

Racial Minority Lending Trends at the Farm Service Agency

By:

Cesar L. Escalante, University of Georgia

James E. Epperson, University of Georgia

Forrest E. Stegelin, University of Georgia

Rodney Brooks, University of Georgia

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Corresponding author: Cesar L. Escalante
Department of Agricultural and Applied Economics
University of Georgia, 315 Conner Hall, Athens, GA 30606
E-mail address: cescalante@agecon.uga.edu

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Abstract:

A binomial logistic framework is used to determine important linkages between the FSA's decision on each loan application and the applicants' financial and demographic attributes. Using data on both rejected and accepted FSA loan applications, empirical results indicate loan approval decisions were not significantly influenced by the borrowers' racial class and that, in contrast to the credit risk assessment standards employed by commercial lenders, the collective influence of more stringent and objective credit scoring measures on FSA loan approval decisions is insignificant.

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Among private lenders, the finite supply of credit funds and their concern about borrowers' credit risk profile create the need for them to adopt credit rationing schemes to protect their financial interests. These lenders' credit screening systems restrict credit access only to those with favorable loan credentials that satisfy the lenders' requirements. These credentials could include, among others, acceptable business and credit track records, adequate collateral coverage, and a more realizable, profitable and sustainable business plan. A deficiency in any of these areas could be sufficient ground to deprive a potential farm borrower the chance to obtain the credit he/she needs from the commercial lender. A case in point is that of a beginning farmer that lacks the business track record requirement and automatically faces greater odds of obtaining credit. Moreover, racial and gender biases arising from the subjective dimension of the lenders' credit appraisal systems would only expand the list of excluded borrowers.

Federal Lending and the Equity Principle

The intervention of the government in the farm credit market is premised on the principle of equity. The Farm Service Agency (FSA), the government's farm retail lending arm, has been created to fulfill this mission by providing financial assistance to the "excluded" (underserved) farm borrowers that are unable to obtain commercial credit. Aside from subsidized direct loans, the FSA extends credit risk mitigating-loan guarantees that facilitate the successful negotiation of loan transactions between commercial lenders and their farm borrowers considered as borderline cases under their credit risk appraisal systems. The FSA also has developed special programs for beginning farmers. It currently allocates about 10% of its annual loan funds for lending to socially disadvantaged borrowers that include women and minority producers.

FSA loans, however, are not typical “dole-out” funds that are disbursed to any farmer that fits the eligibility guidelines established for each special lending program. FSA official directives have specifically emphasized that eligible farmers would still need to show reasonable ability to repay loans (FSA-USDA, November 2003). Relative to their private counterparts, however, the FSA would not penalize a prospective farm borrower’s credit standing with the agency for delinquent credit records that could be proven to have resulted from circumstances beyond the farmer’s control. Moreover, the FSA does not consider nonexistence of credit track record as unacceptable credit history (FSA-USDA, 1996, May 1997, September 1997). In general, FSA lending programs provide serious, dedicated farmers that operate potentially viable farm businesses with the chance to implement their business plans, which would otherwise not have been carried because of the lack of financial support from regular lending channels.

Discriminatory Lending Practices

The equitable implementation of FSA’s lending programs, however, has been challenged in the last decade. A number of African American farmers filed in 1997 a class action suit against the USDA for racial discrimination in farm lending and benefit programs allegedly committed from 1981 to 1996. After a thorough investigation, the FSA acknowledged that there have been isolated cases of discrimination and “under service” in the past which could not necessarily be characterized as “systemic discriminatory practices (p. ii, USDA, 1997).” As a result, a five-year Consent decree between African American farmers and the USDA, which began in 1999, was established to provide a framework for the settlement of eligible (upheld) claims.

The class lawsuit has created a significant financial burden for the USDA. As of July 2003, the USDA has already mailed out about \$641 million to 12,831 claimants who won their cases against the USDA under the less rigorous “Track A” assessment and settlement process. USDA

also has forgiven these farmers' loans amounting to about \$18.5 million, in addition to \$206,227 returned to some farmers who had offsets taken to service delinquent accounts (USDA, 2003).

Among farmers who chose to provide evidence of extreme wrongdoing under the more difficult and more demanding "Track B" process, 71 cases received a settlement totaling \$7.2 Million while another group of 16 who have gone to (and prevailed in) a hearing received \$5.5 Million (USDA, 2003). Overall, the USDA reports that 97.9% of the approved claimants have already received the stipulated payments as of November 2003.

The Aftermath of the 1997 Class Action Suit

This study re-visits this controversy by analyzing trends in the financial attributes of randomly selected FSA borrowers in the state of Georgia from 1999 to 2002 to discern whether loan decisions were made by the FSA lending officers without racial prejudice. Notably, the time period used in this analysis spans after the USDA acknowledged the possibility of irregularities in previous loan decisions, initiated the settlement process, and apparently committed to eliminate further discriminatory practices in its lending programs.

The USDA's Status Report

USDA's Notice FLP-328 is a current administrative circular notice to all FSA state and county offices that reminds lending offices of guidelines in "Equitable Treatment in Processing Loan Applications (FSA-USDA, November 17, 2003)." The circular emphasizes the agency's mission to eliminate disparate treatment of minority farmers in loan processing, ensures the timely processing of loan applications, and reiterates the importance of the review process for rejected and withdrawn direct loan applications pertaining to socially disadvantaged (SDA) farmers.

In its latest progress report (FSA-USDA, November 2003), the FSA claims that black farmers' participation in farm loan programs have been steadily increasing with 16.64% of black

farmers in the country successfully obtaining loans from the FSA. This proportion is high compared to 13.20% among minority farmers and 3.68% among white farmers. Current total loans granted to black farmers have grown by 33% over the loan levels in 1995. Moreover, the USDA claims that the average length of processing of loan applications received from black farmers is 17 days, which is the same for all other applicants. This rate is well within the mandated 60-day period given to the FSA to approve or disapprove a farm loan application.

Empirical Design

An analytical framework is developed to verify the extent of the duplicity of a representative credit evaluation construct used by private lenders when applied to the FSA lending programs. Specifically, this analysis will determine the relative significance within the FSA lending framework of traditional credit risk measurement concepts consistent with the private lenders' and the FSA's definitions of basic "creditworthiness" vis-à-vis the FSA's "credit delinquency" special exemptions provisions. In other words, this study will verify whether or not the FSA implements a lending decision framework that reinforces more its "lender of last resort" role. Specifically, this framework entails making loan approval decisions based largely on special considerations of unavoidable past credit or business conditions and the recognition of the borrowers' potential, rather than, realized "creditworthiness," in addition to perceptions of the applicant's dedication to the farming business. A greater emphasis on the use of more stringent, objective credit risk evaluation principles will not significantly differentiate the FSA from the private lenders, hence, such practices could be contradictory to its expected role as the farmers' lender of last resort.

Moreover, this empirical analysis also considers the borrowers' structural/demographic attributes (such as farm size, race, and gender) to determine the relative strengths of objective credit risk assessment criteria among separate models for certain social classes of FSA borrowers. Subsets

of direct and guaranteed loan observations are also separately analyzed to discern whether or not distinct differences in credit risk assessment that determine loan approval decisions exist among direct loans evaluated by FSA loan officers and guaranteed loans that have already been previously screened by regular, commercial lenders.

The racial discrimination issue is addressed in this model through the inclusion of a racial class dummy variable in the general estimating equation. Moreover, separate regression runs are made on two racial classes of farmer-applicants to determine inconsistencies in the application of credit risk assessment criteria.

FSA Borrower Data

The borrower data used in this study were obtained from the FSA Georgia State office. The dataset consists of 348 loan applications filed with the agency from 1999 to 2002. Of these loan observations, 222 were filed under the direct lending program while 126 applied for guaranteed loans. Majority of the loan applicants were white farmers, comprising 85% (297 observations) of the total number of loan applications. This dataset has a loan approval rate of 55% (191 applications). The approved loan observations were randomly selected by the FSA for verification that governmental procedures used in making loans were followed. On the other hand, the denied loan applications comprised the remaining “complete, usable” records kept by the eight FSA district offices in the state. A number of rejected loan applications with either very minimal or no information on file were discarded in this analysis. These were allegedly applicants that have been immediately detected as ineligible to borrow under any of FSA’s lending programs, hence did not warrant further collection of information for loan processing and credit risk assessment.

Information extracted from the loan portfolios include borrower declarations from income statements and balance sheets, in addition to information of the ethnic background and gender of the

primary borrowers. Portfolio information taken by loan officers was verified through tax returns, lien searches, and credit checks.

Econometric Framework

A binomial logistic framework involving a dichotomous dependent variable is used to determine important linkages between the FSA's decision on each loan application and the applicants' financial and demographic attributes.¹ The estimating equation is defined as:

$$(1) \quad Y = \text{logit}(p) = \log\left(\frac{p}{1-p}\right) = a + BX + e$$

where Y is the event of interest that takes on an ordered value of 1 if the FSA loan application is approved and 0 if disapproved; p is the probability of the event's occurrence, i.e., P(Y=1); while a, B, X and e correspond to the intercept, the coefficient estimate(s), the explanatory variable(s) and the error term, respectively, which are the estimating equation's right-hand side components (Greene). A total of five models are analyzed in this study, i.e. the entire farm borrower dataset and four subsets of data categorized according to the type of FSA credit exposure (direct versus guaranteed lending) and the racial class of the farmer-applicants (white versus non-white farmers).²

The explanatory variables include proxy financial measures representing the recurring components of credit scoring models analyzed in the literature (Miller and LaDue; Turvey; Splett, et al.; Kohl). These variables include:

- i) Debt-Asset ratio representing solvency conditions;
- ii) Return on Assets as a measure of profitability;
- iii) Net Farm Income Ratio, calculated as the ratio of net farm income to gross revenues, as a measure of financial efficiency;
- iv) the ratio of current assets to current liabilities (Current Ratio) to capture the firm's liquidity position;

- v) the Asset Turnover Ratio, calculated as the ratio of gross farm revenues to total farm assets, to account for asset productivity; and
- vi) the capital debt repayment margin ratio (Repayment Margin Ratio), calculated as the ratio of the level of net cash margin to the amount of debt servicing requirements, as a measure of repayment capacity.

The regressors also include the following dummy variables created to discern whether or not the loan approval process is significantly influenced by demographic factors:

- i) SIZE, which takes on a value of 1 for small farms with revenues below \$250,000 and 0 otherwise;
- ii) NONWHITE, with a value of 1 for non-white borrowers and 0 otherwise, to capture any racial bias;
- iii) FEMALE, with a value of 1 for a female primary borrower and 0 otherwise, to discern any gender bias; and
- iv) DIRECT LOANS, which takes on a value of 1 for loans accommodated under the direct lending programs and 0 otherwise.

Additional dummy variables were also included in the model to account for differences in certain farming areas in the state. Actually, the data in this analysis were obtained from eight FSA loan districts. For purposes of this study, contiguous loan districts were combined based on climate and homogeneity of farm production profiles of certain regions. Hence, Districts 2 and 5 were combined to form the CENTRAL region; Districts 3 and 4 were merged as the EAST region; Districts 7 and 8 now represent the SOUTH region; and District 1 was retained as the NORTH region. One strategic exception was made. District 6, though located in South Georgia, was set apart from the SOUTH region and designated SOUTH (D6) because of substantial differences.

SOUTH (D6) had a relatively high number of nonwhite borrowers – 25% relative to 6% for the SOUTH region. Loan size on average was much higher in SOUTH (D6) – about 64% higher than for the SOUTH region. Further, gross farm income was almost 35% higher in SOUTH (D6) than in SOUTH on average. In this analysis, the excluded category among the regional dummy variables is the NORTH region.

Descriptive Analysis

Table 1 presents the mean values of selected financial measures for the entire dataset and for three categories of farmer-applicants based on their loan approval status, lending program considered, and racial group. T-statistics were calculated to determine significant differences between pairs of mean values obtained for each borrower category.

The results indicate that approved loan applications had significantly larger gross farm revenues and net farm incomes than the rejected applicants. This group also outperformed the denied loan applicants in all credit scoring/financial performance measures considered in this analysis, except for solvency.

The summary also indicates that guaranteed farm loans are generally larger in asset, net worth, gross revenue, and net farm income terms. Moreover, most financial ratios associated with these borrowers are more favorable than those of farms that received direct loans from the agency. This is a logical result considering that guaranteed borrowers have been previously screened and evaluated by commercial lenders before being referred for FSA guarantee. Among other reasons, the guarantee requirement in these borrowers' loan covenants with their commercial lenders could result from the borrowers' deficiency in at least one financial criterion. In this study's sample observations, the guaranteed farms' relatively weaker profitability (return on assets) position could

have, among other factors, negatively affected credit risk ratings and, thus, created the need for FSA guarantee.

The patterns for the gross financial measures obtained for white and non-white borrowers mirror the direct versus guaranteed loan comparisons. White farmer-applicants had significantly larger asset, net worth, gross farm revenue, and net farm income positions than their non-white counterparts. However, the results for the financial ratios only indicate significant differences in net farm income and current ratios where white applicants had more favorable financial efficiency and liquidity positions than non-white applicants. Notably, the average net farm income and current ratios obtained for non-white borrowers (0.1069 and 0.4498, respectively) are even lower than those calculated for the rejected loan dataset (0.1106 and 0.5451, respectively).

Moreover, the results across all data groups indicate that FSA loan programs usually attract highly leveraged borrowers with mean debt-to-asset ratios ranging from about 0.6889 to 1.0834, or an overall mean solvency measure of 0.9153. Even approved loan applications had an average debt-to-asset ratio of 0.7770. Also, the overall current ratio of 1.8071 is quite below the norm of 2.0, although approved FSA loan applications actually exceed this value at 2.84.

Econometric Analysis

The binomial logistic regression results obtained for the five regression models are summarized in Table 2. Since logit coefficient estimates could be interpreted merely relative to the "log odds ratio" and do not provide any direct reference to the rate of change in values of the dependent variable, the marginal effect of each regressor was derived as:

$$(2) \quad \frac{\partial \beta}{\partial p} = f(\beta X) \beta$$

where p is the probability of obtaining loan approval, β is the logit coefficient and $f(\cdot)$ is the density function of the cumulative probability distribution function (Greene). The marginal effect provides more intuitive information on the effect of each unit change in the value of the variable on the probability of approval of the FSA loan application. The marginal effects of the significant regressors are summarized in Table 3. The results in Table 2, however, provide important information on the significance of certain regressors and their directional effects, in addition to the models' overall explanatory power and predictive ability.

The results of the general model that considered all loan applications indicate that only two credit scoring-related variables, repayment margin ratio and current ratio, had positive, significant influence on the dependent variable. The marginal effects reported in Table 3 indicate that a unit change in the repayment margin ratio increases the likelihood of loan approval by 0.43776. This variable produces more sensitive impact on the dependent variable than the current ratio variable whose marginal effect was calculated at 0.05144.

The results for the dummy variables in Table 2 indicate that the loan applications from male applicants and those filed under the guaranteed lending program are more likely to get approved. Moreover, farmer-applicants from the North Region are more likely to get their loan applications approved than those coming from the East, South, and Central regions in the state. This could be attributed to the stronger financial position of livestock producers in the North region compared to peanut, cotton and grain farms in the other areas.

There are two compelling trends in this set of results: the insignificance of the racial minority dummy variable (Non-White) and the lack of explanatory power of most credit-scoring related variables in determining changes in the dependent variable. These findings indicate that in

general there is no statistical evidence of racial discrimination in the implementation of FSA loan programs considered in this analysis. Also, the insignificance of most financial measures indicates that in general the enforcement of special exemptions allowed by the FSA in measuring “creditworthiness” could have dominated the use of objective, more stringent “creditworthiness” criteria that resemble the commercial lenders’ rating systems. True to its role as the “lender of last resort,” the decisions made by the FSA to grant credit were most likely based on the borrowers’ potentials to rectify any deficiencies in their credit histories and their willingness and perceived ability to implement viable, feasible farm business plans. The next batch of results should shed more light on these two issues.

Direct versus Guaranteed Loan Applicants

This analysis is designed to determine any adjustments in credit risk assessment methods are made between the two FSA lending programs. The results in Table 2 show that each of the direct and guaranteed loan models had two significant credit scoring-related variables. The results for the direct loan model mirror those obtained for the general model. The repayment margin and current ratios were significantly positively signed, with the repayment variable exerting more significant influence on the dependent variable (marginal effect of 0.32295 in Table 3) than current ratio (marginal effect of 0.15695 in Table 3). The repayment variable is also a significant regressor in the guaranteed loan model, although its marginal effect of 0.13866 is less than the calculated marginal effect of 0.23360 for return on assets, the other significant regressor in the model.

Other results indicate that larger farms are more likely to get their guaranteed loan applications approved while the same likelihood is greater among male borrowers in the direct lending program. The results for the regional dummy variables in the both models are almost

similar to those obtained in the general model, except that the South region variable is insignificant in the guaranteed loans model.

Again, the same trends are observed in this analysis: the lack of significance for the racial minority dummy variable and most of the credit scoring-related variables.

Non-White versus White Loan Applicants

As before, the rationale for this analysis is to determine whether different sets of credit risk assessment criteria are used for the two racial classes of loan applicants. The summary in Table 2 shows that each of the two racial class models produced only one significant financial variable. Current ratio was an important indicator of credit risk (hence a factor for loan approval decisions) for non-white borrowers while the repayment capacity of white borrowers was a significant regressor in the other model. Moreover, larger non-white farms and male white farm operators are more likely to get their loan applications approved. White farmer-applicants under the guaranteed lending program also are more likely to experience loan approval. The North region borrowers have a greater chance of successfully obtaining an FSA loan compared to non-white farmers in the Central region and white farmers in the East and Central region.

In general, most of the credit scoring-related variables again lack significant explanatory power, which suggests that most borrowers that eventually get their loan applications approved are actually able to justify certain weaknesses in their historical financial performance using the exemption provisions allowed by the FSA for determining credit delinquency.

Summary and Conclusions

This study provides important clarification of the nature of credit risk assessment methods employed by FSA lending officers in making loan approval decisions. The clear distinction between typical “dole-out” government subsidies and the FSA farm loans justifies the need for

credit risk measurement in the implementation of the latter type of government programs. However, even while FSA operating guidelines exist for the evaluation of basic “creditworthiness” that more or less resemble the commercial lenders’ risk rating systems, certain exemptions are allowed for special reasonable circumstances (which are normally sufficient grounds for loan denials by private lenders) that undermine a farmer’s chances at obtaining farm loans. The results of this analysis indicate that the collective influence of more stringent and objective credit scoring measures on loan approval decisions is insignificant and could be possibly dominated by special considerations allowed by the FSA in measuring credit risk. Regardless of the loan applicant’s racial class (white versus non-white farmers), or whether the loan application is filed under the direct or guaranteed lending program of the FSA, this study’s evidence reaffirms the FSA’s primary role as the lender of last resort in recent years for farmers in Georgia who have experienced hardships but possibly with good potentials to rebuild their farm businesses and implement remedial plans designed to build more acceptable credit and business track records.

This analysis also does not produce any evidence of racial discrimination in the implementation of FSA loan programs. The non-white farmer-applicants in this study, which had significantly smaller farm operations, more inferior liquidity and financial efficiency positions than their white farmer-counterparts, had as much chance as any other borrower in obtaining an FSA loan accommodation.

Overall, the FSA appears to be carrying out its mission. Some of the operations serviced by the FSA are in poor financial condition but apparently have a reasonable chance of succeeding. Loan applicants are not subjected to a litmus test where financial ratios must exceed certain thresholds. As long as the operation displays sufficient cash flow and repayment ability, the FSA is inclined to service the loan.

This study, however, is limited in coverage to FSA borrowers in Georgia, which has distinct demographic attributes. Moreover, there was no information available on the amount of the loan requested by the farmers who eventually received FSA financial assistance. The amount of the loan requested would allow one to determine whether the accusations made by some non-white farmers that they receive less funds than requested is unfounded or not. Moreover, the discrimination issue could have been pursued further with the investigation of gender bias in this analysis. Unfortunately, this dataset has very few observations pertaining to female “minority” loan applicants.

Nonetheless, this research provides a good starting point for a more systematic, verification of FSA’s lending practices by incorporating credit assessment principles in a more appropriate econometric design

Notes:

1. A cross-sectional regression approach is used in this analysis considering that the loan observations in each of the 4 year-period are unique and non-recurring in other years.
2. Separate analyses of borrowers belonging to gender classes could not be made given the small sample size of female borrowers (25 observations).

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Table 1. Mean Values and Standard Errors (in Parentheses) of Selected Financial Measures, 1999-2002

Financial Variables (\$)	Entire Sample	Application Status		Race		Lending Program	
		Denied	Approved	White	Non-White	Guaranteed	Direct
Total Assets (\$)	497,833 (637,675)	455,630 (570,226)	532,522 (687,737)	545,891 ^a (674,370)	217,963 ^a (190,073)	795,385 ^a (789,488)	330,654 ^a (456,490)
Total Net Worth (\$)	159,480 (379,713)	131,132 (24,121)	182,781 (437,134)	175,380 ^a (405,426)	66,885 ^a (131,549)	289,446 ^a (521,938)	85,715 ^a (239,179)
Gross Farm Income (\$)	278,665 (321,126)	242,311 ^c (361,994)	308,548 ^c (280,629)	303,285 ^a (336,165)	135,290 ^a (148,652)	376,113 ^a (323,725)	223,357 ^a (306,844)
Net Farm Income (\$)	58,067 (99,359)	43,535 ^b (123,252)	70,013 ^b (72,382)	63,922 ^a (104,437)	23,969 ^a (50,538)	87,176 ^a (92,849)	41,546 ^a (99,335)
Return on Assets (%)	20.12 (45.41)	14.61 ^c (58.19)	24.64 ^c (30.65)	20.09 (43.15)	20.28 (57.33)	19.35 (19.43)	20.55 (54.98)
Net Farm Income Ratio	0.1852 (0.3966)	0.1106 ^a (0.2779)	0.2465 ^a (0.4641)	0.1986 ^c (0.4080)	0.1069 ^c (0.3136)	0.2960 ^a (0.4883)	0.1223 ^a (0.3180)
Asset Turnover	1.6686 (3.8364)	2.0682 ^c (5.3306)	1.3402 ^c (1.8190)	1.4914 (3.0361)	2.7008 (6.8045)	0.8348 ^a (0.9246)	2.1419 ^a (4.6909)
Repayment Ratio	1.1876 (0.9585)	0.8416 ^a (0.5694)	1.4721 ^a (1.1096)	1.2131 (0.9530)	1.0392 (0.9861)	1.5502 ^a (1.3686)	0.9818 ^a (0.5154)
Current Ratio	1.8071 (10.3284)	0.5451 ^b (1.1031)	2.8444 ^b (13.8358)	2.0401 ^b (11.1596)	0.4498 ^b (0.9373)	3.6563 ^c (16.8195)	0.7575 ^c (2.1052)
Debt-Asset Ratio	0.9153 (2.0793)	1.0834 (3.0526)	0.7770 (0.4501)	0.9342 (2.2335)	0.8048 (0.6769)	0.6889 ^b (0.2968)	1.0437 ^b (2.5871)
No. of Observations	348	157	191	297	51	126	222

Superscripts a, b, and c indicate significant differences of pairs of means at the 99%, 95%, and 90% confidence levels, respectively.

Table 2. Logistic regression results, Georgia FSA Loan Application Dataset, 1999-2002

Variables	All Loan Applications	By Lending Program Type		By Race	
		Direct Loans	Guaranteed Loans	Non-White	White
<i>Coefficient Estimates and Standard Errors (in parentheses)</i>					
Intercept	0.91471 (0.91077)	0.80297 (1.05640)	-2.97412 (2.53532)	5.19517 (6.06235)	0.19033 (1.05897)
A. Credit Scoring-Related Variables					
Return on Assets	0.33120 (0.39572)	0.11668 (0.43242)	8.11984 ^b (4.03519)	-2.02186 (2.58791)	0.43024 (0.42947)
Asset Turnover Ratio	-0.01973 (0.04703)	-0.01956 (0.05059)	-0.07688 (0.74933)	-0.04082 (0.20002)	0.33523 (0.06725)
Repayment Margin Ratio	2.01017 ^a (0.49600)	1.31392 ^b (0.54737)	4.81976 ^a (1.46769)	4.35022 (3.05442)	2.28585 ^a (0.61011)
Current Ratio	0.23620 ^c (0.12399)	0.63857 ^a (0.21940)	0.06147 (0.12580)	4.50217 ^c (2.54082)	0.14316 (0.11792)
Debt-Asset Ratio	-0.08657 (0.08232)	-0.04413 (0.09340)	0.35352 (1.40961)	0.96075 (0.95041)	-0.10890 (0.09658)
Net Farm Income Ratio	-0.40990 (0.41210)	-0.04132 (0.60747)	-0.72501 (0.54287)	-2.72423 (2.69256)	-0.32142 (0.43203)
B. Demographic/Structural and FSA Regional Dummy Variables					
Size	-0.49649 (0.31216)	0.13672 (0.40169)	-1.51137 ^b (0.72755)	-3.84050 ^c (2.18276)	-0.38562 (0.32888)
Female	-1.53455 ^b (0.66741)	-2.36566 ^a (0.82700)	2.96119 (6.62547)	-3.02631 (4.00207)	-3.24064 ^a (1.08335)
Non-White	-0.40474 (0.44429)	-0.39390 (0.48276)	0.34299 (1.36400)		
Direct Loans	-0.59475 ^c (0.32992)			-2.38135 (1.99998)	-0.58160 ^c (0.35978)
East Region	-1.81491 ^a (0.69344)	-2.01456 ^b (0.87681)	-2.32846 ^c (1.42303)	-6.67925 (4.71378)	-1.46112 ^b (0.74582)

South Region	-1.59557 ^b (0.70856)	-1.97012 ^b (0.88636)	-2.11498 (1.44156)	-7.41106 (5.13611)	-0.96469 (0.75385)
Central Region	-3.04803 ^a (0.69071)	-3.80515 ^a (0.88872)	-2.86578 ^b (1.36523)	-7.26777 ^c (4.47077)	-2.66670 ^a (0.72820)
South-D6 Region [*]	-0.33014 (1.03300)	-0.98911 (1.16837)			-0.45421 (1.08595)
Log Likelihood	-158.70768	-103.47890	-36.26986	-10.69891	-134.09321
LR Chi-square	161.69 ^a	97.26 ^a	65.39 ^a	38.89 ^a	136.70 ^a
Pseudo R ²	0.3375	0.3197	0.4741	0.6450	0.3376
Number of Observations	348	222	118	47	297
Correct Predictions (%)	80.75	78.83	88.98	91.49	81.48

Notes:

^{a,b,c} Denote significance at the 99%, 95% and 90% confidence levels, respectively.

^{*} This dummy variable was dropped from the estimating equation for non-white and guaranteed loan applicants since "d6=0 predicts success perfectly."

Table 3. Marginal Effects of Significant Regressors

Variables	All Loan Applications	By Lending Program Type		By Race	
		Direct Loans	Guaranteed Loans	Non-White	White
A. Credit Scoring-Related Variables					
Return on Assets			0.23360		
Repayment Margin Ratio	0.43776	0.32295	0.13866		0.48134
Current Ratio	0.05144	0.15695		1.07809	
B. Demographic/Structural and FSA Regional Dummy Variables					
Size			-0.04693	-0.51145	
Female	-0.36516	-0.40216			-0.63415
Direct Loans	-0.12508				-0.11912
East Region	-0.42038	-0.40530	-0.13782		-0.33603
South Region	-0.37232	-0.39419			
Central Region	-0.62084	-0.72602	-0.15429	-0.91702	-0.54690