

***Introducing the FPD Impact Series.** This new series is intended to share the findings of impact evaluations in the areas of finance and private sector development that researchers in DECRG-FP have been involved in, and to draw out their lessons for operational staff and policymakers. Rigorous evaluations of FPD policies are relatively rare compared to other sectors such as health and education, and there is often a perception that many FPD projects do not lend themselves to serious evaluation. Our hope going forward is to showcase examples where assessment has been possible, and to enhance operational interest in evaluations of upcoming projects.*

## Which Microenterprises have High Returns to Capital?

*David McKenzie*

Small and informal firms are the source of employment for half or more of the labor force in most developing countries. A central question for policymakers is whether these firms hold the potential for income growth for their owners, or whether they merely represent a source of subsistence income for low-productivity individuals unable to find alternative work. The rapid increase in development funding being channeled to microfinance organizations is based on belief that these firms can earn high returns to capital if given the opportunity – while critics argue that attention should instead be directed towards creation of wage jobs to pull people out of subsistence self-employment.

Assessing the extent to which a lack of capital is a constraint on business profitability is complicated by the fact that firms which have more capital stock or greater access to credit are likely to also differ in many other ways from firms with less capital stock. The higher profits earned by firms with more capital may therefore simply reflect that owners of firms with more capital have better entrepreneurial skills than those with less capital, or that they have increased their capital investments in response to growing demand for their products.

### Randomizing capital

Two recent randomized experiments in Sri Lanka and Mexico provide a way to resolve this problem, and credibly identify the return to capital. Grants of between US\$100

and US\$200 were given to randomly selected subsets of microenterprises in each country. We can then compare the profits of firms which were randomly chosen to receive this additional capital to the profits of similar firms which did not receive this additional capital.

### High returns for the average microenterprise

We find:

- Real returns to capital of 5.7 percent per month in Sri Lanka, substantially higher than the market interest rate.
- Real returns to capital of 20 to 33 percent per month amongst small retail firms in Mexico, much higher than market interest rates.

The higher return in Mexico than Sri Lanka is likely the result of (a) the Mexican sample containing only men, while the Sri Lanka sample has both men and women; (b) the Mexican sample being relatively poorer and more credit-constrained than the Sri Lankans; and (c) Market interest rates being much higher in Mexico than Sri Lanka.

### Which firms have the highest returns and why?

In Sri Lanka, returns to capital are higher for entrepreneurs who are more severely capital constrained - those with higher ability and low wealth. Returns do not vary with risk aversion or uncertainty, suggesting it is not the case that firms choose not to undertake high

return investments because they involve too much risk.

A provocative finding in the Sri Lanka study is that while the average male-owned enterprise has very high returns to capital, on average female-owned enterprises saw no gain in profit from the grants. A future impact note will discuss our research into the reasons behind these gender differentials.

Returns are highest in Mexico for firms that say finance is a constraint to their business growth and lower for firms that have previously had formal loans or supplier credit, again consistent with credit market imperfections restricting firms from taking productive investment opportunities.

### Policy implications

#### **1. Many microenterprises have the ability to pay the high interest rates needed for microfinance to be self-sustaining.**

High returns to capital imply that the average microenterprise has the ability to pay the high interest rates charged by some microfinance organizations, such as *Compartamos*, the largest pure micro-lender in Mexico, which charges an average annual interest rate of 105%. The high returns suggest it is not the cost of capital, but access, that is the issue.

#### **2. Marginal investments have high returns – microenterprises aren't in poverty traps.**

An influential class of models of poverty traps rely on the assumption that there are non-convexities in production. That is, if you start too small, you will remain trapped in subsistence forever because the only profitable investment projects require a big lumpy investment. Our results suggest high returns from relatively small amounts. Firms can therefore start small and grow.

#### **3. Microfinance is not targeting the microentrepreneurs with the highest returns.**

For further reading see:

De Mel, Suresh, David McKenzie and Christopher Woodruff (2008) "Returns to capital: Results from a randomized experiment", *Quarterly Journal of Economics*, 123(4): 1329-72, 2008.

McKenzie, David and Christopher Woodruff (2008) "Experimental Evidence on Returns to Capital and Access to Finance in Mexico", *World Bank Economic Review*, 22(3): 457-82.

The highest returns to capital are found for poor, urban, male microenterprise owners with high ability (as measured by education or a digit span recall test). This group has not been the typical target of microfinance. There is a serious need for innovative new products which can direct finance to these individuals.

#### **4. Conditionality of Cash Transfers to Business Owners might not matter**

The experiments gave unrestricted cash grants to some of the treated microenterprises, and grants in the form of materials or equipment for the business to the other. We find no difference in the share of the grant ending up in the business, suggesting that cash transfers might be a more cost-effective mechanism for delivering capital to business owners than grants tied to having them spent on the business.

#### **5. Grants or Loans?**

The results show that one-time grants can raise the incomes of poor businesses by a significant amount, with the incomes of the treated group still higher than the control three years later in Sri Lanka. Many of these microenterprise owners do not qualify for loans offered by existing microlenders, and it is not clear how many of them would take a loan at market rates. An important policy question for future work is thus whether grants or loans are a better mechanism for raising the incomes of poor business owners.

#### **Want to know if you are having an impact?**

DECRG-FP researchers are always looking for opportunities to work with colleagues in the Bank and IFC to evaluate FPD projects. If you would like to ask our experts for advice or collaborate on evaluation strategies for upcoming projects, please contact us care of the FPD Impact editor, David McKenzie (dmckenzie@worldbank.org).