

Encouraging Microloan Applications from Women-Owned Farms

Testing the effect of a single direct mailer on microloan applications

Agency Objective Increase the rate at which female farmers participate in the Direct Farm Operating Microloan program.¹

Background The U.S. Department of Agriculture's (USDA) Farm Service Agency (FSA) launched the Direct Farm Operating Microloan (Microloan) program in January 2013 to better serve the needs of small farms, beginning farmers, and farmers from historically socially disadvantaged groups. The Microloan program offers loans that are smaller than other direct operating loans, with an initial maximum of \$35,000 that was raised to \$50,000 in November 2014. The loans are designed to be more convenient and accessible to nontraditional producers who might lack the business and credit history that traditional clients of the direct operating loan program have. This includes a streamlined application process and relaxed requirements for collateral and previous experience in farming. Qualifying borrowers work with local loan officers to complete the application process, and very few rejections for the microloans are recorded.²

Program Change FSA and OES sent direct mailers to female farmers in Spring 2016. The mailers included an image with a female farmer, information about the Microloan program, and instructions about how to contact the local loan officer.

This 2016 study follows a successful collaboration in 2015, when FSA and OES partnered to study the effect of sending a single direct mailer to all farmers in a random sample of zip codes in nine states. The mailer increased farmers' participation in the Microloan program. In this second iteration of the study, the language in the mailers remained nearly identical; however, the study narrowed the population to female farmers only. In addition,

instead of sending the mailer to every female farmer in a random sample of zip codes, 50% of the female farmers in each zip code received the postcard to assess spillover effects and learn whether female farmers would share the information about the card with each other.³

Evaluation Methods 524 counties were matched into 262 pairs. Matches were determined by number of loan-eligible farmers in each county and constrained by the number of letters that could be delivered in the intervention. Adjacent counties were not allowed to match with each other to decrease the chances that farmers in pure control counties would be exposed to the mailer.

Randomization occurred at two levels. First, among the 262 county-pairs, one county within each pair was randomly selected as a treatment county, and the other county as a control county. Second, within treatment counties, 50% of the female farmers were randomly assigned to receive the mailer and 50% were assigned to not receive the mailer. This evaluation design allowed OES to evaluate how well information about Microloans might spread from one individual to others nearby. In addition to analyzing the effect of receiving a personalized letter on whether the recipient applied for a microloan, this evaluation design allowed OES to detect whether farmers geographically near the recipient also applied for a Microloan.

Overall, 548,546 female farmers were included in the study.⁴ In the treated counties, 137,526 female farmers received the mailer and 137,200 female farmers did not receive the mailer.

Results In the earlier 2015 study, farmers who received the mailer were 0.06 percentage points

¹This program was previously called the FSA Microloan program.

²Tulman, Higgins, Williams, Gerling, Dodson, and McWilliams (2016). *USDA Microloans for Farmers: Participation Patterns and Effects of Outreach*. US Department of Agriculture Economic Research Report 222.

³Bowers, Higgins, Karlan, Tulman, and Zinman (2017).

"Challenges to Replication and Iteration in Field Experiments: Evidence from Two Direct Mail Shots," *American Economic Review: Papers and Proceedings*, 107(5): 462-465.

⁴These female farmers made up 515,048 households. If two female farmers lived in the same household, one female farmer was randomly selected to receive the mailer in the household.



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(pp) ($p < 0.05$, 95% CI [0.02pp, 0.1pp]) more likely to apply for a microloan than farmers who did not receive the mailer. In 2016, this result did not replicate. Using a linear regression model to analyze differences in loan application rates of female farmers between paired counties, OES estimated the direct effect of the mailer to be a difference of -0.013pp (95% CI [-0.04pp, 0.014]) , which was not statistically significantly different from zero. (The loan application rate among farmers in the control group was 0.42%.) In sum, OES found no statistically significant effect of the direct mailer on the farmers who received it.

In addition, OES estimated the spillover effect on farmers near those who received the mailer to be -0.029pp ($p < 0.05$, 95% CI [-0.006pp, -0.002pp]) by comparing loan applications of farmers who lived in treated counties but did not receive mailers with those in control counties. Though the effect is small, this result provides some evidence that spillover might have had the opposite effect as expected. Farmers who lived near recipients of the mailer were slightly less likely to apply for microloans than farmers in counties where no one received the mailer.

Conclusion A previous iteration of this study had shown that a single direct mailer increases applications to the Microloan program. This iteration targeted female farmers and treated half of the female farmers in each treatment county. While this iteration does not reproduce previous results, it does suggest that different populations may react to interventions in different ways — and suggests the potential and need to tailor interventions to specific populations. The unexpected spillover effect also opens avenues for further study. It is possible that female farmers whose neighbors received the mailer but who did not receive it themselves were less likely to apply because they felt they were not the right candidates for the loans (since they were not targeted for the mailer) or because they waited for their mailer to arrive before applying for the loan (but never received one). If this interpretation is correct, then it suggests the need to consider possible unintended effects on neighbors when deciding how to geographically target a direct mail intervention.

Proportion of Female Farmers who Applied for Loans

