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USDA Microloans for Farmers: Participation Patterns and Effects of Outreach

Sarah Tulman, Nathaniel Higgins, Robert Williams, Michael Gerling, Charles Dodson, and Bruce McWilliams

United States Department of Agriculture

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Abstract

The U.S. Department of Agriculture, Farm Service Agency's (FSA) Microloan program, launched in January 2013, aims to better serve the credit needs of small farms, beginning farmers and ranchers, veterans, and farmers from historically socially disadvantaged groups (women and minorities). These loans are designed to be more convenient and accessible to nontraditional producers, with a shortened and streamlined application and relaxed criteria for managerial experience, production history, and collateral. Using FSA's direct loan data to examine Microloan uptake patterns, ERS researchers find that, compared with Microloan-sized traditional Direct Operating Loans, (1) a larger share of Microloans have gone to the targeted groups, and (2) Microloans have attracted a larger number and higher share of borrowers who are new to FSA direct loans. Also, an experiment to test the effectiveness of targeted outreach to farmers proved effective within the States that were included in the experiment: significantly more farmers received Microloans in ZIP Codes that had received the informational letters versus those in ZIP Codes that had not.

Keywords: Farm Service Agency, Microloan, credit awareness, Direct Operating Loan, women, minority, disadvantaged, veteran, new borrower, outreach, uptake, targeted groups

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USDA Microloans for Farmers: Participation Patterns and Effects of Outreach

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What Is the Issue?

USDA's Farm Service Agency (FSA) launched its Microloan program in January 2013 with the goal of better serving the needs of small farms, beginning farmers and ranchers, farmers and ranchers from historically socially disadvantaged groups (or SDA—women and racial and ethnic minorities), and veterans. The maximum size of a Microloan was originally set at $35,000 and was raised to $50,000 in November 2014 by the Agricultural Act of 2014. Compared to FSA's traditional Direct Operating Loans (DOLs), which have a maximum limit of $300,000, Microloans are designed to be more convenient and accessible to groups not traditionally served through FSA's credit programs. Other features of the Microloan program include a streamlined application process and more flexible requirements for farming experience and the reporting of production history to qualify for a loan.

This report analyzes the composition of Microloan recipients, both overall and across the targeted groups, and also compares them with recipients of Microloan-sized traditional DOLs (small operating loans (small OLs)). ERS researchers also assess the number and composition of new FSA direct loan borrowers whom the Microloan program attracted during its first 3 years. These are then compared with those of small OLs. Finally, researchers test the effect of disseminating targeted information about the Microloan program on farmers' interest in and receipt of Microloans.

What Did the Study Find?

From January 2013 to November 2015, the Microloan program grew from 3,833 loans with total loan obligations of $88.8 million in 2013 to 5,674 loans and total loan obligations of $162.2 million in 2015 (through mid-November). During this time, some broad patterns appeared:

- Farmers belonging to targeted groups received 89 percent of all Microloans, of which beginning farmers accounted for the majority, at 81 percent of all Microloans. SDA farmers accounted for 35 percent of all Microloans, and 79 percent of those were received by borrowers who were also beginning farmers.
  - — Farmers in targeted groups received a larger share of Microloans than of small OLs.
  - — However, they also received a sizeable share (82 percent) of small OLs, with 74 percent going to beginning farmers and 26 percent to SDA farmers.

A comparison of borrowers who received Microloans and small OLs reveals the extent to which new borrowers participated in the Microloan program:

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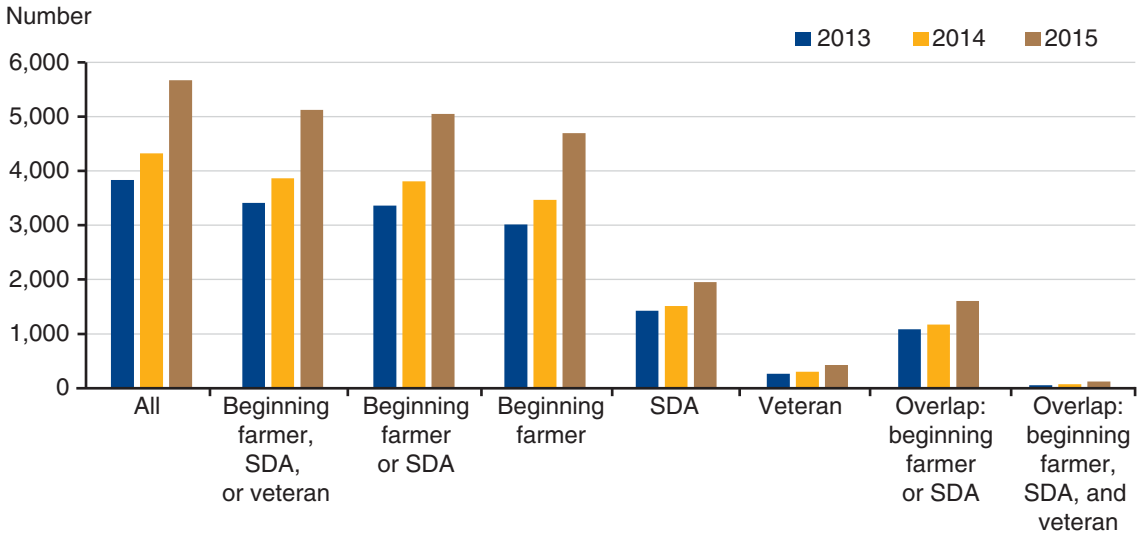
Number of Microloans received, 2013-2015



Note: SDA = socially disadvantaged applicant
Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015.

- In 2013-15, Microloans attracted 8,182 borrowers who were new to FSA's direct loan programs—substantially exceeding the 1,228 new borrowers who received small OLs during that time.
- The number of Microloans received by new borrowers also substantially surpassed the number of new borrowers (3,606) who received small OLs in 2010-12—the 3 years preceding the introduction of the Microloans program. This difference suggests the Microloan program likely attracted new borrowers who would not have received traditional DOLs if Microloans hadn't existed.
- New borrowers also received a much larger share of Microloans (59 percent) than of small OLs, either during 2013-15 (13 percent) or 2010-12 (25 percent).

To test whether increasing potential borrowers' awareness of the Microloan program also increases interest in and uptake of Microloans, ERS researchers, in collaboration with FSA and USDA's National Agricultural Statistics Service (NASS), conducted an experiment (using a randomized controlled trial (RCT) approach) in spring 2015 in nine Southern States. Farmers in some ZIP Codes received a letter detailing the benefits of the Microloan program and how to obtain more information about it, while farmers in other ZIP Codes did not. Results showed that:

- The letters more than doubled the share of inquiries about the Microloan program at FSA county offices, from 2.64 percent to 5.54 percent.
- The share of borrowers receiving Microloans increased by 27 percent in ZIP Codes that had received the letters relative to ZIP Codes that had not.

How Was the Study Conducted?

This study was conducted using FSA direct loan data, collected during the course of FSA's loan-making operations and containing information on borrower and loan characteristics. Analysis from the 2012 Census of Agriculture, which is conducted by NASS, and the 2014 Tenure, Ownership and Transition of Agricultural Land (TOTAL) survey, which is jointly conducted by NASS and USDA's Economic Research Service (ERS), were used to facilitate comparisons to all farms.

The experiment (using outreach letters) was conducted cooperatively with FSA and NASS, targeting a wide audience of potential new borrowers from the NASS mailing list. Analysis of the outcome used (1) new FSA Receipt for Service data (collected under the 2014 Farm Bill) to track the effect of outreach on interest in the Microloan program, and (2) FSA's direct loan data to track the number and locations of Microloans that were eventually received.

USDA Microloans for Farmers: Participation Patterns and Effects of Outreach

Introduction

USDA's Farm Service Agency (FSA) launched its Microloan program in January 2013 to better serve the needs of small farms, beginning farmers and ranchers,[1] and farmers from historically socially disadvantaged groups (also referred to by FSA as "socially disadvantaged applicants" (SDA)). Microloans are part of the Direct Operating Loan (DOL) program run by FSA,[2,3] with permanent authorization granted through the Agricultural Act of 2014.[4] As their name suggests, these loans are typically smaller than other DOLs, with an initial loan limit of $35,000 that was raised to $50,000 in November 2014. In contrast, the maximum for a traditional DOL is $300,000.[5] Microloans are designed to be more convenient and accessible to new and nontraditional producers who might lack the business and credit history that traditional clients of DOLs have. Features that differentiate it from the traditional DOL program include a streamlined application process and relaxed requirements for farm management experience, production history, and collateral.

Through its direct lending program, FSA provides credit to qualified applicants who have not been able to obtain credit from commercial lenders at reasonable rates and terms. These farmers' limited access to capital may restrict their ability to expand and/or adopt new technologies, thereby hindering their ability to be competitive.

Microloans focus on operators who seek relatively small amounts of capital but have been unsuccessful in obtaining credit from other sources for reasons such as lack of credit history and/or relationships with lenders, limited farming experience, and a scarcity of lenders willing to provide small farm operating loans. According to the 2014 TOTAL survey, 45 percent of all farm operations and 29 percent of all farm businesses[6,7] have between $1,000 and $25,000 in gross sales. Of these opera-

[1]Throughout this report, both categories will be referred to simply as "farmers." Analogously, "farms" will refer to both farms and ranches.

[2]FSA subsequently launched the Direct Farm Ownership Microloan program in January 2016. However, this report focuses solely on the Direct Farm Operating Microloan program. As such, all mentions of Microloans throughout this report refer to the latter.

[3]The regulation implementing the program is found in the Federal Register (2013).

[4]FSA provides two types of credit support to farmers: guaranteed and direct loans. Direct loans are the subject of this report. These loans are made and serviced by FSA county office staff without the intermediation of a bank or other institution. An overview of FSA loan programs can be found at http://www.apfo.usda.gov/Internet/FSA_File/loanprograms0315.pdf .

[5]$300,000 is also the overall direct loan outstanding balance limit.

[6]These shares exclude retirement farms and operations where farming is not the principal operator's occupation.

[7]Farm businesses are operations with either (1) greater than $350,000 in gross cash farm income or (2) principal operators who report farming as their primary occupation.

tions, those that required financing from credit markets[8] would be more likely than larger farms to require small amounts of capital. Microloans are not limited to those with less than $25,000 in sales, but the large shares of operations and businesses in this range suggest the potential for interest in the program.

One goal of FSA's lending programs is to address credit market failures. As summarized by Dodson and Koenig (2006), Federal intervention in credit markets is justified, according to the Office of Management and Budget, when a segment of the borrowing public lacks access to credit because of market failures such as imperfect competition, information asymmetries, and insufficient lending resources. Additionally, Federal intervention in credit markets can be used to redistribute resources to disadvantaged market segments. Within agriculture, potential broader credit market failures are addressed primarily through the Farm Credit System, under the oversight of the Farm Credit Administration, an independent agency. FSA's direct lending programs focus on providing credit to groups considered economically disadvantaged because of limited financial resources, such as beginning farmers, racial and ethnic minorities, and women.[9,10] Nwoha et al. (2007) find that the targeting of FSA direct loans to these groups between 2000 and 2003 was effective, with 14 percent of all direct loans going to SDA farmers and 39 percent of DOLs and 69 percent of Farm Ownership Loans going to beginning farmers.

Many farmers who cannot obtain credit in the commercial market might also forego applying for a traditional FSA DOL because of the lengthy application process or might be rejected for these loans because of an inability to meet the collateral, production history, or farming and management experience requirements (especially new operations). The Microloan program is designed to remove these barriers. The application process is shorter. Applicants have to fill out only one form, rather than the nine[11] that are required for a traditional DOL. Several criteria are also loosened. Applicants can use non-farm business experience, apprenticeships and mentoring programs, and farm labor experience to meet the farm management experience criteria. Collateral requirements differ between traditional DOLs and Microloans: a real estate lien is not required for Microloans where the value of the collateral is greater than the value of the loan (100-percent loan-to-value), as compared with a traditional DOL, for which a real estate loan is required when the value of the collateral is less than 150 percent of the value of the loan.

Delinquency rates for the Microloan program are currently lower than those of traditional DOLs, as well as those of all FSA direct loans overall (which include Farm Ownership, Youth, and Emergency loans). As of April 30, 2016, the delinquency rate in terms of dollars (the "dollar rate") was 2.92 percent for Microloans, compared with 9.05 percent for traditional DOLs and 5.94 percent for all direct loans. The share of delinquent borrowers (the "borrower count rate") was 8.05 percent for

[8]Many farms may be able to meet their financing needs through drawing down on cash reserves or borrowing through informal channels. In the 2012 Census of Agriculture, only approximately one-third of farms (of any size)—783,952 out of a total of 2.1 million farms—reported any interest expense.

[9]Although FSA loans are targeted to these groups, qualified non-targeted groups may apply for and receive loans.

[10]For information about the targeted recipients of Microloans, see http://www.fsa.usda.gov/programs-and-services/farm-loan-programs/microloans/index. For a discussion of the funds targeted specifically to minority and women farmers, see http://www.fsa.usda.gov/programs-and-services/farm-loan-programs/minority-and-women-farmers-and-ranchers/index.

[11]USDA, FSA Farm Loan Application Forms: https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/farm-loan-application-forms/index

Microloans versus 22.22 percent for traditional DOLs and 14.83 percent for all direct loans.[12] One reason for the Microloan program's lower default rates is the smaller average loan size with the resulting smaller monthly payments.

A few other Government agencies have loan programs that are focused on small businesses. For example, USDA's Rural Development's Rural Microentrepreneur Assistance Program provides fixed-interest loans of up to $50,000 through intermediary lenders. Likewise, the Small Business Administration (SBA)'s Microloan program, administered by intermediary lenders, is aimed at businesses that have been denied credit by private funding sources, with loans up to $50,000.

The streamlined and shortened application provides an example of the type of process simplification that behavioral economists have indicated may both reduce the barriers to program access and change the mix of individuals who ultimately access a program through self-selection.[13] A standard economic model suggests that program applicants will be screened efficiently by transaction costs, such as those generated by a rigorous application process, since those individuals who will benefit most from the program will be most willing to pay the convenience costs of applying. However, a behavioral model suggests that the costs of applying might be highest for individuals whom the programs are designed to assist. The implication is that longer, more involved screening processes (such as the loan application process) might be inefficient, and that simplification might lead not only to increased uptake, but also to a change in the mix of individuals signing up for the program. In the case of the Microloan program, this simplification could lead to improved access to credit.

An example of a simplified Federal program is the Free Application for Federal Student Aid (FAFSA). Experimental research suggests that simplifying the process of completing the FAFSA has led not only to an increase in applications, but also an increase in college attendance. This research was especially focused on low- and moderate-income families.[14] FSA's Microloans program represents another example of simplification designed to lower the barriers to access for populations that typically face more business credit constraints.

In this report, we review the distribution and magnitude of Microloan uptake and the extent to which it serves new FSA direct loan borrowers. Our analysis is not meant to determine precisely who would or would not have been served by traditional DOLs, or to identify substitution between traditional DOLs and Microloans, but rather to describe whom, among new borrowers, the Microloan program is serving. Using administrative data provided by FSA, we examine loan receipt patterns for Microloans. These patterns are analyzed across targeted groups (beginning farmers, SDA, and veterans), regions, and production categories. We then focus on Microloan receipt patterns among new borrowers in particular, and examine whether the Microloan program might have attracted new borrowers who might not have been served by traditional DOLs, and whether the program is drawing a different pool of borrowers than similar-sized traditional DOLs attract.

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[12]Source: USDA, Farm Service Agency, Farm Loan Programs "Monthly Management Summary for April 2016."

[13]See for example Bettinger et al. (2012); U.S. Department of Education, "Fiscal Year 2017 Budget: Summary and Background Information," 2016, p. 46; and memoranda from the Office of Management and Budget: https://www.whitehouse.gov/sites/default/files/omb/inforeg/memos/2015/behavioral-science-insights-and-federal-forms.pdf and https://www.whitehouse.gov/sites/default/files/omb/inforeg/memos/testing-and-simplifying-federal-forms.pdf

[14]See Bettinger et al. (2012) for an example of an experiment that showed increased enrollment in college as a result of reducing the costs of applying for financial aid, or Dynarski and Scott-Clayton (2013) for details on the apparent deterrent effect of complexity more broadly.

We also report the results of an experiment—an outreach letter sent to a large group of principal operators—designed to increase knowledge of the Microloan program among targeted groups and among farmers more generally. Since the program is new, information about the program might not be widespread, especially among people who do not interact with FSA regularly. Differences in outreach activities at the State and local levels could create differences in how effectively program information is disseminated, especially among new borrowers, which could manifest in geographic differences in the number of Microloans received.[15] The experiment allowed us to measure the effectiveness of this targeted outreach.

[15]See, for example, figure 3(a), or early analysis of program data conducted by the National Sustainable Agriculture Coalition (http://sustainableagriculture.net/blog/farm-microloans-big-in-2014/).

Data Sources

This study uses FSA direct loan obligation data, spanning a period from 1991 through November 10, 2015.[16] In this data, multiple loans of the same loan type that are obligated on the same day to the same borrower are considered to be one loan, while obligations to the same borrower on different dates are considered to be different loans. These multiple-obligation loans are often broken up along the lines of loan purpose (e.g., family living expenses, capital improvements, equipment, etc.) or loan term. To better capture the uptake of Microloans from the farmers' perspective, we treat each of these clusters of observations in the data—for the same borrower, on the same obligation date, and for same loan type (for example, Microloans or traditional DOLs)—as a single loan.[17,18] This assumption reflects the fact that loans are fungible once funds are disbursed.

We use the 2014 TOTAL and the 2012 Census of Agriculture to supplement some of the analyses.

Our discussion of the outreach experiment uses the aforementioned loan obligation data in the analysis of the results, as well as FSA Receipt for Service data.[19] Guidance provided to field offices requires field office staff to record nearly all loan-related contacts with prospective borrowers. We use this data to track contact between potential borrowers and FSA county offices that receive and process loan applications. Data from the 2012 Census of Agriculture were used to design the experimental sample.

[16]The most recent data available when the analysis was conducted.

[17]After aggregating the dollar amounts across observations within loans, following the definition used above, there were 216 loans (out of 14,094), with a total loan size that exceeded the amount allowed under the Microloan program ($35,000 or $50,000, depending on the date). The results shown in this report exclude these 216 loans.

[18]This perspective is in contrast to FSA, which (as the lender) counts each obligation as a separate loan.

[19]USDA, Web Receipt for Service (webRFS) User's Guide at https://www.fsa.usda.gov/Internet/FSA_MIDAS/905_WI_RFS_User_Guide.pdf, and FSA Common Management and Operating Provisions handbook at http://www.fsa.usda.gov/Internet/FSA_File/1-cm_r03_a69.pdf.

Microloan Program Overview

A total of 11,471 unique borrowers received 13,833 Microloans between the program's inception in January 2013 and November 2015. The number of Microloans received increased each year, from 3,833 loans in calendar year 2013 to 4,326 in 2014 and 5,674 in the first 11 months of 2015 (relative increases of 13 percent and 31 percent, respectively).[20,21] The total obligated dollar amount also increased each year, from $88.8 million in 2013 to $99.3 million in 2014 (a 12-percent increase over 2013) and then to $162.2 million in 2015 (a 63-percent increase over 2014). A 23-percent increase in average loan size, from $22,671 to $27,851, also contributed to the jump in the total obligated dollar amount from 2014 to 2015.

Of the 11,471 unique borrowers, 83.3 percent (9,558) received only one Microloan, 13.5 percent (1,547) received two Microloans, 2.6 percent (301) received three, and 0.6 percent (65) received either four, five, or six.

Broad patterns are apparent in the data. Over the nearly 3 years of data, we observe that more Microloans are received in particular States and regions, among particular types of operations, and among particular types of farmers. These patterns roughly correspond to farm structure as reflected in the 2012 Census of Agriculture, with the most Microloans made in States with large numbers of small and minority-operated farms, and fewest Microloans made in States with more large farms or with fewer farms operated by members of the groups that the Microloan program targets. Figure 1 illustrates the geographic distribution of Microloans during 2013-2015.

Although any farmer can apply for a Microloan, certain groups are especially targeted: the law requires that FSA reserve a portion of its funds for exclusive use by beginning farmers and SDA (minorities and women).[22]

Targeting is pursued by prioritizing program funds, as mandated by Congress. Specifically, a minimum of 50 percent of funds for DOLs (including both traditional DOLs and Microloans) are reserved for beginning farmers, and 20 percent are reserved for SDA. Thus, recipients who do not fall into these two categories can, at most, receive 30 percent of available funds.[23] The share for beginning farmers typically applies to the first 6 months of the fiscal year, and the share for SDA typically applies to the first 10 months. Also, note that these shares refer to amounts of funds, not the number of loans.

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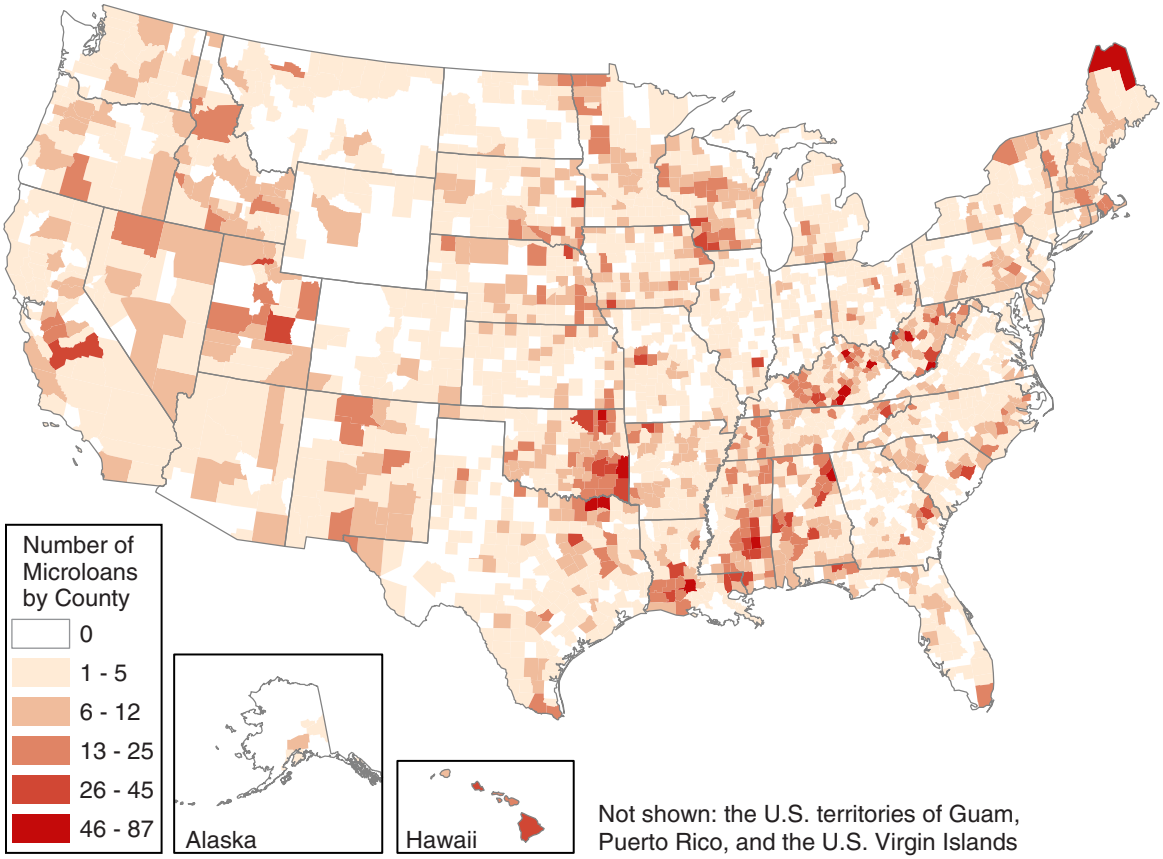
[20]Unless otherwise specified, "year" refers to the calendar year. Farmers plan according to either the tax year or the marketing or production year. Because the latter varies across crop/livestock categories, we chose to mirror the tax year (for most farms this is the calendar year). Additionally, the Microloan program began in January, so using the calendar year provides greater comparability across years.

[21]The data do not include rejected applications; however, the number of recipients is almost as high as the number of applicants, which mitigates the concern about a selection bias resulting from looking only at those who have been successful in obtaining a Microloan. From program inception to May 31, 2016, only 7.2 percent of applications were rejected.

[22]Beginning farmers are defined as having 10 years or less of farming experience. For the purposes of this report, we define beginning farmers as either (1) receiving a loan from funds that were specifically intended for beginning farmers—which by definition means that FSA already determined that the recipient qualified as such—or, if the data so indicated, (2) farming for 10 or fewer years as of the loan obligation date, even if the borrower had received a loan from funds that were not specifically allocated for beginning farmers. Analogously, SDA are counted as having either received SDA-designated funds or appearing in the data as being a woman and/or a member of a minority.

[23]Although funds are not specifically targeted to veterans, a veteran who receives a Microloan does not have to count the receipt of that loan against his or her 7 years of DOL eligibility.

Figure 1
Distribution of Microloans, by county, 2013-2015



Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015.

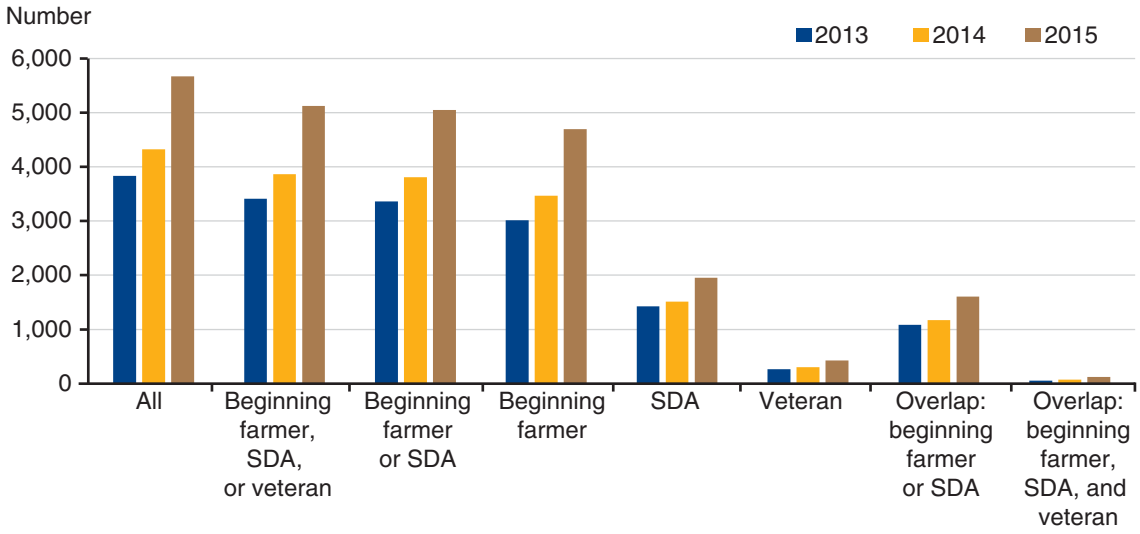
Microloans received, broken down by targeted groups. From 2013 to 2015, the number of Microloans increased each year, both overall and within each targeted group (i.e., beginning farmer, SDA, and veteran) (fig. 2). Also, substantial numbers of loans were received by farmers who belong to more than one group.

Several patterns appear when comparing shares of loans by group categories and category combinations (table 1). First, groups that were especially targeted for Microloans received a very large share (89 percent) of all Microloans. By way of comparison, only 58 percent of farms have at least one operator from any of these groups, according to the 2012 Census of Agriculture.[24, 25]

[24]The Census of Agriculture collects demographic information only about the first (principal/primary), second, and third operators, so it may miss operators beyond the third. However, 93 percent of farms in this data list either one or two operators, so there is a low probability of this scenario occurring. The Census of Agriculture may also miss family members who were not considered operators at the time of the survey.

[25]The 2012 Census of Agriculture does not include any questions about veteran status. Therefore, the shares of targeted farmers from the Census of Agriculture are for beginning farmers and SDA only. However, even if the share of farms with at least one veteran operator were comparable to the share of Microloans received by veterans who do not fall into either of the other two categories, the share of farms with at least one operator who was a beginning farmer, SDA, or veteran in the Census of Agriculture would still be considerably lower than the share of Microloans received by these groups.

Figure 2
Number of Microloans received, 2013-2015



Note: SDA = socially disadvantaged applicant
Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015.

Table 1
Shares of Microloans received by targeted groups

	Beginning farmer or SDA or veteran	Beginning farmer or SDA	Beginning farmer	SDA	Veteran	Overlap: beginning farmer and SDA	Overlap: beginning farmer and SDA and veteran
	Percent						
2013	89.0	87.6	78.7	37.2	7.0	28.3	1.3
2014	89.3	88.1	80.2	35.0	7.0	27.1	1.7
2015	90.3	89.0	82.8	34.4	7.5	28.3	2.2
Total	89.6	88.3	80.8	35.4	7.2	27.9	1.8

Note: SDA = socially disadvantaged applicant.
Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015.

Another salient finding is that beginning farmers account for the vast majority of borrowers from targeted groups, representing 81 percent of all Microloans. SDA borrowers received approximately 35 percent of all Microloans, but 79 percent of those (28 percent of all Microloans) went to those who were also beginning farmers. The SDA category breaks down into women (18 percent of all Microloans) and minority (14 percent of all Microloans—not shown in fig. 2). These shares were all fairly stable across years.

Microloans received, broken down by region. Another area of interest is the geographic distribution of Microloans and possible relationships between Microloan uptake and demographic characteristics, farm size, or concentration of farms by region.[26] The number of Microloans

[26]Farm Production Regions Map at: https://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/documentation/#Maps. For the purposes of this report, Alaska, Hawaii, and Guam are included in the Pacific, and Puerto Rico and the U.S. Virgin Islands are included in the Southeast.

increased each year in every region except for the Pacific, where it declined by 14 percent from 2013 to 2014 and then increased by 17 percent from 2014 to 2015 to its 2013 level. From 2013 to 2014, the increase in the number of Microloans in the Northern Plains was especially notable (47 percent). From 2014 to 2015, the largest increases occurred in Delta (62 percent), Appalachia (38 percent), and Southeast (33 percent). The largest cumulative increases across all years (2013-15) were seen in Northern Plains (79 percent), Mountain (66 percent), Southern Plains (63 percent), and Delta (59 percent, which was less than the 2014-15 increase because of a slight decrease in the number of Microloans received between the first and second years).

The distribution of Microloans by region compared with the distribution of U.S. farms reveals regional differences (fig. 3a). Appalachia received the largest share of Microloans, followed by Southern Plains, Delta, and Southeast. In Appalachia, Delta and Southeast, these shares exceeded each region's share of all U.S. farms, with a difference of 7 percentage points for both Appalachia and Delta and 4 percentage points in Southeast. In contrast, the share of Microloans in Southern Plains was smaller than the region's share of all farms, as the region received 12 percent of all Microloans but contained 16 percent of all farms. Other regions in which the share of Microloans received was considerably lower than the share of farms include the Corn Belt, with a 9-percentage-point difference, and Pacific, with a 3-percentage-point difference.

Relationship between target-group distribution and regional variations. Some of these patterns likely stemmed from regional variations in the demand for loan products by members of the groups of farmers that the Microloan program especially targets.[27] The higher number of loans in Appalachia and Southern Plains (which received a sizeable share, despite not matching its share of farms) might have reflected either lower-than-average per capita income or greater-than-average financial stress on farms.[28] In the 2014 TOTAL, farms in Appalachia had the lowest average gross cash farm income (GCFI) ($70,616) and Southern Plains had the second lowest ($95,565). (The national average GCFI was $184,214.) The demographic composition of farmers in the Southern Plains, Southeast, and Delta regions might also have contributed to the larger numbers of loans received in these regions. In the Southern Plains, 63 percent of all farms had at least one operator who belonged to at least one of the groups that the Microloan program targets, and in the Southeast, that share was 61 percent of all farms (compared with 58 percent nationally), according to the 2012 Census of Agriculture.

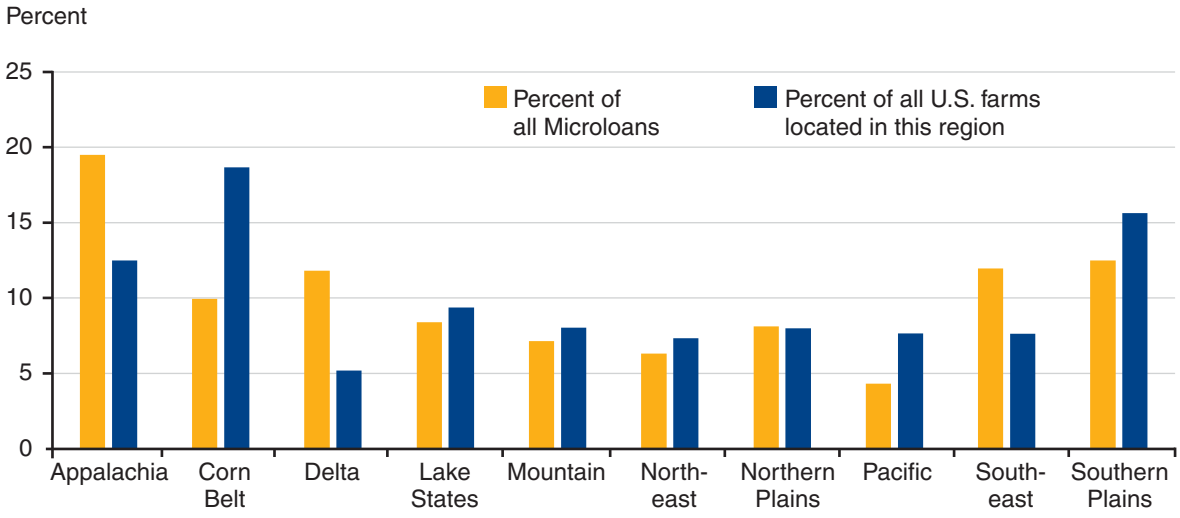
Delta had the highest concentration of Black farmers at nearly 9 percent, compared with 2 percent nationally. These population patterns paralleled the patterns of Microloans received: Southeast showed the highest share (22 percent) and number (360) of Microloans received by Black farmers, and Delta showed the second-highest share (19 percent) and number (314) of Microloans received by this group. (The share of Microloans received by Black farmers nationally was 7 percent.) Southern Plains had the highest number (411) and share (24 percent) of Microloans received by Hispanic farmers (compared with 5 percent of all Microloans nationally), as well as the highest number (542) and share (31 percent) of Microloans received by minorities (compared with 14 percent of all Microloans nationally).

Regional variation likewise appeared in Microloans' share of all FSA direct loans (fig. 3b). On the high end, in 2015, Microloans accounted for 43 percent of all FSA direct loans in Delta States, 37

[27]As the Census of Agriculture does not include questions about veteran status, the shares of targeted farmers from this source are for beginning farmers and SDA only.

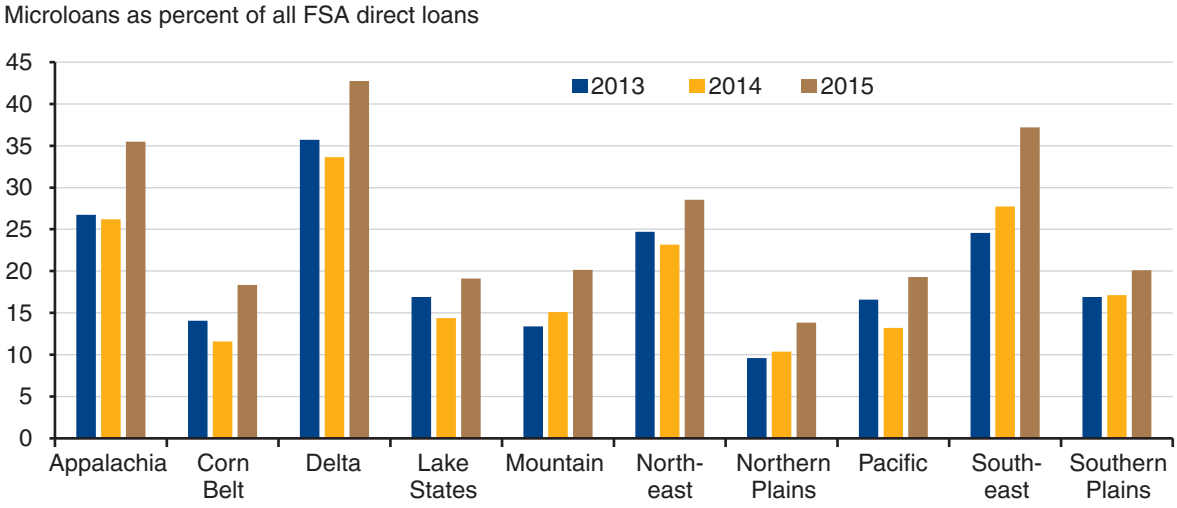
[28]Dodson and Koenig (2003) also found that FSA direct loan program use was higher in areas with lower incomes or greater farm financial stress.

Figure 3a
By region, shares of Microloans and shares of farms



Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015, and 2012 Census of Agriculture.

Figure 3b
Microloan shares of all FSA direct loans, by region



Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, through November 10, 2015.

percent in Southeast, and 36 percent in Appalachia. On the low end, in 2015, Microloans accounted for only 13 percent of all FSA direct loans in Northern Plains, 18 percent in Corn Belt, and 19 percent in Pacific. These two extremes reflect (on the high end) the higher concentration of smaller farms and/or targeted groups of farmers and (on the low end) the concentration of large farms, since large farms are less likely to have their credit needs adequately met by small loans like Microloans. Regional variations in the crop or livestock in which farms specialize may also affect regional uptake of Microloans.

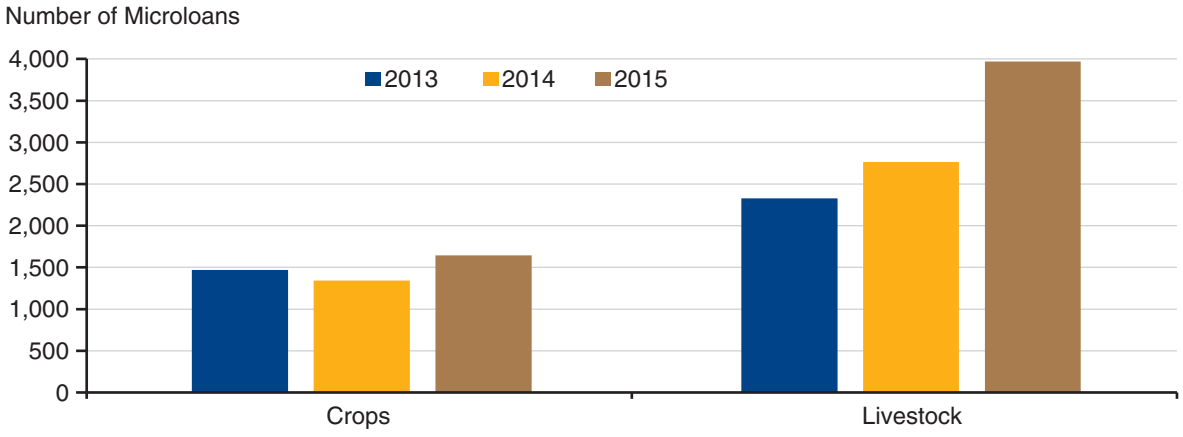
Microloans received, broken down by commodity specialization. The Microloan program is intended to target potentially underserved farmers, which can be broadly defined to include those with types of operations that might have difficulty accessing traditional credit avenues. Credit needs vary across commodity specializations because of factors such as differences in farm size, equipment requirements, and length of the production cycle. This may have influenced the differences, in 2013-15, between numbers of Microloans received by crop farmers, whose loan numbers remained fairly stable, and those received by livestock farmers, whose numbers increased each year, from 2,328 in 2013 to 3,969 in 2015 (fig. 4).

Moreover, beef cattle operations received more than half of all Microloans. Grain and oilseed farms, the next largest category, received approximately 15 percent of Microloans across all years, with almost half of these going to corn farms (table 2).

Two possible reasons may drive the disproportionally large share of Microloans that beef cattle operations receive. (Notably, beef cattle operations have also received the largest share of traditional DOLS during this time, with 42 percent of the total (38 percent if looking back over the past decade starting in 2005), compared with less than 15 percent for any of the other categories.) One possibility behind this high concentration is that there are a lot of beef cattle operations. In the 2014 TOTAL, beef cattle operations accounted for 35 percent of all operations, a much larger share than any other production category. To provide a sense of how much larger: the next-largest categories were other crop at 23 percent and other livestock at 13 percent of all operations. After beef cattle, the next-largest single category (unlike the catchall "Other" categories) was corn farms, which accounted for only 6 percent of all operations (11 percent if combining corn and soybean). Given the numbers of cattle operations, it is not surprising that they received a large share of Microloans, but the share of loans they received (more than 50 percent) significantly surpassed even their 35-percent share of all operations.

Another possible reason for cattle operations' disproportionate share of Microloans is the size of their operations. In the 2014 TOTAL, beef cattle operations had average gross cash farm income (GCFI) of $97,077, compared with $142,536 for all livestock operations ($228,799 excluding beef cattle) and $232,637 for all crop farms. In addition, beef cattle operations accounted for 37 percent

Figure 4
Number of Microloans, by crop versus livestock operations



Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, through November 10, 2015.

Table 2
Shares of Microloans received, by commodity specialization,[1] 2013-15

	Number of Microloans 2013-15	Percent of Microloans 2013-15	Percent of small farms 2014 (<$350K)	Percent of large farms 2014 (≥$350K)	Percent of all farms 2014
Grain/oilseed	1,982	15	12	47	15
Vegetable	870	6	1	2	1
Fruit/nut	312	2	3	6	4
Other crop	1,295	10	27	11	26
Beef cattle	7,607	56	37	15	35
Dairy	439	3	1	10	2
Poultry	207	2	2	3	2
Other livestock	808	6	15	6	14
Other[2]	83	1	N/A	N/A	N/A

[1]The first two columns are from the FSA loan data, where commodity specializations are based on NAICS (North American Industry Classification System) codes assigned to each borrower by FSA field staff. In the second category, from the 2014 TOTAL, production categories correspond to the commodity group that comprises at least 50 percent of the total value of production

[2]In the FSA loan data, "other" encompasses borrowers who do not produce output that would fit into the other categories, such as farmland rented out or site preparation contractors. This category is not present in the 2014 TOTAL, so these spaces are left blank in the table.

Source: USDA, Economic Research Service analysis of Farm Service Agency (FSA) loan obligation data, through November 10, 2015, and USDA, Economic Research Service and USDA, National Agricultural Statistics Service 2014 TOTAL.

of all small farms—those with GCFI of less than $350,000—in the 2014 TOTAL, versus only 15 percent of farms with GCFI greater than or equal to $350,000. The relatively small size of beef cattle operations means that small loans such as Microloans might fulfill more of these operations' financing needs.

The concentration of beef cattle operations might also contribute to regional variation in the receipt of Microloans. The regions that received the largest shares of Microloans (as a share of the national total) also had the largest concentrations of cattle farms: Appalachia (47 percent of operations within the region), Southern Plains (54 percent), Southeast (44 percent), and Delta (50 percent).

Microloans Versus Small (Microloan-Sized) Operating Loans

Although the Microloan program is new, similarly sized loans have been made since the inception of the traditional DOL program. We compare the share of Microloans that were received by targeted groups of farmers to the analogous share of Microloan-sized traditional DOLs ("small OLs") in 2013-15. The small OLs, as we defined them, had the same maximum loan size as Microloans, with an initial maximum size of $35,000, which increased to $50,000 in November 2014.

There were approximately one-third fewer small OLs than Microloans, and a smaller share was received by targeted groups of farmers (see table 3). Overall, 82 percent of small OLs were received by members of these groups, compared to 89 percent of Microloans. Still, even this smaller share of small OLs was much higher than the 58 percent of all farms with at least one operator belonging to a targeted group (2012 Census of Agriculture), suggesting that the DOL program is still an important source of credit for targeted farmers.

Table 3
Shares of loans received by targeted groups of farmers, 2013-2015

	Microloans	Small OLs	Population (Census of Agriculture)
Number of loans (total)	13,833	9,349	
	Percent		
Beginning farmer or SDA or veteran	89	82	*
Beginning farmer or SDA	88	81	58
Beginning farmer	81	74	26
SDA	35	26	49/23**
Veteran	7	5	*
Overlap: beginning farmer and SDA	28	19	13
Overlap: beginning farmer and SDA and veteran	2	1	*
Women	18	13	43/14**
Minority	14	9	8
Overlap: women and minority	2	1	3/1**
Overlap: beginning farmer and women	15	10	12/4**
Overlap: beginning farmer and minority	10	7	3
Black	7	2	2
Hispanic	5	6	4
Native American	1	1	2
Asian/Pacific Islander	0	0	1

Note: SDA = socially disadvantaged applicant. OL=operating loan.

*Veteran status not reported in the Census of Agriculture.

**The larger numbers (listed first) use the criteria that at least one operator was a woman, or for socially disadvantaged applicants (SDA) was either a woman or minority. However, many women operators in this data are spouses with various levels of involvement in the operations. These loan programs are aimed at applicants with substantive involvement in their operations, so as a lower bound, the shares with a woman principal operator (the smaller numbers, listed second) are also presented here. Note that the 23-percent SDA share still uses the "any operator" criterion for minority operators.

Source: USDA, Economic Research Service analysis of Farm Service Agency's loan obligation data, through November 10, 2015, and 2012 Census of Agriculture.

Beginning farmers received 81 percent of Microloans and 74 percent of small OLs, which are much higher than the 26 percent share of all farms in the 2012 Census of Agriculture that had at least one operator who met the beginning farmer criteria. SDA farmers received 35 percent of Microloans and 26 percent of small OLs, compared with either 49 percent of farms with at least one woman operator, or 23 percent of all farms with a woman principal operator in the 2012 Census of Agriculture.[29]

[29]The first share includes farms with at least one woman operator and the second includes only farms with a woman principal operator (for both shares, the "at least one" definition was used for minorities). This is done because the F data include spouses who are listed as secondary operators, who have varying levels of involvement in the operation. The FSA loan programs are aimed at applicants with substantive involvement in their operations, so the share that includes only principal women operators is a lower bound for that share and the share that includes any woman operator is an upper bound. This was also used in the calculations for women farmers, and the overlap between women and minority and between beginning farmer and women.

Overall, borrowers belonging to a minority group received a higher share of Microloans (14 percent) than they did of small OLs (9 percent), or compared with 8 percent of all farms in the 2012 Census of Agriculture. Black farmers received a share of Microloans (7 percent)—3.5 times larger, proportionally, than the 2-percent share of small OLs or the 2 percent of farms in the Census of Agriculture with at least one Black operator. Hispanics and Native Americans received similar shares of Microloans and small OLs. Hispanics and Native Americans also received considerably more Microloans (732 and 197, respectively) than small OLs (564 and 47).

Given the existence of the Microloan program, it might seem strange that anyone would apply for small loans under the OL program, choosing to face the more stringent application requirements. There are, however, several reasons why farmers might choose a small OL over a Microloan. First, the most common reason is that a borrower already has outstanding DOL indebtedness (including Microloans and traditional DOLs) beyond the $35,000 or $50,000 maximum.[30] Second, if a farmer recently received a traditional DOL and, therefore, already has complete financial and business information in the system, there may be little benefit from the Microloan program's simplified application and loosened criteria, even though s/he may be eligible for a Microloan. Third, the farmer might have a complex operation for which FSA requires more detail than the Microloan application provides. Fourth, the farmer might want his or her expanded financial and business information and approval for a traditional DOL to be in the system for future loans and to simplify the transition to larger loans. Being approved for a traditional DOL, with its more stringent requirements, also strengthens a farmer's financial and credit history.

[30]For Microloan eligibility, the maximum DOL indebtedness (including both Microloans and traditional DOLs) must not have exceeded $35,000 for loans closed before November 2014. For loans closed later, the Agricultural Act of 2014 (Farm Bill) raised the maximum OL indebtedness allowed for Microloan eligibility to $50,000.

Uptake by New FSA Direct Loan Borrowers

We explore use of the Microloan program by new borrowers in two ways:

First, we compare new and existing FSA direct loan borrowers[31] to answer the questions: How many Microloan borrowers are new FSA direct loan borrowers? Who are these new borrowers?

Second, some of these new Microloan borrowers might have applied for and received a traditional DOL from FSA even if the Microloan program did not exist. Although it is not possible to identify which Microloan borrowers would have applied for credit even without the Microloan program, some insight can be gained by comparing Microloan borrowers with those receiving Microloan-sized traditional DOLs (small OLs).

A substantial part of the Microloan program's potential economic impact derives from the share of new borrowers who received Microloans who would not have otherwise received a traditional DOL. The program may be especially consequential for this group of borrowers as an opportunity to forego riskier methods of financing, such as high-interest credit cards, given that farmers who are eligible for FSA direct loans have not been able to obtain credit through traditional channels.

New Borrowers and the Microloan Program

The Microloan program's streamlined application and relaxed farm management, production history, and collateral requirements would be especially attractive to new FSA direct loan borrowers. The data bear this out. When they received their first Microloans, 8,182 borrowers were new to FSA direct loans, and 3,289 borrowers had previously received FSA direct loans. Across all years, 71 percent of first-time Microloan borrowers were new to FSA direct loans, a number that was fairly consistent across time (72 percent in 2013 and 2014, and 70 percent in 2015) (table 4).[32]

In 2000-15, a clear increase occurred in the number of new FSA direct loan borrowers receiving DOLs (whether traditional DOLs or Microloans) (fig. 5).[33] The jump in new borrowers in 2009 corresponds to the timing of the financial crisis and tightening of commercial credit markets. More farmers turned to FSA as other sources of credit dried up. The number of new FSA direct loan borrowers receiving traditional DOLs fell in 2013, when the Microloan program was introduced. The combined number of new customers receiving traditional DOLs or Microloans suggest that the Microloan program may have attracted some of the flow of new borrowers that otherwise might have applied for a traditional DOL—and then additional new borrowers beyond that. Another possibility for the drop in the number of new borrowers receiving traditional DOLs (which tend

[31]We define "new borrowers" as those who have never received any form of FSA direct loan (in this context, meaning that the borrower did not previously appear in the direct loan data), because the loan obligation data provide information only on loans received, not on applications. The choice to look at borrowers who are new to any FSA direct borrowing, rather than operating loans specifically, was made in order to more fully capture borrowers who were previously outside the orbit of FSA direct lending.

[32]Because the numbers in table 4 count each borrower's first Microloan, these columns reflect the number of unique borrowers.

[33]The year 2000 was chosen as the starting point because new borrowers are defined as such based on not having appeared previously in the direct loan obligation data. Choosing a starting point almost a decade after the earliest date in the data allows most non-new borrowers to be captured by this definition.

Table 4
New versus existing FSA direct loan borrowers, at time of borrower's first Microloan

	All	New FSA borrowers	Existing FSA borrowers[1]
2013	3,657	2,619	1,038
2014	3,540	2,554	986
2015	4,274	3,009	1,265
Total	11,471	8,182	3,289

[1]Note that "Existing FSA borrower" simply refers to borrowers who had previously received an FSA direct loan. It does not differentiate between those with an outstanding balance and those without.

Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, through November 10, 2015.

to be larger on average than Microloans) in 2013 include the effects of sequestration and the Government shutdown in 2013, which affected FSA's funding.

The total number of new borrowers receiving traditional DOLs fell in 2011, followed by a rebound in the following year, and then the combined number of new borrowers for the two loan types accelerated in 2014 as farm income fell in 2013 and 2014. Although we do not explore the relationship between credit needs and changes in farm income, changing needs due to record-high farm income in 2012 and 2013 followed by the subsequent decline may also be reflected in figure 5.

The Microloan program's shares of targeted farmers who were new FSA direct loan borrowers (table 5) were slightly higher but qualitatively similar to the shares seen in table 1, which include both new and existing FSA direct loan borrowers.

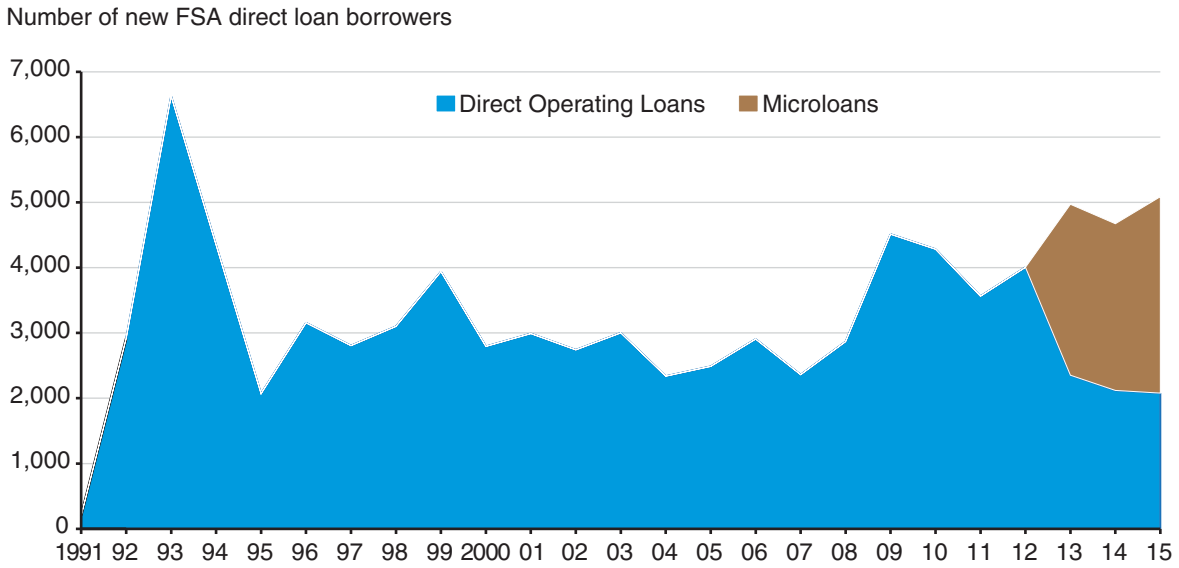
These shares are between 2 and 4 percentage points higher than in the overall patterns for Microloans (both new and existing borrowers), as discussed in "Microloan Program Overview." The majority (91.5 percent) of new FSA direct loan borrowers receiving Microloans belonged to groups targeted by FSA, with most Microloans going to beginning farmers and almost one-third going to borrowers who were both beginning farmers and SDA. Within SDA, the share of Microloans that went to new women borrowers (19 percent) just slightly exceeded the share that went to all (both new and existing) women borrowers (18 percent). Similarly, the analogous shares of Microloans going to minorities were 15 percent and 14 percent, respectively.

Across production categories, also, the shares of Microloans going to new borrowers paralleled the shares going to all (both new and existing) borrowers. New borrowers on livestock operations received more Microloans than new borrowers on crop farms during all 3 years. Further, while the number of Microloans that livestock operations received increased each year, the number received by crop farms fell 31 percent between 2013 and 2014—from 1,057 to 727—and then rebounded only slightly to 742 in 2015. As shares of all Microloans received by new borrowers, the distribution of Microloans across production categories was comparable to the shares that went to all (both new and existing) borrowers within the production categories.

New Microloan Versus Non-Microloan Small Operating Loan Borrowers

The next stage of our analysis contrasts new borrowers' uptake patterns for Microloans versus their uptake of small OLs (as before, Microloan-sized traditional DOLs). Here, we break them into two categories:

Figure 5
New FSA direct loan borrowers: traditional Direct Operating Loans and Microloans



Note: New borrowers of traditional Direct Operating Loans (DOLs) include borrowers of loans of any size (not just Microloan-sized loans).

Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, through November 10, 2015.

Table 5
Microloans received by new FSA direct loan borrowers, by targeted groups

	Beginning farmer or SDA or Veteran	Beginning farmer or SDA	Beginning farmer	SDA	Veteran	Overlap: beginning farmer and SDA	Overlap: beginning farmer and SDA and Veteran
As percent of all loans that were received by new borrowers							
2013	90.6	89.4	81.2	39.6	7.1	31.5	1.6
2014	90.9	89.7	82.0	37.9	7.6	30.1	1.8
2015	92.9	91.8	86.5	38.2	9.0	32.9	3.1
Total	91.5	90.4	83.4	38.5	8.0	31.6	2.2

Note: SDA = socially disadvantaged applicant.

Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, through November 10, 2015.

- Small OLs of $35,000 or less, received between 2010 and 2012. (This maximum equals the Microloan's maximum size for the first 22 months of the program's existence.)
- Microloan-sized traditional DOLs received in 2013-15, with an initial maximum of $35,000 increasing to $50,000 in November 2014.

As expected, Microloan recipients accounted for a large majority, 87 percent, of new borrowers who received Microloan-sized operating loans, both traditional DOLs and Microloans, between 2013 and 2015, indicating that new borrowers found the Microloan program to be a more attractive first loan product. Table 6 shows the size of the gap between numbers of new borrowers receiving Microloans

Table 6

Loans received by new FSA direct loan borrowers: small OLs vs. Microloans, numbers of loans and as shares of total loans of each type

	Small OL 2010-2012		Small OL 2013-2015		Microloan 2013-2015	
Year	Number	Percent	Number	Percent	Number	Percent
2010	1,164	25	--	--	--	--
2011	1,076	24	--	--	--	--
2012	1,366	27	--	--	--	--
2013	--	--	352	13	2,619	68
2014	--	--	305	10	2,554	59
2015	--	--	571	16	3,009	53
Total	3,606	25	1,228	13	8,182	59

Note: OL = operating loan.

Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, end date November 10, 2015.

and those receiving small OLs, as well as the increase, between the times before and after the launch of the Microloan program, in total new borrowers of small loans. Although the post-Microloan number of new borrowers receiving small OLs fell from their pre-Microloan levels, Microloans made up the difference and considerably surpassed those numbers.

In 2010-12, borrowers who were new to FSA direct loans received a fairly stable average of 25 percent of all small OLs (table 6). During the period when Microloans were available, 2013-15, new FSA direct loan borrowers received an average of 59 percent of all Microloans (declining from 68 percent in 2013 to 53 percent in 2015), but they received only 13 percent of all small OLs (dropping to 10 percent in 2014 before rising to 16 percent in 2015).

Two conclusions can be drawn from this table: First, the Microloan program has been attractive to new borrowers. Second, the post-2013 decline in the shares of small OLs received by new borrowers indicate that, all else equal, at least some of the new borrowers who received Microloans would likely have applied for and received traditional DOLs if the Microloan program did not exist. However, because the numbers of new borrowers who received Microloans considerably exceed the pre-Microloan small OLs, it is reasonable to conclude that at least some of them were specifically drawn to the Microloan program.

Examining the composition of new borrowers within each loan type and period, we focus our analysis on the shares of all new borrowers that are accounted for in each category (beginning farmer, SDA, etc.), rather than on the absolute numbers. We chose to focus on shares because so many more new borrowers received Microloans than received small OLs either in 2010-12 or 2013-15. Viewing breakdowns as shares allows for some degree of comparability, showing, for example, that members of targeted groups actually accounted for a slightly higher share of new borrowers of small OLs than of Microloans in 2013-15 (table 7). This difference was due to a greater share of beginning farmers and less overlap between beginning farmers and SDA in small OLs than in the Microloan shares. However, Microloans drew a higher share of SDA new borrowers than small OLs did either before or after the introduction of the Microloan program.

Breaking down SDA by race, ethnicity, and gender illustrates the Microloan program's impact on minority and women new borrowers. Table 8 shows that not only has the Microloan program

Table 7

Loans received by new FSA direct loan borrowers, by targeted groups (percent shown as shares of loans received by *new borrowers*)

	Beginning farmer or SDA or veteran	Beginning farmer or SDA	Beginning farmer	SDA	Veteran	Overlap: beginning farmer and SDA
	Percent					
Microloan	91.5	90.4	83.4	38.5	8.0	31.6
Small OL (2010-12)	88.9	87.4	80.3	27.1	6.3	20.1
Small OL (2013-15)	93.5	93.0	88.9	31.8	5.2	27.7

Note: SDA = socially disadvantaged applicant. OL = operating loan.
Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, end date November 10, 2015.

Table 8

Loans received by new FSA direct loan borrowers, by groups within SDA (percent shown as shares of loans received by *new borrowers*)

		White	Black	Native American	Hispanic	Minority	Women	Women and Minority
Microloans	#	6,975	653	125	426	1,207	1,579	235
	%	86	8	1	5	15	19	3
Small OL	#	3,241	135	70	127	365	498	28
2010-12	%	90	4	2	4	10	14	1
Small OL	#	1,116	26	7	78	112	230	51
2013-15	%	91	2	1	6	9	19	4

Note: SDA = socially disadvantaged applicant. OL = operating loan.
Source: USDA, Economic Research Service analysis of Farm Service Agency's (FSA) loan obligation data, end date November 10, 2015.

attracted a larger number of minorities and women among new FSA direct loan borrowers, it has also attracted a different racial/ethnic mix of borrowers.[34]

In terms of absolute numbers, new minority borrowers received 3.3 times more Microloans in 2013-15 than small OLs in 2010-12 and 10.8 times more than small OLs in 2013-2015, and new Black borrowers received almost 5 times more Microloans in 2013-15 than small OLs in 2010-12 and 25 times more than small OLs in 2013-2015. When we look at shares of all new borrowers to control for the larger absolute number of Microloans, minorities received 15 percent of all Microloans that went to *new* borrowers in 2013-15, as compared with 10 percent and 9 percent of small OLs in 2010-12 and 2013-15, respectively. The shares of loans received by new borrowers who were Black revealed the starkest contrasts, with Black farmers receiving, in 2013-15, 8 percent of all Microloans that went to new borrowers—a share that was twice as large as that of the analogous share (that is,

[34]Asians and Pacific Islanders are excluded from table 8 because of limited observations for the period covered by the data.

to new-borrower Black farmers) for small OLs from 2010-12 and four times that of small OLs in 2013-15. However, 86 percent of Microloans still went to White borrowers.

In 2013-15, new women borrowers received the same share (19 percent) of Microloans and of small OLs. However, they received a much larger number of Microloans (1,579) than small OLs (230). Only a small share of loans went to new borrowers who were both women and minority, but the number of Microloans (235) was again substantially larger than the number of small OLs (51).

The focus of the Microloan program on attracting new borrowers, the large number of new borrowers who received Microloans relative to Microloan-sized traditional DOLs, and the relative newness of the program reflect efforts of promotion and outreach undertaken by the FSA National and local offices. The variation in the number of Microloans across counties, even across adjacent counties (see fig. 1), may be partly explained by differences in farmers' knowledge of the program resulting from its newness. ERS and FSA conducted targeted outreach specifically designed to reach borrowers who may not have been as connected to formal and informal networks within agriculture, to test whether increasing awareness of the Microloan program increased interest in the program and the number of Microloans received. The next chapter details the results of an outreach experiment to measure the effect that targeted outreach can have on interest in the program and eventual borrowing behavior.

Direct Outreach to Potential Borrowers: Experiment

ERS, in collaboration with FSA, NASS, and the Social and Behavioral Sciences Team, conducted a study to test the effectiveness of targeted messaging on Microloan uptake. We focused the study in an area of the country where there are many small and minority farmers, conforming to the targeted population of the USDA Microloan program.

Because the Microloan program is fairly new and less well known than longer standing programs, especially among farmers who do not regularly interact with FSA, we judged that a targeted dissemination of information could increase knowledge of the program. To test the effectiveness of targeted dissemination, we employed the experimental method, using random assignment to determine who would receive outreach letters. These letters gave basic program information as well as information about whom to contact for more information. Although existing outreach efforts could have been analyzed—for example, by comparing loans made across States with different outreach strategies—we determined that only an experiment would provide a convincing causal estimate.

In the spring of 2015, customized outreach letters were mailed to principal operators in nine States: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee. The letters gave basic information on the benefits of the Microloan program, contact information for the recipient's county loan officer, a shortened URL for accessing additional information, and another URL to a Spanish translation of the letter.

The letter's design leveraged concepts from behavioral economics and language adapted from the FSA Microloan fact sheet.[35] Each letter was personalized with the recipient's name in the greeting, and the letter was signed by a person rather than just claimed by an organization. Key information was strategically laid out on the page. For example, eye-tracking studies have found that readers scan text in an F-shaped pattern, so the letter's layout mirrors that shape. The URLs for the Microloan factsheet and the Spanish-language version of the letter were included in the postscript, because postscripts are often read before the third (and subsequent) paragraphs. Also, contact information for the recipient's FSA loan officer occupied a text box near the top of the page to draw extra attention to it. We customized each letter with the name and contact information of the recipient's local FSA loan officer[36] to remove the step of searching for this contact information online.[37, 38] See a copy of the letter on page 22.

To see the effect of these letters on interest in and uptake rates of Microloans, we randomized across the control (no letter) and treatment (letter) groups so that their sizes and demographic compositions were similar. This step balanced potentially confounding factors between the groups, allowing us to readily isolate and detect effects due to the experimental treatment. Using data from the 2012

[35]http://www.fsa.usda.gov/Internet/FSA_File/microloans_facts_2014.pdf

[36]This information was sourced from FSA's Master Reference Tables, the same source of data used by the Web site offices.usda.gov, to which the FSA Web site directed information seekers.

[37]www.fsa.usda.gov/microloans and www.fsa.usda.gov/micro.esp for Spanish speakers. At the time of the experiment, both URLs redirected to the current (as of the experiment) fact sheet.

[38]To obtain a loan from FSA, a loan applicant must fill out an application, which is then reviewed by a local loan officer. Any USDA Service Center or County Office can accept an application. Individuals with questions or those who need help preparing the application are encouraged to contact their local FSA loan officers.

Dear farmername,

What should I do next?

To grow your farm with a microloan of up to $50,000, contact position name at phone or email

Start your application *today* to ensure your farm's success this growing season.

Why am I getting this letter?

We at the Farm Service Agency (FSA) are approaching farmers in your area to encourage farmers like you to learn more about **microloans**: direct farm operating loans of *up to $50,000* designed to meet the needs of farmers like you in smaller, non-traditional, and niche-type operations.

Your microloan can help you grow your farm by purchasing livestock and feed, farm equipment, fuel, farm chemicals, and insurance and covering other operating costs, including living expenses.

Thousands of farmers like you find microloans are the right fit for their farms – microloans have:

- Only one short application document. (Applicants must qualify)
- Streamlined balance sheet & credit requirements.
- Experience and production record requirements designed for farmers like you.
- No minimum loan amount – and up to $50,000.
- No down payment required.

FSA officers are here to help you prepare and submit your application with one-on-one assistance – contact your local office today and make this season a fresh start.

Happy farming!

Val Dolcini
Administrator,
USDA Farm Service Agency

PS. Check out the microloan fact sheet at www.fsa.usda.gov/micro. Spread the word!
¿Habla español? www.fsa.usda.gov/micro.esp

Census of Agriculture, we randomized across the share and the absolute number of operations within a ZIP Code that had an operator belonging to the groups that are targeted by the Microloan program.[39] This design ensured that ZIP Codes with similar absolute and relative numbers of targeted operations were assigned to treatment and control groups. Ultimately, our outreach letter was sent to all active principal operators[40] within a ZIP Code who appeared in NASS's list frame (mailing list). NASS has developed and maintains a listing of nearly all agricultural operations in the United States and Puerto Rico.[41]

We used the Census of Agriculture rather than FSA's administrative data because of the special emphasis that the Microloan program places on extending credit to new borrowers. Individuals who have not interacted with FSA are both unlikely to appear in administrative data and less likely have information on Microloans. Details on the sampling method can be found in the Appendix.

Outreach letters were mailed in three waves in spring 2015: on April 20 (46,740 letters), April 30 (46,741 letters), and May 22 (46,742 letters). Originally, the mailings were going to be no more than 10 days apart, but—because of the extra work volume at the FSA office generated by the response to the letters—the final mailing was postponed an additional 12 days to allow the offices to handle this increased interest and workload.

Experimental Results

Exactly 1,848 ZIP Codes received treatment—i.e., all principal operators in these ZIP Codes received a letter. Treatment ZIP Codes contained 140,223 operations, and the control ZIP Codes contained approximately 144,924 operations (2012 Census of Agriculture).

Approximately 2.04 percent of the recorded activity in FSA county offices from late April through July of 2015 concerned Microloans.[42] Of those FSA customers who gave information about themselves when they inquired about Microloans, 2.64 percent of all office activity was generated by Microloans in ZIP Codes that did not receive letters (control), versus 5.52 percent of all office activity—more than double the control share—in ZIP Codes that received letters (for a difference of 2.88 percentage points (95-percent confidence interval [1.78, 3.99], p-value < 0.01)).

The treatment also appears to have influenced the number of successful applicants. The number of farmers who apply for and receive Microloans is small compared to the overall population of farmers—approximately 0.22 percent of the farmers in the study area applied for and received a Microloan in late April through September 30, 2015. The treatment increased the rate of successful loan receipt by 27 percent over that of the control.[43] One way to interpret the estimated treatment effect is that the treatment was responsible for approximately 82 extra borrowers receiving Microloans.

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[39]We used the Final Coverage-Adjusted Nonresponse Weight to estimate the number of principal operators represented by each response in the 2012 Census of Agriculture microdata.

[40]Principal operators are identified by NASS. In 2015, each operation identified by NASS had a principal operator.

[41]See http://www.nass.usda.gov/Education_and_Outreach/Understanding_Statistics/Foundation_of_Estimates/List_Frame_Samples/ for a discussion of NASS list frame sampling.

[42]We used the Receipt for Service data to identify all office visits and contacts between FSA customers and local FSA agents.

[43]The treatment had an effect of approximately 0.06 percent (95-percent confidence interval [.02, .09], p-value < 0.01) of all farms.

In the study area (with a total estimated population of 285,147 principal operators), 1,141 Microloans were disbursed in fiscal year 2015 (FY15). The same farm entity can (and sometimes does) receive multiple Microloans. In order to calculate the number of farms receiving a Microloan in FY15, we only counted each borrower once, regardless of whether they received one or multiple loans. With this step, we found loans to 975 parties were made in FY15, which amounted to an estimated 0.34 percent of all farms. When we restricted the data to count only those loans made after April 20, 2015 (after the first letters were mailed), a total of 650 borrowers received loans in the study area, 365 borrowers in the treatment ZIP Codes, and 285 in the control ZIP Codes. Of the 650 borrowers who received loans, 522 (80 percent) were farmers from targeted groups. Of these, 281 were in treatment ZIP Codes, and 241 were in control ZIP Codes. Although the experiment was designed to detect the average effect of the treatment across all groups, this evidence suggests that a substantial portion of all loans made during the experiment were loans made to targeted farmers. However, it is worth noting that 85 percent of the borrowers in the control group belonged to targeted groups of farmers, as compared to 77 percent of the borrowers in the treatment group.

Conclusions

Overall, it appears that Farm Service Agency's (FSA) Microloan program is increasing the share of loans going to members of targeted groups of farmers. Approximately 90 percent of all Microloans are going to the farmers that the program was designed to reach, such as beginning farmers, women, minorities, and veterans. Moreover, the Microloan program has attracted a substantial number of new borrowers, some of whom might not have received traditional Direct Operating Loans (DOLs) if the Microloan program did not exist. The Microloan program is also attracting larger shares of minorities and other targeted groups as a subset of new borrowers, relative to comparably sized traditional DOLs—both during the years leading up to the introduction of the Microloan program as well as the years after its launch.

To analyze the effect of disseminating information about FSA's credit opportunities, an experiment using randomized assignment—via a randomized controlled trial (RCT) approach—tested the effectiveness of targeted outreach to farmers who might benefit from a Microloan. We estimate that targeted letters sent to this population increased both interest in and uptake of the Microloan program, with a cost of approximately $875 per additional loan made (i.e., about 1.75 percent of the maximum loan size), although more tests are necessary to compare the effectiveness of letters relative to other outreach methods.

Although the outreach increased interest in Microloans and the number of borrowers who received them, the experimental study was designed to test the average treatment effect of an outreach letter on a *general population*, not on particular subgroups. Outreach letters may have strong effects on some *subgroups*—for example, farmers who engage in particular types of agriculture, or farmers in particular demographic groups—and low effects on other subgroups. Future research could be designed specifically to discover the average treatment effects on these subgroups. Research of this type could then be used to target outreach more specifically to groups most likely to benefit from outreach, which would increase the efficiency of outreach efforts. For example, targeting outreach to women operators could show how this form of outreach affects a different population (versus what was done in the experiment presented in this report) of potential borrowers. Experiments could also be designed to examine the roles of geography and the person-to-person spread of information in effective outreach design.

References

Bettinger, E., B. Long, P. Oreopoulos, and L. Sanbonmatsu. 2012. "The Role of Application Assistance and Information in College Decisions: Results from the H&R Block FAFSA Experiment," *Quarterly Journal of Economics* 127:1205-1242.

Dodson, C., and S. Koenig. 2003. "Explaining County-Level Variability in Farm Service Agency Farm Loan Programs," *Agricultural Finance Review* 63(2):193-212.

Dodson, C., and S. Koenig. 2006. "Evaluating the Relative Cost Effectiveness of the Farm Service Agency's Farm Loan Programs," U.S. Department of Agriculture, Farm Service Agency, Report to Congress: http://www.fsa.usda.gov/Internet/FSA_File/farm_loan_study_august_06.pdf

Dynarski, S., and J. Scott-Clayton. 2013. "Financial Aid Policy: Lessons from Research," NBER Working Paper 18710.

Federal Register. May 25, 2012. "Microloan Operating Loans. A Proposed Rule by the Farm Service Agency on 5/25/2012."

Federal Register. January 27, 2013. "Microloan Operating Loans" (Final rule) National Sustainable Agriculture Coalition. December 14, 2014. "Farm Microloans Big in 2014": http://sustainableagriculture.net/blog/farm-microloans-big-in-2014/

Nwoha, O.J., B.L. Ahrendsen, B.L. Dixon, D.M. Settlage, and E.C. Chavez. 2007. "FSA Direct Loan Targeting: Successful and Financially Necessary?" *Agricultural Finance Review* 67(1): 35-53.

U.S. Department of Agriculture, Economic Reseach Service. *ARMS III Farm Production Regions* map: www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/documentation/#Maps

U.S. Department of Agriculture, Farm Service Agency. *Web Receipt for Service (webRFS) User's Guide*: https://www.fsa.usda.gov/Internet/FSA_MIDAS/905_WI_RFS_User_Guide.pdf

U.S. Department of Agriculture, Farm Service Agency. *Funding FAQs*: https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/funding/index

U.S. Department of Agriculture, Farm Service Agency. 2016. Farm Loan Programs, "Monthly Management Summary for April 2016."

U.S. Department of Agriculture, Farm Service Agency. March 2015. *Farm Loans - 2014 Farm Bill Fact Sheet*: http://www.apfo.usda.gov/Internet/FSA_File/loanprograms0315.pdf

U.S. Department of Education. 2016. *Fiscal Year 2017 Budget: Summary and Background Information,* p. 46.

U.S. Small Business Administration. January 2008. *Key Findings From the Evaluation of the Small Business Administration's Loan and Investment Programs*: http://www.urban.org/sites/default/files/alfresco/publication-pdfs/411602-Key-Findings-from-the-Evaluation-of-the-Small-Business-Administration-s-Loan-and-Investment-Programs.pdf, January 2008

Appendix: Technical Details of the Experimental Estimation

Sampling Design

In order to account for potential unobservable differences between farmers in different ZIP Codes, we balanced the sample over States and ZIP Codes. That is, we stratified the sample by State and by the estimated total number and density of targeted farmers in each ZIP Code. Using weights from the 2012 Census, we calculated the number of targeted farmers in each ZIP Code and the share of targeted farmers (as a share of the total number of farmers) in each ZIP Code. Every ZIP Code was estimated to have X farmers and Y "targeted" farmers, with targeted farmers being defined as those targeted by the Microloan program (minorities, women, beginning farmers, etc.). The density of targeted farmers was Y/X. We created two sets of deciles—one for the statistic Y/X and one for Y. We then created decile pairs by looking at the intersection of these two deciles. A county that was both very dense in targeted farmers and had a large total number of farmers would be called a "10-10"—i.e., the highest decile on both density and count.

Since there were a lot of unobservables that might make a particular geographic area different than another, and these differences (engagement with FSA, for example) could reasonably be assumed to influence treatment, we randomized at the decile-pair level. Within the decile 10-10, for example, each ZIP Code within a single State had a 50-percent chance of being sampled. We did not sample from the least target-rich ZIP Codes.

Estimation

To estimate the effect of the letter on successful applications for a Microloan, we used a simple linear model. We estimated the effect of treatment T (mailing of letter) on successful application for a loan y using a linear regression

$$y=\beta_0+\beta_1 T+u$$

where the coefficient β_1 is the effect of the treatment and u is an unobservable effect.

In order to analyze the data while accounting for possible bias resulting from the stratification previously described, we estimated a mean-centered model

$$ymc=\beta_0+\beta_1 Tmc+u$$

where ymc and Tmc represent the strata-mean-centered versions of y and T described above. That is, we calculated the mean of y within each strata, the mean of T within each strata, and subtracted these means from y and T for each observation. Due to the stratification, we calculated robust clustered standard errors. The results of the strata-mean-centered regression are displayed below (and reported in the main text).

	Estimate	Std. Error	z value	Pr(>|z|)	
β_0	2.21E-16	5.39E-17	4.1087	3.98E-05	***
β_1	5.64E-04	1.67E-04	3.3772	0.000732	***