

Disability, Not Inability: Improving Self-employment Opportunities

Motivation

80 percent of people with disabilities worldwide live in developing countries, where 82 percent of them live below the poverty line (Handicap International 2006). Disability can cause a single equilibrium poverty trap for the individual and increase the risk of household poverty (Saunders 2006). The lack of gainful employment is an important contributing factor. The majority of people in developing countries work in the informal economy. Therefore, this intervention aims to improve self-employment opportunities for unemployed people with disabilities in Bangladesh.

Overall disability prevalence in Bangladesh ranges from 5.6 percent to 10 percent in the population (National Forum of Organizations Working with the Disabled 2005). Prevalence rises to 14 percent in the lowest income group – which earns of 0 to 1000 taka (14 USD) annually – where physical impairment is the most common disability (Titumir and Hossain, 2005). People with disabilities also have significantly less savings and other assets than the non-disabled (Chowdhury & Foley 2006). Furthermore, employment opportunities are scarce for Bangladeshis with disabilities. According to the Centre for Services and Information on Disability (CSID 2002), less than 1 percent of such individuals are in any form of employment.

Simanowitz (2001) pinpoints several exclusion mechanisms that prevent people with disabilities from achieving self-employment. First, such individuals may choose not to start a business due to low self-confidence or the perceived high risk associated with entrepreneurship (self-exclusion mechanism). Second, people with disabilities who wish to start a business face limited credit access. Three exclusion mechanisms contribute to this. Microcredit officers often lack knowledge about the capabilities of people with disabilities and perceive them to be too risky (exclusion by staff). Group loan members also exclude them due to their perceived high risks (exclusion by other members). Without a group setting where social pressure can improve repayment rates, microcredit organisations perceive that people with disabilities have low costs of default. Finally, microcredit organisations usually require loan applicants to have significant upfront savings and an existing stable business as collateral. Unemployed people with disabilities lack both types of collateral and thus have a perceived low cost of default (exclusion by design).

As a result, people with disabilities remain highly underrepresented internationally among microfinance clients (Mersland 2005; Handicap International 2006; Cramm & Finkenflugel 2008). In Bangladesh, out of those who are employed, only 22 percent are able to obtain microcredit access (CSID 2002). Other studies have also found evidence of the exclusion mechanisms underlying limited credit access in Bangladesh (Thomas 2000; Hossain & Titumir 2005).

A small number of microfinance efforts have targeted people with disabilities in countries such as Uganda, Ethiopia and Afghanistan. The studies target the second impediment – limited credit access – by offering cash grants or loans. Handicap International (2006) reports that cash grants are generally less successful than loans because they create a sense of dependency and can also be misused. In contrast, this and other studies find that many efforts involving loans resulted in higher income levels, high business sustainability and high repayment rates comparable to the able-bodied (Fiasse 2011; Cairo 2012). However, financial sustainability appears to be a problem for credit products that provide significantly more favourable conditions (Lewis, 2004).

This intervention targets unemployed Bangladeshis with physical disabilities. It aims to bring them into self-employment. There are several differences between this proposed project and previous efforts. Cash grants will not be used to address the lack of credit access. Conditional in-kind grants of assistive devices and working capital loans will be provided instead. Care will be taken in the design of the credit product to ensure financial sustainability. As recommended by previous studies, credit terms will vary minimally from able-bodied clients. In addition, the intervention will explore another barrier to self-employment - high risk aversion. Microinsurance will be used to reduce the perceived risk of starting a business. The intervention will also differ in terms of its quantitative research design and evaluation methodology. The welfare impacts of each financial product will be analysed and compared.

Description of policy intervention

The proposed intervention involves offering either microinsurance, microcredit or both to unemployed people with physical disabilities. It will be implemented in villages of Bangladesh's Chittagong Division. Chittagong is targeted as it has the second highest prevalence of physical disabilities at 30 percent (Titumir & Hossain 2005). These villages include a mix of rural and urban settings.

The intervention will be conducted in partnership with the Grameen Bank and Bangladesh Protibandhi Kallyan Somity (BPKS). The Grameen Bank is the largest microcredit provider in Bangladesh and has nation-wide presence (IFC & KfW Bankengruppe 2009). The Grameen Bank is also the most extensive provider of microinsurance (Ahmed et al. 2005). Grameen field staff will integrate new clients with disabilities into their usual daily rounds. BPKS is a Disabled People's Organisation that carries out a range of activities to empower people with disabilities. BPKS staff will provide disability awareness programmes to Grameen staff, assist in identifying suitable participants, carry out needs assessment, provide assistive devices to borrowers and accompany borrowers on their initial purchase of equipment or materials. These are services currently provided by BPKS.

The targeted beneficiaries are unemployed people with physical disabilities from poor families. They should have the physical capacity to manage a business by themselves or have suitable family support. These assessments will be facilitated by BPKS specialists and Grameen officers.

Before the intervention, focus group discussions with BPKS staff and people with disabilities will be organised to pinpoint risk preferences, the biggest source(s) of risk, and microcredit and microinsurance terms that have the highest willingness to pay. This will determine the design of products. In addition, the products will be tailored to minimise the exclusion problems mentioned previously.

To minimise exclusion by staff, Grameen branch managers and credit officers will attend a disability awareness programme organised by BPKS. The potential of people with disabilities to be important market segment (Bwire et al. 2009) and the motivations of the intervention will be emphasised. The training will also cover effective and sensitive communication methods.

Microcredit will be offered on an individual basis as opposed to the more common group setting, to eliminate exclusion by other members. To circumvent exclusion by design, borrowers are not required to have compulsory upfront savings or an existing business. However, consistent with usual practice, they will be expected to save a small amount regularly to promote wealth accumulation and build collateral. We recognise that start-ups differ from the typical new microcredit client that already has a stable business. Start-ups may take a longer time to make profits. Therefore, the repayment period for the first loan will be

lengthened. It will be emphasised to the client that this is a one-off concession. This will ensure that clients do not form a dependency on such special considerations and promotes financial sustainability of the programme.

Microinsurance will be offered conditional on starting a business. It will be structured according to results from focus group discussions. One possibility is to offer a combination of business and health insurance. The health component can be an extension of the health insurance provided by Grameen Kalyan (GK). GK subsidises essential services such as consultation and medicine at a reduced annual premium and co-payment. The business component can be a flood index-based insurance. Chittagong experiences frequent floods due to its coastal location on the Bay of Bengal (Perveen 2007). Such a scheme is currently in its pilot phase in Bangladesh (Ahmed 2013). Subsidies will be provided to help participants cope with the premium costs. The combined microinsurance and microcredit product will be tied together as one product.

Finally, financial products and assistive devices will be distributed conditional on the preparation of a business proposal. BPKS will provide the necessary assistance. This aims to increase their sense of self-ownership and improve their chances of business success. This strategy has been proven effective in other interventions (Handicap International 2006).

Research questions and hypotheses

Research questions	Testable hypotheses
What are the determinants of credit and insurance uptake?	Uptake increases with education. Determinants are likely to vary between credit and insurance e.g. risk preference is a more significant determinant of insurance uptake.
Is exclusion due to risk aversion present among people with disabilities? Is exclusion due to limited credit access present?	Both risk aversion and limited credit access are present.
Which results in the greatest socioeconomic impacts on treated individuals- using microcredit only, microinsurance only or both?	A combination of both is most effective if high risk aversion and limited credit access are detected.
Are there spillover effects from takers to non-takers within each treatment village? That is, does learning occur? Are there spillover effects between villages?	Within-village externalities occur. There are no or little cross-village externalities.

Research design, methodology & expected outcomes

The intervention itself will be a one-year randomised experiment across 280 villages in Chittagong District. The sample will be stratified according to whether villages are rural or urban. BKPS and Grameen staff will identify and compile a list of potential participants that match our criteria. Within the stratification, villages will be randomly allocated into four groups, receiving access to (i) microcredit only (ii) microinsurance only (iii) both credit and insurance or (iv) nothing. Before offers are made, data will be collected about baseline characteristics such as gender, employment history, household composition, household size, family livelihood activities, religion, number of years of schooling, household income,

expenditure composition, frequency of illness and decision-making power. This data will be used to ascertain whether there was proper randomisation.

A treatment household may choose not to take up the offer. In what follows, ‘taker’ refers to those who actually take up the offer. There is likely to be selection bias; the uptake decision is an endogenous one. Therefore, two randomised encouragement designs will be used to provide instruments for uptake. Small cash grants conditional on uptake will be randomised on the individual level (50% of individuals in each treatment group) and mail-outs of financial education information will be randomised on the village level (all individuals in 50% of treatment villages).

Participants have one month after receiving an offer to make their decision. Surveys will then be conducted to find out take-up. A year later, both takers and non-takers will be asked about the outcomes of interest – employment status, business ownership, profits, income, expenditure composition (durables, temptation goods, health, child’s education), frequency of illness and decision-making power.

In all estimation specifications that follow, OLS specifications are used unless dependent variables are binary, such as business ownership. In these cases, logit models are used instead.

Estimating intent-to treat effects

$$y_{ij} = \alpha + \beta_1 C_offer_j + \beta_2 I_offer_j + \beta_3 CI_offer_j + \gamma X_{ij} + \delta_j + \epsilon_{ij} \quad (1)$$

Where y_{ij} are outcomes of interest listed above for individual i in village j ; C_offer_j , I_offer_j and CI_offer_j are dummy variables for the group offered microcredit only, insurance only, and both credit and insurance respectively; X_{ij} is a vector of individual, household-level and village characteristics such as years of schooling, family size, and rural/urban, whether the individual indicates that he is credit constrained; δ_j are village fixed effects.

β_1 , β_2 and β_3 represent the average treatment effect on the respective treatment groups, regardless of takers or non-takers. Heterogeneous effects of treatment can be explored by including interactions of treatment types and characteristics such as rural/urban, gender etc. These are suppressed here for simplicity.

It is expected that (i) $\beta_1 > 0$ and statistically significant; exclusion of people with disabilities due to a lack of credit access is present (ii) $\beta_2 > 0$ and significant; exclusion due to high risk aversion of people with disabilities is present (iii) $\beta_3 > \beta_1$ and $\beta_3 > \beta_2$. The strategy with the highest positive coefficient will be considered to have the highest impact.

Estimating determinants of treatment uptake (first stage of 2SLS)

$$C_taker_{ij} = \phi^C + \rho_1^C grant_{ij}^C + \rho_2^C info_j^C + \rho_3^C (grant_{ij}^C * info_j^C) + \gamma^C X_{ij}^C + \delta_j^C + u_{ij}^C \quad (2.1)$$

$$I_taker_{ij} = \phi^I + \rho_1^I grant_{ij}^I + \rho_2^I info_j^I + \rho_3^I (grant_{ij}^I * info_j^I) + \gamma^I X_{ij}^I + \delta_j^I + u_{ij}^I \quad (2.2)$$

$$CI_taker_{ij} = \phi^{CI} + \rho_1^{CI} grant_{ij}^{CI} + \rho_2^{CI} info_j^{CI} + \rho_3^{CI} (grant_{ij}^{CI} * info_j^{CI}) + \gamma^{CI} X_{ij}^{CI} + \delta_j^{CI} + u_{ij}^{CI} \quad (2.3)$$

Where C_taker_{ij} is a dummy variable with a value 1 if credit is taken by individual i in village j (and likewise for insurance takers I_taker_{ij} , and takers of both insurance and credit CI_taker_{ij}); $grant_{ij}$ is a dummy variable taking a value of 1 if an individual is offered a cash grant; $info_j$ is a dummy variable taking a value of 1 if a village receives financial education information. ρ_1 , ρ_2 and ρ_3 should be positive and significant to be good instruments for uptake.

Estimating treatment effects on takers, within-village and cross-village externalities (second stage of 2SLS)

$$y_{ij} = \alpha + \beta_{11}C_taker_{ij} + \beta_{12}C_offer_j + \beta_{13}(C_taker_{ij} * C_offer_j) + \beta_{21}I_taker_{ij} + \beta_{22}I_offer_j + \beta_{23}(I_taker_{ij} * I_offer_j) + \beta_{31}CI_taker_{ij} + \beta_{32}CI_offer_j + \beta_{33}(CI_taker_{ij} * CI_offer_j) + \sigma^T N_j^T + \sigma N_j + \gamma X_{ij} + \delta_j + \epsilon_{ij} \quad (3)$$

Where y_{ij} are outcomes of interest; C_offer_j , I_offer_j and CI_offer_j are dummy variables for the group offered microcredit only, insurance only, and both credit and insurance respectively; C_taker_{ij} is the predicted probability that an individual is a credit taker from (2.1) (and likewise for I_taker_{ij} and CI_taker_{ij}); N_j^T is the density of takers in villages adjacent to village j ; N_j is the density of people with disabilities in adjacent villages. Cross-village externalities can be estimated by using the variation in local density of treatment villages induced by randomisation.

Average treatment effects on takers are β_{13} , β_{23} and β_{33} for credit alone, insurance alone and both credit and insurance respectively and are expected to be positive and significant. β_{33} is expected to be the largest of the three under the hypothesis that both risk aversion and limited credit access are present.

Treatment externalities may occur due to learning. Non-takers (or the people around them) within a treatment group may observe successful start-ups by takers and gain confidence or learn business skills from them, to start their own. Cross-village externalities may also occur, but are less likely because of the long distance between Chittagong villages on average. Within-village treatment externalities are β_{12} , β_{22} and β_{32} respectively and are likely to be small and positive. σ^T captures cross-village treatment externalities, which are expected to be close to 0.

Potential challenges

Cross-village treatment externalities could also result from contamination if control group individuals obtain treatment from a nearby treatment setting. To minimise this problem, Grameen staff will be instructed to limit participants to individuals who have been staying at their present location for at least two years and to verify their addresses.

Families may access credit in the names of their disabled members to further their own business or consumption interests (Thomas 2000). This problem can be partially alleviated by close monitoring (usually daily) and frequent communication of the program's motivations to family members.

Control group participants may obtain loans from other microcredit providers in the vicinity. This problem is not likely to be severe within the one-year experimental period because the next largest providers of microcredit, BRAC and ASA, have eligibility criteria for loans that exclude people with disabilities. The Grameen Bank, BRAC and ASA together account for up to 70 percent of market share (IFC & KfW Bankengruppe 2009).

Sample attrition occurs when participants move away within the year. If it random and due to idiosyncratic shocks, effects will not be biased. However if sample attrition varies systematically across treatment and control groups, estimates will be biased. In this case, further investigation of possible causes of attrition can be done and partially incorporated into a Heckman model for selection bias (1979). This will at best provide a partial solution.

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