



# USDA Farm Service Agency's Loan Programs

Evaluating their mission of providing loans to credit-constrained agricultural producers

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# Motivation

- Farm Service Agency (FSA) lending programs are designed to mitigate the risks of farming by providing loans to qualifying family-farms that without federal intervention would be unable to access commercial loans at reasonable rates and terms.
- The Evidence-Based Policy Making Act of 2018 stressed the importance of periodic evaluation of federal programs to ensure intended recipients are served.
- This task is complicated by issues common to all Federal administrative data, including:
  - Large datasets spread across multiple IT systems
  - Data quality and consistency within datasets and between years
  - Lack of data collected, or collected sporadically, for key measurements
  - Lack of access to data on the farm population as a whole
  - Need to account for external factors impacting the agricultural industry and credit markets
- FSA Farm Loan Programs has underway a large initiative to modernize its IT systems, data collection, and analytics.
- This project uses both FSA administrative data and external statistical data from other USDA sources to answer the question.....

To what degree are FSA farm lending programs meeting the credit needs of U.S. credit constrained small and mid-size family farms?



# FSA's Farm Lending Programs (FLP)

- Two distinct delivery mechanisms: a direct and a guaranteed program
  - Direct loans are made and serviced by USDA through FSA staff located in local field offices.
  - Guaranteed loans are made and serviced by commercial lenders. FSA guarantees the lender against a loss (90-95% of principal and interest) in the case of borrower default.
  - The different loan types within each program have different loan limits, term lengths, and allowable uses.
  - As a requirement for participation in either program, the borrower must meet certain criteria including being unable to obtain financial credit from a commercial institution (direct) or without the FSA loan guarantee (guaranteed).
- The guaranteed program primarily addresses credit market failures arising from informational asymmetries between non-agricultural lenders and agricultural borrowers.<sup>1,2</sup>
  - This gap is mitigated by guaranteed lenders, which have a greater presence in regions with greater farm financial stress, lower per capita incomes, fewer agricultural lenders, and greater presence of young and beginning farmers.<sup>2</sup>
- The direct program is more likely to assist underserved farmers having difficulty entering farming or expanding operations.<sup>2,3</sup>
- Within both programs, statutory targets set aside funds for underserved markets of beginning farmers and underserved populations.

<sup>1</sup> According to the Office of Budget Management (OMB) *Analytical Perspectives, Budget of the United States Government, Fiscal 2005* (2004) credit information asymmetries arise when borrowers are much better informed about their own creditworthiness than lenders.

<sup>2</sup> See Dodson, Charles B., and Bruce L. Ahrendsen. "Structural change implies unique role for federal credit." *Choices* 31, no. 1 (2016): 1-10; U.S. Government Accountability Office (GAO). *Agricultural Lending: Information on Credit and Outreach to Socially Disadvantaged Farmers and Ranchers is Limited*, GAO Highlights. GAO-19-539, (2019)

<sup>3</sup> According to OMB (2004), federal credit programs are often used to provide subsidies that reduce inequalities or extend opportunities to disadvantaged regions or segments of the population.



# Data Sources

## Agricultural Resource Management Survey (ARMS):

- ARMS is an annual cross-sectional survey of U.S. farm operators.
- Provides detailed data on operator characteristics, farm production practices, technology adoption, and farm finances.

## FSA FLP administrative data:

- Provides data on new obligations and existing loan obligations for direct and guaranteed loan borrowers.
- Includes loan type, terms, amounts, current balances, payment status, demographic characteristics of borrowers, and lender information (guaranteed loans).



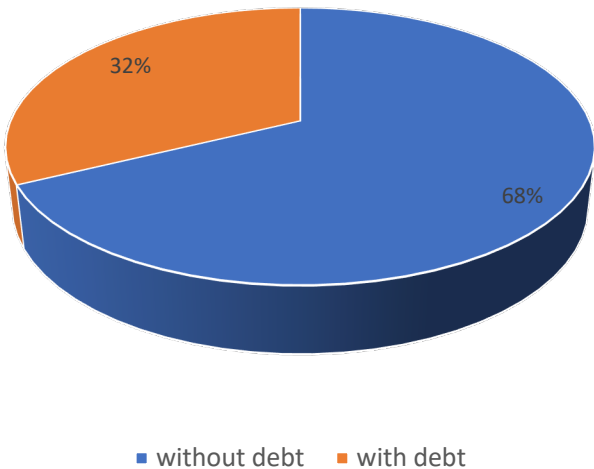


# Identifying FSA Borrowers in ARMS

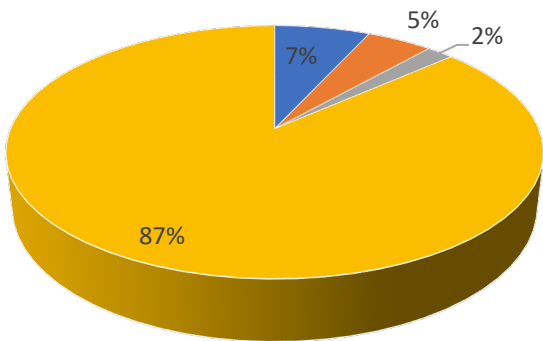
- FLP data are used to generate a list of identifiers for all new and existing borrowers with outstanding loan balances at the end of each calendar year.
- Using this list, NASS matched FLP identifiers with unique USDA customer identifiers for producers participating in the ARMS survey.
- Using the annual ARMS survey datasets for the years 2013-2021 and the matched FLP-USDA identifiers, FSA borrowers in the ARMS survey were identified by year and with an outstanding:
  - direct loan only
  - guaranteed loan only
  - both a direct and guaranteed loan.
- FSA borrowers were counted once if they had any outstanding loan, no matter how many new or existing loans they received that year.



On average for U.S. farm operators between 2013-2021, 32% had some outstanding farm debt—either commercial or FSA—at year’s end.<sup>1</sup>



For those farm operators with at least some outstanding farm debt, roughly 14% had an outstanding FSA loan.<sup>1</sup>



<sup>1</sup>This excludes accounts payable (amounts due in full within 60 days)  
Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

FSA direct loan only      FSA guaranteed loan only  
both direct and guaranteed loan      Outstanding debt but no FSA loan



# Comparison Categories

Observations are classified into categories using ARMS survey data. These categories are chosen based on primary and secondary goals:

- (Primary) proxy distribution of farmers within given FSA targeted populations (beginning farmers, socially disadvantaged farm operators, and small-sized family farms)
- (Primary) linked to farm or operator characteristics indicating difficulty in obtaining farm credit
- (Secondary) literature or past studies have linked with FSA targeted populations

Classification categories used

- *Farm size*
- *Beginning farmer status*
- *FSA credit classification rating*
- *Socially Disadvantaged Farmer and Rancher (SDFR)*
- *Operator Age*
- *Crop vs. livestock farms*
- *Limited Resource Farms*
- *County Descriptors: Persistent Poverty, Black, Native American, Hispanic, Farming Dependent*





# Comparison Method

To quantify the presence of FSA borrowers by loan program within the chosen categories, market penetration was used as the metric:

$$\text{Market Penetration} = \frac{\sum_{i,T} \text{number of farms in category } c \text{ in FSA farm loan program } p * wt}{\sum_{i,T} \text{number of farms in category } c * wt}$$

where i= individual farm operators, T= survey years 2013 through 2021,

wt= ARMS survey expansion weights

- Analysis was restricted to farms that used credit within a given year.<sup>1</sup>

Comparisons are made between:

- FSA market penetration within categories and total FSA market penetration.
- FSA total market penetration and the share of all U.S. farm operations within the same category.

<sup>1</sup>This excludes accounts payable (amounts due in full within 60 days)

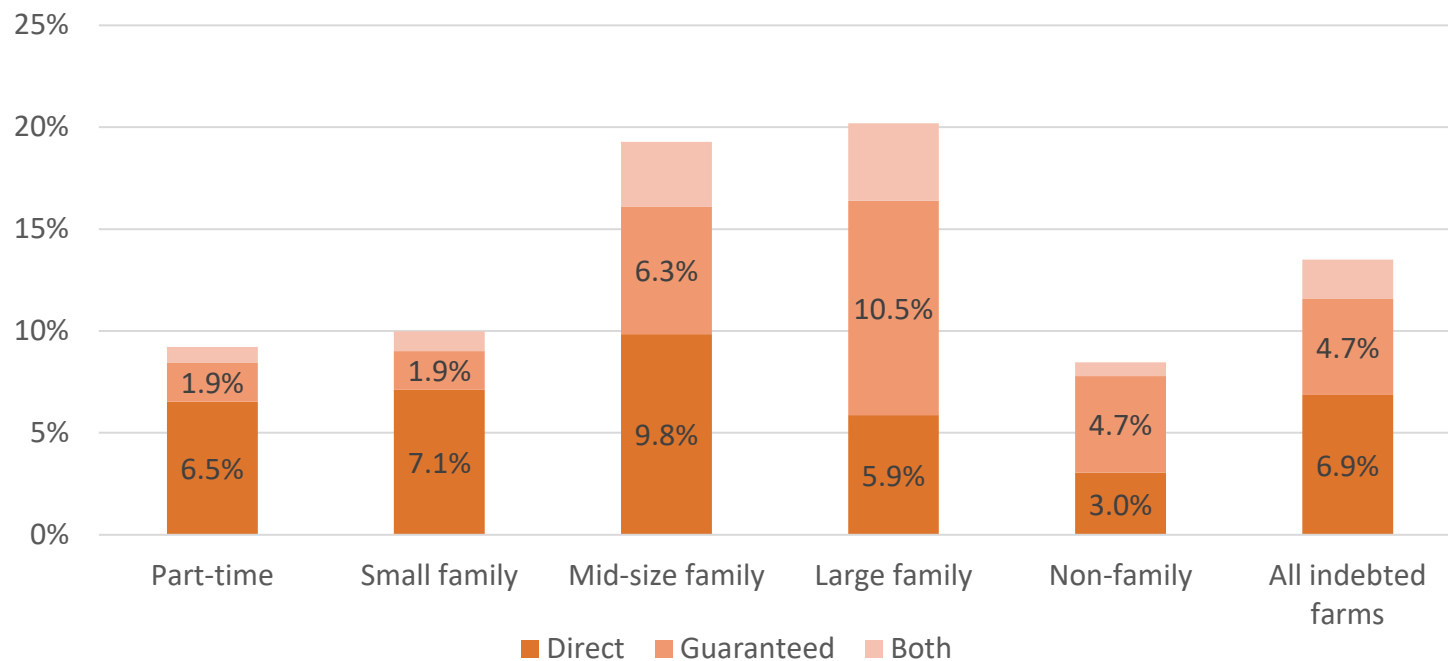
# RESULTS



# FSA Market Penetration by Farm Size

FSA **direct** loans have relatively greater market penetration among **small and mid-sized family** farms (compared to their overall market penetration).

FSA **guaranteed** loans have a relatively greater market penetration among **mid-sized and large family** farms (compared to their overall market penetration).



Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.  
Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

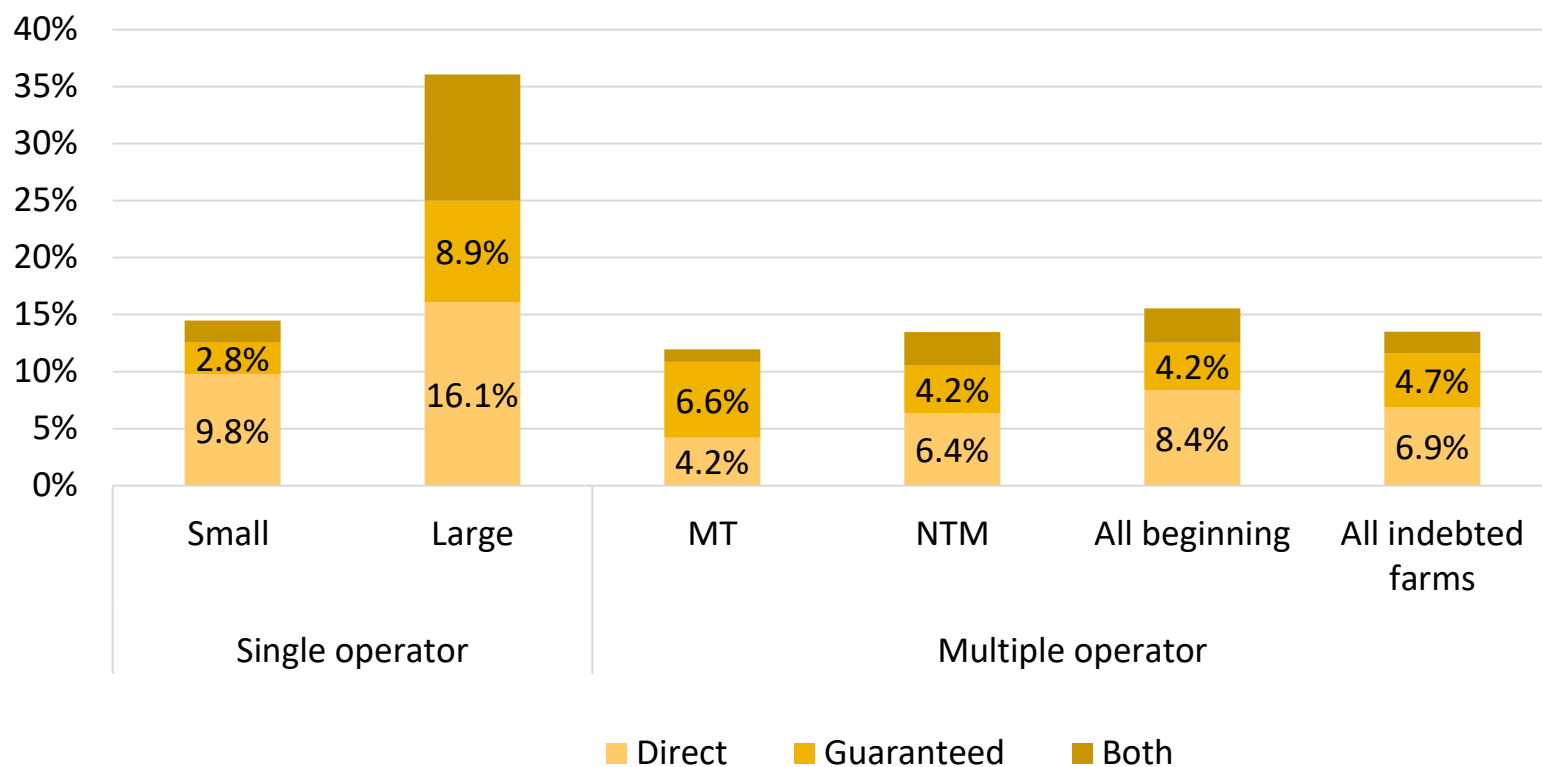
Farm size is based on primary occupation of principal operator (farming vs. other), farm ownership structure (family vs. non-family), and farm income level  
A farm is defined as any place during the year that sold or produced, or normally would have, at least \$1,000 in agricultural products.  
Family farm is defined as a farm in which the majority of the business is owned by an operator and any individual related by blood, marriage or adoption  
Primary occupation is farming if the principal operator spends 50% or more hours working on the farm.  
Part-time farms= primary occupation is other than farming (i.e. other occupation or retired and working less than 50% of time on the farm).  
Small family farm= less than \$150,000 GCFI, mid-sized family farm= between \$150,000-\$350,000 GCFI ; large family farm=more than \$350,000 GCFI;  
GCFI= annual gross cash farm income  
Non-family farm=ownership structure is other than family farm (i.e. partnership between unrelated entities or corporation).



# By Beginning Farmer Categories

**FSA direct** loans have a relatively greater market penetration among **single operator beginning farmers**.

**FSA guaranteed** loans have a relatively greater market penetration among **larger single operator beginning farmers** and **multigenerational beginning farmers**.



Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.  
Source: ARMS survey data and and FSA identifiers for years 2013-2021. ARMS weights applied.

Beginning farmer= an individual who has not operated a ranch or farm for more than 10 years.

Further split by number of operators (single or multiple), income size (small= less than \$100,000 GCFI; large= at least \$100,000 GCFI), and multigenerational (MT) vs. non-multigenerational (NMT)

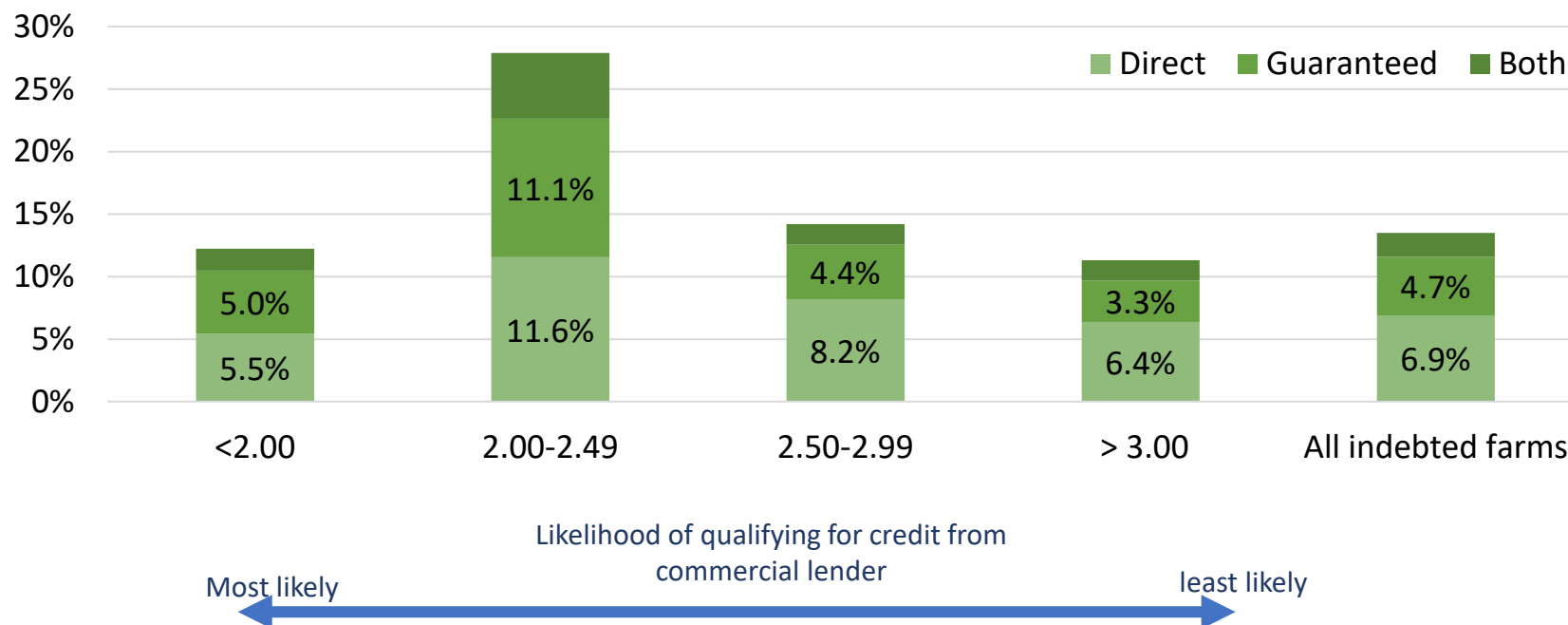
Multigenerational= 20 or more years between the ages of any of the operators.



## By FSA Credit Classification Rating

**Guaranteed** loans have a relatively greater market penetration among those **just barely unlikely to qualify** for commercial credit.

**Direct** loans have a relatively greater market penetration (compared to guaranteed loans) among those **less likely to qualify** for commercial credit.



Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.

Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

Constructed as a proxy measure of a farm's ability to potentially obtain commercial credit based solely on their financial data. **THIS IS NOT AN OFFICIAL CREDIT SCORE.**

It is the weighted average of four financial ratios (calculated using ARMS data): asset to debt ratio, return on assets, current ratio, and term debt coverage ratio. Rating ranges from 1.0 to 4.0.

The lower the classification rating, the stronger the farm's underlying financial ratios, and the more likely the farm operator would qualify for a commercial loan. (i.e. <2.0= the most likely to qualify for commercial credit; >4.0=least likely to qualify).

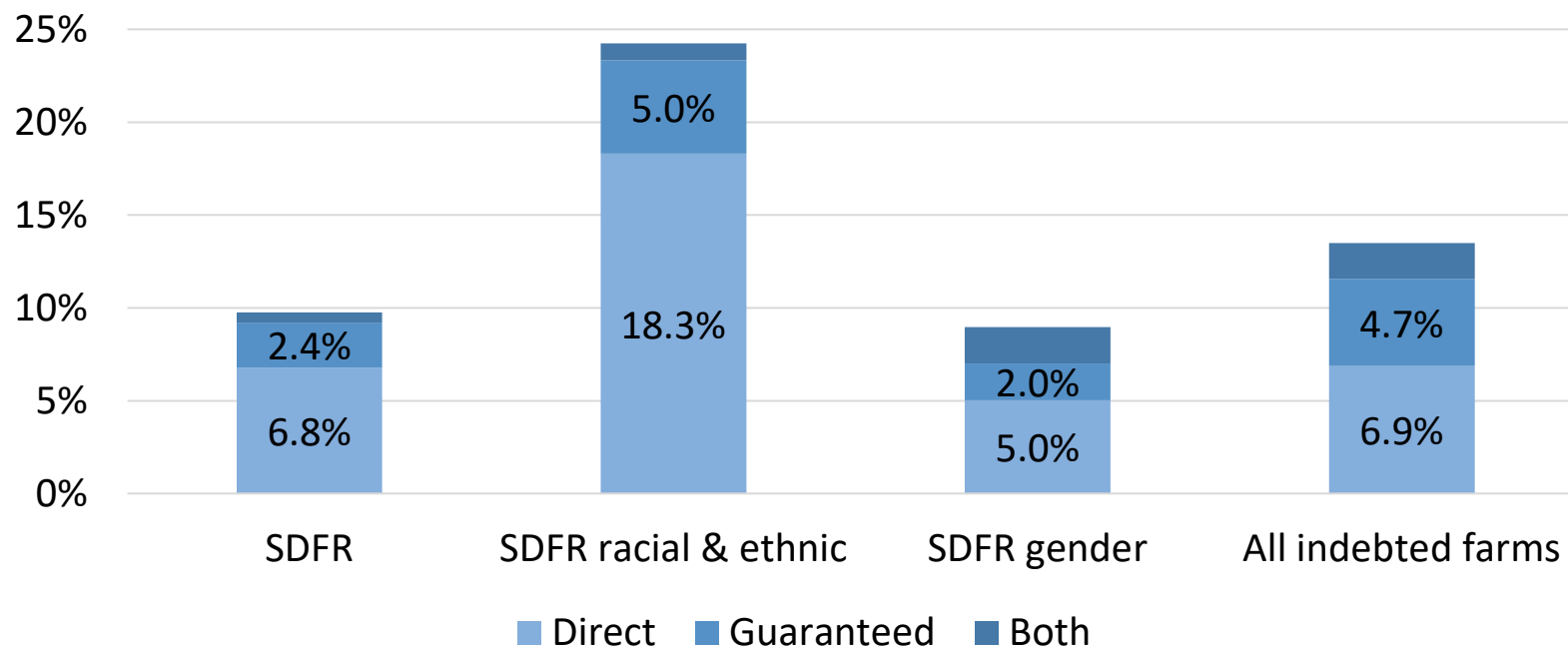


# By Socially Disadvantaged Farmer & Ranchers (SDFR)

**Direct** loans have a relatively greater market penetration among **racial & ethnic minorities** (SDA ethnic).

There is relatively lower penetration among female primary operators (SDA gender).

Overall, this results in average market penetration among SDFR.



Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.  
Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

Socially Disadvantaged Farmers and Ranchers (SDFR) = a farmer or rancher whose members have been subjected to racial or ethnic prejudice because of their identity as members of a group without regard to their individual qualities  
Operational= operations where at least one operator is part of a non-white racial or ethnic group and/or a woman.  
SDFR racial= black or African American, American Indian or Native American, Asian, Native Hawaiian, other Pacific Islander, or Hispanic ethnicity  
SDFR gender= female operator  
SDFR= either SDA racial or SDA gender

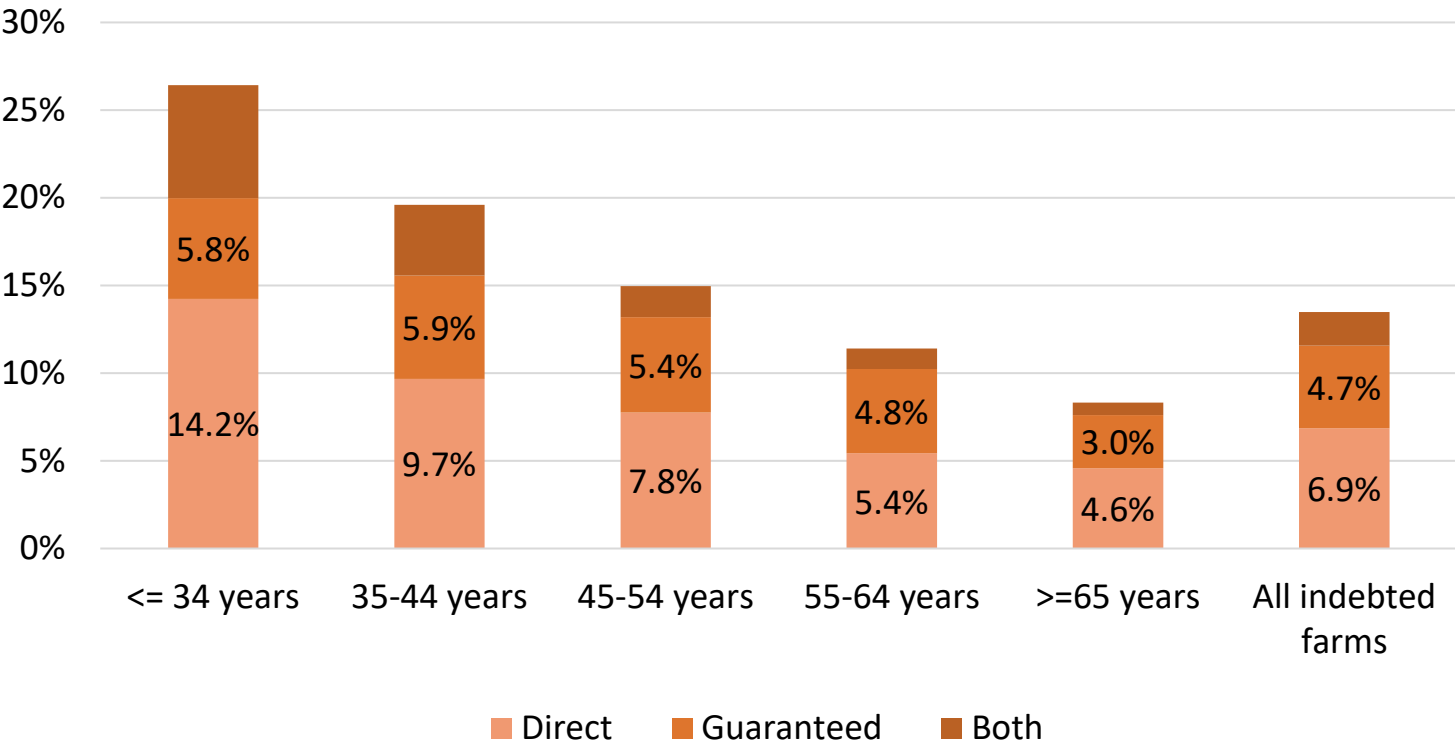




# By Age

**Direct** loans have a relatively greater market penetration among **young farmers** (under age 35).

**Guaranteed** loans have relatively greater market penetrations among **slightly older young operators** (35-54 years old).



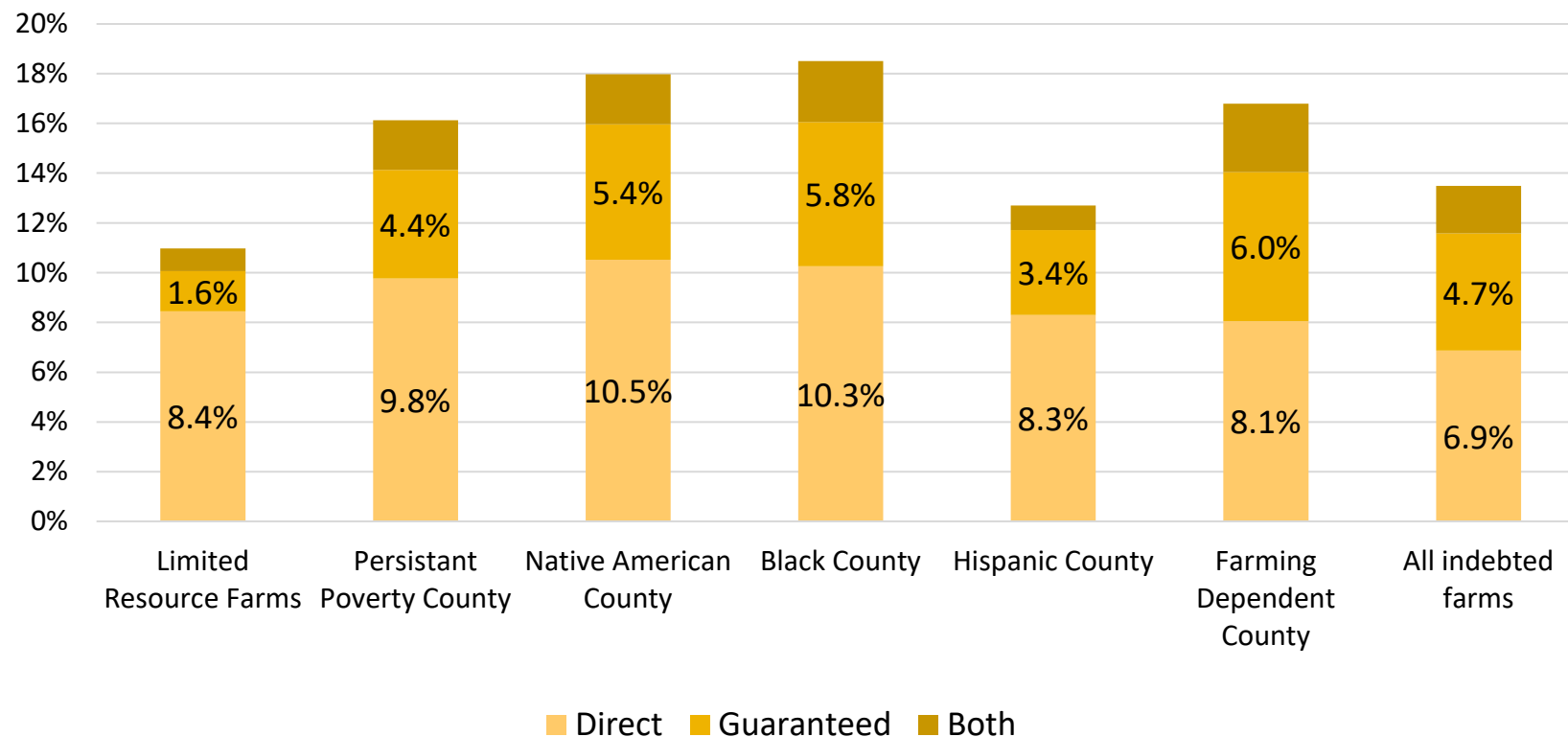
Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.  
Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

Based on age of primary operator at the time of the ARMS survey.



**Direct** loans have a relatively greater market penetration (compared to guaranteed loans) among **limited resource farms, counties with large non-white populations, and persistent poverty counties.**

## By Other Classifications



Averages for borrowers with an outstanding loan as of December of each given survey year. Direct and Guaranteed- only this loan program participation. Both= participation in both direct and guaranteed loan programs.  
Source: ARMS survey data and FSA identifiers for years 2013-2021. ARMS weights applied.

Limited resource county=farm households which tend to be smaller-sized, operated by older or retired persons, or have lost money farming  
Black, Native American, or Hispanic county=25% or more of population in Census identified as Hispanic, Black, or Native American  
Persistent poverty county=county in which poverty rates of 20 percent or higher have persisted for 30 years or more  
Farming dependent county=counties where an annual average of 25% or more of the county's earnings are from farming related activities or farm employment is 16% or more of total employment.



# Take Aways

- FSA loan programs appear to be reaching a wide variety of farm types--
  - Direct loans: small and mid-sized family farms, beginning farmers and young farmers, racial and ethnic minority operators.
  - Guaranteed loans: mid-sized and large sized family farms, beginning farmers, those falling just short of commercial credit readiness.
- On average direct loan programs have a relatively greater market penetration among--
  - Smaller family-farms (farm size, beginning farmer status)
  - Racial and ethnic minorities
  - Farms with more marginal credit (lower credit classification scores)
  - Younger farmers
  - Limited resource farms and those in persistent poverty counties

# Future Steps

- Timespan analysis:
  - Direction and magnitude of trends of FSA market penetration by program type, lender type (guaranteed loans), and across key borrower classification categories.
  - Differences during economic booms compared to economic downturns.
- Closer analysis of market penetration using interactions among farm operator classification categories.



# Thank You!!!

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