

Replicating Microfinance in the United States:

A Cost-Benefit Analysis.

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1. Introduction

Can the success of microfinance in developing countries be replicated inside the United States? In this paper I examine the question of whether or not microfinance is to be used as a poverty alleviation tool in the United States from a cost-benefit perspective.

Although there has been research done on the costs and benefits of microfinance in the United States, the literature does not offer significant evidence to support or not support the hypothesis that microfinance can be used as a sustainable poverty alleviation tool. I use data from 200 microfinance institutions and 200,000 small entrepreneurs to analyze a present value determination of costs and benefits. Additionally, this paper adds to some of the previous literature by using a cost-benefit analysis to determine the feasibility of pursuing microfinance initiatives as public policy tools for poverty alleviation in the U.S.

This paper is divided into 7 sections. The second section explains the economic framework behind the success of microfinance and the third section is a literature review of the overall performance of microfinance in the U.S. The fourth and fifth sections provide empirical evidence on the costs and benefits of microfinance and finally, the seventh section, provides a conclusion on the cost-benefit analysis of microfinance.

2. Economic Framework: Microfinance

The theoretical characteristics of microfinance are necessary to understand how it has become a successful business model as well as a poverty alleviation tool in developing countries. Later on, this will allow us to understand some of the reasons why microfinance cannot be sustainable in the United States.

2.1 Principle of Diminishing Marginal Returns: This principle tells us that enterprises with relatively little capital should be able to earn higher returns on their investments than enterprises with a great deal of capital. Microfinance has created a market where capital

flows from rich depositors to poor entrepreneurs because of high interest rates on loans, high repayment rates and higher marginal returns on investment for poor entrepreneurs relative to rich entrepreneurs.

2.1 Risk and Agency Problems: Adverse Selection and Moral Hazard are problems that arise due to a bank's inability to determine an accurate risk assessment of their clients and due to the inability to accurately predict the probability of success in any given investment. These information problems create inefficiencies that the microfinance movement has managed to solve by reducing transaction costs with borrowers and overcoming information problems by getting to know intimately their clients.

2.3 Group lending: Microenterprises have managed to maintain very high repayment rates and very low defaulting on loans through the use of group lending. Group members are expected to support the other members when financial difficulties arise. If one group member defaults and fellow group members do not pay off the debt, all in the group are denied subsequent loans. This feature gives customers important incentives to repay promptly, to monitor their neighbors, and to select responsible partners when forming groups. This "joint liability" condition takes advantage of informal relationships between neighbors, friends and families in communities to ensure high rates of repayment.

2.4 Subsidies: Microfinance has presented itself as a market based strategy for poverty reduction, independent of the lavish subsidies that many poverty alleviation programs have in developing countries. Institutions are initially financed to cover initial costs, but soon recover these costs and continue to make a profit thanks to the high repayment and interest rates that are common in the market. These high interest and repayment rates have allowed sustainability to develop for many institutions and genuinely reflect how costly it is for moneylenders to acquire capital, to transact business, monitor clients and accommodate risk.

2.5 Competition and Incentives: The immediate problem with competition is that it undermines the dynamic incentives of receiving a loan. If borrowers take multiple loans (simultaneously from different lenders), they can become over indebted, paying one lender's installments by taking a loan from another, leading to a spiral of debt and too often, financial peril. As long as borrowers believe that they have multiple options out of poverty, no single lender will have the power to clamp down and maintain full discipline on loans and repayment rates.

3. Literature Review: Microfinance in the United States

Very generally, the literature seems to focus on many characteristics of the U.S microfinance market that have held up its success inside the country. More specifically, the literature focuses on the ways in which the U.S economy places little incentives and often difficulties self-employment.

Schreiner (2001) and Tang (2001) have argued that the small size of the microenterprise sector has made it hard for large scale intervention in poor communities, and Bates (1997), has found that only 11 percent of all full time employed men are self employed. These authors also argue that working poor in the U.S usually turn to wage jobs because self employment means longer hours, more risk, and less pay, specially for women, hence increasing the risk of microfinance compared to a non-self employed job.

Additionally, the availability of welfare and anti poverty programs in the U.S have not only made the pull into self-employment weaker in the United States, but have also made the push into being part of microfinancing weaker. This safety net, like the abundance of wage jobs, places a limit on the reservation wage of potential microentrepreneurs and therefore the size of the microenterprise smaller.

Clark (1996) and Murdoch (2001) have argued that in the United States microfinance initiatives have had to compete against large factories, chains of restaurants

and retailers who have made their shift to self employment even harder. Due to fierce competition and lower prices these initiatives have had difficulty-diluting overhead costs enough to compete against chains and a whole range of imported goods. Additionally, microfinance institutions have found fierce competition from commercial lenders; for example, microlenders in the United States compete mainly against the credit card. The poor in the United States have a greater access to other forms of formal finance than do the poor in the third world and because credit is readily available, the interest rates that microfinance programs can charge are lower compared to the developing world programs. Fierce competition has reflected primarily on less people borrowing money from microlenders and secondly, on lower interest rates reducing the ability of banks to achieve sustainability.

Bhatt and Tang (2001) found that the poor in the United States are less worried about being loyal to local leaders and about maintaining friendship and family ties (this again can be related to the availability of opportunities ranging from more social welfare programs to more opportunities of securing credit and loans). They also argue that the poor in the United States are generally located in urban neighborhoods where populations are highly mobile and where individuals often have little information about each other. In such environments group lending can no longer overcome adverse selection, and it no longer leads to assortive matching, instead, it typically involves mixed pairs of safe and risky borrowers. In other words, the literature argues that the poor in the United States lack the social characteristics that have made group lending a successful and essential part of the generalized microfinance model in developing countries.

According to Dennis (1998) and Schreiner (2001) regulating constraints have affected both microfinance lenders and microentrepreneurs in the United States. They find that for small business owners in the United States the chief regulatory constraints

concern taxes, licenses, and welfare rules. Apart from regulations regarding business accounting, U.S zoning laws preclude some types of home-based firms, and child labor laws limit the use of children in business. Additionally, licenses are required for three of the most common types of microenterprise run by women in the United States: food service, childcare, and beauty salons. These licenses protect the public, but the entry costs into small business created by regulatory constraints present difficulties for many entrepreneurs wishing to become self-employed.

Finally, although previous literature has done a thorough analysis of how microfinance has developed in the United States, it has mainly focused on the characteristics that have hindered its development inside the country. Additionally, the literature does not provide empirical evidence to support or go against the hypothesis that microfinance could be a useful poverty alleviation tool in the United States and therefore has only left us with raw data and a qualitative analysis on the costs and some of the benefits that microfinance has left in the country.

4. Empirical Evidence: Benefits of Microfinance in the U.S

The benefits of microfinance in the United States can be regarded as direct and indirect benefits to society. The direct benefits are accrued to the poor entrepreneurs who embark on small business projects while indirect benefits are spillovers onto society. In this section I use data gathered by several researchers to make assumptions about the benefits that microfinance has had in the United States. I also assume that these benefits accrue to 200,000 individuals that have worked with over 200 microfinance institutions in the United States over the last thirteen years.

4.1 Income Gains from Microfinance: In a survey of 405 microentrepreneurs Bhatt and Yang (1996) found that 72% of the microentrepreneur's households increased their income by \$8484 after being involved only one year in microfinancing activities. Income

gains are regarded as direct benefits because a household can increase savings or increase expenditure towards ways in which it will maximize its utility.

4.2 Increasing the Tax Base with Microfinance: I also assumed that increases in household income would lead to increases in the tax base for the different counties in which these entrepreneurs are located. Using information from the U.S Census Bureau I will assume that Microfinance institutions helped 144,000 individuals (72% of 200,000 who saw increases in household incomes) belonging to the 20% bottom household incomes with an average annual income of \$19,178 plus the increase in household income of \$8484. Assuming that all these individuals are married and paying taxes jointly, these households will be paying an average tax rate of 12.27% or \$3,394.30.

4.3 Reducing Dependency on Welfare Programs: Microfinance in the United States does not only reflect on the poor population moving out of poverty, but also reflects on the fact that they are transformed into independent individuals in society. To measure the benefits of reducing dependency, I have calculated the reduction in costs to the government of not offering welfare to 200,000 individuals. More specifically, I have used the Minnesota Family Investment Program that has added about \$2,000 per year to government costs per family to calculate the reduction in costs of supplying MFIP to 200,000 individuals across the United States.¹

4.4 Increases in Employment in Urban Neighborhoods: By creating small businesses such as coffee shops, small landscaping enterprises or small service businesses microfinance offers the opportunity to reduce unemployment by employing low skilled individuals. In my analysis I assume that each of the 200,000 individuals is successfully running a small business, they hire on average 2 workers and therefore reduce unemployment and dependence on unemployment welfare programs for 400,000 people.

¹ <http://www.mdrc.org/publications/27/summary.html>

Using information from the Minnesota Insurance Unemployment Program I assume that these 400,000 people stop receiving unemployment insurance and that they had no weekly earnings before they were hired by the small business. I will also assume that these individuals receive the maximum unemployment insurance of \$351 for 48 weeks out of the 52 that they are eligible for receiving unemployment insurance.

4.5 High Repayment Rates: According to Bhatt and Tang (2001), the most successful microfinance institutions in the United States experience repayment rates of 95% while the least successful ones only experience repayment rates of 50%. Additionally, these researchers also find that for 189 U.S microfinance programs the individual lending interest rate had a mean of 10.53%. Hence the benefits of high repayment rates are calculated by assuming a repayment rate of 72.5% (average between the highest and the lowest), with an average loan of \$3,378 (Klein, Clark 1996) at an interest rate of 10.53% for 200,000 individuals.

4.6 Benefits of Reducing Discrimination: Finally, the benefits of reducing the gender and race income gap are crucial in a benefit-cost analysis of Microfinance. Klein and Clark (1996) find that, on average, microfinance programs in the U.S had 73% of women as clients, 60% of clients as part of a minority ethnic or racial group and 43% of clients were household incomes below the poverty level. Armendariz and Murdoch (2005) have found, as well as many other microfinance institutions, that women have a greater tendency to repay their loans on time and to do better use of a loan. Hence, microfinancing has also served as tool for women empowerment because loans are less risky with women, more likely to be profitable and paid on time and household income is more likely to grow when in the hands of a responsible family figure that puts the money in good use. Unfortunately, the literature did not offer ways in which these benefits could be monetized without double counting an increase in household income. Hence,

although these benefits are crucial to microfinance they will not be part of my benefit-cost analysis because of double counting.

5. Measuring the Costs of Microfinance in the U.S

The costs of microfinance in the United States can be regarded as direct and indirect costs to society. The direct costs are accrued to the microenterprises that provided services for the poor business projects while indirect costs are spillovers onto society. How costly is it to society that poor obtain loans for small enterprises? In this section I will use data gathered by several researchers to make assumptions about the direct and indirect costs that microfinance has had in the United States. When taking into account these costs for my cost-benefit analysis I will assume that they accrue to 200,000 individuals that have worked with over 200 microfinance institutions in the United States over the last thirteen years.

5.1 Average Cost per Client Served: Klein and Clark (1996) find that the average cost per client served in 1994 was of \$1707. This cost takes into account employment training, time spent with clients, managing his/her loans and following up on the growth of a clients business

5.2 Average Cost per Job Created: Klein and Clark (1996) have found that the average cost per job created or retained was \$5813 in 1994. This cost takes into account training costs for longer training for people with lower skill levels, administrative costs for staff to work with local welfare offices, and additional costs in outreach and supportive services.

5.3 Average Cost per Assisted Business: One of the duties of Microfinance institutions is to help small businesses and entrepreneurs experience a successful business experience. This works by keeping their savings, advising them on where and how to do successful investments and finally keeping a close track on how the business is running and where it

is headed. Klein and Clark (1996) have found that on average cost per assisted business was \$3,018 in 1994.

5.4 Defaulting on Loans: One of the main characteristics about microfinance is that institutions do not ask for collateral when giving a loan. Hence, if a borrower defaults on a loan, the amount of the loan is lost on the borrower since the institution has no legal grounds for asking for repayment and has no collateral to claim for the defaulted loan. As I mentioned in my benefits section I will assume that microfinance institutions have a repayment rate of 72.5% (average between the highest and the lowest), that is, individuals default on a loan 27.5% percent of the time. With an average loan size of \$3378 I will assume that 27.5% of 200,000 individuals (55,000 individuals) default on their loans. The loans are then considered as sunk costs since they cannot be recovered to any significant degree.

5.5 Subsidizing and the Opportunity Cost of Microfinance: Schreiner and Murdoch (2001) argue that subsidies to microfinance institutions by the United States governments are primarily given and used for employment training, and to aide the growth of a clients business. They additionally argue that the U.S government does not subsidize loans to clients, but subsidizes their training and the growth of their business. Because the money the U.S government spends on microfinance could be used to serve different purposes such as community development, financing education or programs to keep teenagers away from drugs and poverty, its financing can be regarded as the opportunity cost of supporting other programs. Klein and Clark (1996) find that the cost of subsidizing this sort of training is \$1707 per client. Hence, in my analysis, the real present value of this quantity will be regarded as the opportunity cost of microfinance.

6. Results: Cost-Benefit Analysis of Microfinance

In my analysis, cost and benefit estimates have been adjusted to account for the fact that the value of a dollar is not constant over time. First, I have made a present value determination, which accounts for the opportunity cost of money and second; I have made an inflation correction, which adjusts for changes in the general price level from 1994 to 2007. In the analysis of costs and benefits I have assumed a long-term annual inflation average rate of 3.43% calculated by inflationdata.com. Additionally, I have used a real annual discount rate (r) of 10%, which is what the World Bank and public policy makers in the United States use as the social discount rate for microfinance programs. I have used nominal values of benefits and costs, taken into account the 3.43 percent inflation rate since 1994 until 2007 and corrected for the price effect and deflated them to 1994 dollars. I decided to correct for the price effect and deflate to 1994 dollars since most of the empirical evidence and literature review used data from that year. Hence, the monetized quantities in my cost-benefit analysis are the total present value in real terms of costs and benefits.

Table 1

Year	Present Value of Benefits Real Terms				
	Income Gains(\$)	Increasing Tax Base (\$)	Reducing Dependency (\$)	Increasing Employment (\$)	Repayment Rates (\$)
People Affected	(144,000)	(144,000)	(200,000)	(400,000)	(145,000)
1995	7456.953759	2983.396764	1757.886317	308.5090487	312.64307
1996	6554.238491	2622.236175	1545.082153	271.1619178	274.7954875
1997	5760.803083	2304.796547	1358.039388	238.3359125	241.5296138
1998	5063.418459	2025.785157	1193.639429	209.4837198	212.2908017
1999	4450.457014	1780.550005	1049.14121	184.1242824	186.5915478
2000	3911.698746	1565.002246	922.1354893	161.8347784	164.0033644
2001	3438.160852	1375.548017	810.5046798	142.2435713	144.1496352
2002	3021.947959	1209.028519	712.3875434	125.0240139	126.6993357
2003	2656.120485	1062.667346	626.1481577	109.8890017	111.3615143
2004	2334.578929	934.0241936	550.3486395	96.58618624	97.88044114
2005	2051.962178	820.9541751	483.7251717	84.89376762	86.03134411
2006	1803.558118	721.5720558	425.1669303	74.61679627	75.61666134
2007	1585.22507	634.220822	373.6975647	65.58392261	66.46274718
Total Present Value Real Terms	50089.12314	20039.78202	11807.90267	2072.286919	2100.055564
Total People Affect PVRT	7212833732	2885728611	2361580535	828914767.7	304508056.8

Total Present Value of Benefits in Real Terms (\$):

13,593,565,702.95

Table 2

Present Value of Costs Real terms					
Year (\$)	Avg Cost per Client (\$)	Avg Cost per Job (\$)	Avg Cost Per Business (\$)	Defaulting on Loans (\$)	Opporunity Cost of Microfinance (\$)
People Affected	(200,000)	(200,000)	(200,000)	(55,000)	(200,000)
1995	1500.355972	5109.296582	2652.650453	2969.06999	1500.355972
1996	1318.727617	4490.781277	2331.528968	2609.643756	1318.727617
1997	1159.086617	3947.14148	2049.281436	2293.728526	1159.086617
1998	1018.771253	3469.313001	1801.201899	2016.056996	1018.771253
1999	895.442023	3049.328928	1583.154086	1771.999504	895.442023
2000	787.0426401	2680.1868	1391.502453	1557.486841	787.0426401
2001	691.7657442	2355.731852	1223.051562	1368.942404	691.7657442
2002	608.0227683	2070.554395	1074.992803	1203.222561	608.0227683
2003	534.4174526	1819.89962	944.8575699	1057.564238	534.4174526
2004	469.7225639	1599.588321	830.4760971	929.5388522	469.7225639
2005	412.859434	1405.947211	729.941284	817.0118149	412.859434
2006	362.879975	1235.747683	641.5768979	718.1069453	362.879975
2007	318.9508715	1086.151972	563.9096252	631.1751869	318.9508715
Total Present Value Real Terms	10078.04493	34319.66912	17818.12513	19943.54762	10078.04493
Total People Affected PVRT	63790174.3	6863933824	3563625027	1096895119	2015608986

Total Present Value of Costs in Real Terms:

13,603,853,130.7765

The final phase of my benefit-cost analysis involves comparing the time-adjusted incremental benefits and costs and arriving at a decision based on their relative values. When determining feasibility I used two conditions, the first one is known as the *benefit cost ratio* and the second one is the *Present Value of Net Benefit (PVNB)*. With the benefit cost ratio, if a public policy option exceeds 1, it is counted among the feasible options; if not, it is rejected. The *PVNB* compares the differential between costs and benefits to zero. If the differential is greater than zero, the policy option is feasible; if not it is rejected.

Table 3

Determining Feasibility

Benefit Cost Ratio		
Condition	Ratio	Feasible?
$(PVB/PVC) > 1$	0.99925	No
Present Value Net Benefits		
Condition	PVNB	Feasible?
$(PVB - PVC) > 0$	-10,287,427.83	No

What both results communicate is that microfinance, in the United States, is not a feasible option - the costs of Microfinance *outweigh* the benefits. The numerical value of the ratio conveys that for every dollar of costs imposed on society there are only \$0.99 in

realized benefits. On the other hand, the differential between *PVB* and *PVC* measures the dollar value of *excess costs*, so it directly communicates a net loss to society. Overall, these results imply that the costs of microfinance in the United States are higher than the benefits, hence, making a decision to keep financing this movement in the U.S an unfeasible option.

7. Conclusion

The argument put forth by many policy makers and researchers that microenterprise development is essential for the eradication of poverty in the United States has been very popular in recent years. Many policy makers have advocated and lobbied for the support towards microfinance institutions in the U.S and the range of solutions that the movement offers to alleviate poverty.

However, as has been shown in this paper and by other empirical evidence, microfinance does not seem to be a feasible public policy solution to poverty in the U.S. As has been shown, microfinance has indeed increased the low-incomes of many individuals and families, as well as having many other indirect benefits towards society, however, the reality is that there are inherent difficulties associated with running successful microfinance institutions in the U.S. As talked about in previous sections, many programs have faced ineffectiveness when securing loan repayments, they have been forced to charge low interest rates and face fierce competition from other credit institutions that are willing to finance the poor.

The main problem with a cost-benefit analysis of microfinance is the inherent difficulty that exists to accurately measure and properly accrue values directly to costs and benefits. In my analysis I had problems finding the desired data that would have made my approach much more accurate. For example, it would have been optimal to

have the total amount of subsidies that the U.S government allocates to Microfinance in order to accurately calculate the opportunity cost of microfinance in the U.S.

Finally, this paper has supported the hypothesis put forward by previous empirical research and policy makers that microfinance is not feasible in the U.S. By using a cost benefit-analysis and doing the necessary adjustments to the available data, my results have shown that policy makers in the United States should allocate resources to development projects other than microfinance that can have a sustainable future for alleviating poverty.

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