Is Micro too Small? Microcredit *vs.* SME Finance

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Summary. — Microcredit and small and medium enterprise (SME) finance are often pitched as alternative strategies to create employment opportunities in low-income communities. So far, though, little is known about how employment patterns compare. We integrate evidence from three surveys to show that, compared to Bangladeshi microcredit customers, typical SME employees in Bangladesh have more education and professional skills, and live in households that are notably less poor. SME jobs also require long work weeks, clashing with family responsibilities. The evidence from Bangladesh rejects the idea that SME finance more efficiently creates jobs for the population currently served by microcredit.
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Key words — South Asia, Bangladesh, small and medium enterprises, microfinance, poverty

1. INTRODUCTION

The original promise of microcredit was to reduce poverty by fostering self-employment in low-income communities, an idea first promoted at mass scale in Bangladesh (Yunus, 1999). But critics of Muhammad Yunus and the Bangladesh microcredit model argue that supporting larger businesses (small and medium enterprises [SMEs]) may instead create more and better jobs for poor individuals (Dichter, 2006; Karnani, 2007). That is only possible, however, if those larger enterprises employ poor workers in large numbers. We argue that that cannot be assumed.

Most studies of SMEs implicitly or explicitly compare them to large firms (Beck & Demirgüç-Kunt, 2006). In this paper, we instead compare the employment and poverty outreach of SMEs to that of microenterprises. Because we're interested in jobs, our focus is not on the owners of SMEs, but on their employees. If it is true that SMEs create ample jobs for poor workers, there should be a robust correlation between SME growth and poverty reduction, but little correlation is found in cross-country data (Beck, Demirgüç-Kunt, & Levine, 2005). We use micro-data from Bangladesh to explore related issues.

There are surprisingly little data on the profile of microcredit borrowers, and even less that might be matched to comparable surveys of SME employees. We draw on a series of surveys of both microcredit borrowers and SME employees, building from a 2008 survey of Bangladeshi SMEs which obtain loans from BRAC Bank, a for-profit arm of Bangladesh's largest Nongovernmental organization (NGO). In focusing on BRAC Bank, we narrow attention to SMEs that are most likely to align with Bangladesh Rural Advancement Committee (BRAC)'s broader imperatives of development, social welfare improvement, and poverty reduction.

The "micro is too small" view rests on the assertion that supporting larger businesses might be a more efficient way to achieve similar ends to microcredit. We show that the proposition is only half right in our data from Bangladesh. SME finance at BRAC Bank is more profitable than microcredit lending in Bangladesh, and can create larger financial multipliers than investing in microcredit institutions. But we do not find that patterns of job creation (and, by implication, the distribution of social benefits) will be similar.

The data show that the average employee of a small enterprise in our sample is a 26 year old male with almost 5 years of formal education and who is semi-skilled. In contrast,

Bangladeshi microcredit borrowers are mostly women, about half have no formal education and most have few professional skills. Analysis of the average likelihood that employees live in poor households shows a similar bifurcation.

Bangladesh's labor market is atypical in the extent to which women do not participate in the formal labor market. Microcredit, which funds home-based production, was successful in Bangladesh precisely because it offered a way to serve women without requiring them to enter the formal labor market. In line with this, we find that microcredit borrowers are far more likely to be female (91% *vs.* 7% of SME employees). This finding is hardly surprising: Microcredit was designed to serve women, and SMEs are constrained in their ability to hire women.

Our contribution is to go further to show, first, that SME employees are not typically drawn from *households* that are similar to those of microcredit borrowers. The BRAC survey is particularly valuable in including questions that can be used to predict the likelihood that the SME employees' households are below global poverty lines. We then compare household-level predictions from the BRAC survey to similarly-constructed likelihood scores taken from independent data on microcredit borrowers in Bangladesh.

Second, we show that, were cultural barriers to women's entry into labor markets to fall, microcredit borrowers would find themselves competing for SME jobs where current workers are more educated and more highly skilled. Third, even were cultural barriers to women's entry into labor markets to fall, the nature of SME jobs would be challenging for workers carrying central family responsibilities. The data show that SME employees work long weeks (on average 11 h a day, 6 days a week).

In sum, SMEs in Bangladesh are not typically creating jobs that reach the kinds of workers supported by microcredit, nor

does the evidence show that SMEs are reaching many members of the same kinds of families as microcredit customers. If these findings generalize to other labor markets, they help explain the lack of a cross-country correlation between SME growth and poverty reduction found by Beck, Demirgüç-Kunt, and Maksimovic (2005).[1]

The rest of the paper is organized as follows. Section 2 reviews the evidence on the role of SME finance in poverty reduction, particularly through employment. Section 3 describes our data. Section 4 presents evidence on the characteristics of SME employees and microcredit borrowers in Bangladesh, and Section 5 analyzes the characteristics of jobs offered by SMEs. Section 6 focuses on the efficiency of SME lending *vs.* that of microcredit. Section 7 concludes by pulling together the evidence presented in Sections 4–6 and describing an alternative explanation.

2. SMES IN DEVELOPMENT

The promise of microcredit rests with the potential to grow the "micro-enterprises" of poor entrepreneurs by providing loans for working capital. Muhammad Yunus, pioneer of the microcredit movement and founder of the Grameen Bank in Bangladesh, argues that microcredit creates new employment opportunities for the underserved (Yunus, 1999). In a paper prepared for 1986's World Food Day conference, Yunus hypothesized that "self-employment, supported by credit, has more potential of improving the asset base than wage employment has" (Yunus, 1987). Moreover, focusing microcredit toward women, Yunus has argued, will bring about larger increases in household welfare than when targeting men. Several studies indeed support this idea (see for example Duflo, 2003; Duflo & Udry, 2004). At Grameen Bank, 97% of borrowers are women, and in Bangladesh 94% are women. Globally, the fraction of women in microfinance is 63% (Microfinance Information eXchange, 2010).

Creating jobs, particularly in small and medium enterprises, can be another way to reduce poverty. As Karnani (2007) highlights, individuals who start a microenterprise and borrow from microfinance institutions may prefer to find employment at steady wages, but turn to self-employment when wage jobs are unavailable.[2] These individuals may lack the skills or motivation to be successful entrepreneurs, which could be part of the reason that recent microcredit evaluations show mixed results (e.g., Banerjee, Duflo, Glennerster, & Kinnan, 2010; Crépon, Devoto, Duflo, & Parienté, 2011). Karnani and others argue that "micro" is too small (Dichter, 2006).

In creating BRAC Bank, Fazle Abed commented that "microfinance clients don't create jobs for others; they create work for themselves, which is called self-employment... [BRAC Bank's role] is important. So we are not only creating self-employment. We thought we need to create jobs in our economy so a large number of people can get jobs... If some people show signs of light in their lives and need bigger loans, they can go to BRAC Bank. We are providing them with a ladder to get out of poverty" (Devnath, 2009). By 2005, the World Bank Group had spent more than $10 billion to fund SME support programs (Beck *et al.,* 2005), and the G-20 committed $528 million in 2010 to support its SME Finance Challenge which aims to promote SME financing (G-20, 2010).

Small and medium enterprises are defined in several ways, but most commonly as firms that have up to 250 employees. As a group, these enterprises already provide wide-scale employment: jobs in small and medium enterprises account for more than half of all formal employment worldwide, and 45% of formal employment in developing countries (Ayyagari, Beck, & Demirgüç-Kunt, 2007).[3] SMEs are seen by many national governments and international development organizations as important engines of innovation, economic growth, employment, and poverty reduction. The 2005 Bangladesh Industrial Policy, for example, specified that "SMEs will be established on a greater scale across the country in order to bring about poverty alleviation, unemployment reduction, and creating more employment opportunity so that national economic growth can be attained" (Bangladeshi Ministry of Industries, 2005).

SMEs have alternative sources of financing even when formal-sector funds are limited (Vandenberg, 2003). Previous research, however, has established that SMEs can face large financial constraints (Beck and Demirgüç-Kunt (2006) provide a review of the literature), and that these constraints impede their growth (Beck *et al.,* 2005). For example, Beck, Demirgüç-Kunt, Laeven, and Maksimovic (2006) conclude from a survey of 10,000 firms in 80 countries that the size of the firms is a major determinant of financing obstacles of firms, with smaller firms facing larger constraints. Banerjee and Duflo (2008) exploit two policy changes that included, then excluded, some mid-size Indian firms from a direct lending program. They found no evidence that firms substituted credit from the program for other credit. Instead, having access to the lending program allowed firms to expand production and increase sales and profit, showing that many of the firms were credit constrained.

The empirical evidence on the capacity of small and medium enterprises to generate employment and reduce poverty is mixed. Some studies argue that SMEs are responsible for a large part of job creation (Mead, 1994; Sleuwaegen & Goedhuys, 1998), while others highlight that SMEs are both creators and destructors of jobs, so that the net impact is minimal (Davis, Haltiwanger, & Schuh, 1996; Van Biesebroeck, 2005).

Few studies have focused on the wages paid by SMEs and the poverty level of their employees (Hughes, 2000). Bigsten and Söderbom (2006), in a review of the literature developed from the World Bank's Research Program on Enterprise Development in the 1990's, concluded that wages were higher in larger SMEs than in smaller ones, although they are not able to explain the source of difference. The relationship between SME employment and poverty has been measured across countries by Beck *et al.* (2005). They find that the share of total manufacturing employment accounted for by SMEs in a country was not associated with a country's growth in gross domestic product (GDP) per capita of the lowest quintile, nor with a decrease in the Gini coefficient, headcount ratio, and poverty gap.

Unlike microcredit, which can be used to finance consumption needs, SME finance is targeted to entrepreneurs with skills and management capacity, and supports investments. SME borrowers need capital in larger amounts than is typical of microcredit. The average SME loan in our sample is about US$7000, whereas the average loan outstanding is US$114 for BRAC's microcredit customers (Microfinance Information eXchange, 2010).

3. DEFINITIONS AND DATA

There is no single definition of "small and medium enterprises." Commonly-used criteria include the amount of sales, number of employees, and/or amount of investment. While the most common criteria is employment, again there is no agreement on the cut-off points defining "small" and "medium" enterprises, as opposed to "micro" and "large" firms.

In Bangladesh, small and medium enterprises are defined differently in the manufacturing and non-manufacturing sectors (Bangladeshi Ministry of Industries, 2005). Manufacturing SMEs are firms for which "the value/replacement cost of durable resources other than land and factory buildings" is 100 million taka (about US$1.5 million, or about $3.5 million on a purchasing-power parity basis) or less.[4] In the non-manufacturing sector, small enterprises are firms that employ fewer than 25 workers and medium enterprises are firms that employ between 25 and 100 workers.[5] We do not have data on firm assets to apply to manufacturing firms in our sample, so we classify all firms according to their number of employees: As detailed below, all but one firm in our sample qualify as small and medium businesses. That firm employs 114 workers, and we dropped it from our analysis. (The largest remaining firm has 51 employees.) Most of the remaining firms are small businesses, with 96% of firms having fewer than 25 employees.

In our comparisons of SMEs and microenterprises, we draw on two sources of data. First and most extensively, we exploit a 2008 cross-sectional survey of Bangladeshi small and medium enterprises borrowing from BRAC Bank. The data were collected by CapitalPlus Exchange and BRAC Bank, with support from the Ford Foundation. Kellogg (2009) uses the same data to predict which SMEs are most likely to employ the poor.

BRAC NGO is one of the country's three largest microlenders, and BRAC Bank is a private and regulated bank created in 2001 to offer financial services to corporate, retail, and small and medium enterprise clients. Small and medium enterprises are the bank's main focus, and represented 63% of the bank's total loans and advances in 2008 (BRAC Bank, 2008, p. 38) and 56% in 2009 (BRAC Bank, 2009, p. 26).

Firms included in the sample received one or more loans from 36 randomly-chosen branches of BRAC Bank, with an equal number of branches sampled in rural and urban areas. The sample includes all of the firms served by those branches if they are in the manufacturing, service and agriculture sectors, and a random sample of firms in the trading sector.

Data were collected from loan applications and on-site surveys of enterprise owners and all their employees. Administrative data from loan applications include the loan amount, interest rate, and term, and the firm's sector of operation, age, sales, and profit. The employer survey provided data on each employee's skill requirements, salary, and relationship to the owner. The employee survey collected detailed information on wages (regular, overtime, bonus, and in-kind compensation), skill level, education, tenure at the firm, and included questions on the employee's households needed to compute the likelihood that the household is poor.

Table 1 provides basic information on the 1,041 firms in the sample. About half are in the trading sector, a third in manufacturing, 15% in services, and 4% in agriculture. Firms were almost equally located in urban and rural areas (55% *vs.* 45%). Almost all of the firms are small: none exceed 51 employees, 96% of the firms have fewer than 25 employees, and half have fewer than four employees. Due to data limitations, the analysis in Sections 3 and 4 focuses only on the firms' "regular" employees. "Regular" workers constitute 96.4% of the 7,210 workers in the sample. The remaining 3.6% are classified as "casual"; nearly all are unskilled (82%), and most are men (93%). Just 5% are unskilled women, which reinforces the broader findings in the paper.

The average loan amount received from BRAC Bank was about US$7000, for average annual sales of almost US$114,000. The largest loan was $92,577 and the largest level of annual sales was over $9 million, but 90% of all loans are under $9,300 and 90% of firm annual sales are under $228,000.

In addition to this survey, we report select data points from a nationally-representative survey of rural microcredit borrowers conducted in 2008 as part of the Microcredit Summit Campaign's "Movement Above US$1 a day Threshold Project." The survey collected demographic and poverty information from 3,620 borrowers in non-metropolitan areas, including a scorecard-based measure of poverty likelihood that is comparable to the one developed for the BRAC SME

Table 1. *Summary statistics: Small enterprise sample*

	N	Mean	25th percentile	Median	75th percentile	Max
Number of employees	1,041	6.9	2	4	10	51
Agriculture	39	3.1	2	3	4	6
Manufacturing	331	12.4	6	10	16	51
Service	153	7.8	3	5	11	34
Trading	518	3.4	2	3	4	37
Urban	573	7.2	2	4	10	48
Rural	468	6.6	2	4	9	51
Skilled	1,041	8.0	3	5	11	51
Semi-skilled	1,041	6.0	2	3	8	46
Unskilled	1,041	8.0	3	5	10	48
Sector of business						
Agriculture	39	3.8%				
Manufacturing	331	31.8%				
Service	153	14.7%				
Trading	518	49.8%				
% Urban firms	1,041	55.0				
% Regular employees	1,041	96.5				
% Of firm employees whose poverty likelihood >50%	1,041	9.9	0	0	15	100
Age of firm (years)	1,010	8.8	4	7	12	43
Sales (US$)	1,001	113,836	34,365	64,286	113,379	9257,143
Loan amount (US$)	970	7,017	4,688	6,240	7,770	92,577

Indicators in US$ were converted at the exchange rate of US$1 = Tk70. The number of employees excludes the firm owner(s). The employee poverty likelihood is obtained from a poverty scorecard, which calculates the likelihood that the employee's household earns less than US$1.08 per person and per day.

survey. These data were provided by Sajjad Zohir, based on his unpublished work for the Microcredit Summit Campaign. [6]

Finally, we draw on a World Bank—Bangladesh Institute of Development Studies dataset designed to analyze microcredit customers. We use the 1998–99 wave of data which includes 1,638 households living in villages served by three microcredit organization: Grameen Bank, BRAC, and BRDB (Khandker, 2005).

4. SME EMPLOYEES *VS*. MICROCREDIT BORROWERS

The central question in deciding whether SME finance is more effective than microcredit at generating employment and reducing poverty is who do SME entrepreneurs hire to complement their capital and entrepreneurial talent? Will the SME entrepreneur tilt their hiring toward unskilled workers, like those engaged in micro-enterprise? Or will they favor better education and more highly skilled workers? The choice depends on the nature of the production process and labor market.

One hypothesis is that unskilled workers will be favored as SME owners minimize the cost of labor inputs and engage in production processes with simple technologies. An alternative hypothesis is that unskilled workers are at a disadvantage where high-ability workers are more productive when teamed with other high-ability workers (Kremer & Maskin, 1996). Positive assortative matching will lead to skill segregation in the labor market, and SME owners, who themselves tend to be better educated and more highly skilled than the typical microcredit borrower, will seek to maximize productivity by choosing workers with skill levels similar to their own. To investigate the hypotheses, we analyze SME employee characteristics and compare them with similar variables for microcredit customers. We also investigate heterogeneity in the findings by SME firm size.

Table 2 shows that over 90% of small enterprise employees in the sample are men, aged 26 on average. Just 7% of the sample of 7,210 SME employees were women. This contrasts with the extremely high ratio of women among microcredit borrowers. Microcredit in Bangladesh, as noted, is famously focused on women. Although not all microcredit loans are used by women, they remain the primary focus of many microcredit programs, and the fact that men take control of some microcredit loans does not counterbalance the gender gap between SME employees and microcredit borrowers.

Most microcredit borrowers are also less educated and less skilled than SME employees: 65% of the former and 44% of the latter did not complete primary school. More sharply, 49% of microcredit borrowers report no formal education but just 16% of SME employees. Correspondingly, 63% of SME employees were skilled or semi-skilled (we have no comparable variable for microcredit borrowers).

Because our sample is constituted mostly of small enterprises, with half having fewer than 4 employees, we test the robustness of this finding by looking separately at smaller

Table 2. *Profile of SME employees and microcredit borrowers*

| | SME employees | | | Microcredit borrowers Data source | |
| | Firm size | | | | |
	All firms	Fewer than 10 employees	10 or more employees	MSC	WB–BIDS
% Female	7.2	3.4	9.5	97.4	–
Age (years)	25.6	25.9	25.5	–	–
% With any formal education	84.3	87.9	82.1	51.3	–
% Completed primary education	56.0	67.6	48.9	35.4	–
% Skilled or semi-skilled	62.8	65.8	60.9	–	–
% Primary or only employment	98.4	97.8	98.8	–	–
Tenure at the firm (% of firm age)	33.2	38.1	30.2	–	–
No. of days worked last week[a]	6.3	6.3	6.2	–	–
No. of hours worked yesterday[a]	11.4	11.2	11.5	–	–
Hourly wage (PPP $)	0.42	0.42	0.43	–	–
Total daily wage (PPP $)	4.44	4.43	4.45	–	–
% hh earning < PPP $2/day/person	16.8	16.9	16.8	–	–
% hh earning < PPP $1.25/day/person	9.6	10.1	9.4	–	–
Total HH daily expenditures per capita (PPP $)	–	–	–	–	1.2
% hh consuming < PPP $2/day/person	–	–	–	–	91.8
% hh consuming < PPP $1.25/day/person	–	–	–	–	70.7
% hh consuming < PPP $1.08/day/person	–	–	–	–	60.7
Household poverty likelihood	20.7	16.2	23.4	57	–
% with household poverty likelihood >50%	14.0	9.2	17.0	–	–

All values are simple averages. The number of employees in the sample includes 6,954 regular and 256 casual employees, and excludes the firm owner(s). Education variables have seven missing values for employees who received a religious education, because of a lack of direct equivalency to the formal education system. The hourly wage is based on the number of hours worked the day before the survey; it includes regular pay and overtime pay but not the yearly bonuses (if any). Total wage includes cash wage and all bonuses and benefits. Primary earners are employees who are the primary or only income earner in their household. The number of household income earners includes the respondents. The $2/day and $1.25/day thresholds are calculated using purchasing-power parity (PPP) exchange rates and take into account only the earnings of the small enterprise employee. The poverty likelihood is obtained from a poverty scorecard, which calculates the likelihood that the employee's household earns less than $PPP 1.08 per person and per day for SME employees, and $PPP 1.25 per person and per day for microfinance borrowers. Employees are considered semi-skilled or skilled if they have received at least 3 months of formal or on-the-job training. The cutoff of 10 employees for SME size is the 75th percentile. Data on microcredit borrowers referred to as "MSC" are from a nationally-representative survey of active rural microfinance borrowers conducted by Sajjad Zohir in 2008 as part of the Microcredit Summit Campaign's "Movement Above US$1 a day Threshold Project." Data on microcredit borrowers referred to as "WB–BIDS" are from the World Bank–Bangladesh Institute of Development Studies' 1998–99 survey of Bangladeshi microcredit borrowers from BRAC, Grameen Bank, and BRDB.
[a] Regular employees only.

and larger firms in our sample. We consider SMEs employing 10 or more employees as "larger"; 10 is the 75th percentile of firms in terms of the number of employees. While larger firms employ a higher proportion of women (9.5% *vs.* 3.4% for smaller firms) and workers living in poor households (17% of workers live in households with a more than 50% chance of being poor *vs.* 9.2% for smaller firms), the poverty outreach of larger SMEs in our sample remains far from that of microcredit. Columns 2 and 3 of Table 2 therefore concur with the results shown below in Table 3, and do not question our main findings. [7]

Figure 1 looks beyond averages. Panel (a) of Figure 1 gives the cumulative distribution function for the firm-level variable giving the percentage of employees with any formal education. The vertical line on the left gives the average for microcredit borrowers (which we can think of as single-person firms). The figure shows that most SME firms have a considerably more educated workforce than the microcredit average. A similar pattern is shown in the firm-level figure on primary school completion in panel (b) of Figure 1.

How poor are employees of small enterprises? The poverty reduction power of SME employment depends in large part on whether SMEs hire poor employees. We assess poverty in two ways: we measure the percentage of employees earning less than US\$1 and US\$2 per day, and we use a scorecard-based measure of household poverty. The wages paid in the small enterprises in our sample imply that 9.6% of the 7,210 employees earned less than the global poverty line of PPP\$1.25 per day, and 16.8% of employees earned less than PPP\$2 per day (Table 2). [8] In comparison, United Nations' Millennium Development Goal Indicators show that 50.5%
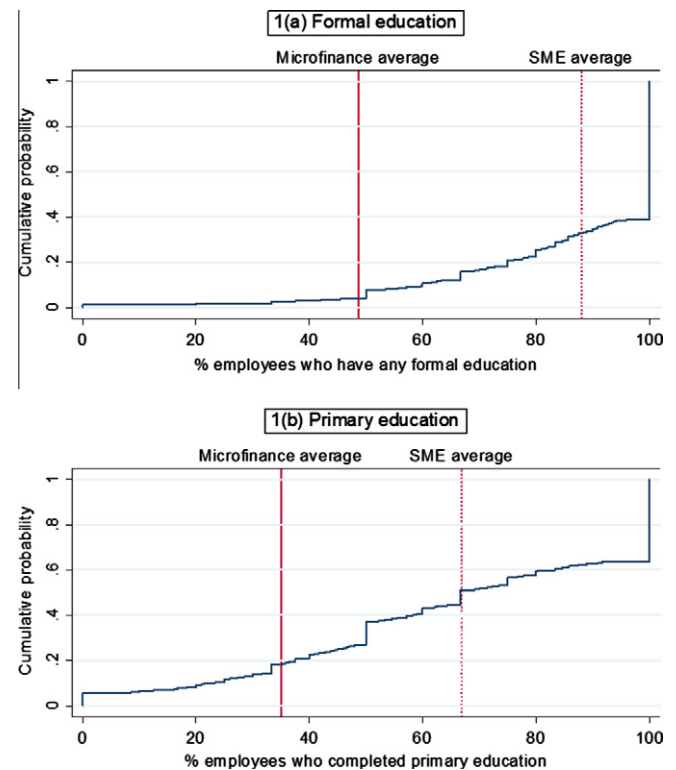

Figure 1. *Cumulative distribution functions of employee education indicators at the firm level.*

Table 3. *Correlates of firms' poverty outreach*

Dependent variable	% Female employees	% Unskilled employees	Firm-average poverty likelihood
Log(number of employees)	0.025***	0.100***	0.017**
	(0.006)	(0.022)	(0.008)
Log(number of employees) * agriculture	−0.012	0.029	0.084**
	(0.014)	(0.114)	(0.041)
Log(number of employees) * manufacturing	0.002	−0.136***	0.009
	(0.018)	(0.035)	(0.015)
Log(number of employees) * service	−0.046**	0.046	0.044***
	(0.018)	(0.035)	(0.013)
1 if business is in agriculture	0.025**	0.469***	0.027
	(0.011)	(0.143)	(0.048)
1 if business is in manufacturing	0.039	0.277***	0.028
	(0.039)	(0.072)	(0.031)
1 if business is in service	0.132***	−0.051	−0.049**
	(0.043)	(0.064)	(0.022)
1 if metropolitan area	−0.008	−0.097***	−0.032***
	(0.009)	(0.020)	(0.008)
Age of firm (in years)	−0.002***	0.001	−0.001*
	(0.001)	(0.002)	(0.001)
Avg. employee tenure (in % of firm age)	−0.027	−0.100**	−0.068***
	(0.019)	(0.045)	(0.018)
Constant	0.019	0.252***	0.175***
	(0.012)	(0.042)	(0.016)
Number of observations	1,010	1,010	1,010
R-squared	0.091	0.173	0.156
Mean of dependent variable	0.046	0.328	0.170

Robust standard errors in parentheses. US\$1 $\approx$ Tk70. The omitted sector of business is trading. The number of employees excludes the firm owner(s). The measure of poverty likelihood captures poverty at the household level.
* $p < 0.1$.
** $p < 0.05$.
*** $p < 0.01$.

of all employees in Bangladesh, including self-employed individuals, lived below $1 per day per person in 2005, the most recent year for which data are available (United Nations, 2010). These measures need to be taken with caution. The international poverty lines of $1.25 and $2 per day per person are calculated using the household's total income, but the measure we use here is based on the wages of one household member only. Households in our sample have 2.2 income earners (75% of them have two or more income earners) and 5 household members on average, but we do not have data on the household's total income.[9]

To make more direct comparisons, we turn to a second measure of poverty. This measure is a household-level indicator: a scorecard quantifying the likelihood that the employees' household earns less than the global poverty line used at the time the survey was constructed, $1.08 per day per person in 2005 purchasing-parity adjusted dollars.[10] The scorecard uses 10 indicators that can be easily and reliably asked, such as the type of latrine used by the household, the number of children who are in school, and whether the household owns a television set. These indicators are weighted using a logistic regression to determine whether the household earns less than PPP$1.08 per day per person. The indicators and poverty likelihood scoring are reproduced in the Appendix. The main advantages of a scorecard-based measure of poverty are that data can be collected accurately, the indicator can be calculated simply, and the focus is on the household. The main disadvantage is that the scorecard only provides an estimate of poverty. The number of points on the scorecard indicates the likelihood that the employee lives in a household earning less than $1.08 per day per person (in 2005 PPP), not a precise indication of whether or not the household earns less than a given amount or owns assets of a total value above or below a given cutoff point. As a consequence, we do not estimate the poverty rate in a given firm or industry, but rely on the average poverty likelihood.

The indicators of poverty show relatively low levels of poverty. According to the scorecard, the average likelihood that all SME employees in our sample live in a poor household was 20.7%. The average percentage of SME employees that are likely to live in poor households (with a greater than 50% chance) is just 14%.

We create a series of comparisons with microcredit borrowers. For the first, we use institution-level data to calculate average poverty levels of borrowers, drawing on self-reports from the MixMarket and the Microcredit Summit Campaign databases. The calculations suggest that 48–67% of microcredit borrowers in Bangladesh live in households earning less than $1 per day per person (calculations from MixMarket and Microcredit Summit Campaign data from Bauchet and Morduch (2010)).

Next, we use household-level data from the World Bank–BIDS survey to calculate the fraction of households of microcredit customers that have daily per capita consumption below PPP$1.08. The calculation in the final column of Table 2 shows that more than 60% of households fall below the threshold, a figure in line with the institution-level estimates.

These last two calculations drew on actual data, not a scorecard-based measure of poverty likelihood. To get a sense of the possible distortion in comparison with the SME poverty data, we turn to evidence from the Movement Above US$1 a day Threshold Project, which focuses on microcredit borrowers in non-metropolitan areas. This project used a poverty scorecard very similar to the one employed in the SME survey. The main difference between the SME survey scorecard and the Movement Above US$1 a day Threshold Project's scorecard is that, in the latter, the average poverty likelihood is calculated using the updated World Bank threshold of PPP$1.25 per day per person (instead of PPP$1.08 in the SME survey scorecard). So poverty levels will be somewhat higher for households of microcredit customers on that basis alone. The average poverty likelihood measured by the Movement Above US$1 a day Threshold Project's scorecard is 57%.

Finally, to obtain a sense of the possible distortion created by comparing poverty measured at a threshold of PPP$1.08 vs. PPP$1.25 per person per day, we again turn to the World Bank–BIDS data. There, we find that more than 70% of households of microcredit borrowers are below the PPP$1.25 threshold. The spread between the PPP$1.08 and PPP$1.25 poverty thresholds in the World Bank–BIDS data is only 10 percentage points, providing comfort that the difference in poverty likelihood for SME employees vs. microcredit borrowers as measured by the Microcredit Summit Campaign is unlikely to be driven mainly by the difference in thresholds used in the scorecard calculations.
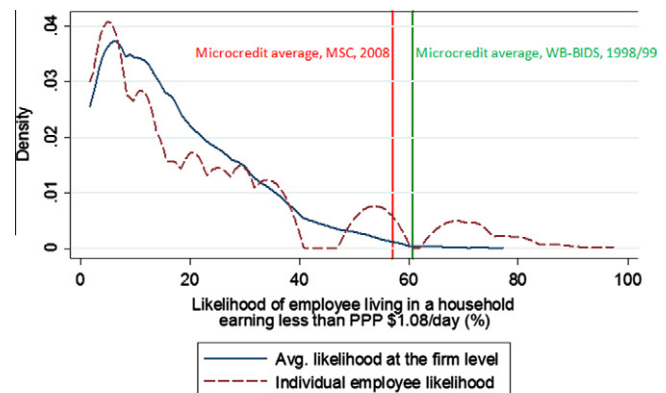
Taken together, the data reinforce the finding that poverty levels among microcredit borrowers are much higher than those of SME employees.

Figure 2 combines the data. It shows the non-parametric density of the likelihood that SME employees live in households earning less than $1.08 per day per person. Both when measured as a firm average or as an individual likelihood, the distributions are skewed toward a low likelihood of being poor. The microcredit averages in the Microcredit Summit Campaign and in the World Bank–BIDS data are added for reference, and are again in the right-hand tail of the SME distribution. SMEs are not hiring the women that make up the core of microcredit borrowers, nor do they appear to hire many of their husbands or other family members.

Are some firms more likely to hire workers whose profile is similar to that of microcredit borrowers'? The regressions in Table 3 show the relationship between several firm characteristics and SMEs' outreach to women and poor individuals. We analyze the relationships between three indicators of the poverty level of SME employees and five characteristics of the firms, using the following OLS regression model:

$$PO_i = \alpha + \beta NE_i + \delta SB_i + \gamma (NE_i * SB_i) + \rho MA_i + \theta AF_i + \tau ET_i + \varepsilon_i,$$

(1)

where i indexes the firm, PO_i stands for one of three indicators of poverty outreach of the firm (percentage of female employ-

Figure 2. Distribution of the likelihood that employees live in a poor household.

ees, percentage of unskilled workers, and firm-average poverty likelihood), NE_i is the firm's number of employees, SB_i is the firm's sector of business (included as a set of binary variables for trading, agriculture, manufacturing, and services), MA_i is a binary variable indicating whether the firm is located in a metropolitan area, AF_i is the age of the firm in years, and ET_i is the average employee tenure at the firm expressed in percentage of the firm's age.

On average, larger SMEs (as measured by the number of employees) employ a higher proportion of women workers, except in the service sector where the relationship is opposite but not meaningfully large in economic terms. Larger and rural firms are also more likely to employ unskilled workers—a proxy for workers' wage. The notable exception is that larger manufacturing firms in our sample employ a lower percentage of unskilled workers. Finally, the firm-level average likelihood that employees live in poor households is the most direct measure of poverty outreach. Here again, larger firms are more likely to employ poorer workers, particularly in the agriculture and service sectors. The regression shows that the difference between agriculture and service sectors on one hand, and manufacturing and trading sectors on the other hand, is statistically significant. Still, the economic contributions for all outcome variables are very small. In the agriculture sector, for example, where the relationship between firm size and average poverty likelihood is the strongest, a 1% increase in the number of employees is associated with an increase in the firm-level poverty measure (i.e., the average likelihood that an employee lives in a household earning less than PPP\$1.08 per day per person) of only about 0.1 percentage points, holding all else constant. Given these results and holding other variables in the model at their mean, household poverty levels similar to those of microcredit borrowers would be reached by a 100-employee rural firm in the agricultural sector—a hypothetical firm with 17 times more employees than the largest rural agricultural enterprise in our sample.

The regression also shows that the firm-level poverty measure falls as average tenure at the firm increases: firms that hold onto their workers for longer tend to employ workers from better-off households. Poorer workers, by implication, are in less stable positions.

5. THE QUALITY OF SME JOBS

The BRAC Bank SME survey includes two indicators of job quality: length of the work week and wages. These two indicators do not provide a comprehensive measure of quality, but allow us to focus on poverty-related measures. The data indicate that SME jobs pay more per day on average than the Bangladeshi minimum wage, but SME jobs require longer hours than the legal work week.

Average total wages—including regular wage and all bonuses and benefits—reached US\$4.44 per day on a purchasing power parity basis (Table 2). This average daily wage is higher than the minimum wage in Bangladesh (1,800 Taka per month, about US\$3.25 per day on a purchasing power parity basis), but hides disparities by gender and job location. (Employees in rural areas earn about 20% less than employees in urban areas, and women earn 45% less than men).

These average wages, however, require long working hours. Data in Table 2 show that employees in small enterprises in all sectors work over 11 h per day on average, 6 days a week. The 2006 Bangladesh Labor Law sets the full-time work load at 8 h per day, 6 days per week, and the average reported actual number of hours worked per week across all firms in all industries was 52 in 2006. The long hours mean that the jobs provided by the small enterprises in our sample are the primary or only job for more than 98% of employees in our sample, in all sectors and areas. The length of the work week also implies low hourly wages: PPP\$0.42 on average for the entire sample, including cash wage and overtime pay but not yearly bonuses, if any. (In rural areas, the hourly wage drops to an average of PPP\$0.39. For women in all areas, the average hourly wage is PPP\$0.29.)

The long hours required in typical SME work are not conducive to mixing child-raising with wage work—in contrast to the relative flexibility provided by microcredit self-employment. In our sample, just 5% of regular SME employees work 40 h a week or fewer, 3.6% work 30 h or fewer, and 2% work 20 h or fewer.[11] Even outside of the conservative cultural context of Bangladesh, married women with primary responsibility for raising children (a core population for microcredit loans) face barriers to SME employment that most men and unmarried women do not.[12]

6. THE COST–BENEFIT PROPOSITION FOR SME FINANCE

The cost-effectiveness of lending to SMEs to reduce poverty through employment partially depends on how well SME lenders can take advantage of investments or subsidies. Subsidies allocated to a bank or financial institution lending to SMEs can help lever additional capital, which multiplies the impact of the subsidy (Conning & Morduch, 2011). BRAC Bank, for example, is more profitable than the average financial institution in Bangladesh, including microcredit institutions. The interest rates on the 10 loan products that BRAC Bank offers to SMEs vary slightly around the 17% per year mark. Table 4 shows that the return on equity and the return on assets for BRAC Bank in 2009 were on par with the average of Bangladeshi commercial banks.

Return on equity was 108%, higher than the average of microcredit institutions in Bangladesh in 2009. Return on assets was lower than that of microcredit institutions, due in part to the large network or branches that BRAC Bank maintains, but on par with that of private banks. Because organizations under the BRAC umbrella tend to be efficiently run, we also compare the profitability of BRAC Bank to that of BRAC's own microcredit program. While BRAC Bank never posted returns on assets as high as those of BRAC's microcredit program, it was able to maintain returns on equity around 23% and returns on assets of 1.6% throughout a period of rapid expansion (Table 4), while BRAC's microcredit program's profitability ratios fluctuated widely.

These levels of profitability are reflected in the debt-to-equity ratios of various institutions. A high debt-to-equity ratio indicates that a financial institution was able to finance its growth through larger amounts of debt for a given amount of equity. Table 4 shows that the debt-to-equity ratio of BRAC Bank was 30% higher than the average of microcredit institutions in Bangladesh in 2009 and four times higher than that of BRAC's microcredit program that year. From the point of view of a policymaker or donor interested in the cost-effectiveness of its spending, an equity-increasing investment or subsidy into BRAC Bank could therefore allow for a larger increase in scale than a comparable investment or subsidy in a microcredit institution. An advantage of supporting SME finance is thus in achieving scale, not in achieving targeted job creation for poor households.

Table 4. *Profitability and leverage of financial institutions in Bangladesh*

	Year	Return on equity (%)	Return on assets (%)	Assets (million US$)	Debt-to-equity ratio
BRAC Bank (SME lending)	2010	19.0	1.6	1,554	12.0
	2009	19.2	1.6	1,351	10.6
	2008	22.8	1.6	1,035	12.3
	2007	23.8	1.6	648	14.1
	2006	23.1	1.4	429	13.2
BRAC Microfinance program	2010	12.5	3.8	1,005	2.0
	2009	14.6	3.7	976	2.5
	2008	−0.2	−0.1	962	3.4
	2007	6.1	1.5	604	3.8
	2006	23.5	7.0	388	2.4
Micro banking bulletin					
All MFIs	2009	7.1	1.5	8	2.9
Target market: low end	2009	8.6	1.8	5	2.4
Target market: broad	2009	5.8	1.3	10	3.3
Target market: high end	2009	5.8	0.9	31	4.0
Target market: small business	2009	6.0	1.1	16	3.8
Bangladesh microcredit institutions	2010	14.6	3.5	–	3.2
	2009	9.2	2.2	–	8.2
Bangladesh private commercial banks	2009	21.0	1.6	–	–

Sources: BRAC Bank Annual Reports and Financial Statements; MixMarket; *MicroBanking Bulletin* Trend Lines 2006–2008 MFI Benchmark Tables; Bangladesh Bank's 2009–2010 Annual Report, Chapter 5, p. 45. We could not find information about aggregate debt-to-equity ratio in Bangladesh. Data for Bangladesh microcredit institutions are weighted averages. Data for Bangladesh private commercial banks are unweighted averages.

7. CONCLUSION

SME finance is gaining attention as a possible alternative to microcredit investment in the fight for poverty reduction, notably because SMEs provide employment on a much larger scale than microenterprises supported by microcredit. Our evidence suggests that in Bangladesh the two forms of support are complements, not substitutes.

A survey of employee of Bangladeshi SMEs shows that the typical employee is a young, educated male, whose household tends to be better off than the typical households of microcredit borrowers. Working in a small enterprise is hard: employees work 70 h per week on average, for very low hourly wages. These long hours are not particularly friendly for workers with substantial family responsibilities.

As described above, the poverty scorecard-based data indicate that employees of the SMEs in our sample are less poor, on average, than microcredit borrowers. An important question remains open about the causal impact of an increase in SMEs' access to credit on employment and, through employment, on poverty reduction. The ideal evaluation of the marginal impact of lending to SMEs would rest on a careful counterfactual: What would have happened to the SME firms and their employees if the firms had not borrowed? Our evidence shows that SME employees live in less poor households, on average, than microcredit borrowers, but does not speak on whether SME employment is what caused households to be less poor. Our evidence is consistent with typical SME workers being drawn from different households than typical microcredit customers, and we have stressed the "selection effect." Our data do not allow us to investigate the alternative hypothesis that typical SME employees originally came from households very similar to those of microcredit customers—but that working at the SME increased incomes so much that household-level indicators such as kitchen quality, latrine quality, television ownership, school attendance, and water source were qualitatively improved. We expect that SME employment did improve the conditions of households, but it remains to be shown that any improvements would have been so great that they can explain the wide differences we find.

NOTES

1. The hypothesized correlation could be due to (1) directly providing more and better jobs for poor individuals and (2) indirectly by increasing incomes that raise consumer demand in poor communities, and thus raise the business profits of poor entrepreneurs. We focus on the first path.

2. Emran, Morshed, and Stiglitz (2007) argue that the success of microcredit may be due in part to missing or imperfect labor markets, particularly for women and in countries, like Bangladesh, where female employment is not the traditional norm. Our finding here is that SMEs are not presently providing a meaningful alternative for unskilled women.

3. The proportion of the total active population working in small and medium enterprises is lower than this figure since many workers in developing countries are self-employed. We could not find precise estimates.

4. At the low end, the definition excludes "cottage" industries—what we call "microenterprises" in this paper—which are industries "in which members of a family are engaged part-time or full-time in production and service-oriented activities" (p. 13).

5. At the low end, the definition excludes "cottage" industries, in which only members of a family work.

6. One author was on advisory committees for both the Microcredit Summit Campaign data collection and the BRAC SME data collection. He contributed to methodological discussions for both projects but was not involved in their implementation. This paper brings together results from both studies.

7. It is possible that financing large firms, rather than SMEs, would create the kind of jobs that make a larger impact on poverty reduction, and that financing these firms would be a more effective development tool. Our data do not include any such firm.

8. All purchasing power parity conversions were completed using 2005 PPP conversion factors. Comparisons of data from other years were adjusted for inflation relative to 2005 using the Bangladesh consumer price index.

9. We can restrict the sample to the 25% of households for which the small enterprise employee in our sample is the only income earner. These households are likely to be poorer than households in which several members earn an income, and our data indicate that 48% of these employees earn less than PPP$1.25 per day per person, and 80% earn less than PPP$2 per day per person.

10. The global $1.25 poverty line is higher than Bangladesh's own poverty line. For example, the World Bank databases shows that 40% of

the population was below the national poverty line in 2005, and 50% were below the global $1.25 poverty line. Data were obtained from http://data.worldbank.org/topic/poverty on October 18, 2012.

11. As noted earlier, 3.6% of the sample is classified as "casual" workers. In peak times of the year, three-quarters of casual workers work more than 20 h a week. In slow times, the median days worked for casual labor is 3 days a week.

12. It is difficult to disentangle cause and effect here. One reason for the ubiquity of long hours and long weeks in SME jobs is that married women are not interested in working outside the home. SME bosses then optimize work conditions for their employee pool of male and unmarried women. It is possible that greater interest by women in SME employment might generate changes in the quality of jobs offered. All the same, the larger point still holds: for the most part, the SMEs we study are not generating jobs that support the kinds of households that are involved in microcredit.

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APPENDIX. POVERTY SCORECARD FOR BRAC BANK CLIENTS

Indicator	Attributes				Points
1. What type of latrine does the household use?	Open field	Kacha (temporary or permanent) or out Pacca			Sanitary or water-seal Pacca
	0	6			11
2. How many household members are 11 years old or younger	4 or more	3	2	1	0
	0	5	9	15	22
3. Does any household member work for a daily wage?		Yes			No
		0			7
4. How many rooms does the house have (excluding one used for business)?		1	2 or 3		4 or more
		0	3		10
5. Do all children ages 6–17 attend school?	No	No children age 6–17			Yes
	0	3			3
6. Does the household own a television set?		No			Yes
		0			9
7. How many decimals of cultivable land does the household own?	Less than 34	34–99	100–199		200 or more
	0	1	3		5
8. What is the main construction material of the wall of the house?	Hemp/hay/bamboo or mud	C.I. sheet/ wood			Brick/cement
	0	4			5
9. Does the household own any cattle?		No			Yes
		0			2
10. Does the house have a separate kitchen?		No			Yes
		0			4
11. What is the main source of drinking water?		Other			Supply Water
		0			6
12. What is the highest grade completed by male head/spouse?	None	Class 1–6	Class 7 to SSC		HSC or higher
	0	2	3		17
Total					

Score	Poverty likelihood for people with score in range (%)
0–4	100.0
5–9	92.1
10–14	97.4
15–19	85.4
20–24	77.2
25–29	68.7
30–34	53.7
35–39	34.1
40–44	25.1
45–49	16.3
50–54	9.0
55–59	7.1
60–64	1.7
65–69	1.7
70–74	1.7
75–79	1.7
80–84	1.7
85–89	1.7
90–94	1.7
95–100	1.7