

Effect of Microfinance on Women Empowerment: A Case Study of Pakistan

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Women empowerment is a pivotal issue of developing countries, particularly in Asia and Africa. Zero poverty and gender equality are the distinctive goals among SDGs of UN. Considering the empirically tested impact of microfinance on women empowerment in different regions of the world, this paper assesses the impact of microfinance on empowerment and poverty alleviation in women living in Pakistan. This impact has been analyzed comprehensively with better empirical methodology (Ordinary Least Square – OLS and Propensity Score Matching – PSM) and comparatively a larger cross-sectional dataset of 670 respondents. From the values of the responses, Multidimensional Poverty Index (MPI) has been developed to assess the multidimensional poverty levels of the respondents. Results showed that exposure to microfinance has a positive impact on women empowerment, poverty alleviation, and social status of women by raising their income level. Therefore, it is concluded that microfinance and MFIs are considered to be an effective mechanism for attaining the SDGs in Pakistan.

Keywords: Sustainable Development Goals (SDGs), Microfinance, Poverty Alleviation, Women Empowerment, Propensity Score Matching (PSM), and Multidimensional Poverty Index (MPI)

JEL Classification: D13, G21, J16, O15, O16

INTRODUCTION

Among 1.3 billion poor people of the world, the majority are women and children. One of the main causes behind this is gender discrimination, which exists almost all over the world. Women face discrimination in society and family in almost all economic, social, and political affairs (Salia, Hussain, Tingbani, & Kolade, 2018). Females are treated unjustly and face many hurdles and difficulties in the routine course of life, which results in limiting their inner potential. Because of limited mobility, participation, and freedom women are unable to contribute effectively towards the betterment of household and development of the society at large. Due to lack of empowerment women are underproductive and therefore, unable to contribute significantly in economic development (United Nation, 2018).

United Nations (UN) in its development goals (both MDGs and SDGs) incorporated the goals of poverty alleviation and women empowerment at distinctive priority. Poverty is one of the biggest evils of various societies, among eight Millennium Development Goals (MDGs) and now in seventeen SDGs of UN, poverty alleviation is at top of the list. Along with this gender equality and women empowerment also got pivotal importance in SDGs. All over the world, a serious effort has been put on women empowerment, because unlike males, females use resources in a better way. They spent most of their income on their families (on expenditure related to food, medical, and education of their kids). In this way, they become a catalyst for poverty alleviation in the next generation (Montgomery, & Weiss, 2011). UNDP (2010) mentioned, “We recognize, gender equality by empowering women, and poverty alleviation are essential for socio-economic development”.

Lack of financial resources is poverty and further inability to generate or to have access over economic resources is enhancing this vulnerability to poverty (Ifelunini, & Wosowei, 2012). Formal financial sector failed to serve those who live below the poverty line. Financial institutions do not provide financial assistance to those people who need it the most. These poor people remain un-bankable prior to the development of Microfinance Institutions (MFIs). MFIs include these poor people into the financial system that is why it is called financial inclusion (Khan, Islam, Talukder, & Khan, 2013 and Khan, Ahmad, & Ahmad, 2014). Elizabeth and Richard (2004) argued that the basic purpose of MFIs is to help poorer people by providing them financial services, in order to empower them and to make them financially stable. This access to microfinance is also a major source of reducing domestic violence against women (Hashemi, Schuler, & Riley, 1996 and Murshid, Akincigil, & Zippay, 2016).

Empowerment means the ability to make a strategic choice, which requires power, choice, option, and control in one’s day to day affairs. This also includes self-esteem, autonomy, agency, and self-determination over life and economic resources to affect positively their own and dependent’s well-being (Malhotra, Schuler, & Boender, 2002). It refers to the ability of women to own and control material assets, explores their full potential, freedom of making choice, determining her own destiny, choice of mobility, and autonomy that directly or indirectly affect their lives and lives of their family members (Vaessen et al., 2014). According to Kabeer (1999) resources, agency and outcomes (achievements) are the important dimensions of empowerment. Resources mean decision making regarding the available resources. Agency means the ability and

authority to make a decision and implement accordingly. Kabeer (2005) describes empowerment as, “the expansion in people’s ability to make strategic life choices in a context, where this ability was previously denied to them”. Women empowerment could be implied in multiple dimensions. Culture, religion, socio-political and socio-economic factors are affecting the empowerment issue.

According to the World Bank (2015), putting resources into women’s hands to attain gender equality in society will result in significant development. Females have the God-gifted ability to be more responsible, committed, and innovative. So in this way, if they get financial support then they could serve their families well and could contribute towards building a better future of the society (Malhotra, et. al., 2002). Microfinance is considered to be an effective mechanism of economically empowering women. Which result in better living standard, social status, the condition of household, quality of life and welfare (wellbeing) of the whole family. Access to micro-credit empowers women psychologically and socially. Microfinance positively contributed towards decision making power, skill development, participation in family development, knowledge, confidence, courage, legal awareness, self-worthiness and social status (economic and social situation). Which ultimately translated into the betterment of income level, household assets, savings, the standard of living, and well-being of the family (Ifelunini, & Wosowei, 2012). For this very reason many MFIs particularly targeting women (through direct lending and/or through SHGs), providing them financial and non-financial services.

Outcomes mean positive development in socio-economic and socio-cultural related issues of women’s lives, outcomes reflect betterment in the gender relations, mobility and spending choice over households (decision making regarding a number of children, health issues, food & medical expenditures and educational expenditures, etc.). Participation in important decisions of family and control over economic resources in order to make strategic life choices and this is considered to be the main indicator of empowerment (Malhotra et al. 2002).

According to World Development Report (2018) more than 734 million people (almost 9.98 % of the world population) living in extreme poverty compared to 881 million (12.8%) in 2012 and in 1990 this figure was 1,894.82 million (35.85%). According to the Hunger Project Report (2016), about 896 million people living on or below the poverty line. According to the survey of the united nation (UN) 2016, 836 million people living in extreme poverty, this figure was almost 20% in 2002. According to the World Food Program (2016), 795 million people do not have basic food nutrition, and 12.9% population of the world is living in extreme hunger. In developing countries, one in every five people is living on less than US\$1.25 per day, the majority of which is living in Asia and Sub-Saharan Africa.

Table 1 shows a reduction in poverty, which is because of a special focus on financial empowerment of poor and MFIs all over the world play a pivotal role in it. Many MFIs (commercial and NGOs) have taken initiative to meet the needs of poor

Table 1. Poverty Headcount ratio (World Bank, 2018)

The region of the world	Percentage of Population (PPP)							
	2015	2013	2012	2011	2010	2002	1990	1981
East Asia and Pacific	2.32%	3.64%	7.25%	8.57%	11.23%	29.9%	61.6%	80.8%
Europe and Central Asia	1.4%	1.5%	1.8%	2.0%	2.40%	5.88%	2.86%	3.08%
Latin America and the Caribbean	3.8%	4.5%	4.7%	5.6%	6.0%	11.8%	14.1%	13.0%
Middle East and North Africa	5.01%	2.64%	2.68%	2.67%	2.32%	3.21%	6.17%	11.4%
Other high Income	0.68%	0.60%	0.57%	0.58%	0.55%	0.49%	0.48%	0.61%
South Asia	12.4%	16.1%	18.1%	19.8%	24.5%	38.5%	47.3%	55.6%
Sub-Saharan Africa	41.1%	42.5%	43.8%	45.0%	46.5%	56.3%	54.2%	48.9%
World Total	9.98%	11.2%	12.8%	13.7%	15.7%	25.6%	35.8%	42.2%

people. During the last two decades, microfinance industry has grown at a revolutionary pace (Ledgerwood, Earne, & Nelson, 2013).

The whole world (including governments and major regulatory authorities like World Bank, IMF, ADB, State Banks/Central Banks of countries) is focusing on the building, flourishing, and strengthening the formal institutions in the field of microfinance. This development initiated in the 1980s where 18 different microfinance projects, worth \$350 million, were approved by the Asian Development Bank (ADB) during 1988-1998.

Table 2. Poverty Levels in Pakistan

Area	Poverty Level
Punjab	31%
Sindh	43%
KPK	49%
Balochistan	71%
FATA	73%
Gilgit Baltistan	43%
Azad Jammu and Kashmir	25%
The development level of Area	
Rural	54.6%
Urban	9.3%
Overall	39%

Source: UNDP – Pakistan (2016)

Pakistan is one of the fastest developing countries of the world, it is fifth in number in the world with 5.3% growth of GDP (Economic Survey, 2017) but still, there are some astonishing facts available as far as poverty is concerned. According to UNDP, in Pakistan using MPI, 39% of the people of Pakistan are living in poverty (called multidimensional poor). A significant difference exists in the poverty levels of urban and rural areas of Pakistan. Different figures of poverty are mentioned in table 2.

Whereas the poverty headcount figure indicated that there are only 5.23% of people living in poverty and there is a significant growth in this headcount ratio (World Bank Report, 2015). Table 3 indicated the Head Count ratio – Percentage of Population (PPP).

Table 3. Head Count ratio – Percentage of Population (PPP)

Year	2015	2013	2012	2011	2010	2002	1990	1981
Head Count (PPP)	5.23%	7.01%	6.91%	8.11%	9.53%	28.37%	57.24%	71.09%

Source: World Bank – Global Poverty Monitoring (2018)

According to the State Bank of Pakistan (2006), Pakistan is a late starter in the microfinance industry. Nevertheless, there is a significant growth in the outreach of MFIs of Pakistan. Table

4 shows key indicators of the microfinance industry of Pakistan. Currently, ten proper MFBs are working in comparison to six in 2006. Pakistan's microfinance sector is serving in 136 districts, having 6.66 million borrowers, which were 527,275 in 2005, showing 1163% growth. Gross Loan Portfolio is Rs. 254 Billion, and Average Loan Size is Rs. 51,690. Along with this, the sector is also performing good in micro-saving, having more than 29.99 million number of savers, the total value of savings is Rs. 204.77 billion and the number of policyholders are 8.14 million with total Rs.234 Billion sums insured (Microwatch, 2018).

Table 4. Performance of Microfinance Sector of Pakistan

	Years		Change	
	2018	2015	Units	%
Number of Branches/Unites	4068	2,960	1,108	37.4%
Number of Districts Covered	136	96	40	41.7%
Penetration Rate (%)	32.5	18.33	14	77.3%
Active Borrowers	6,664,040	3,757,003	2,907,037	77.4%
Gross loan Portfolio (PKR Millions)	254,612	92,991	161,621	173.8%
Number of Loans Disbursed	1,495,901	1,245,359	250,542	20.1%
Disbursements (PKR Millions)	77,323	44,396	32,927	74.2%
Average Loan Size (PKR)	51,690	35,649	16,041	45.0%
Number of Savers	29,992,999	13,956,969	16,036,030	114.9%
Value of Savings (PKR Million)	204,771	64,679	140,092	216.6%
Average Saving Balance	6,827	4,634	2,193	47.3%
Number of Policy Holder	8,140,707	4,585,070	3,555,637	77.5%
Sum Insured (PKR Millions)	234,351	81,358	152,993	188.0%

Source: Microwatch, 2018

Table 4 indicates a noteworthy growth in the industry, the outreach of the industry grew significantly. Still, there is a lot more margin of growth as the MFIs are serving the larger districts and unable to deliver in the smaller districts. Overall penetration of the industry in 30.4% (Microwatch, 2018). In the light of the above discussion the objectives of this research are set, which are:

- To measure the impact of microfinance on women empowerment;
 - To assess the impact of microfinance on poverty alleviation in women; and
 - To assess the role of microfinance in attaining SDGs;
- The basic research questions of this study are;
- How much access to microcredit is able to contribute towards women empowerment?
 - How much access to microcredit is able to reduce poverty in women?
 - Is there any role of microfinance in attaining SDGs? And
 - What are the possible suggestions for improving women's empowerment?

The Research Hypotheses of this research are:

- There is a significant impact of microfinance on women empowerment;
- There is a significant impact of microfinance on poverty alleviation in women; and
- There is a significant contribution of microfinance in attaining SDGs.

As the MFIs of Pakistan are growing significantly and it's pivotal to analyze the social performance of these MFIs. As the poverty alleviation and empowerment of women is a significant contribution (Al-shami, Razali, & Rashid, 2018), so to analyze the social performance of microfinance sector of Pakistan is a significant research question. Key social performance

indicators are poverty alleviation and women empowerment. In previous studies, poverty had been assessed through income and expenditure based studies only. In this study, the multidimensional poverty has been assessed and the impact of microfinance on the multidimensional poverty has been analyzed. MPI has been developed for the selected sample and incorporated in the empirical investigation. For the empowerment, a comprehensive questionnaire based on 24 questions related to economic and social empowerment has been developed, which is a comprehensive one in comparison to the studies already conducted.

LITERATURE REVIEW

The economic wellbeing of people living in a society is pivotal for the development of the country and an integral part of the government's role. The contribution of the microfinance industry in this economic wellbeing is a significant research question. Microfinance has got substantial attraction by researchers of the world after its success in multiple economies since the 1980s. A number of research articles published per year, by academicians and practitioners in reputed journals, has grown significantly in recent times. One of the main contributions of microfinance is poverty alleviation and empowerment of women. In developing countries like Pakistan, women empowerment is considered to be the key factor for development.

The vulnerability of women, the probability of physical or psychological abuse, health-related issues, forced prostitution, and unwanted pregnancies are some of the grave issues faced by women in developing and underdeveloped countries of the world (Yeboah, 2010 and Murshid, et. al., 2016). Women empowerment increases the security, self-esteem, and social and economic status of women; in addition to these, it boosts the living standard of the whole family (Gaywala, Murthy, & Oplotnik, 2018). Among the poor of the world, 70% are women if we empower them an economically significant amount of poverty will be reduced. Furthermore, how could countries like Pakistan grow where half of the population is not contributing towards the GDP (Khan & Noreen, 2012). According to Kofi Annan (2006), 'There is no tool more effective than the empowerment of women for economic development'.

Kabeer (2005) defined women's empowerment as, "a process by which those who have been denied the ability to make strategic life choices acquire such ability". In under-developed countries, women are deprived and are powerless as compared to men. Women do not have access to education, the right to claim property, and many other facilities of life (Malhotra, et. al., 2002).

Before using the services of MFIs, poor women were taking loans from many informal ways, which increases their social vulnerability. Microfinance helps women to be more innovative, ingenious, intellectual, and investigative thinkers. In this way, they can identify the complex and dishonest tricks of informal financial sectors and protect themselves from their mala fide practices. Women trust the microfinance sector and consider it a source of economic growth and empowerment (Miled, & Rejeb, 2015).

Noreen (2011) indicated that the empowerment of women is associated with age, education of husband, marital status, assets owned (inherited by father or earned), and the number of sons. Rahman, Junankar, and Mallik (2009) inferred that women's skillfulness (income earned from her own skill) is also a major factor for empowerment. Along with this lending to women is far safer than lending to men. MFIs lending to women are able to have a high yield on their portfolio with lesser portfolio risk (Janda & Turbat, 2013).

MFIs are playing an important role in empowering women in developing countries, but we cannot say that response of people towards microfinance and the success rate is the same all over the world (Feigenberg, Field, & Pande, 2010). Providing microfinance to women enables them to contribute in the economic and social wellbeing of their families, which ultimately leads towards the economic development of the country and the region (Mayoux, 1997; Gobezie, 2011; & Rehman, Moazzam, & Ansari, 2015).

Providing loan to a group of women, called a Self-Help Group-SHG, enhances the confidence of women and has a positive impact on their empowerment. They work together and support each other, which improves their exposure, empowerment, efficiency, and income (Palmkvist & Lin, 2015).

Women empowerment is considered to be a process as well as an outcome. However, it is better to treat it as a process. Considering this as a process enables us to gauge the impact more appropriately but it is easy to collect data on the women empowerment as an outcome and it is hard to measure the empowerment as a process. The data collection (survey and participated approach) related to the empowerment process is more time consuming and may add biases in the interpretation of responses (Pokhriyal, Rani, & Uniyal, 2014).

MFIs play an important role to strengthen the financial base of women. Though microfinance is not the source of empowerment for every woman on earth. According to Leach & Sitaram (2002) and Biswas, & Rao, (2014), there is no impact of microfinance on empowering the women. But still, in the light of the above literature, we may infer that most of the women do get some empowerment by using the services of MFIs. Furthermore, the social and economic benefits expected from empowering women are deferred because in some cases women are not the true users of funds raised through microfinance. The difference in results may be because of the difference in socio-economic environments, different timeframes, different tools used (method of measuring empowerment), different nature of studies (cross-sectional or longitudinal), and socio-political conditions.

In this study, we hypothesize that the access to microfinance service significantly impacting the level of poverty and empowerment in women of Pakistan. With the exposure to microfinance the decision making power increases and which bring in the economic well-being and prosperity in the family.

Research Methodology and Data Description

We targeted the existing customers of the MFBs. Here key districts of Pakistan like Lahore, Rawalpindi, Mianwali,

Gujranwala, Multan, Bahawalpur, Peshawar, Faisalabad, Jhelum, Sukur, and Karachi were selected for data collection. Branches of different MFBs of said areas were approached for identification of customers and in the same region, data was collected from the non-users of microfinance. Individual users and non-users of microfinance are taken as the unit of analysis in this study. A questionnaire extracted from the works of Kabeer (1999), Pitt, Khandker, & Cartwright (2006), Rahman & Naoroze, (2007) and Malhotra et al., (2002) has been used. Data of a total of 670 respondents have been incorporated in the analysis. 328 respondents belong to the treated group (users of microfinance) and 342 belong to the control group (non-users of microfinance). As far as the region is concerned 345 respondents (51.5% of the total) belongs to the urban areas and rest of the respondents (48.5% of the total) belonged to rural areas. Out of 345 respondents (from urban areas), only 171 (49.6% of the total) have taken the loan and out of 325 respondents (from rural areas), only 157 (48.3% of the total) were taken the loan.

A multilevel empirical investigation is used to analyze the impact of microfinance on the poor women of Pakistan. This research analyzes the impact of microfinance on poverty alleviation and the social and economic empowerment of women, simultaneously. Primary data of women using microfinance have been collected through a questionnaire. The questionnaire was administered by interviewee due to the inability of respondents to fill it. From the responses gathered a score of empowerment has been calculated for further empirical investigations.

In this research, most of the dimensions for social and economic empowerment has been extracted from the works of Kabeer (1999), Pitt, Khandker, & Cartwright (2006), Rahman & Naoroze, (2007) and Malhotra et al., (2002). Social, legal, cultural, psychological, interpersonal, and household decision-making are some of the key dimensions for empowerment used in this study. Before going for an actual field survey the questionnaire was tested and retested. Table 5 describes the variables and their measurements incorporated into this study.

Income-based measures and MPI are the proxies of poverty and poverty reduction which were used in this research. Increase in the income per annum has been taken as a measure of poverty reduction. MPI is the measure of multidimensional poverty used in this study as a proxy of poverty. MPI has been developed by Oxford Poverty and Human Development Initiative (OPHI) in 2010. In this study, MPI for each respondent has been calculated and incorporated in the statistical analysis. Along with this difference in MPI over a period of time (MPIDiff) has also been incorporated to gauge the impact. Poverty badly affects the social status of the individual and the family. Poor people seek financial help from people around them because of which they lack self-respect and self-esteem, which deteriorate their social status. Data related to perceived social status is also collected. Different dimensions of women empowerment have been explored comprehensively and a collective score of women empowerment is taken. After

taking the natural log of this score of women empowerment, the econometric model is applied.

Table 5. Variables' Description

Variable	Variable Description
LoanMFI	Taken a loan from MFBs. (Dummy Variable is used), if loan taken = 1 and if not taken the loan = 0.
Age	Age of the Respondent, if less than 25 =1, 25 to 40=2, more than 40=3
Region	Region of the Respondent, Urban=0, Rural=1
MaritalS	Marital Status, if Unmarried=0, Married=1, Divorced=2, Widow=3
NumChild	No of Children
TFamilyMem	Total number of family members, if member are 0 to 3=1; 4 to 6=2; 7 or higher=3
earnings	Total number of earning hands in the family
ChngIncom	Change in the income of respondent over the period of two years, if improved than Yes=1, otherwise No=0
MPINow	Multidimensional Poverty Index (MPI), developed from the current status of respondents according to the guideline of OPHI, 2017.
MPIDiff	The difference in the MPIs over time. Calculated by taking the difference between MPINow and MPIBef.
social status	Improvement in social status. If improved than Yes=1, otherwise No=0
WomenEmp	A score of women empowerment calculated from responses taken through interviews
InWomenEmp	Natural log of a score of women empowerment

OLS and PSM are used to analyze the data. OLS has been fitted over all the dependent variables (mentioned in Table 4) to estimate the impact of the loan on the respondent's socioeconomic status. Secondly, to prevent the selection bias and have a rigorous comparison PSM is applied. The model has been specified over observable characteristics (i.e. age, gender, region, marital status, number of children, total family members, level of education, number of school going children, and number of earning hands in the family) of the recipients of loan and non-recipients of the loan. SPSS and STATA statistical programs were used to conduct this analysis.

Propensity scores have been estimated by using the *Probit Model*. Based on these scores the Average Treatment Effects on the Treated (ATT) were obtained. There are a number of matching algorithms used in the literature for analysis like Nearest Neighbor (NN) Method (one to one), Nearest Neighbor (NN) Method (one to many), Kernel Matching Method (Common), Kernel Matching Method (bwidth 0.01), Radius Calpier Matching Method, and Stratification Matching Method to obtain the scores of ATT.

Following is the functional form of the regression model used for analysis. Table 6 shows the results of the regression model for the selected sample.

$$Y_i = \alpha_0 + \alpha_1 LoanMFI_i + \epsilon_i$$

Where, Y_i indicates the change in Income level, Social Status, MPI, MPIDiff and the score of Women Empowerment. ' $LoanMFI_i$ ' represent access to microfinance.

Table 6. Regression Results

		Coef.	Std. Err	t	Sig. (p> t)
Change in Income	LoanMFI	1.5540	0.0516	30.13	0.000
	Cons.	0.0000	0.0419	0	1.000
Social Status	LoanMFI	0.1640	0.031	5.2	0.000
	Cons.	0.2870	0.018	15.9	0.251
MPI	LoanMFI	0.1452	0.0132	11.01	0.000
	Cons.	0.1703	0.0075	22.54	0.000
MPIDiff	LoanMFI	-0.0670	0.0077	-8.67	0.000
	Cons.	-0.0790	0.0044	-17.97	0.000
Women Empowerment	LoanMFI	15.7500	3.5	4.5	0.000
	Cons.	67.8300	2.46	27.49	0.000

Table – 6 shows the results of regression, which indicate a significant impact of exposure to microfinance on poverty alleviation and empowerment of women. Exposure to microfinance has a positive impact on MPI and the change in MPI over time. Regression of MPI indicates that those who did not have exposure to microfinance have MPI value of 0.1703 and those who have exposure have MPI value of 0.1452 which is lesser. As a lesser score of MPI is better (showing lesser poverty) so the results indicate that exposure to microfinance leads to lesser multidimensional poverty. The result of 'MPIDiff' indicates that with the exposure of microfinance MPI is reduced by 0.067 (for women the MPI reduced by 0.147 and for men it reduced by 0.079), which is better in comparison to men. This indicates that exposure to microfinance has a greater positive impact on women for alleviating poverty. Results also indicate that exposure to microfinance has improved social status significantly. On average 16.4% of the respondents declared that the social status has been improved.

The matching method implies the technique of comparing the outcomes of two groups, one which receives the treatment and the other which did not receive the treatment. Identification and selection of respondents for matching are based on their observable characteristics. One of the popular matching techniques is PSM, which is used in this study, this method helps in drawing a comparison by obtaining a summary variable (also called Propensity Score) (Rosenbaum and Rubin, 1983; 1985).

PSM is basically a weighing scheme which matches treated and non-treated respondents by comparing the conditional probabilities of receiving the microfinance finance based on a set of covariates of the observable characteristics. Logit or Probit Models are used to estimate probabilities. As only one state (received microloan or not received microloan) can be observed at a given moment, so only ATT could be estimated (Holland, 1986 and Bryson, Dorsett and Purdon, 2002). To get the results of PSM estimation analysis is done in STATA's match and psmatch2 modules.

The ATT for the use of microfinance can be given as:

$$\tau = E\{ChngIncom_{1i} - ChngIncom_{0i} | LoanMFI_i = 1\}$$

$$\tau = E[E\{ChngIncom_{1i} | LoanMFI_i = 1, p(X_i)\} - E\{ChngIncom_{0i} | LoanMFI_i = 0, p(X_i)\} | LoanMFI_i = 1]$$

$$\tau = E\{SocialStatus_{1i} - SocialStatus_{0i} | LoanMFI_i = 1\}$$

$$\tau = E[E\{SocialStatus_{1i} | LoanMFI_i = 1, p(X_i)\} - E\{SocialStatus_{0i} | LoanMFI_i = 0, p(X_i)\} | LoanMFI_i = 1]$$

$$\tau = E\{WomenEmp_{1i} - WomenEmp_{0i} | LoanMFI_i = 1\}$$

$$\tau = E[E\{WomenEmp_{1i} | LoanMFI_i = 1, p(X_i)\} - E\{WomenEmp_{0i} | LoanMFI_i = 0, p(X_i)\} | LoanMFI_i = 1]$$

$$\tau = E\{MPIDiff_{1i} - MPIDiff_{0i} | LoanMFI_i = 1\}$$

$$\tau = E[E\{MPIDiff_{1i} | LoanMFI_i = 1, p(X_i)\} - E\{MPIDiff_{0i} | LoanMFI_i = 0, p(X_i)\} | LoanMFI_i = 1]$$

$$\tau = E\{MPI_{1i} - MPI_{0i} | LoanMFI_i = 1\}$$

$$\tau = E[E\{MPI_{1i} | LoanMFI_i = 1, p(X_i)\} - E\{MPI_{0i} | LoanMFI_i = 0, p(X_i)\} | LoanMFI_i = 1]$$

Table 7. PSM Estimates

Variables	Average Treatment effect on Treated (ATT)					Stratification Matching
	NN (1-1 matching)	NN (1-Many matching)	Kernel Matching Method	Kernel Matching Method (width 0.01)	Radius Matching Method (Radius 0.01)	
ChngIncom	1.555 (0.037)	1.566 (0.039)	1.56 (0.037)	1.562 (0.041)	1.566 (0.0396)	-
SocialStatus	0.145 (0.039)	0.451 (0.045)	0.451 (0.033)	0.449 (0.035)	0.451 (0.034)	0.151 (0.034)
InWomenEmp	0.244 (0.012)	0.235 (0.015)	0.2484 (0.011)	0.239 (0.012)	0.242 (0.012)	0.243 (0.010)
MPIDiff	-0.065 (0.009)	-0.147 (0.011)	-0.147 (0.008)	-0.145 (0.008)	-0.147 (0.008)	-0.063 (0.008)
MPI	-0.116 (0.016)	0.315 (0.018)	0.315 (0.0128)	0.315 (0.013)	0.315 (0.013)	0.129 (0.013)

Table 7 gives the results of PSM estimates, the table shows ATT and the figures beneath it with parenthesis is the standard error of respective ATT. Results of Nearest Neighbor (NN) Method, Kernel Method, Radius Matching Method, and Stratification Matching Method, at a 95% confidence interval, indicates that there is a significant difference found in the users and non-users of microfinance. Furthermore, the income level of women has significantly improved after using microfinance from MFBs.

So results inferred that women who have access to microfinance are able to increase their income and their social status has improved. Because of microfinance, the multidimensional poverty of women has also decreased significantly. Furthermore, women having access to microfinance, feel more empowered socially and economically in comparison to those who did not get the microfinance.

Conclusion and Recommendation

Overall results showed that access to microfinance has a significant impact on the poverty reduction and empowerment and social status of women. It is quite logical that if a woman receives a loan and able to reduce her poverty, she will certainly become economically empowered with a better social position, our empirical investigation support this. That is why significant marginal improvement in the income level, multidimensional poverty reduction, and women empowerment has been witnessed. OLS and PSM estimates confirm that poverty reduced with the access to microfinance and that reduction of poverty led towards the empowerment of women. Unlike the results Ganle et al. (2015), no evidence found for the violence against women to receive the loans from MFBs. The participation of women in decision making has been improved as their empowerment increases as discussed by Mahmud et al. (2012).

From the empirical analysis and the information gathered, we may infer that the increased women participation will increase the economic empowerment and ultimately bring in the prosperity in the family as discussed by De Brauw et. al. (2014) and Duflo, (2012). Therefore, microfinancing and MFIs are the most effective tools for achieving SDGs. Eight goals under SDGs of UN including no poverty, zero hunger, good health and wellbeing, quality education, gender equality, clean water and sanitation, decent work and economic growth, and reduce inequality are directly related to the lower segment of the society. If we elevate the poor well-above the poverty line all these goals could easily be met in the shortest possible time and poor have no need to compromise over food, water, quality of

living, education, medication, and above all self-esteem. Poor have to face discrimination but once their poverty, which is the root cause of all above-said problems, is eliminated, all these problems could eventually vanish away.

Future Research Direction: The development of MPI for the empirical inferences was the major contribution of this study. Along with this the simultaneous analysis of poverty and empowerment of women is another pivotal contribution. But still, there are few more steps, which should be incorporated to have concrete and rigorous analysis. Demographic and socio-economic factors like age, number of dependents, marital status, number of children, region, amount of loan, and number of earning hands may also be incorporated in the regression model. Conventional measures of poverty must also be incorporated to have a comparison with multidimensional poverty. As the females are considered to be more focused towards house and households so the particular impact on living standard and housing may also be tested. As the MFIs of all over the world are focusing more on women, so a parallel analysis of women with the men may also be incorporated to compare the impact of microfinance on men and women. Finally, as the women empowerment and poverty alleviation are two main SDGs. So the empirical investigation regarding the impact of microfinance on the accomplishment of SDGs in Pakistan may also be a good research question.

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