

EMPIRICAL ASSESSMENT OF THE IMPACT OF MICROFINANCE ON QUALITY OF LIFE

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Abstract

This study examines the impact of microfinance institutions, operating in Malakand Division Pakistan, on quality of life of the poor population of the region. The principle purpose of the study is to examine the effects of micro credit on business development and income level of the clients. Data for the study was collected through a personally administered questionnaire. Quality of Life Index was calculated by taking into account several variables linked to increase in income level. Multiple regressions were applied to find the relationship between quality of life and microfinance services. The results showed that the age of the respondents, their marital status, education level, increase in income, increase in expenditures on food and clothing, the number of times they received micro-credit, and business processes improvement made after obtaining microfinance were found to have a statistically significant relationship with the quality of life.

Keywords: Micro-Finance, Microfinance Institution, Survey, Impact, Quality of Life, Malakand.

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Introduction

Over the last few decades microfinance gained unprecedented popularity as a poverty alleviation strategy among practitioners, academics and policy makers. It is considered as a powerful strategy for poverty alleviation, income distribution and for social and economic development (Mahjabeen, 2008), and its operations are not limited to the developing countries but it is also in practice in advanced countries of the world. Literature on the impact assessment of microfinance reveals that microfinance positively influence income, expenditures, health, children education, women empowerment, business production and profit etc, of the poor and help them in entrepreneurship development (Bakhtiari, 2011; Khandker, 2005; Okpara, 2010). There are other researchers who have reported negative or zero impact of microfinance in relation to poverty alleviation (Kondo, Orbeta, Dingcong, & Infantado, 2008; Morduch & Haley, 2002; Weiss & Montgomery, 2005).

In Pakistan, the phenomenon of Microfinance started in the beginning of the new millennium with the establishment of Khushali Bank (KB). The Microfinance Institutions Ordinance (2001) further facilitated the move, which lead to the establishment of specialized microfinance banks in the country⁴. Besides, many other institutions such as Rural Support Programs, Non-governmental organizations (NGOs) and commercial financial institutions are also involved in alleviating poverty through micro-financing in the country. Existing research reports contradictory results about the impact of microfinance on overall wellbeing of the poor population in Pakistan. Some researcher have shown positive impact of microfinance on various dimensions of poverty (Abbas, Sarwar, & Hussain, 2005; Akram &

4-Khushhali Bank Limited, Tameer Microfinance Bank Ltd, Rozgar Microfinance bank Ltd, Kashf Microfinance Bank, National Rural Support Bank Ltd, The First Microfinance Bank Ltd, Waseela Microfinance Bank, Pak-Oman Microfinance Bank Ltd, Apna Microfinance Bank Ltd, and Advans Pakistan Microfinance Bank

Husain, 2011; Shirazi & Khan, 2009). Whereas others have concluded that microfinance services are insufficient to assist the poor, and also the existing services are not fulfilling the objectives of poverty alleviation (Ali, 2007; Durrani, Usman, Malik, & Ahmad, 2011; Qureshi et al., 2012). According to Siddiqi (2008) from different studies conducted in Pakistan it is not clear that microfinance in the country have positive impact on poverty alleviation or negative.

Differences in studies on impact of microfinance and contradictions among their findings call for further research in the area. The present study is an attempt to further investigate the issue by examining the impact of microfinance on some important variables related to quality of life in Malakand KPK Pakistan. The study investigates the impact of microcredit on standard of living of the beneficiaries of three microfinance institutions, operating in Malakand, using in-depth interviews and questionnaires. The data collected was empirically tested using regression analysis.

Malakand was selected for the study as to our knowledge, there are no studies on impact assessment of microfinance in the region. Secondly majority of the population of the area are poor and living in rural areas. Thirdly the population, especially the poor, have been severely affected by the war against terrorism and need financial assistance for rehabilitation. Finally the joint family system in the study area calls for financial assistance and other microfinance services to facilitate their own family businesses.

The results of the study are expected to be useful for microfinance industry because it will help them in understanding the financial needs of the poor population of the country and how can microfinance be used in a way that can really help in alleviating poverty. It would also be helpful for policy makers in government and other institutions in their policy recommendations and formulation. The society at large will also benefit from the project because with improved microfinance services, quality of life will be improved and

the microfinance industry in the country will have a real impact on poverty alleviation. Local economic development will also ensue, resulting in more employment opportunities, better life standards, and an increase in government revenues.

Literature Review

The proponents of microfinance argue that microfinance can contribute in poverty reduction by providing a small amount of loan and other assistance services to help them develop their own micro businesses, improve their income level and thereby improving their overall standard of living. Studies conducted on impact of microfinance on business development and income level have shown that microfinance is positively associated with business production, sales, and profit of small and micro-enterprises, and the overall income level of the entrepreneurs have improved (Md Saad, 2010; Okpara, 2010; Panjaitan-Drioadisuryo & Cloud, 1999).

Improvement in income level is considered as an important indicator of poverty alleviation and mostly studies have examined the impact of microfinance on income level. But income is not the only way of getting rid of poverty and there is a difference between poverty reduction and income improvement (Wright, 1999). Income improvement can temporarily reduce poverty but after spending money the subject may become poor again, therefore microcredit programs must have long term effects on poverty (Chowdhury, Ghosh, & Wright, 2005). Therefore, the impact of microfinance should not only be assessed on income but also on other important poverty alleviation indicator such as expenditures, health care, nutrition status, education, assets condition and empowerment etc.

Numerous studies have proposed positive impact on these indicators of poverty reduction (Bakhtiari, 2011; Brannen, 2010; DeLoach & Lamanna, 2011; Hiatt & Woodworth, 2006; Holvoet, 2004; Hossain, 2012; Kundu & Mukherjee, 2011; Mawa, 2008; Mohindra &

Haddad, 2005; Panjaitan-Drioadisuryo & Cloud, 1999; Pitt, Khandker, Chowdhury, & Millimet, 2003). While some others have shown that microfinance did not help the poor in term of these variables (Hulme, 2000; Kondo et al., 2008; Morduch & Haley, 2002; Weiss & Montgomery, 2005).

In Pakistan, very limited studies have examined its impact on poverty alleviation and majority of them have reported positive impact on micro-enterprises, income, consumption, health and education and assets condition of the poor. For instance, Montgomery (2006) indicated that the credit program of the KB have helped the poor to enhance sales and profit of their micro-enterprises, improve their income, provide better education, and better healthcare facilities. Similarly, Setboonsarng and Parpiev (2008) used Propensity Score-Matching Methods to evaluate micro credit program and observe that the program has a significant positive impact on agriculture and livestock production.

Saleem and Zaman (2011) Found a strongest relationship between microfinance and living standard in term of access to better education, better health care facilities and better financial position. However, it has also been observed that microfinance has no significant impact on microfinance on household assets conditions in Pakistan (Noreen, Imran, Zaheer, & Saif, 2011; Shirazi, 2012).

Very few authors have concluded that microfinance institutions in Pakistan are not fulfilling the objectives of poverty alleviation and existing services are insufficient to help the poor in order to get rid of poverty. For instance Noreen et al. (2011) concluded that microfinance in Pakistan has no significant impact on housing, assets conditions and expenditures patterns on households. Likewise, Ali (2007) observed that more than fifty percent of microcredit were misused and therefore have insignificant impact towards poverty alleviation in the region. Moreover, Ahmad (2008) argue that the overall microfinance institutions shares in formal financial sector in the

country is low and are unable to focus on their objectives on enhancing the quality of life of the poor.

From the above discussion it can be concluded that the existing literature provides insufficient information about the impact of microfinance services in the country and that there is need for further research on the impact assessment of microfinance. This study is an attempt to address this gap by assessing the impact of microfinance on some important variables of poverty alleviation.

Theoretical Framework

Welfarist (direct) and Institutionalist approach are the prominently used approaches for assessing the impact of micro finance (Morduch, 1999). The Welfarist approach focuses on the clients of microfinance institutions and advocates that subsidized microfinance programs should be initiated to provide support to the poorest. Whereas, the Institutionalist approach assumes that microfinance institutions should be strong enough to provide better and expanded financial services. The Institutionalist approach mainly focuses on the supply side of microfinance and assumes that microfinance institutions should provide loans in such a way to recover their cost plus a margin. The profitability of the institutions in turn will strengthen their capability to provide better and expanded financial services to the poor in long term and in a sustainable way.

The Welfarist approach mainly focuses on the demand side of the microfinance services and is deemed appropriate for pre-and-post impact of microfinance services as it mainly focuses on the clients rather than institutions. We have adopted the Welfarist approach for our study. The rationale for using this approach is that the study is mainly concerned with the contributions of microfinance institutions toward poverty reduction. The findings of the study would provide a feedback mechanism for the microfinance institutions to concentrate on areas which require improvement or modification.

Our study is primarily focused on the relationship between the microfinance services of the microfinance institutions and their impact on the livelihood of poor population. Therefore both independent and dependent variables are included. The diagram (See Appendix) shows the relationship between the independent and the dependent variables. The impact of microcredit on business development were measured. Business development is taken as a function of business process development, increase in business assets, profit and employment. Then the impact of business development on income of the households were examined and standard of living were measured by examining the impact of household income on expenditures on food and clothing, healthcare, education, housing and non-business assets.

Methodology

A survey questionnaire methodology was adopted for the study. This type of methodology is useful for covering a wide range of population at low cost and less efforts is required. All the beneficiaries of three microfinance institutions; KB, The Bank of Khyber (BOK), and Sarhad Rural Support Programme (SRSP) operating in Malakand were selected as a population for the study. The sample was drawn randomly from the beneficiary's lists provided by these financial institutions and includes households from both urban and rural areas of the region. The questionnaire was developed after thorough study of existing literature and in-depth interviews with beneficiaries regarding improvement in quality of life through microfinance. A five point 'Likert Scale' (for strongly agree to strongly disagree) was used to collect information from the respondents. Data was collected through face-to-face discussion and through telephone administered questionnaire. Whenever possible the researcher visited the location and collected data in person. Since majority of the respondents were illiterate or having low level of education, the interviewer asked questions in their native language and the responses were then translated in to English. A Quality of Life Index was

developed from the data, which was then empirically tested using regression model explained below.

Model

$$QOL_i^{Index} = \alpha + \beta_1 NIINC_i + \beta_2 NEINC_i + \beta_3 AGE_i + \beta_4 MRST_i + \beta_5 EDU_i + \beta_6 DOM_i + \beta_7 INST_i + \beta_8 DURAT_i + \beta_9 TIMES_i + \beta_{10} BAINC_i + \beta_{11} BPIMP_i + \beta_{12} EMPL_i + \mu \dots \dots \dots (1)$$

Where:

Variable Name	Explanation
QOL_i^{Index}	Is the Quality of Life Index, the dependent variable, and is calculated as $QOL_i^{Index} = IMP_i^{LS} + INC_i^{HS} + ACC_i^{BMF} + INC_i^{NBA} + INC_i^{SGC}$ Where IMP_i^{LS} = Perception of the respondent towards Improvement in Living Standard after the microfinance program, as measured through the questionnaire. INC_i^{HS} = Improvement/Additions to House made by the respondent after the microfinance programme ACC_i^{BMF} = Access to better medical facilities after the microfinance program INC_i^{NBA} = Increase in non-business related assets due to microfinance programme INC_i^{SGC} = Increase in school going children, which is basically a measure of improved access to education, after the microfinance program.
$INCOM_i^{INCR}$	Increase in income after the microfinance program, in absolute amounts, calculated as Income After Micro Finance Program – Income Before Microfinance Program
$NIINC_i$	The net increase in income variable, calculated by dividing increase in income ($INCOM_i^{INCR}$) over the maximum increase in income in the sample. This was basically done for normalizing the data. $NIINC_i = \frac{INCOM_i^{INCR}}{MAX(INCOM_i^{INCR})}$
$EXPENS_i^{INCR}$	Increase in Expenses after the microfinance program, in absolute amounts, calculated as Expenses After Micro Finance Program – Expenses Before Microfinance Program
$NEINC_i$	The net increase in expense variable, calculated by dividing increase in expense ($EXPENS_i^{INCR}$) over the maximum increase in Expenses in the sample. This was basically done for normalizing the data. $NEINC_i = \frac{EXPENS_i^{INCR}}{MAX(EXPENS_i^{INCR})}$
AGE_i	Age of the respondent
$MRST_i$	Marital Status of the respondent
EDU_i	Education Level of the respondent
DOM_i	District of Domicile of the respondent
$INST_i$	Institution from which microfinance was obtained
$DURAT_i$	The duration for which microfinance was obtained
$TIMES_i$	Number of times the respondent received microfinance
$BAINC_i$	Increase in Business Assets – investment in business after the microfinance program
$BPIMP_i$	Business Process Improvement due to the microfinance program, resulting either due to training or investment in appropriate tools and equipment
$EMPL_i$	Increase in employment resulting from expansion due to microfinance.

Analysis

Descriptive Statistics

Table 1 shows the descriptive statistics of our data. The mean value for age is 1.8 with a standard deviation .849. Age was measured on four point scale. The mean value is very low, indicating that majority of the respondents were young. The mean value for marital status is 1.28 which is high and showing that majority of the respondents were married couples. Education was measured on a seven point scale and the mean value is 2.95 with a standard deviation of 1.76 indicating a high degree deviation from the average. The mean value for domicile is very low (1.34) showing that majority of the respondents belongs to Swat and Dir districts. Data were collected from the clients of three MFIs; BOK, KB and SRSP. The mean value for the MFIs is moderate (1.66) showing that on the average the number of customers selected for the survey were uniform. The duration of the loan shows a mean value of 2.77 which indicates that majority of the respondents received microcredit more than two years ago. Number of times received loan show a very low value of mean (1.14) indicating that mostly the respondents received microcredit for the first time.

Table 1:

Descriptive Statistics

	Mean	Std. Deviation	N
QOL_Index	1.82	.849	152
AGE	1.44	.584	152
MRST	1.28	.452	152
EDU	2.95	1.760	152
DOM	1.34	.476	152
INST	1.66	.829	152
DURAT	2.77	.646	152
TIMES	1.14	.431	152
NIINC	.3111	.231	152
NEINC	.39931	.2637	152
BAINC	.99	.114	152
BPIMP	.95	.210	152
EMPL	.18	.389	152

The net increase in income variable, calculated by dividing increase in income ($INCOM_{iNCR}$) over the maximum increase in income in the sample. The mean value for NIINC is .31 indicating the moderate level of increase in net income. The net increase in expense variable, calculated by dividing increase in expense ($EXPENS_{iNCR}$) over the maximum increase in Expenses in the sample. This was basically done for normalizing the data. Its mean value is 3.9, which also indicate a relatively moderate level of monthly expenditures on food and clothing.

Increase in business assets was measured on a two point scale and mean value for it is very low (.99). This indicates that almost all the respondents have indicated an increase in their business assets. Improvement in business process was measure on three point scale; increased, decreased, stayed the same. The mean for it is very low (.95), indicating that business process of majority of the clients were improved. Finally the employment opportunities created by microfinance indicates a very level of average showing that microfinance in the region are not producing sufficient employment opportunities.

Analysis

Linear regression on quality of life index and on twelve variables was carried out through least squares.

Table 2:

Coefficients^a

Model	Standardized Coefficients	T	Sig.
	Beta		
(Constant)		1.504	.135
AGE	-.092	-2.053	.094
MRST	-.246	-2.913	.004
EDU	.265	2.618	.010
DOM	.028	.291	.772
INST	-.067	-.672	.502
DURAT	-.004	-.046	.963
TIMES	-.144	-1.866	.064
NIINC	.065	3.682	.087
NEINC	-.070	-2.782	.096
BAINC	-.042	-.548	.585
BPIMP	.474	6.373	.000
EMPL	-.025	-.312	.755

The table shows the regression coefficients of all the independent variables. Out of all the twelve variables seven variables; Age (AGE), marital status (MRST), education level (EDU), numbers of times received micro credit (TIMES), net increase in income (NIINC), net increase in expenditures (NEINC) and business processes improvement (BPIMP) were found to be significant, while the remaining five variables were found insignificant.

Age (AGE) shows a negative significant relationship with the quality of live index, indicating that relatively aged respondents do not efficiently utilize the microfinance funds and have negative impact on their quality of life as compare to young clients who have efficiently utilized their micro loan and thereby improved their quality of life.

Marital status (MRST) also shows a negative significant relationship with quality of live index. Younger and unmarried clients are more likely to efficiently utilize their micro loan. It is because of the facts that relatively younger and unmarried individuals are more enthusiastic toward the effective utilization of microfinance funds, and majority of them received micro loans for the first time. Younger people may use the income they generate from their businesses for improving their quality of life. On the other hand aged respondents have more necessities, because they have larger families and therefore they use their earnings more on basics necessities.

Education level (EDU) of the respondents was found to have a significant positive relationship with quality of life. Educated individuals were more likely to improve their quality of life due to microfinance program. This could be due to various reasons, for example the know how to better manage business due to education level, the level of opportunities available also increase due to education level, for example many small businesses with good returns might not be feasible for an uneducated person, due to the level of literacy needed. Also for better managing finance and keeping proper records:

one might be able to better manage the finance of the business, its inventory levels and its operations in check if there are even basic levels of literacy. It can also be argued that educated people will have a more mature perspective on life as compared to uneducated.

A very weak positive but insignificant relationship was found for domicile (DOM), and a negative and insignificant relationship between quality of life and microfinance institutions (INST). Duration with the microfinance institutions (DURAT) was also found insignificant.

The number of times received loan (TIMES) was interestingly found to be negatively correlated with quality of life index and the results were significant. Loan received for the first time if effectively used may strengthen the financial position of the client and there is no need for further loans. On the other hand if fund received for the first time is not used effectively it can negatively affect the financial situations of the client and he or she may need further funds to pay for the installments of the previous loan. That's why the first timers have reported positive significant impacts of microcredit on their quality of life.

Net increase in income (NIINC) was found to have positive correlation with quality of life and the results were significant. This indicates that microfinance services in the region have improved the income of the clients and thereby improved their standard of living. Net increase in expenditures on food and clothing after obtaining microfinance (NEINC) were found to be negatively correlated with the quality of life index and the results were significant. The variable with the most significant relationship in our research was improvements made in business processes after availing microfinance (BPIMP). The variable Increase in Business Assets (BAINC) however was not found to be significant. This could be due to the fact that investment in unnecessary business assets will not improve quality of life. However, if business processes are improvement, it will guarantee that the

business performs efficiently and effectively and generate funds, ultimately improving the quality of life. Therefore, microfinance institutions need to focus more on improving business processes, and the overall business operations, and not just acquisition of new assets. Finally employment opportunities (EMPL) provided by microfinance facilities were found to have weakly negatively correlated with quality of life.

Our regression results are consistent with majority of studies conducted abroad (Bakhtiari, 2011; Brannen, 2010; DeLoach & Lamanna, 2011; Hiatt & Woodworth, 2006; Holvoet, 2004; Hossain, 2012; Kundu & Mukherjee, 2011; Mawa, 2008; Mohindra & Haddad, 2005; Panjaitan-Drioadisuryo & Cloud, 1999; Pitt et al., 2003). Our findings also show consistency with mostly of the studies conducted in Pakistan (Montgomery (2006) Setboonsarng & Parpiev, 2008; Saleem & Zaman, 2011). However our results are inconsistent with some previous studies (Hulme, 2000; Kondo et al., 2008; Morduch & Haley, 2002; Noreen et al., 2011; Ali, 2007; Ahmad, 2008).

Collinearity Statistics

The following table shows the collinearity statistics of the predictor variables. The results do not indicate any harmful correlations. However there is a possibility of a certain degree of multicollinearity as some of the predictor variables may be some degree correlated. For measuring multicollinearity we have calculated the Variance Inflation Factor (VIF) and Tolerance. Our results do not show any such problems of multicollinearity. We also calculated the Durbin-Watson statistics to test the independency of the residuals. Values of Durbin-Watson statistics, at 1.726, which is very close to 2, indicates that our residuals are independent.

Coefficients ^a		
Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
AGE	.646	1.547
MRST	.696	1.436
EDU	.485	2.060
DOM	.540	1.853
INST	.498	2.009
DURAT	.786	1.272
TIMES	.840	1.190
NIINC	.544	1.839
NEINC	.628	1.593
BAINC	.861	1.161
BPIMP	.897	1.114
EMPL	.781	1.281

a. Dependent Variable: QOL_Index

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	.556 ^a	.409	.379	.736	1.876

a. Predictors: (Constant), EMPL, TIMES, NEINC, BPIMP, DURAT, MRST, BAINC, DOM, AGE, NIINC, INST, EDU

b. Dependent Variable: QOL_Index

The table shows the model summary of the linear regression. The value of R is .556 that shows that a moderate positive relationship exist among the dependent and independent variables. The value of R square in our case is .409 indicating that about 41% changes in the quality of life are explained by the independent variables. The value of adjusted R square is .379, which provides a more accurate result. The value of Durbin-Watson is 1.876, indicating that our residuals are uncorrelated.

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	33.617	12	2.801	5.176	.000 ^b
Residual	75.226	139	.541		
Total	108.842	151			

a. Dependent Variable: QOL_Index

b. Predictors: (Constant), EMPL, TIMES, NEINC, BPIMP, DURAT, MRST, BAINC, DOM, AGE, NIINC, INST, EDU

The table shows analysis of variance (ANOVA) of the regression model. Our model shows the F value 5.176 which is much greater than 1 with a significance level of .000. It means that our model is highly significant in predicting the estimated variable.

Conclusion

Microfinance is considered as a useful strategy for poverty alleviation and it is in operation around the world. This study investigated the impact of microfinance on standard of living of poor people of Malakand Pakistan. The overall results show a moderate significant positive relationship among the quality of life and the independent variables. The most significant variable in our analysis is the business processes improvement after obtaining microfinance. Microfinance has significant positive impact on business process and business process improvement has positive impact on quality of life. Educational level and net increase in income also show positive significant impact on quality of life after availing microfinance. Four variables age of the respondents, their marital status, number of times received microfinance funds and net increase in expenditures on food and clothing were found to have negative significant impact on quality of life. Our results are consistent with majority of studies conducted within Pakistan and abroad. However the findings show contradiction with some studies.

From the findings it can be concluded that microfinance institutions in the region play a vital role in improving the standard of living of poor people. They can further improve the quality of life of the poor people by providing other non-financial services such as business training, supervision on loan utilization, conducting awareness programs among the people, etc.

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