effect model we use village characteristics.

Chapter 6: Conclusions

6.1 Introduction

This study reviewed the microfinance sector, attempted to find the poverty status of microfinance clients and also investigated the impact of microfinance on various household outcomes in Pakistan. To find the poverty status of microfinance clients and the impact of microfinance, primary data were gathered from 553 households which include current borrowers, pipeline borrowers, dropouts and non-borrowers.

This is the first impact assessment study in Pakistan, which includes dropouts in the sample. As Karlan (2001) argues, exclusion of dropouts can produce biased estimates of impact. Hence with the inclusion of dropouts in the sample, this study controls the biases that arise from the exclusion of dropouts. In contrast to previous studies of impact assessment in Pakistan, this study finds no statistically significant impact of microfinance on household outcomes. This suggests that earlier studies might have overestimated the positive impact of microcredit by ignoring the negative impacts of microcredit on dropouts. This chapter presents the summary of the main findings, considers the policy implications of the findings and provides some suggestions for future research.

6.2 Microcredit in Pakistan

Microfinance emerged in Pakistan in the 1980s. However, it achieved greater importance in the 1990s when the government with the support of international donors, started playing a role in the development of the sector. As a first step in this direction, in 1999, the government with the financial support from the World Bank established the Pakistan Poverty Alleviation Fund (PPAF) in order to provide subsidized funds to MFIs. Next year the government, with the support of Asian Development Bank (ADB) launched the Microfinance Sector Development Programme (MSDP). The objective of the MSDP was to facilitate the growth of the microfinance sector.

To achieve the objectives of the MSDP, the government promulgated two microfinance ordinances. The first microfinance ordinance, which was promulgated in 2000, led to the establishment of the first specialized microfinance bank (KBL). The second microfinance ordinance was promulgated in 2001 and it provided the regulatory framework for MFIs. In this ordinance the government specified the definition, functions, powers, capital requirement and ownership structure of microfinance institutions.

The State Bank of Pakistan (SBP) was another important player in the development of the microfinance sector. It took a number of steps to promote the sector. In order to provide the enabling environment for microfinance institutions, SBP set up the Microfinance Support Division and simplified the licensing procedure for microfinance banks. In 2007, SBP launched Expanding Microfinance Outreach Strategy

(EMO) in order to enhance the outreach of microfinance in Pakistan. Subsequently in 2008, it launched the Financial Inclusion Programme (FIP), with the support of Department for International Development (DFID), UK. The major aims of the FIP included the capacity building of the microfinance sector, promotion of branchless banking and the provision of financial services in rural areas.

Despite the efforts of the government and SBP, the microfinance sector still remains under developed and has limited outreach. There were 1.83 million active microfinance borrowers in Pakistan in 2009. However, it is less than 7 percent of the potential 27 million borrowers. Moreover, the majority (70 percent) of borrowers live in the Punjab province and another 22 percent live in Sindh. The remaining 8 percent are located in the other parts of Pakistan.

Microfinance in Pakistan is provided by four types of institutions, according to the classification of Pakistan Microfinance Network (PMN), which is a network of Pakistani microfinance institutions. These four types of institutions are: Rural Support programmes (RSPS), Microfinance Banks (MFBs), Specialised Microfinance Institutions (SMFIs) and Others. However, the sector is dominated by a few microfinance institutions. The five largest institutions have approximately 80 percent share of active borrowers.

The sector is not financially viable and it has negative profitability. In 2008, the overall return on assets was -7.5 percent while the return on equity was -29.9 percent. The sector is not able to cover its operating expenditures from its income and its

operational self sufficiency is less than 100 percent. In 2008, the operational self sufficiency of the sector, which is calculated by dividing the financial revenues by financial expenses, operating expenses and net loan loss provision, was 80.8 percent. This shows that sector will not be able to sustain itself in the absence of subsidies.

6.3 The Data Set

The results of this study are based on the data gathered by the author from the clients of three Pakistani microfinance institutions, along with some non-borrowers. The three microfinance institutions included in this study are:

- National Rural Support Programme (NRSP)
- Khushhali Bank Limited (KBL)
- Akhuwat

NRSP is an NGO and it is the largest provider of microcredit in Pakistan. KBL is a specialized microfinance bank and it is the second largest provider of microcredit in Pakistan. Akhuwat is also an NGO. Although its outreach is relatively small, it is a unique microfinance institution as it provides interest free microcredit loans.

Data were gathered from four types of households which include:

- Current Borrowers
- Pipeline Borrowers
- Dropouts
- Non-Borrowers

Current borrowers are the households who had been taking out microcredit loans for a number of months. Pipeline borrowers are the household who had been approved for a microcredit loan but they had not received the money at the time of the survey. Dropouts are the households who had been taking out microcredit loans in the past but they had stopped taking out the loans for some reasons. Non-borrowers are households who never took out a microcredit loan. Non-borrowers were selected from the areas where no microfinance institution was operating. In total, the data were gathered from 553 households, which include 243 current borrowers, 133 pipeline borrowers, 85 dropouts and 92 non-borrowers.

6.4 Poverty Status of Microcredit Clients in Pakistan

In order to determine the poverty status of microfinance borrowers, the study examined subjective and objective poverty status of pipeline borrowers and subjective poverty status of current borrowers before receiving a microcredit loan. Subjective poverty is borrowers' own perception of their poverty status while objective poverty is determined by comparing the per capita income of households with the national poverty line (PKR 1,395) of Pakistan. The households whose per capita income is less than PKR 1,395 (c. US$ 16) are categorized as poor in this study and the households whose per capita income is less than PKR 700 (c. US$ 8) are categorized as very poor.

The results indicate that the majority of pipeline borrowers and current borrowers are poor. However, the percentage of the borrowers who are very poor is very small. Using subjective poverty criteria, it is found that only 10 percent of pipeline borrowers

are very poor. While among the remaining 90 percent, half are poor while the other half are non poor. A somewhat similar picture emerges by examining the subjective poverty status of current borrowers before receiving a microcredit loan. Among the current borrowers, 13 percent said they were very poor before taking out a microcredit loan, 41 percent said they were poor while remaining 46 said they were not poor.

Objective poverty criteria suggest that only 5 percent of pipeline borrowers are very poor. That is, their per capita income is less than PKR 700. Among the remaining 95 percent of pipeline borrowers, 33 percent have per capita income between PKR 700-1,400 and they are classified as poor. The rest of pipeline borrowers (62 percent) have per capita income greater than PKR 1400 and they are classified as non poor. Some of the pipeline borrowers (15 percent) have per capita income more than double the poverty line i.e. PKR 2800.

These results demonstrate than microfinance institutions, which claim to reduce the poverty by providing small loans, fail to reach very poor households, who might have very few alternative sources of credit. On the basis of these results, we fail to reject the hypothesis that the households who take a microcredit loan are not very poor.

6.5 Impact of Microcredit in Pakistan

The study estimates the impact of microcredit on a number of household outcomes which include household monthly income, various categories of household monthly expenditures, value of household assets, value of consumer durables and

objective and subjective poverty. Overall, the study does not find any statistically significant positive impact of microcredit on household outcomes and in some cases the impact is even negative.

As microcredit loans are provided to invest in small businesses, the most obvious impact of the microcredit can be on household income because household income can increase as a result of new investment. Three models are used to estimate the impact of microcredit loan duration on household monthly income. Using the full sample, the results indicate that microcredit loan duration does not have a significant positive impact on the household monthly income. The results for the individual microfinance institutions indicate that there is no significant impact on household monthly income for any of the microfinance institutions included in this study. However, a statistically significant negative impact is found for one of the microfinance institutions.

Similarly, the study does not find any significant impact of microcredit on household monthly expenditures. The impact is estimated on total monthly expenditures, monthly expenditures on food, monthly expenditures on health, monthly expenditures on education, monthly expenditures on transport, monthly expenditures on utilities, monthly expenditures on clothing and monthly expenditures on rent. The results indicate that the impact is positive for most of the categories of household monthly expenditures. However, this impact is not statistically significant. For two categories of monthly expenditures, monthly expenditures on clothing and rent, the impact is negative. Like the positive impact, the negative impact is also not statistically significant.

For the individual MFIs, a positive impact is found for some of the categories of monthly expenditures and a negative impact for some other categories. However, the impact is not statistically significant for most of the categories with a few exceptions. For example, the study finds a positive and statistically significant impact on educational expenditures for KBL borrowers. A negative and statistically significant impact is found on rental expenditures for Akhuwat borrowers.

The results for the impact on household assets also indicate that overall microcredit has a positive impact on the value of household assets. However, the impact is not statistically significant. Similarly, the impact is also positive for individual MFIs and statistically insignificant for KBL and Akhuwat borrowers. However, the study finds statistically significant and positive impacts in one of the models for NRSP borrowers.

The study finds somewhat similar results for the value of consumer durables. The overall results indicate that microcredit has a positive impact on the value of household durables. However, as before, it is not statistically significant. The results are mixed for individual MFIs. A positive impact is found for KBL borrowers and the impact is statistically significant in one of the models. Similarly, the impact is positive for NRSP borrowers but it is not statistically significant. One the other hand, a negative impact is found for Akhuwat borrowers. Again, it is not statistically significant.

The study also estimates the impact of microcredit on objective and subjective poverty. The results indicate that microcredit loan duration has a positive relationship with objective poverty, which suggests that objective poverty increases as the loan

duration increases. However, this relationship is not statistically significant. On the other hand, the study finds a negative relationship between microcredit loan duration and subjective poverty, which indicates that subjective poverty decreases as the duration of microcredit increases. This negative relationship is statistically significant in one of the models. There is also some qualitative evidence to suggest that subjective poverty decreases as duration of microcredit increases.

To sum up, this study does not find any significant impact of microcredit on any of the household outcomes. For most of the outcomes variables, positive impacts are found. However, these impacts are not statistically significant. We only find marginally significant impacts on household subjective poverty. Hence with the available evidence, we fail to reject almost all our hypotheses regarding the impact of microcredit on household outcomes and we conclude that microcredit has little significant impacts on households.

6.6 Policy Implications

Microfinance institutions around the world as well as the institutions included in this study claim to alleviate poverty of their borrowers by providing small loans. The premise being that the provision of small loans will enable poor households to raise their income by investing in their small businesses. However, the findings of this study, like most of the other studies around the world, show that microfinance institutions fail to reach very poor households. Furthermore, a large proportion of microcredit borrowers are not poor.

Given this situation, microfinance institutions need to rethink their lending criteria. They need to have some strict eligibility requirements, which can prevent the non poor from participating in programmes designed for the poor. Currently, all MFIs included in this study do not use any strict lending criteria. Although, they do have some loose eligibility requirements. Our field work experience indicates that MFI staff are more concerned about their disbursement and recovery targets than poverty alleviation. Hence, field staff should be made aware of the core objectives of the programmes and should be trained to identify and target the household who are the poorest of the poor and are willing to borrow.

Second, donors and governments need to rethink their funding policies. Currently a huge amount of subsidy is provided to microfinance institutions. Because of this emphasis on microcredit, other development programmes might be neglected. As Harper (2007, p. 258) argues, "…*other remedies may be neglected because the favourite occupies the institutional space, the time and money that might have been devoted to different or additional cures*."

As our research shows microcredit is not a "miracle" for poverty reduction though it might be providing a crucial financial service to some poor households. Hence to tackle the menace of poverty, donors as well as the governments need to devise a balanced policy which ensures that in pursuit of promoting microcredit other important development initiatives are not neglected. As Hulme (2007, p. 21) argues, *"...poverty reduction requires action on many fronts…Providing effective microfinance services to*

poor people is part of poverty-reduction strategy, but only a part. Those who present microfinance as a magic bullet to reduce poverty provide such a simple message for policy formulation that they encourage it to be simple- minded."

6.7 Future Research

Due to lack of resources, this study uses data collected from the clients of three Pakistani microfinance institutions. Data were only collected from the Punjab province. Although 70 percent of the microfinance borrowers are located in the Punjab province, we cannot generalize the results of this study to other provinces and regions of Pakistan. Hence future research should draw the sample from all parts of Pakistan and data should be collected from the clients of all the major microfinance institutions.

Second, all the impact assessment studies in Pakistan, use cross sectional data to assess the impact of microfinance. There is no study in Pakistan which uses panel data to assess the impact of microfinance. Although cross sectional studies need less resources and one can estimate the impact of microfinance by using appropriate methodology, it would be interesting to use panel data to estimate the impact of microfinance. Moreover this study only measures the impact on borrowing households and does not attempt to estimate the spillover effects of microfinance in the programme villages. Future research can also examine the spillover effects of microfinance.

Appendix 2: Questionnaires

Questionnaire for Current Borrowers

1. District: _____ 2.Tehsile: _____

3. Union Council: _____ 4.Village/Mohalla: _____

5. Distance of village/mohalla from Tehsile headquarters (Km):_____

6. Type of borrower: (1) Urban (2) Rural

7. Microfinance Institution: _____

8. Interviewer: _____ 9.Date: _____

10. General Information about the Village/Mohalla

Facility	**Available**	**Not available**	**Public**	**Private**	**Distance from village/ mohalla**
Primary school					
Middle school					
Secondary school					
College					
Hospital					
Bank					
Post office			*NA*	*NA*	
Electricity			*NA*	*NA*	
Gas			*NA*	*NA*	
Telephone			*NA*	*NA*	
Mobile phone network			*NA*	*NA*	
Irrigation water			*NA*	*NA*	
Drinking water supply			*NA*	*NA*	
Metalled Road			*NA*	*NA*	
Sewerage system			*NA*	*NA*	

11. Name of Respondent: _____

12. Gender (1) male (2) female

13. Age (years):

14. Education /years of schooling (please enter 0 if the respondent is illiterate):

15. Marital Status (please circle only one)

1. Married 2.Unmarried 3.Widowed 4.Divorced

16. Are you household head?

1. Yes 2. No

17. If no for the above, who is the household head? (Please circle only one)

1. Spouse 2.Father 3.Mother 4.Other (specify)

18. No of Persons Living in the Household

Age	**Male**	**Female**	**How many are in education**
01-04			
05-09			
10-14			
15-19			
20-39			
40-49			
50-59			
Above 60			

19. Total number of adult household members with formal education:

20. Total number of household members employed?

21. Total number of household members self employed?

22. Main Source of income/occupation/business of the borrower:

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify)

23. What other sources of income do you have?

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify) 9.None

24. How many persons work in your business/earning activity including household members?

25. How many of the workers are household members?

26. How many are permanent workers?

27. How many are seasonal workers?

28. Do you own the house?

(1)Yes (2) No

29. If no for the above what types of accommodation do you have?

1. Rented 2.Shared with parents/relatives 3.Other (please specify)

30. Type of house (please circle only one)

1. Cemented/Concrete roofed 2. Bricked 3.Mud 4.Other (please specify)

31. No of rooms in the house:

32. Do you have electricity connection in your house?

1. Yes 2. No

33. Do you have telephone in your house?

1. Yes 2.No

34. Do you have mobile phone connection?

1. Yes 2.No

35. Do you have gas connection in your house?

1. Yes 2.No

36. Do you have toilet in your house?

1. Yes 2.No

37. What is the source of water supply in your house?

38. Total land owned by the household (Acres):

39. Value of Household Assets

Category	Value in Rs
Land	
House	
Livestock	
Agriculture machinery (tractor, trolley, thresher etc)	
Tools and equipment (related to major business or activity)	
Raw material (fertilizer, pesticides, production material etc)	
Goods for sale(e.g. crops, final goods for sale in business)	
Money receivable from customers	
Other (please specify)	

40. Value of Consumer Durables

Category	Value in Rs
Refrigerators	
TVs	
Radios	
Cameras	
Washing Machines	
Sewing machines	
Mobile phones	
Bicycles	
Motorbikes	
Rickshaws	
Cars	
Jewellery/Gold	
Other (please specify)	

41. Monthly Household Expenditures

Category	Amount in Rs
Food	
Clothing	
Rent	
Transport	
Utilities (telephone, electricity, gas, and other fuels)	
Medical	
Education	

42. Household's total monthly income (Rs):

43. How long had you been the member of the programme (No of months):

44. Amount of current loan from the programme (Principal) Rs:

45. Interest Rate (%):

46. Purpose of the loan from the programme

1. To start new business/activity 2.For existing business/activity

47. Type of business supported by the loan

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawker 5.Trading 6.Cottage industry 7.Other (please specify)

48. Total repayment period of loan (number of months):

49. Repayment method (please circle only one)

1. Every week 2.Every 15 days 3. Every month

4. after 6 months 5. After a year 6. Other (please specify)

50. Who uses the loan? (Please circle only one)

1. Borrower 2.Spouse 3.Relatives

4. Both main borrower and spouse 5.Other (please specify)

51. What other sources do you borrow from?

1. Family/friends 2.Moneylender

3. Local traders (in kind e.g. food items, raw material or cash)

4. Agriculture Bank 5.Commercail Bank 6.Other (please specify)

7. None
If none please go to question no.55

52. Amount of loan from other sources (principal) Rs:

53. What is the interest rate on the other loans (%)?

54. What is the purpose of the other loans?

55. Total amount of household's debt Rs:

56. Total amount of household's savings Rs:

57. Amount of savings linked with the current loan from the MFI Rs:

58. Do you get any interest on these savings?

1. Yes 2.No

59. What is the interest rate on savings (if yes for the above)?

60. How many members are in your group?

61. What is your role in the group? (Please circle only one)

1. President 2.Manger 3.Secertary 4.Ordinary member

62. How often do the group meetings take place? (Please circle only one)

1. Weekly 2.Fortnightly 3.Monthly 4.Other (please specify)

63. How often do you attend the group meeting? (Please circle only one)

1. Always 2.Often 3.Never

64. How long do the meetings last on average (No of minutes)?

65. How far is the meeting place from your home (Km)?

66. What other services do you receive from the programme?

1. Training 2. Technical Assistance 3.Other (please specify 4.None

67. Household poverty status (Please ask the respondent what they think is their poverty status as compared to other people in the area)

1. Not poor 2.Poor 3.Very poor

68. What do you think was your poverty status before joining the programme?

1. Not poor 2.Poor 3.Very poor

69. Are you member of any other NGO or political party?

1. Yes 2.No

Additional information or comments by the respondent

_____

_____

_____

_____

Questionnaire for Pipeline Borrowers

1. District: _____ 2.Tehsile: _____

3. Union Council: _____ 4.Village/Mohalla: _____

5. Distance of village/mohalla from Tehsile headquarters (Km):_____

6. Type of borrower: (1) Urban (2) Rural

7. Microfinance Institution: _____

8. Interviewer: _____ 9.Date: _____

10. General Information about the Village/Mohalla

Facility	**Available**	**Not available**	**Public**	**Private**	**Distance from village/ mohalla**
Primary school					
Middle school					
Secondary school					
College					
Hospital					
Bank					
Post office			*NA*	*NA*	
Electricity			*NA*	*NA*	
Gas			*NA*	*NA*	
Telephone			*NA*	*NA*	
Mobile phone network			*NA*	*NA*	
Irrigation water			*NA*	*NA*	
Drinking water supply			*NA*	*NA*	
Metalled Road			*NA*	*NA*	
Sewerage system			*NA*	*NA*	

11. Name of Respondent: _____

12. Gender (1) male (2) female

13. Age (years):

14. Education /years of schooling (please enter 0 if the respondent is illiterate):

15. Marital Status (please circle only one)

1. Married 2.Unmarried 3.Widowed 4.Divorced

16. Are you household head?

1. Yes 2. No

17. If no for the above, who is the household head? (Please circle only one)

1. Spouse 2.Father 3.Mother 4.Other (specify)

18. No of Persons Living in the Household

Age	**Male**	**Female**	**How many are in education**
01-04			
05-09			
10-14			
15-19			
20-39			
40-49			
50-59			
Above 60			

19. Total number of adult household members with the formal education:

20. Total number of household members employed?

21. Total number of household members self employed?

22. Main Source of income/occupation/business of the borrower:

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify)

23. What other sources of income do you have?

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify) 9.None

24. How many persons work in your business/earning activity including household members?

25. How many of the workers are household members?

26. How many are permanent workers?

27. How many are seasonal workers?

28. Do you own the house?

(1)Yes (2) No

29. If no for the above what types of accommodation do you have?

1. Rented 2.Shared with parents/relatives 3.Other (please specify)

30. Type of house (please circle only one)

1. Cemented/Concrete roofed 2. Bricked 3.Mud 4.Other (please specify)

31. No of rooms in the house:

32. Do you have electricity connection in your house?

1. Yes 2. No

33. Do you have telephone in your house?

1. Yes 2.No

34. Do you have mobile phone connection?

1. Yes 2.No

35. Do you have gas connection in your house?

1. Yes 2.No

36. Do you have toilet in your house?

1. Yes 2.No

37. What is the source of water supply in your house?

38. Total land owned by the household (Acres):

39. Value of Household Assets

Category	Value in Rs
Land	
House	
Livestock	
Agriculture machinery (tractor, trolley, thresher etc)	
Tools and equipment (related to major business or activity)	
Raw material (fertilizer, pesticides, production material etc)	
Goods for sale(e.g. crops, final goods for sale in business)	
Money receivable from customers	
Other (please specify)	

40. Value of Consumer Durables

Category	Value in Rs
Refrigerators	
TVs	
Radios	
Cameras	
Washing Machines	
Sewing machines	
Mobile phones	
Bicycles	
Motorbikes	
Rickshaws	
Cars	
Jewellery/Gold	
Other (please specify)	

41. Monthly Household Expenditures

Category	Amount in Rs
Food	
Clothing	
Rent	
Transport	
Utilities (telephone ,electricity, gas, and other fuels)	
Medical	
Education	

42. Household's total monthly income (Rs):

43. Sources of credit before joining the programme

1. Family/friends 2.Moneylender

3. Local traders (in kind e.g. food items, raw material or cash)

4. Agriculture Bank 5.Commercail Bank 6.Other (please specify)

7. None

44. Total amount of loan from the above sources (principal) Rs:

45. Interest Rate (%):

46. Purpose of the loan from the above sources?

1. To start new business/activity 2.For existing business/activity

47. Type of business supported by the loan from the above sources

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawker 5.Trading 6.Cottage industry 7.Other (please specify)

48. Total amount of household debt Rs:

49. Total amount of household savings Rs:

50. Do you get any interest on the savings?

(1) Yes (2) No

51. What is the interest rate on the savings (if yes for the above)?

52. How many members are in your group?

53. What is your role in the group? (Please circle only one)

1. President 2.Manger 3.Secertary 4.Ordinary member

54. How often do the group meetings take place? (Please circle only one)

1. Weekly 2.Fortnightly 3.Monthly 4.Other (please specify)

55. How often do you attend the group meetings? (Please circle only one)

1. Always 2.Often 3.Never

56. How long do the meetings last on average (No of minutes)?

57. How far is the meeting place from your home (meters/km)?

58. What other services do you receive from the programme?

1. Training 2. Technical Assistance 3.Other (please specify 4.None

59. Household poverty status (Please ask the respondent what they think is their Poverty status as compared to other people in the area)

(1) Not Poor (2) Poor (3) Very poor

60. Are you member of any other NGO or political party?

(1) Yes (2) No

Additional information or comments by the respondent

_____

_____

_____

Questionnaire for Dropouts

1. District: _____ 2.Tehsile: _____

3. Union Council: _____ 4.Village/Mohalla: _____

5. Distance of village/mohalla from Tehsile headquarters (Km):_____

6. Type of borrower: (1) Urban (2) Rural

7. Microfinance Institution: _____

8. Interviewer: _____ 9.Date: _____

10. General Information about the Village/Mohalla

Facility	**Available**	**Not available**	**Public**	**Private**	**Distance from village/ mohalla**
Primary school					
Middle school					
Secondary school					
College					
Hospital					
Bank					
Post office			*NA*	*NA*	
Electricity			*NA*	*NA*	
Gas			*NA*	*NA*	
Telephone			*NA*	*NA*	
Mobile phone network			*NA*	*NA*	
Irrigation water			*NA*	*NA*	
Drinking water supply			*NA*	*NA*	
Metalled Road			*NA*	*NA*	
Sewerage system			*NA*	*NA*	

11. Name of Respondent: _____

12. Gender (1) male (2) female

13. Age (years):

14. Education /years of schooling (please enter 0 if the respondent is illiterate):

15. Marital Status (please circle only one)

1. Married 2.Unmarried 3.Widowed 4.Divorced

16. Are you household head?

1. Yes 2. No

17. If no for the above, who is the household head? (Please circle only one)

1. Spouse 2.Father 3.Mother 4.Other (specify)

18. No of persons living in the Household

Age	**Male**	**Female**	**How many are in education**
01-04			
05-09			
10-14			
15-19			
20-39			
40-49			
50-59			
Above 60			

19. Total number of adult household members with the formal education:

20. Total number of household members employed?

21. Total number of household members self employed?

22. Main Source of income/occupation/business of the borrower:

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify)

23. What other sources of income do you have?

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify) 9.None

24. How many persons work in your business/earning activity including household members?

25. How many of the workers are household members?

26. How many are permanent workers?

27. How many are seasonal workers?

28. Do you own the house?

(1)Yes (2) No

29. If no for the above what types of accommodation do you have?

1. Rented 2.Shared with parents/relatives 3.Other (please specify)

30. Type of house (please circle only one)

1. Cemented/Concrete roofed 2. Bricked 3.Mud 4.Other (please specify)

31. No of rooms in the house:

32. Do you have electricity connection in your house?

1. Yes 2. No

33. Do you have telephone in your house?

1. Yes 2.No

34. Do you have mobile phone connection?

1. Yes 2.No

35. Do you have gas connection in your house?

1. Yes 2.No

36. Do you have toilet in your house?

1. Yes 2.No

37. What is the source of water supply in your house?

38. Total land owned by the household (Acres):

39. Value of household assets

Category	Value in Rs
Land	
House	
Livestock	
Agriculture machinery (tractor, trolley, thresher etc)	
Tools and equipment (related to major business or activity)	
Raw material (fertilizer, pesticides, production material etc)	
Goods for sale(e.g. crops, final goods for sale in business)	
Money receivable from customers	
Other (please specify)	

40. Value of consumer durables

Category	Value in Rs
Refrigerators	
TVs	
Radios	
Cameras	
Washing Machines	
Sewing machines	
Mobile phones	
Bicycles	
Motorbikes	
Rickshaws	
Cars	
Jewellery/Gold	
Other (please specify)	

41. Monthly Household Expenditures

Category	Amount in Rs
Food	
Clothing	
Rent	
Transport	
Utilities (telephone ,electricity, gas, and other fuels)	
Medical	
Education	

42. Household's total monthly income (Rs):

43. How long did you remain the member of the programme (no of months)?

44. Why did you leave the programme?

45. What sources do you borrow from now?

1. Family/friends 2.Moneylender

3. Local traders (in kind e.g. food items, raw material or cash)

4. Agriculture Bank 5.Commercail Bank 6.Other (please specify)

7. None

46. Amount of the current loan (principal) Rs:

48. Interest rate (%):

49. Purpose of the current loan:

50. Total amount of household debt Rs:

51. Total amount of household savings Rs:

52. Do you get any interest rate on savings?

(1) Yes (2) No

53. What is the interest rate (if yes for the above)?

54. Household poverty status (Please ask the respondent what they think is their poverty status as compared to other people in the area)

(1) Not Poor (2) Poor (3) Very poor

55. Are you member of any other NGO or political party?

(1) Yes (2) No

Additional information or comments by the respondent

_____

_____

_____

Questionnaire for Non-Borrowers

1. District: _____ 2.Tehsile: _____

3. Union Council: _____ 4.Village/Mohalla: _____

5. Distance of village/mohalla from Tehsile headquarters (Km):_____

6. Type of borrower: (1) Urban (2) Rural

7. Microfinance Institution: _____

8. Interviewer: _____ 9.Date: _____

10. General Information about the Village/Mohalla

Facility	**Available**	**Not available**	**Public**	**Private**	**Distance from village/ mohalla**
Primary school					
Middle school					
Secondary school					
College					
Hospital					
Bank					
Post office			*NA*	*NA*	
Electricity			*NA*	*NA*	
Gas			*NA*	*NA*	
Telephone			*NA*	*NA*	
Mobile phone network			*NA*	*NA*	
Irrigation water			*NA*	*NA*	
Drinking water supply			*NA*	*NA*	
Metalled Road			*NA*	*NA*	
Sewerage system			*NA*	*NA*	

11. Name of Respondent: _____

12. Gender (1) male (2) female

13. Age (years):

14. Education /years of schooling (please enter 0 if the respondent is illiterate):

15. Marital Status (please circle only one)

1. Married 2.Unmarried 3.Widowed 4.Divorced

16. Are you household head?

1. Yes 2. No

17. If no for the above, who is the household head? (Please circle only one)

1. Spouse 2.Father 3.Mother 4.Other (specify)

18. No of Persons Living in the Household

Age	**Male**	**Female**	**How many are in education**
01-04			
05-09			
10-14			
15-19			
20-39			
40-49			
50-59			
Above 60			

19. Total number of adult household members with the formal education:

20. Total number of household members employed?

21. Total number of household members self employed?

22. Main Source of income/occupation/business of the borrower:

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify)

23. What other sources of income do you have?

1. Agriculture 2.Livestock/Poultry Farming 3.Shop

4. Hawking 5.Trading 6.Cottage industry 7.Job/wage employment

8. Other (please specify) 9.None

24. How many persons work in your business/earning activity including household members?

25. How many of the workers are household members?

26. How many are permanent workers?

27. How many are seasonal workers?

28. Do you own the house?

(1)Yes (2) No

29. If no for the above what types of accommodation do you have?

1. Rented 2.Shared with parents/relatives 3.Other (please specify)

30. Type of house (please circle only one)

1. Cemented/Concrete roofed 2. Bricked 3.Mud 4.Other (please specify)

31. No of rooms in the house:

32. Do you have electricity connection in your house?

1. Yes 2. No

33. Do you have telephone in your house?

1. Yes 2.No

34. Do you have mobile phone connection?

1. Yes 2.No

35. Do you have gas connection in your house?

1. Yes 2.No

36. Do you have toilet in your house?

1. Yes 2.No

37. What is the source of water supply in your house?

38. Total land owned by the household (Acres):

39. Value of Household Assets

Category	Value in Rs
Land	
House	
Livestock	
Agriculture machinery (tractor, trolley, thresher etc)	
Tools and equipment (related to major business or activity)	
Raw material (fertilizer, pesticides, production material etc)	
Goods for sale(e.g. crops, final goods for sale in business)	
Money receivable from customers	
Other (please specify)	

40. Value of Consumer Durables

Category	Value in Rs
Refrigerators	
TVs	
Radios	
Cameras	
Washing Machines	
Sewing machines	
Mobile phones	
Bicycles	
Motorbikes	
Rickshaws	
Cars	
Jewellery/Gold	
Other (please specify)	

41. Monthly Household Expenditures

Category	Amount in Rs
Food	
Clothing	
Rent	
Transport	
Utilities (telephone ,electricity, gas, and other fuels)	
Medical	
Education	

42. Household's total monthly income (Rs):

43. What sources do you borrow from?

1. Family/friends 2.Moneylender

3. Local traders (in kind e.g. food items, raw material or cash)

4. Agriculture Bank 5.Commercail Bank 6.Other (please specify)

7. None

44. Amount of loan (principal) Rs:

45. Interest rate (%):

46. Purpose of the loan:

47. Total Amount of household debt Rs:

48. Total amount of household savings Rs:

49. Do you get any interest rate on savings?

(1) Yes (2) No

50. What is the interest rate on the savings (if yes for the above)?

51. Household poverty status (Please ask the respondent what they think is their poverty status as compared to other people in the area)

(1) Not Poor (2) Poor (3) Very poor

52. Are you member of any other NGO or political party?

(1) Yes (2) No

Additional information or comments by the respondent

_____

_____

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