

Return on Investment in Microenterprises: Experience of the Borrowers of Pakistan Poverty Alleviation Fund (PPAF)

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Abstract

The paper estimates the return on investment in microenterprises by using the data collected by Pakistan Poverty Alleviation Fund (PPAF). The paper finds that in general borrowers remained successful in earning a net weighted average rate of return from 4.05 percent to 4.93 percent per month (or an un compounded weighted average rate of 48.56 percent to 59.20 percent per year) across various businesses. Female borrowers earned higher return than male borrowers. There was also significant number of investors which suffered from losses. The paper also finds return to investment across various regions of the country. The highest rate of return was in the province of Baluchistan. It may be noted that small enterprises are almost neglected by the public sector. The findings of this study provide strong foundations to draw attention of public policy makers.

I. Introduction

The system of microfinance has been designed to give low income communities quick and easy access to socio-economic services, providing opportunities for self employment and, thus uplifting them out of poverty. The non-availability of the funds to the poor masses is considered as one of the major constraints for getting beneficial opportunities. If the funds are made available to them, then it is expected that the poor can change their destiny. Many scholars (see for example Ahmed, 2004) have quoted from Adam Smith in support of such expectations. “Money, says the proverb, makes money, when you have got a little, it is often easy to get more. The great difficulty is to get that little”.

The microfinance institutions have been growing rapidly in the developing countries especially after the experience of the Grameen Bank in Bangladesh. The most recent entrants to the microfinance industry are commercial banks. This modality includes many variants: transformed microfinance NGOs, government owned development banks, reformed state banks and diversification into

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microfinance by existing commercial banks. The Khushhali Bank and Kasab Bank in Pakistan are extraordinary examples of newly-established retail commercial banks; specialized in micro-finance and small business. The transformation of NGOs into commercial banks is still a relatively new phenomenon. However, they seem to be performing well in terms of profits and in expanding the scale of their operations significantly (Fernando, 2004). There are several examples of commercial banks diversifying into microfinance, either directly or through partnerships with NGOs. Even big multinational banks such as ABN Amro, Citibank and Deutsche Bank are now involved in microfinance (Montgomery and Weiss, 2005). Moreover, big financial institutions, such as World Bank and the European Bank for Reconstruction and Development, are also helping and backing the microfinance industry (The Economist, 2007).

Just like other developing countries, microfinance institutions (MFIs) have been growing very rapidly in Pakistan. More than 18 different institutions are working for uplifting the poor masses. These include micro finance banks and commercial banks with microfinance as separate product line; institutions specialized in rural support programs, such as NRSP and PRSPs, and private NGOs. Moreover, special unit, Pakistan Poverty Alleviation Fund (PPAF), has been established in 2000 for development support to civil society organizations in the country. By the year 2008, PPAF has emerged as the major financier of microfinance market. The PPAF has disbursed Rs.34 billion through 73 partner organizations under its four regular windows i.e. lending for microcredit/enterprise (almost Rs.26 billion), development of infrastructure (Rs.5.5 billion), health and education (Rs.312 million), and human and institutional development (Rs.2.4 billion). The PPAF has cumulatively financed over 2.3 million loans, 16,450 infrastructure schemes, 180 health and education facilities and over 8,850 training events for participating communities and staff of partner organizations. The PPAF is playing a significant role of developing financial market and whole sale financier for the sector. Up to June 2008, PPAF had a market share of 55 percent. (For details see: PPAF, annual report, 2008).

Several aspects of microfinance and microenterprises have been addressed in the literature. Few empirical studies have quantified the impact of microfinance on poverty, some have focused on the relation between microfinance and socio-economic indicators, few other concentrated on the sustainability and profitability, and few others estimated the return to capital invested in the micro enterprises (see review of literature). However, estimates of return to capital in micro enterprises for Pakistan are not available so far. Therefore purpose of the paper is to provide estimates of return on investment in microenterprises in Pakistan. The rest of the paper is organized as follow: section II contains the review of relevant literature on the subject. Section III provides details of the data used and methodology employed in the paper, section IV describes empirical results and findings while section V concludes the paper.

II. Review of the Relevant Literature

A lot has been written regarding various aspects of microfinance and micro enterprises especially after the establishment and the experience of the Grameen Bank in Bangladesh. Few empirical studies have quantified the impact of microfinance on poverty, some have focused on the relation between microfinance and socio-economic indicators, few concentrated on the sustainability (see Baumann, 2004) and profitability, and few others estimated the return to capital invested in the microenterprises.

Hulme and Mosley (1996), for instance, based on the counterfactual combined approach, analyzed the impact of microfinance on poverty alleviation using sample data for Indonesia, India, Bangladesh and Sri Lanka, and found that growth of income of borrowers always exceeds that of control group and that increase in borrower's income was larger for better-off borrowers. Similarly Mknelly et al. (1996), found positive benefits for the borrowers. Khandker (1998), based on double difference comparison between eligible and ineligible households, and between program and control villages, focusing on Grameen Bank, Bangladesh and Bangladesh Rural Advancement Committee (BRAC), found that microcredit alleviated poverty up to 5 percent annually. Furthermore, it was found, that a loan of 100 taka to a female borrower, after it is repaid, allows a net consumption increase of 18 taka. For Thailand village banks, Coleman (1999), using the same approach as that of Khandker (1998), found no evidence of any impact of microfinance. Another study by Coleman (2004), found that programs are not reaching the poor as much as they reach relatively wealthy people. Khandker (2003), found that microfinance helps to reduce extreme poverty much more than moderate poverty i.e. 18 percentage points as compared with 8.5 percentage points over seven years. Welfare impact is also positive for all households, including non-participants, as there were spillover effects.

Mosley (2001), using data from Latin American countries, found a positive growth of income and assets of the borrowers than control group. The growth of income of the better-off borrowers was larger. However, he could not find any evidence of impact of microfinance on extreme poverty. Banegas et al. (2002), employing Logit model, found positive impact on the income of borrowers. Gallup Pakistan (2005), using Counterfactual "Combined approach" found positive impact of PPAF microfinance on the consumption, income and assets of the borrowers. Shirazi (forthcoming) employed Counter-factual "Combined approach" and found that Micro credit has reduced the poverty level of the borrowers by 3.05 percentage points on average in Pakistan during 2003/4- 2004/5.

Few studies have focused on the impact of microcredit on employment and increase in income and expenditure of the borrowers in Bangladesh, which have been summarized in Rahman (2004). Results of these studies show that income of the recipients of micro credit has increased in the range of 8-40 percent. Micro credit has been successful in creating a positive impact on the employment. Further more,

studies show that microcredit has positively contributed in the social investment, school enrolment, social empowerment, girls schooling and women's non land asset. Some studies (Choudhury and Bhuiya, 2001; Marcus, et al. 1999; Barnes et al. 2001; Chen and Snodgrass, 2001) have identified significantly positive effects of microfinance on the human resource development among the participants in various countries. Similarly Naveed (1994), Amin et al. (1994) and Hashemi et al. (1996) found positive impact of microfinance on the women empowerment and welfare. Many studies have been made on Grameen Bank from different perspectives. Studies conclude that Grameen Bank's members have been better off in terms of wide range of economic and social indicators including increased income, improved nutrition, better food intake, better consumption of clothing, better housing, lower child mortality, lower birth rate, higher adoption of family-planning practices, better health care, better access to education for the children, empowerment of women participation in social and political activities (Yunus, 2004). Literature also highlight the beneficial role of microfinance for the poor by smoothing their consumption expenditure, increasing income and savings and diversify their income sources (see Dichter, 1999; Panjaitan et al. 1999; Remenyi and Quinones Jr., 2000; Mustafa, 1996; Morduch, 1998; Khandker, 2003; McKerman, 2002 and Simonwtz, 2002).

Although, the main objective of the microfinance is to make the funds available for investment in microenterprises and, thus uplift the poor people from poverty and promote growth. But Dichter (2007) casts doubt and says that "recent experience and the economic history of rich countries, however, suggest that these expectations are unrealistic. Most people, poor or otherwise, are not entrepreneurs, so there is little reason to think that mass credit would in general lead to viable business start-ups." Despite the above doubts, some studies have quantified the return on investment in micro enterprises and provided the successful evidences. Cynthia (2002) compared three groups: low-income microentrepreneurs who participated in one of seven U.S. microenterprise assistant programs, low income self-employed workers not attached to microenterprise assistance program, and low income wage workers not self-employed. His analyses suggest no significant gain for participants. Return from investment depends upon number of factors. The type of the enterprise in which investment is made also matters. Hossain (1984) reports that except few investment activities, returns to labor from many activities are high. The same view has been expressed by others also (see Rahman and Khandker, 1994). Moreover, Rahman (2004) concluded that the skill intensive activities give higher return and that the rural wage rates per hour for male workers were in the range of 4.8 to 5.5 Taka. He considers micro financed activities beneficial if these are not taken up at the cost of other activities with higher returns.

The studies reviewed by Suresh De Mel et al. (2008) reported positive return to capital in small scale enterprise. For example, McKenzie and Woodruff (2006) find 15 percent return to capital per month (or a simple rate of 180 percent per year) among the smallest urban microenterprises (having less than \$200 investment) in

Mexico. Udry and Anagol (2006) estimated return to capital and found a return of 50 percent per year in a sample of small-scale agriculture producers, producing traditional crops on a medium-sized plot, in Ghana, while it was 250 percent per year for producers of non traditional crops. Suresh et al. (2008) used randomized grants to generate shocks to capital stock for Sri Lankan microenterprises and found the average real return to capital in the range of 4.6 percent to 5.3 percent. Furthermore, return varied with entrepreneurial ability and household wealth but risk aversion and uncertainty did not affect the return. However, they found significantly higher return for the enterprises owned by male and no positive return for the enterprises owned by female.

The general picture that emerges from the above reviewed literature is that opinion differs on the real impact of microfinance. Very few studies are available which have analyzed the return to capital in microenterprises. Most of the studies are related with the developing countries and specially Bangladesh. So far, there is hardly any study which focused on the return to capital in microenterprises in Pakistan. Therefore, this paper is devoted to fill this gap in literature.

III. Methodology and Data

1. The Data

The PPAF programs are rigorously evaluated. The PPAF unit conducts surveys using its own research department or commissions other agencies for the purpose of evaluating the effectiveness of its programs. The Gallup Pakistan was commissioned by the PPAF to conduct a survey, of a sample of more than 3000 households covering all provinces of the country. The survey covered more than 1500 borrowers' households and about the same household as control group. In addition to other questions, borrowers were asked to summarize the profit earned, in monetary terms, on the amount of funds they borrowed. For this paper we have used the data collected by Gallup for PPAF.

2. Methodology

The estimation of the rate of returns on investment in microenterprises is very complicated. Most of the time household based enterprises do not keep the complete record of expenditures and revenues and thus makes the estimation difficult. Literature provides a number of ways to find out the net rate of return on particular investment (e.g. see De Mell et al. 2008). However, we are constrained by the available data. Keeping in view the available data we have calculated descriptive statistics i.e. the average rate of return, weighted average rate of return on invested capital after deducting the cost of capital. The cost of borrowing is 20 percent on average as reported in the Gallup survey.

IV. Empirical Findings

The overall rate of return (ROI) is depicted in table 1; Column 1 through column 3 of the table shows the range of return, average ROI and cost of capital, respectively. The net ROI, number and the percentage of borrowers are shown in the subsequent columns- 4 to 6. The last column of the table presents the calculation for the weighted average ROI.

After deducting cost of capital, about 21 percent of the borrowers experienced losses in their businesses. About 7 percent of the borrowers experienced 20 percent losses and 14 percent experienced on average 9.5 percent. Most of them may be the core poor and they might have taken loans for the purpose of smoothing their consumption rather for investment. The remaining borrowers were greatly benefited from the invested capital. About 20 percent of the borrowers earned ROI on average 15.5 percent, about 29 percent earned 55.5 percent and about 30 percent of the borrowers earned on average 81 percent. The weighted average rate of return for

Table: 1. Overall Rate of Return on Invested Capital

ROI	Average ROI (%)	Average Cost of Capital (%)	Net Average ROI (%)	Number of Borrowers*		Weighted Average ROI [sum(col 4 * col 6)/100]	
				5 Count	6 Percentage	7	
Nil	-	20	-20	109	7.13	-142.6	
1 to 20%	10.5	20	-9.5	214	14.0	-133.05	
21 to 50%	35.5	20	15.5	309	20.22	313.44	
51 to 100%	75.5	20	55.5	440	28.80	1598.16	
101and above	101**	20	81.0	456	29.85	2417.27	
Total				1528	100.0	4328.89	4053.17
Weighted Average						54.89@ (4.57 p/month)	40.53 @ (3.38 p/month)

*the borrowers (35 in this case) who did not respond have been excluded from the analysis. Similarly borrowers who did not respond are also excluded from the analysis of the subsequent tables. ** Since upper limit is not known, therefore the lower limit is taken as the average rate of return. @ Weighted average is calculated on the basis of those borrowers who earned positive return, while the figures on the right hand side of the same column show weighted average ROI for all borrowers (irrespective of positive profits or negative return).

all those borrowers who earned positive profits, found to be 4.57 percent per month or an un compounded rate of 54.89 percent per annum.² Similarly, analysis has been extended by type of enterprises, region and gender. The following tables indicate results by types of enterprises.

1. Results by Types of Enterprise

The table 2 reveals that about 88 percent in the off farm enterprises, 76 percent in the livestock and about 73 percent in the agriculture sector were benefitted greatly from the borrowed capital. They earned on average ROI from 15.5 percent to 81 percent in different enterprises. However, about 27 percent of the borrowers were found to be the looser in the agriculture sector, followed by 24 percent in the livestock and about 12 percent of the borrowers in off farm enterprises. About 11 percent of these borrowers in the off farm enterprise had experienced 9.5 percent of the losses while 1.45 percent of the borrowers had to pay the cost of capital (on average 20 percent) which was their total loss. Similarly, about 17 percent of the borrowers in the livestock business and about 21 percent of the borrowers in the agriculture faced 9.5 percent of the losses, while about 6 percent in both enterprises had experienced 20 percent losses.

Table: 2. ROI by Types of Enterprises

ROI	Average ROI	Average Cost of capital	Net ROI	Enterprise (off farm)	Livestock	Agriculture
				Borrowers (%)	Borrowers (%)	Borrowers (%)
Nil	-	20	-20	1.45	6.33	6.25
1 to 20%	10.5	20	-9.5	10.54	17.41	20.55
21 to 50%	35.5	20	15.5	17.58	24.27	25.49
51 to 100%	75.5	20	55.5	30.06	29.55	27.63
101 and above	101	20	81.0	40.36	22.42	20.06
Total*				100.0 (825)	100.0 (758)	100.0 (608)
Weighted Average** (borrowers who earned positive profit)				59.20 (4.93)	50.27 (4.19)	48.56 (4.05)
Weighted Average** (All borrowers who earned positive profit or made losses)				50.80 (4.23)	35.41 (2.95)	32.34 (2.69)

ROI, Rate of return on investment, * Number of borrowers is shown in parentheses. ** Figures in parentheses indicate return per month.

² If we take the weighted average of all the borrowers who earned profit or loss on their capital then the weighted average rate of return comes to 3.38 percent per month or a simple rate of 40.53 percent per year.

The weighted average rate of return was higher (4.93 percent per month or an uncompounded weighted average rate of 59.20 percent per year)³ for the borrowers in the enterprise sector, followed by livestock (weighted average of 4.19 percent per month or simple weighted average rate of 50.27 per year) and agriculture sector (weighted average of 4.04 per month or uncompounded weighted average rate of 48.56 per year). These results show that investment in off farm enterprises provided greater return than other enterprises.

2. ROI by Regions / Provinces

Results by provinces are shown in table 3. Table shows that majority of the borrowers (about 85 percent) in both the provinces of NWFP and Baluchistan earned return on average in the range of 15.5 percent to 81 percent, while about 15 percent of the borrowers in both the provinces experienced losses (on average from 9.5 percent to 20 percent) in their respective businesses. About 78 percent of the borrowers from Punjab and about 72 percent of the borrowers in case of Sindh benefitted, while the remaining borrowers made losses. The losses made by them were on average 9.5 percent to 20 percent.

Table: 3. ROI by Provinces

ROI	Average ROI (%)	Average cost of capital (%)	Net Average ROI (%)	% of Borrowers 'NWFP'	% of Borrowers 'Sindh'	% of Borrowers 'Baluchistan'	% of Borrowers 'Punjab'
1	2	3	4	5	6	7	8
Nil	-	20	-20	1.49	21.28	2.06	2.85
1 to 20%	10.5	20	-9.5	13.73	7.17	13.63	19.07
21 to 50%	35.5	20	15.5	20.59	17.69	15.70	23.70
51 to 100%	75.5	20	55.5	25.97	33.84	30.57	26.20
101 and above	101	20	81.0	38.20	20.0	38.01	28.16
Total*				100.0 (335)	100.0 (390)	100.0 (242)	100.0 (561)
Weighted ⁴ Average** (borrowers who earned positive profit)				57.27 (4.77)	52.74 (4.39)	59.55 (4.96)	52.55 (4.38)
Weighted Average** (All borrowers who earned positive profit or made losses)				46.95 (3.91)	32.79 (2.73)	48.49 (4.04)	38.65 (3.22)

* Number of borrowers is shown in parentheses and ** Figures in parentheses indicate return per month.

³ The weighted average rate of return comes out to be in the range of 2.69 percent to 4.23 percent per month across enterprises if all borrowers who made profits or losses were included in computation.

⁴ If we include all borrowers who made profits or losses then weighted average ROI comes out to 4.04 percent per month for Baluchistan, 3.91 percent for NWFP, 2.73 percent for Sindh and 3.22 percent per month for Punjab.

The weighted average rate of return on investment was found to be the highest (4.96 percent per month or an un compounded weighted average rate of 59.55 percent per year) in the province of Baluchistan, followed by NWFP (4.77 percent per month or an un compounded weighted average rate of 57.27 percent per year). The borrowers from Punjab earned a weighted average rate of 4.38 percent per month or a simple weighted average rate of 52.55 percent per year. The borrowers from province of Sindh earned a weighted average rate of 4.39 percent per month or an un compounded weighted average rate of 47.09 percent per year.

3. ROI by Gender

The table 4 reveals that about 80 percent of the female borrowers and about 78 percent of the male borrowers earned on average rate of 15.5 percent to 81 percent return on their invested loans. Nevertheless, about 20 percent of the female and about 22 percent of the male borrowers could not earn profit but made losses. About 14 percent of the male and female borrowers had experienced 9.5 percent of the losses while the remaining 7.55 percent of the male and 6.14 percent of the female borrowers had experienced, on average, 20 percent loss.

Table: 4. ROI by Gender

ROI	Average ROI (%)	Average cost of capital (%)	Net Average ROI (%)	% of Male	% of Female
1	2	3	4	5	6
Nil	-	20	-20	7.55	6.14
1 to 20%	10.5	20	-9.5	14.08	13.81
21 to 50%	35.5	20	15.5	22.57	14.69
51 to 00%	75.5	20	55.5	28.54	29.38
101 and above	101	20	81.0	27.23	35.96
Total*				100.0 (1072)	100.0 (456)
Weighted Average** (borrowers who earned positive profit)				52.84 (4.40)	59.62 (4.97)
Weighted Average** (including all borrowers who earned positive profit or made losses)				38.56 (3.21)	45.18 (3.76)

The above table also shows that female borrowers proved to be more successful entrepreneurs than male borrowers. The female borrowers earned return at weighted average rate of 4.97 percent⁵ per month or an un compounded weighted average rate of 59.62 percent per year compared to their male counterparts who earned at

⁵ The weighted average ROI comes out to be 3.76 percent per month for female borrowers and 3.21 percent for the male borrowers including all borrowers irrespective they earned profits or made losses.

weighted average rate of 4.40 percent per month or uncompounded weighted average rate of 52.84 percent per year.

Keeping in view the above analysis, it can be concluded that PPAF's loans through partner organizations and NGOs had greatly benefited the borrowers. They earned high return in their investment. The female borrowers experienced higher return compared to their male counterparts. Among the provinces, majority form NWFP and Baluchistan experienced high return compared to the two other provinces. Similarly, borrowers who invested in off farm enterprises earned high margin of return, followed by the investors in the livestock and agriculture sector. Our results are consistent with findings of other investigators who reported almost the same range of ROI as that of our findings regarding PPAF lending.

V. Conclusions

Microfinance institutions (MFIs) have been growing very rapidly in Pakistan. More than 18 different institutions are working for uplifting the poor masses by providing microfinance for small businesses. A special unit, Pakistan Poverty Alleviation Fund (PPAF) has been established in 2000 for development support to civil society organizations in the country. By now, PPAF has emerged as the major financier of microfinance market. The PPAF is playing an important role of developing financial market and whole sale financier for the sector. Up to June 2008, PPAF had a market share of 55 percent.

Our analysis shows that overall about 79 percent of the borrowers earned profit on an average per year of 15% to 81 percent. The weighted average rate of return found to be 4.57 percent per month or an uncompounded rate of 54.89 percent per annum. Female borrowers experienced higher return compared to their male counterparts. The borrowers who invested in off farm enterprises earned higher return (weighted average rate of 4.93 percent per month or simple rate of 59.20 percent per year) than the investors in the livestock (weighted average rate of 4.19 percent per month or 50.27 percent per year) and agriculture sector (weighted average rate of 4.05 percent per month or 48.56 percent per year).

The weighted average rate of return on investment was higher (4.96 percent per month or a simple rate of 59.55 percent per year) in the province of Baluchistan, followed by NWFP (4.77 percent per month or an uncompounded rate of 57.27 percent per year). The borrowers from Punjab earned a weighted average rate of 4.38 percent per month or a simple weighted average rate of 52.55 percent per year. The borrowers from province of Sindh earned a weighted average rate of 4.39 percent per month or an uncompounded weighted average rate of 52.74 percent per year.

In general borrowers become successful in earning a good rate of return on their investment that varied from 4.05 to 4.39 percent per month across various businesses. If we take the weighted average of all those borrowers who earned profits or made losses in the analysis, then the weighted average rate of return comes out to

2.69 percent per month to 4.23 per month across the various enterprises. Female proved themselves better entrepreneurs than male in terms of earning profits.

Keeping in view these findings, we would suggest that all microfinance institutions including NGOs and participatory organizations of the PPAF might also target the core poor of the society. It may be noted that now PPAF has expanded its coverage through its participatory organizations. It has been providing financial and non- financial services to the society, which needs a detailed study taking into account all aspects of PPAF in lending through its participatory organizations. In addition to this apex, a detailed analysis is needed for all other institutions working for uplifting of the society.

The study provides strong foundations to support micro enterprises, which could help to bring out the country from poverty and generate jobs at lowest possible investment. There is a little room in the public policies and development plans to support small enterprises, even, major financial institutes also do not like to lend to these enterprises. There is a need to shift and focus attention to support micro enterprises for up lifting the poor segment of the society.

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