

Title: Entrepreneurial skills, production technology convexity in poverty alleviation

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Poverty trap literature points liquidity constraints, non-convex production technology, and human capital as some of root causes of chronic poverty. Microcredit programs tackle the liquidity constraints by providing credits. This implicitly assumes the poor have sufficient human capital (or entrepreneurial skills) to manage a business and the loaned amount is large enough to overcome non-convexity in production technology, if any. In addition, microcredit programs often target only the moderately poor, hinting the ultra poor's elevated risks perceived by the lenders. We empirically test these suppositions using an RCT targeted to women in Northern Bangladesh where the poorest in the country reside. We have four arms: Traditional arm that lends a small amount to be repaid in 1 year, large arm that lends a large amount to be repaid in 3 years, large-grace arm that lends a large amount to be repaid in 3 years with a grace period of 1 year, cow arm that leases a cow with managerial services to be repaid in 3 years with a grace period of 1 year. The loaned amount of large and large-grace arms are equivalent to a calf price, and is three times larger than in the traditional arm. Traditional arm loan amount is roughly equivalent to prevailing microcredit loans. Traditional arm loans are renewed twice so the total loaned amount is roughly the same across arms. A grace period of one year corresponds to the period a calf matures and produces milk to give cashflow. Data shows that most of large and large-grace borrowers chose to invest in cows, making the cow arm a good point of comparison that does not require entrepreneurial skills.

Following contrasts can reveal ITT estimates:

Cow vs. large-grace: Impacts of entrepreneurial skills.

Large-grace vs. large: Impacts of a grace period.

Large vs. traditional: Existence and impacts of loosened production technology non-convexity and credit market imperfections.

Moderately poor vs. ultra poor members: Heterogeneous impacts by poverty gradation and relative risks.

Outcome measures include repayment, consumption, asset holding, and child schooling. Preliminary findings indicate: Repayment rates are relatively low overall at 85% and are lowest with the traditional arm at 59%. Entrepreneurial skills does not change outcomes.

A grace period and loosened non-convexity resulted in higher repayment rates. Larger size resulted in higher asset holdings which is consistent with non-convexity. No difference in repayment rates by poverty gradation. Small loans induced multiple projects while large-amount loan (large, large-grace) arm members chose a single project, which indicates the existence of non-convexity in livestock production technology. Girls' schooling relative to boys' schooling under large arms are higher for primary but lower for secondary and above.

We tentatively conclude that: Entrepreneurial skills requirements in running a business are negligible in rural, impoverished areas; credit markets are imperfect in the area; traditional loans are too small to be profitable suggesting production technology non-convexity at a very low level of capital; and the lending to the ultra poor is not riskier than that to the moderately poor.