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# Determinants of Delinquency in the Philippines

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**Sector(s):** Finance

**J-PAL office:** J-PAL Southeast Asia

**Location:** Luzon, Philippines

**Sample:** 725 borrowers

**Target group:** Rural population

**Outcome of interest:** Take-up of program/social service/healthy behavior

**Intervention type:** Credit

**AEA RCT registration number:** AEARCTR-0001840

**Data:** dataverse.harvard.edu

**Research Papers:** Measuring Personality Traits and Predicting Loan Default with Experiments and S...

**Partner organization(s):** Rural Bank of Mabitac (RB Mabitac)

Intuition suggests that people with certain personality types may be predisposed to loan default. Accurately identifying these personality types could have profound implications for consumer banking policy, and also important lessons for understanding why credit markets may fail. In partnership with the Rural Bank of Mabitac in the Philippines, researchers carried out two experiments and a survey to collect information on an individual's personality traits. They then used this information to determine if potential clients with certain personality traits would pay back their loans. Researchers found that both individuals with higher moral standards and individuals who were the least naïve displayed lower default rates than other groups. They also found that survey-based social capital measures did not predict loan default for these individual loans, contrary to the results from a prior study of group loans. Additionally, researchers found that more general personality index measures were not good predictors of default.

## Policy issue

In many countries and contexts, microloan default rates remain high. A loan default (defined as not completing payment on or before the loan maturity date) can be costly and damaging for both borrowers and lenders. In traditional microfinance group lending models, lenders have often employed group knowledge of individuals' creditworthiness to naturally screen out clients considered more likely to default. Recently, microfinance institutions have begun to offer loans to individuals, limiting their ability to rely on community knowledge to limit loan defaults and increasing the need for tools to identify reliable borrowers. While intuition suggests that people with certain personality types may be predisposed to loan default, there is little evidence to indicate which borrowers with specific personality types, if any, are less likely to pay back loans.

## Context of the evaluation

Established in the 1970s, the Rural Bank of Mabitac is a regional bank with eight branches across the Luzon Island in the Philippines. At the time of the study, 71 percent of Rural Bank of Mabitac clients defaulted on their loans.

This study focused on clients recently approved for new individual loans. Nearly eight out of ten clients in this evaluation were female, of which 82 percent were married and three-quarters had secondary or post-secondary education. Sample loan recipients were generally wealthy but were not among the wealthiest by Filipino standards. The majority of participants were entrepreneurs, and the most common business was "corner store."

Nearly 8 out of 10 clients in this evaluation were female, of which 82 percent were married and three-quarters had secondary or post-secondary education. Photo: junpinzon | Shutterstock.com

Meredith Startz

## Details of the intervention

In partnership with the Rural Bank of Mabitac, researchers conducted an experiment and a predictive exercise with 725 Rural Bank of Mabitac clients to identify personality traits of borrowers and evaluate whether those traits accurately predicted the likelihood of loan default.

In the experiment, researchers evaluated whether a client had high moral standards. Loan officers who approved clients for a new individual loan asked them to fill out a voluntary survey on individual and household characteristics in exchange for P 30 (US$0.60). However, upon completion of the survey, the bank cashier gave the client P 50 (US$1.00). Researchers recorded whether the recipient immediately acknowledged and returned the excess cash, left the bank without returning the excess cash, or left the bank and returned later to return the excess cash.

In the predictive exercise, researchers examined the potential link between clients' beliefs about their ability to meet future commitments and their actual ability to meet those commitments. Loan officers asked clients to complete a voluntary two-question survey. Clients were randomly assigned to receive one of two different submission instructions. For clients in the treatment group, loan officers offered them a choice of either (a) an immediate payment for P 30 (US$0.60) or (b) P 50 (US$1.00) for sending responses via text message in one week. The other group of clients served as the comparison group and were instructed to text their responses via cellphone exactly one week in the future to receive a P 50 (US$1.00) deposit in their savings accounts.

To test the relative usefulness of these evaluation techniques, researchers also administered a "social capital" survey with questions on trust, fairness, and helpfulness that previous research identified as potentially good predictors of trustworthiness. They then examined the relationship between personality traits and financial behavior using the Big Five personality index model, which identifies five personality characteristics: openness, conscientiousness, extraversion, agreeableness, and emotional stability.

## Results and policy lessons

*Excess cash experiment:* From the excess cash experiment, researchers found that clients who returned to the bank to acknowledge receipt of excess cash were 15.1 percent less likely to default on their new loan and, if they did default, did so on an amount 15 percent smaller. On average, 56 percent of those who returned to the bank defaulted, compared to 71 percent among those who never returned after receiving excess cash. These findings suggest that moral standards are correlated with loan default and that clients' decisions to repay loans may be based on more than their ability to repay, alone.

*Text-back predictive exercise:* Among clients randomly assigned to receive a choice between immediately submitting responses and texting them later, those who chose to send their answers via text later were no more likely to actually text back than those in the comparison group. This suggests that some clients have overly optimistic beliefs about their future behavior. Researchers found that clients in the treatment group who chose to receive an immediate payment were 9 percentage points less likely to default on their first loan cycle relative to their peers who chose to text back for a larger payment later but were no less likely to have defaulted after a full year. This suggests that clients who made this choice were generally more aware of their ability to meet future commitments (either texting back or repaying a loan) and made decisions, accordingly.

Researchers also found that personality measures identified via the "social capital survey" and the Big Five personality index were generally not associated with default rates.

These findings suggest that credit scoring approaches could benefit from further exploration of new surveys that reveal personality traits and alternate devices for client screening.

Karlan, Dean, Sendhil Mullainathan, and Omar Robles. "Measuring Personality Traits and Predicting Loan Default with Experiments and Surveys." In *Banking the world: empirical foundations of financial inclusion*, edited by Robert Cull, Aslı Demirg-Kunt, and Jonathan Morduch, 393-410. Cambridge: MIT Press, 2013.