Private Enterprise Development in Low-Income Countries

Direct and Indirect Impacts of Credit for SMEs

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This randomized controlled trial in partnership with a development bank in the Philippines employs credit scoring for small and medium enterprise (SME) lending and measures the impact of credit on SME growth – both directly for firms receiving loans and indirectly for their competitors.

In the Philippines, the vast majority of registered enterprises are small or medium sized. Nationwide, there are over 800,000 micro, small, or medium enterprises. Promoting small and medium enterprise (SME) growth is a central focus of national policy, with all banks mandated to set aside at least eight percent of their total loan portfolios for SMEs. However, this mandate has proven challenging for many banks to meet. Lenders often perceive SMEs as more likely to default on loans than large firms and therefore too risky. Moreover, banks may find SME lending to be too expensive due to the time required to review loan applications; the cost of assessing whether an SME is creditworthy can exceed the bank's returns from lending. Banks across the Philippines struggle to meet the national SME lending mandate while remaining profitable and minimizing their portfolio risk.

Credit scoring is used extensively in developed countries to systematically assess client risk and reduce the time, and therefore the cost, of reviewing and processing loan applications. Credit scoring is less common in developing countries, but by employing a credit scoring model banks in the Philippines could process loan applications more efficiently while remaining confident in their approval decisions, in turn allowing them to increase their SME lending portfolios.

Credit Scoring for SME Lending

In collaboration with the Development Bank of the Philippines (DBP), a state-owned bank, we designed a new credit scorecard for DBP's Retail Lending Program for Micro and Small Enterprises. The credit scoring system, implemented at 47 branches across the country, enables DBP to make lending decisions based on verifiable client information and objective credit scores. It is designed to provide an unbiased measurement of a business's ability to pay back a loan, and replaces a review process that relied heavily on account officers' perceptions of applicants' creditworthiness. DBP's credit committee finalizes all loans, reserving the right to deny loans based on information not included in the scorecard, such as criminal history. The credit scoring system will be used for new SME loan applications ranging from PHP 300,000 to 10,000,000 (£4,500 – 149,900) with terms of three months to five years.

Figure 1: Lack of credit prevents SMEs in the Philippines from purchasing capital they need for business expansion.

Evaluating the impact of credit

To measure the impact of credit on SMEs, we designed a randomized controlled trial with random assignment determined by loan applicants' credit scores. After DBP loan officers submit an SME loan application for processing, the credit scoring software computes a score between 0 and 100. DBP's main office receives the score and the system provides account officers with instructions to approve or deny the applicant. Strong applicants with credit scores above a pre-determined threshold are approved, applicants with credit scores below a threshold are denied loans, and marginally-qualified applicants – those whose scores fall in the "bubble" between the approval and denial thresholds – are randomly assigned to either loan approval (treatment) or loan denial (comparison). We expect approximately 250 firms to fall in the "bubble", and these firms comprise the research sample to measure the direct impacts of access to credit. In addition to enabling a measure of the impact of credit on SME loan applicants, our research design also provides DBP with valuable information on the optimal approval and denial thresholds for its SME credit scoring going forward.

A baseline survey is conducted with all sample firms before they are informed of the loan approval decision. One year after loans are disbursed, we will conduct a follow-up survey to measure the firms' investments, number of employees, revenues, and profits. Administrative data from DBP will be used to measure loan repayment and default.

Broadening the scope for credit impact

In addition to measuring the direct impact of credit on SMEs receiving loans from DBP, we expand our study to also measure the indirect spillover effects of credit. Given the linkages within a market, it is reasonable to assume that providing credit to one small business will in turn indirectly affect the operations or performance of other firms, particularly its competitors and suppliers. Most research on the impact of credit does not account for such general equilibrium effects, but these have important policy implications. For example, access to credit may make a small business more efficient and profitable, potentially taking away business from competitors. On the other hand, access to credit may lead some businesses to develop better methods of production that competitors in turn copy, in which case credit could have positive spillover effects.

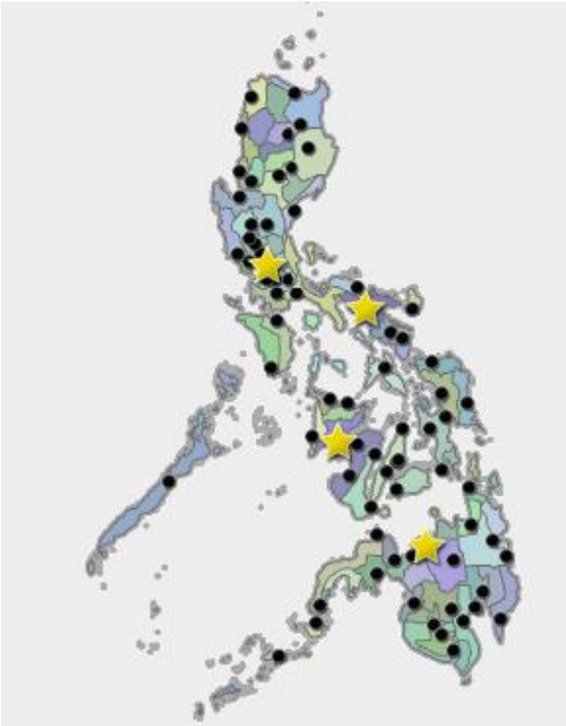

Figure 2 – DBP branches included in the study. Stars denote pilot sites.

To test our ability to rigorously measure both the direct and indirect impacts of SME lending, we conducted a pilot in four sites throughout the Philippines: Manila, Naga, Iloilo and Cagayan de Oro. We conducted interviews with current DBP SME loan clients as well as with DBP loan officers, to understand how the new credit scoring system would affect their loan review and client relationships.

The pilot also provided insight into the feasibility of measuring various indirect spillover effects. Our original study design included plans to measure the indirect impacts of credit on loan clients' customers, suppliers, and competitors. We piloted "mystery shopper" interviews with customers to assess whether these could rigorously capture how access to credit impacts consumers, such as through lower prices or greater variety or availability of goods and services. This approach presented measurement challenges in terms of identifying identical or similar goods that could be compared across all sample firms, and customers were also largely unwilling to provide information on their purchasing habits and preferences. With regard to suppliers, the pilot interviews revealed that most SMEs are supplied by large national or multinational companies. Such large companies are unlikely to experience significant vertical spillover effects from credit provision to a firm in their supply chain, and as a result we decided not to include supplier firms in our research sample.

Based on the pilot results, we ultimately decided to focus our measurement of spillover effects on loan recipients' competitors. For each firm in our sample – both those randomly approved for loans and those randomly denied loans – we ask respondents to identify their four main competitors, defined as the businesses where customers would shop if the respondent's business were to close. Our piloting efforts demonstrated we are able to reach the identified competitors and that they are willing to complete a baseline survey. We are therefore confident that we can measure the indirect impacts of SME lending on our sample firms' competitors. We intend for this study to develop a research method for measuring the spillovers from credit that can be applied in a range of settings and that can inform policy decisions about the broader impacts of expanding access to credit for SMEs.

Moving Forward…

A better understanding of the direct and indirect impacts of SME lending will have strong policy implications for economic development programs. We hypothesize that SMEs receiving credit will demonstrate increased sales, employment, and investment, although these gains are not guaranteed. The indirect benefits of SME lending are not often considered. Economic theory offers ambiguous predictions about the spillover effects of credit. It could be that SME lending generates new growth for the borrower at the expense of competitors, or SME lending could encourage competitors to improve their businesses, resulting in increased productivity and growth for them as well. This study will rigorously assess the general equilibrium effects of the SME lending intervention, providing a better understanding of the true impacts of access to credit for SMEs.

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