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CHARACTERISTICS OF FMHA GUARANTEED FARM LOANS IN DEFAULT

Steven R. Koenig and Patrick J. Sullivan¹

Abstract

Much of the Farmers Home Administration's (FmHA) credit assistance to farmers now comes in the form of loans made by commercial or cooperative lenders, but guaranteed against default losses by FmHA. As a result, FmHA's loan guarantee programs represent a growing source of potential Federal liabilities. To better understand the factors contributing to guaranteed farm loan default, this study profiles and compares fiscal 1988 guaranteed farm loans that subsequently went into default by June 1992 with nondefaulting loans made in that year. Results indicate that defaulting borrowers are more highly leveraged and operate under slimmer profit margins than nondefaulting borrowers. Defaulting loans show regional and commodity specific concentration and tend to be larger and carry less collateral than nondefaulting loans.

The Farmers Home Administration (FmHA) provides both direct and guaranteed farm loans. In the 1980's, policy changes affecting FmHA's farmer programs placed greater reliance on the use of loan guarantees. As a result, annual obligations for farm loan guarantees have risen sharply over the past 10 years and now comprise nearly 70 percent of FmHA's total farmer program obligations. Under its guaranteed farm loan programs, FmHA guarantees repayment of up to 90 percent of the losses on a loan made by a qualifying lender if the borrower defaults on the loan.

To date, FmHA's loan guarantee programs have experienced low rates of delinquency and default, especially given the programs' objective of assisting lenders serve high risk farm borrowers. At the end of fiscal 1992, loan volume delinquency rates were just two percent and net charge-offs were just 1.3 percent of yearend outstanding guarantee volume. However, these modest rates might be misleading because many guaranteed farmer loans are relatively new and hence have yet to experience repayment shortfalls more common among maturer loans. Delinquency rates (90-days past due and/or in nonaccrual status) on the outstanding farm loan volume of commercial banks, the Farm Credit System (FCS), and life insurance companies ranged from 3.3 to 5.5 percent at mid-1992 (USDA).

With the greater emphasis on delivering Federal farm credit assistance through loan guarantees, we need to better understand the factors that determine the success or failure of guaranteed loan program participants. An improved understanding of the factors contributing to default could help improve program design and assist in developing methods to predict and screen loans with a higher than average potential for default. Therefore, the initial step of this research and our primary objective in this paper is to provide a profile of the characteristics of a sample of defaulted and nondefaulted guaranteed loans and borrowers. Specifically, we compare projected income statements, balance sheets, loan terms, and collateral statements for these two classes.

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Data Development

We use data obtained from sections of FmHA's national database (the Guaranteed System) and from a special survey of loan records maintained at FmHA's county offices. The Guaranteed System database (referred to as the master file) concentrates on accounting and administrative information and, therefore, does not contain information about an applicant's financial health or income. This information is obtained at the time a loan application is made, but is retained at the county office issuing the guarantee. A special survey of county office files was completed to obtain this and other information.

The special survey, conducted in two stages, collected information from the applicant's balance sheet, annual projected cash income statement, and collateral statement at the time of loan application. Questions on loan terms were included in the questionnaire to supplement loan term data available from the master file. Some general borrower characteristics were also collected.

Only loans guaranteed under the farm ownership (FO) and operating loan (OL) programs that were obligated (received FmHA approval and commitment to fund) and disbursed in fiscal 1988 were included in the study. (Fiscal 1988 ran from October 1, 1987 through September 30, 1988.) Applying these criteria, the universe consists of 12,042 guaranteed loans and 9,149 borrowers (Table 1). These loans totaled \$1.2 billion.

Table 1. Guaranteed Loan Program Borrowers, Loans, and Dollar Volume By Survey Status, Fiscal 1988

| Program | Numbers | | Proportion Surveyed |
|------------------------|------------------------|----------|---------------------|
| | Survey | Universe | |
| | <i>Number</i> | | <i>Percent</i> |
| Borrowers ^a | 1,922 | 9,149 | 21.0 |
| Nondefaults | 1,580 | 8,758 | 18.0 |
| Defaults | 342 | 391 | 87.5 |
| Loans | 1,994 | 12,042 | 16.6 |
| Nondefaults | 1,592 | 11,582 | 13.7 |
| Defaults | 402 | 460 | 87.4 |
| | <i>Million Dollars</i> | | |
| Volume | 212.4 | 1,226.6 | 17.3 |
| Nondefaults | 167.6 | 1,176.5 | 14.2 |
| Defaults | 44.8 | 50.1 | 89.4 |

^a Because a single borrower can have more than one loan, the total number of borrowers is less than the number of loans.

Sources: 1988 and 1992 survey of FmHA's guaranteed loan applicant folders and the Guaranteed System's master file.

Default Definition

We considered a fiscal 1988 guaranteed loan to have defaulted if a loss settlement was paid to the participating lender or if the loan was delinquent with principal past due greater than or

equal to a selected minimum percentage of loan volume (10 percent for FO and 50 percent for OL loans). Only loans meeting this definition on or before June 30, 1992 are included. Therefore, loans that defaulted but had sufficient collateral to repay the lender without guarantee are not included in our analysis. However, for program management purposes these are less important and maybe few in number. Using these criteria, 460 loans made to 391 borrowers were in default.

When a borrower fails to make scheduled payments, the participating lender is required to notify FmHA of any repayment shortfall that exceeds 30 days. To prevent default, lenders are allowed to adjust loan repayment schedules or terms, provided certain conditions hold, and FmHA approves. When such servicing actions cannot cure a loan delinquency, the lender may proceed with collection of the loan. While FmHA must agree to a liquidation plan and has the right to take over the liquidation process, the lender normally handles the liquidation, including any legal foreclosure actions. FmHA reimburses the lender for up to 90 percent of its realized losses (principal, accrued interest, and liquidation costs). Beginning in 1991, lenders can receive reimbursements from FmHA for losses incurred under a partial farm liquidation.

County Survey

The special survey of county files was conducted jointly with FmHA in two stages. The first stage was completed shortly after the close of fiscal 1988 as part of a study to establish a baseline of information about the operation of the guaranteed loan programs before the advent of the Federally sponsored secondary market for such loan guarantees (Koenig and Sullivan). This stage called for a 15-percent sample of guaranteed loans that were obligated and disbursed during fiscal 1988. Of the survey responses completed by county staff, 1,643 loan guarantees were deemed usable for analysis.

The second stage was completed in late-1992 and covered only guaranteed loans in default on or before June 30, 1992. Of the 460 defaulted loans identified, 51 had already been surveyed during the first stage. Therefore, in the second stage, 409 questionnaires were sent to county offices. Of these, 351 were returned suitable for analysis, giving a total of 402 loans or 342 borrowers. Roughly half of the 58 unsuitable questionnaires were excluded because the file was unavailable to county staff. The remaining had gross discrepancies or certain key data was missing from the file. The unsuitable records did not appear to be concentrated in any one subset. All questionnaires were subjected to extensive logic and consistency checks. However, checks made on collateral data from the first stage were not as extensive as the second stage, so comparisons made may not be as reliable as other aspects of the survey.

Combining stages one and two yielded a total survey sample of 1,994 loans and 1,922 borrowers representing 16.6 and 21.0 percent of the universe totals, respectively. The 402 defaulted loans for which usable survey data was collected represent 87.4 percent of all defaulted loans and 87.5 percent of defaulting borrowers. Nondefaulting loans and borrowers surveyed comprise 13.7 percent and 18.0 percent of their respective universe totals.

Survey data was then merged with data from the master file. The analysis reported here is based on the merged data from these two sources. Whenever a data item, such as the loan amount or percent of loan guaranteed, is available from the master file, we report statistics based on all fiscal 1988 guaranteed loans (the universe), and not just those in the survey.

Programs Analyzed

Statistics are reported for the guaranteed farm ownership (FO) and operating loan (OL) programs. Guaranteed OL loans can be made for a range of purposes, including annual crop and feed expenses, the purchase of livestock and machinery, and the refinancing of nonreal estate debt. FmHA guarantees these loans for up to seven years, but under certain circumstances the guarantee could be extended for up to 15 years. Both lines of credit and term notes are eligible,

but in 1988 the lines of credit were guaranteed for only three years and limited to payment of annual expenses. The total amount of guaranteed loans to any borrower is capped at \$400,000.

In fiscal 1988, loans guaranteed under the farm ownership program could be for the purchase, repair, or improvement of farm real estate and the refinancing of existing farm real estate debt. Loans are typically secured with a first lien on real estate and attached structures. FO loan guarantees are made for up to 40 years and are capped at \$300,000 per borrower.

An interest rate assistance program for guaranteed loans was in operation during fiscal 1988 (known as the Interest Rate Buydown Program). Under the program, lenders received payments from FmHA if they agreed to reduce interest rates on fixed-rate guaranteed FO and OL loans to borrowers that could not demonstrate a positive cash flow without such a reduction. Lenders were reimbursed for 50 percent of the cost of the reduction, up to a maximum write-down of four percentage points for a maximum of three years. The program was changed in 1990; FmHA now provides 100 percent reimbursement of the writedown cost.

Loan Characteristics

Default Rates are Modest

The guaranteed FO and OL programs provided 9,149 applicants with 12,042 loans in fiscal 1988 using our selection criteria. By June 30, 1992, 391 borrowers (460 loans) had defaulted on \$50.1 million in guaranteed loans. Defaults represented 4.3 percent of total borrowers and 4.1 percent of guaranteed loan volume (Table 2). Considering that the mission of these programs is to assist high risk farm borrowers, the rate of default is modest.

**Table 2. Guaranteed Loan Program Defaults
By Program, Fiscal 1988**

| Program | Borrowers | | | Loan Amount | | |
|--------------------|---------------|-------|----------------|------------------------|---------|----------------|
| | Defaults | Total | Proportion | Defaults | Total | Proportion |
| | <i>Number</i> | | <i>Percent</i> | <i>Million Dollars</i> | | <i>Percent</i> |
| Farm Ownership | 37 | 2,293 | 1.6 | 6.1 | 345.2 | 1.8 |
| Operation Loans | 364 | 7,645 | 4.8 | 44.1 | 881.4 | 5.0 |
| Credit Lines | 247 | 4,618 | 5.3 | 27.9 | 407.1 | 6.8 |
| Notes | 166 | 4,727 | 3.5 | 16.2 | 474.3 | 3.4 |
| Total ^a | 391 | 9,149 | 4.3 | 50.1 | 1,226.6 | 4.1 |

^a Because a single borrower can have a loan from more than one program and can have more than one loan within a program, the total number of borrowers is different from the sum of borrowers participating in each loan program.

Source: Guaranteed System's master file.

There are sizable differences in default rates in the FO and OL programs. The FO program has a much lower incidence of default than the OL program, 1.8 percent versus 5.0 percent. This occurrence was anticipated since FO loan guarantees have longer maturities, are better collateralized with real estate, and farmers tend to keep real estate loans current when repayment difficulties occur. The data supports this contention in that farmers having both an FO and OL loan were more likely to default on their OL loan than their FO loan. Furthermore, 25.6

percent of nondefaulted borrowers had an FO loan, but only 13.6 percent of defaulted borrowers had one.

With higher default rates the OL program accounted for the majority of total defaulting borrowers, loans, and loan volume. OL loans accounted for 81 percent of total loan numbers and 72 percent of total dollar origination volume in fiscal 1988. By mid-1992, that program accounted for 92 percent of defaulted loans and 88 percent of defaulted loan volume. Within the OL program, credit line loans had a higher default rate than loans made with notes. One explanation for this finding is that lines of credit are used to finance annual production expenses whereas notes often finance chattel purchases that offer greater collateral coverage and control of loan proceeds.

Borrowers in Default Often Have More Than One Loan

There is a tendency for defaulted borrowers to have more than one OL loan. Of the 391 defaulted borrowers 32 percent had two or three OL loans. This compares with 21 percent for the nondefaulted borrowers. Only 19 defaulting borrowers did not have at least one OL loan (exclusively FO program borrowers).

Experience with the guarantee program did not appear to be influencing default rates for fiscal 1988 loans. Most defaulting and nondefaulting borrowers were new to the guarantee programs in fiscal 1988. Over 69 percent of nondefaulting borrowers did not have a previous OL loan and only slightly more defaulting borrowers (72 percent) were first time users of the program. Likewise, for the FO program, 97.3 percent of borrowers not in default and 98.2 percent of borrowers in default did not have an FO loan prior to fiscal 1988. No defaulting borrower had more than four previous loans from either program, whereas 0.4 percent of nondefaulting borrowers had between five and eight loans prior to fiscal 1988, all from the OL program.

Loans and Borrowers Show Geographic Concentration

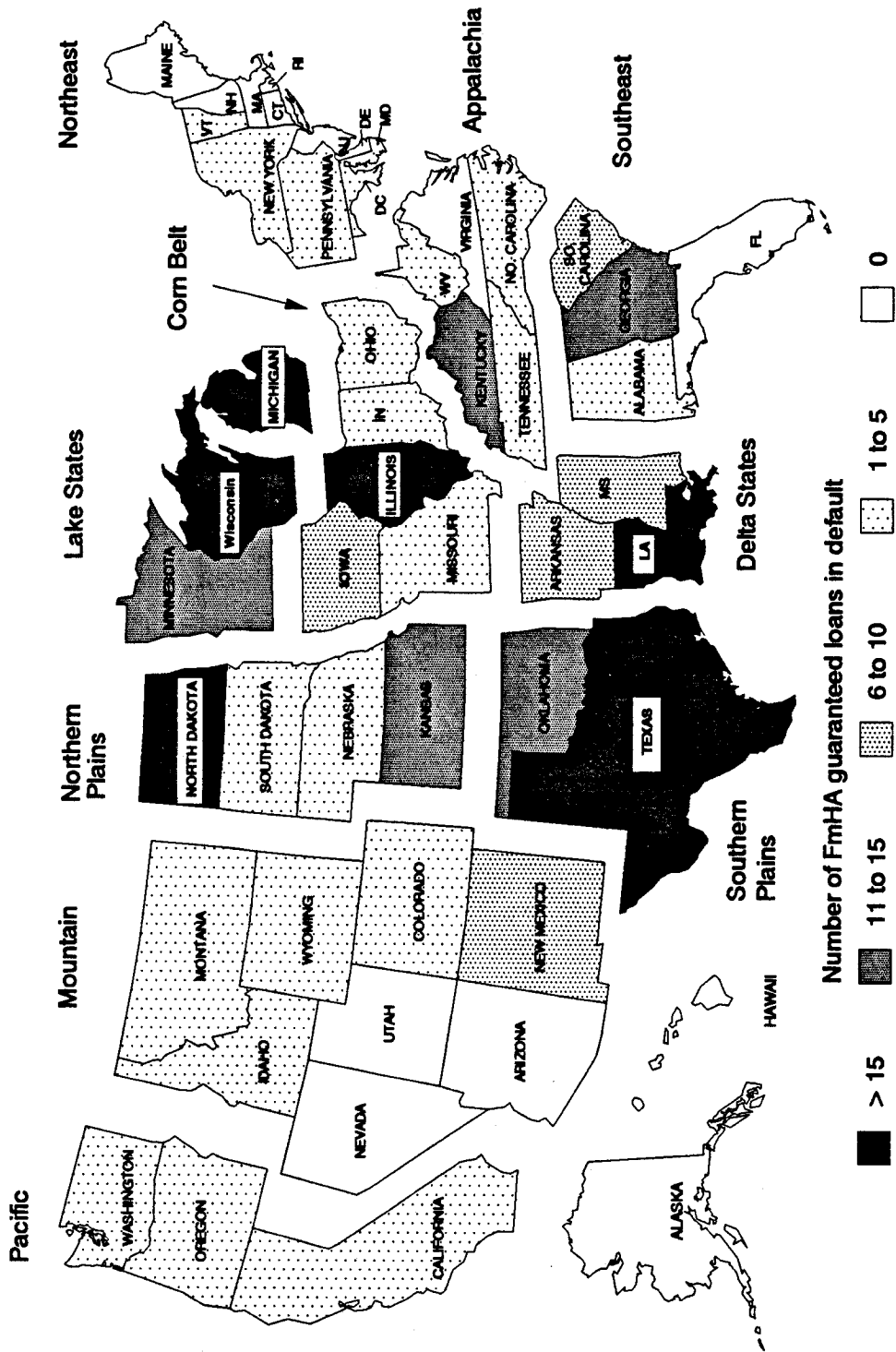
Geographic dispersion of defaulted loans is closely aligned with geographic location of all guaranteed loans. Defaults are concentrated in the central U.S., with the Lake States, Southern Plains, and Delta States showing the highest concentration (Figure 1). One State, Louisiana, clearly dominates as a source of defaulted loans issued in fiscal 1988 and hence significantly influences the values of the statistics presented. Louisiana accounts for 11 percent of all 1988 borrowers and 10 percent of all loans, but 39 percent of defaulting borrowers and 38 percent of defaulting loans. The default rate of Louisiana's guaranteed loans was 14.5 percent as of mid-1992. The next closest state is Texas which accounts for four percent of total guarantees and 7.6 percent of defaulted loans. In terms of numbers or dollar volume, defaults in the Northeast and West were few and sporadic.

When examined by region, the story is very similar. Borrower default rates for eight of the 10 USDA production regions ranged from 1.4 to 3.5 percent, while the Southern Plains and Delta States reported default rates of 6.0 and 10.8 percent, respectively (Figure 2). Again, Louisiana and Texas dominate these two regions. Because of their dominance, the type of agriculture (cotton and rice farms) in these two regions greatly influences the overall comparison of defaulted and nondefaulted loans and borrowers. The lowest default rates are in the Corn Belt, Northern Plains and Pacific regions.

Banks are Leading Source of Defaults

Commercial banks were the primary source of defaulted guaranteed farm loans obligated in fiscal 1988. Banks' share of total 1988 nondefaulted loans was 75.8 percent, but the share of defaulted loans was 87.6 percent (Figure 3). The share difference can primarily be attributed to the relatively low default rate of FCS loans. The FCS accounts for nearly 23 percent of nondefaulted loans, but only 8.5 percent of defaulted loans. Default rates were 4.4 percent for banks, 1.5

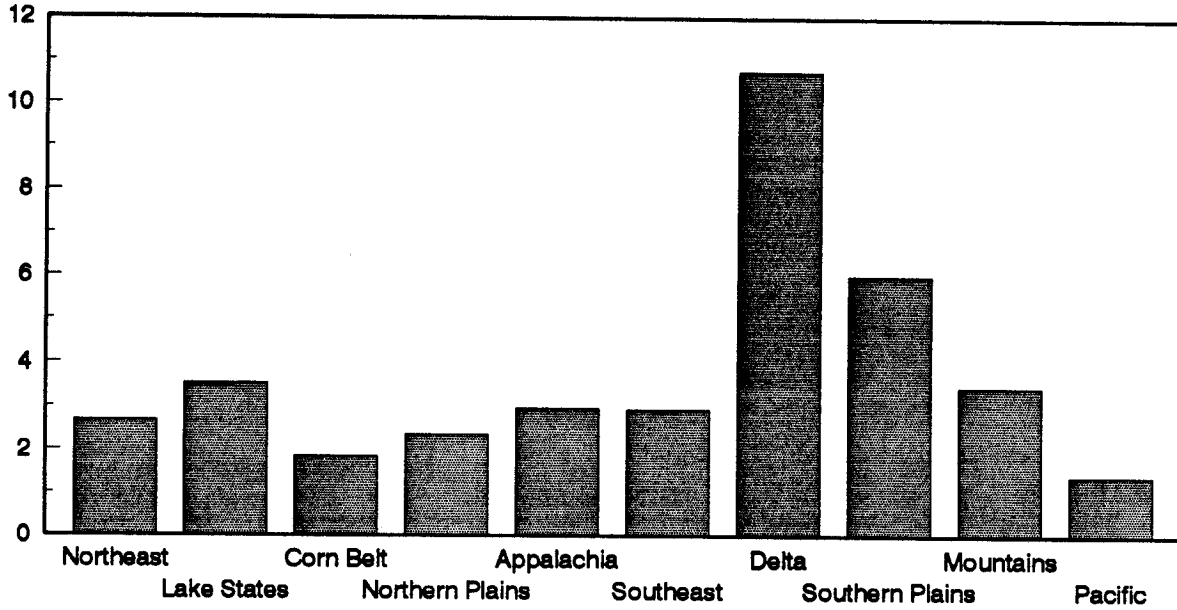
Figure 1
Location of defaulted guaranteed loans made in fiscal 1988



Source: Guarantee System's master file.

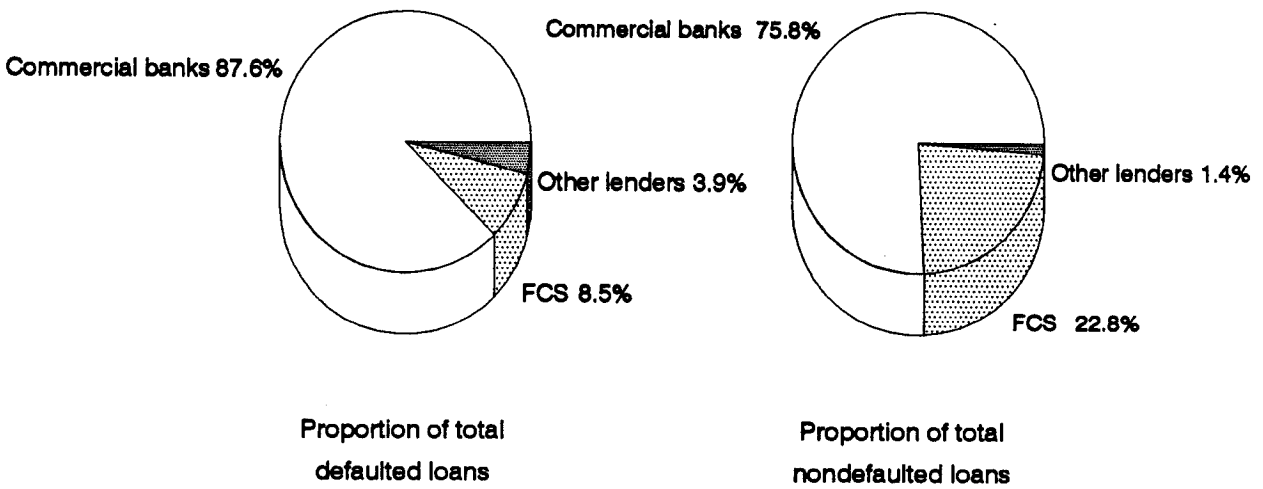
Figure 2
Default Rates by Region, Fiscal 1988 Loans

Defaulted borrowers as percent of region total



Source: Guarantee System's master file.

Figure 3
Proportion of defaulting and nondefaulting loans held by lender groups



Source: Guaranteed System's master file.

percent for the FCS, and 10.3 percent for other institutions. Other lenders with defaulted loans included savings and loans, credit unions, mortgage loan companies, and unspecified lenders. Mortgage companies accounted for 60 percent of the 175 loans originated by other classified lenders and 72 percent of the 18 loans that defaulted.

In terms of loan volume, the results are similar. Banks' account for 74.3 percent of the \$1,176 million loan volume not in default, but 86.2 percent of the \$50 million of defaulted loan volume.

Defaults Not Prevalent in Refinancing Loans

A smaller proportion of loans in default (29 percent) were primarily used to refinance existing farm debt than in the nondefaulting group (37.5 percent) (Table 3). There is a perception that many lenders are using the guarantee program to minimize losses on existing high risk loans that have little or no chance of success. If correct, this should be particularly true for fiscal 1988 loans because of the farm financial stress still present during the period. However, this data does not appear to support that perception.

Table 3. Selected Loan Attributes of Defaulted and Nondefaulted Guaranteed Loans, Fiscal 1988

| Loan Attribute | Loans In Default | Loans not In Default |
|--|------------------|----------------------|
| | <i>Percent</i> | |
| Proportion of Loans Borrowed for the Purpose of: | | |
| Refinancing Existing Debt | 28.9 | 37.5 |
| Operating Expenses | 57.2 | 48.2 |
| Purchasing: | | |
| Real Estate | 1.2 | 6.9 |
| Machinery | 4.0 | 2.6 |
| Breeder Livestock | 2.5 | 1.8 |
| Feeder Livestock | 5.5 | 1.5 |
| Repairing or Constructing | | |
| Farm | 0.8 | 0.0 |
| Structures | 0.0 | 0.3 |
| New Farm Start-up | 0.0 | 1.2 |
| Other | 100.0 | 100.0 |
| Total | | |
| Proportion with Maturity of: | | |
| Less than 1 Year | 9.1 | 13.9 |
| 1 to 4.9 Years | 56.3 | 41.3 |
| 5 to 9.9 Years | 27.4 | 26.8 |
| 10 to 19.9 Years | 2.2 | 7.1 |
| 20 Years or More ^a | 5.0 | 10.9 |
| Total | 100.0 | 100.0 |
| | <i>Years</i> | |
| Average Loan Maturity | 5.1 | 6.9 |

^a The maximum maturity on guaranteed operating and farm ownership loans is 15 and 40 years, respectively.

Source: 1988 and 1992 surveys of FmHA's guaranteed loan applicant folders and the Guaranteed System's master file.

The largest share of defaulted loans went to finance annual operating expenses--57 percent of the total. These are the most risky loans that lenders provide to farmers. Remaining loans in default--13.9 percent--were concentrated in loans for livestock and machinery purchases. Only a few loans made to purchase farm real estate went into default by June 30, 1992. Just over one percent of defaulted loans were for that purpose, far less than the nearly seven percent share of nondefaulting loans.

The average maturity of loans in default was nearly two years less than those not in default. Only 7.2 percent of defaulted loans had maturities greater than 10 years, while 18 percent of nondefaulting loans had such maturities. The low default rate of long-term FO loans and high default rates on three year credit lines likely explains much of the maturity differences.

Larger Loans and Greater Guarantees

Mean and median values indicate that loans in default tend to be larger (\$109,000) in size than loans not in default (\$101,579) (Table 4). Most of the difference is evident in two size groups: less than \$50,000 and \$50,000 to \$150,000. Defaulted loans are less prevalent in the under \$50,000 class, but are more prevalent in the \$50,000 to \$150,000 class.

Table 4. Selected Loan Characteristics of Defaulted and Nondefaulted Guaranteed Loans, Fiscal 1988

| Loan Attribute | Loans In Default | Loans not In Default |
|--|------------------|----------------------|
| | <i>Dollars</i> | |
| Size of Loan ^a : | | |
| Mean | \$109,000 | \$101,579 |
| Median | 83,225 | 77,000 |
| | <i>Percent</i> | |
| Proportion of Loans: | | |
| Less than \$50,000 | 22.0 | 32.0 |
| \$50,000 to \$149,999 | 53.9 | 44.5 |
| \$150,000 to \$4249,999 | 16.1 | 15.8 |
| More than \$250,000 | 8.0 | 7.7 |
| Total | 100.0 | 100.0 |
| Percentage of Loan Guaranteed by FmHA: | | |
| Mean | 88.9 | 88.2 |
| Median | 90.0 | 90.0 |
| Proportion: | | |
| Below 80 Percent | 4.1 | 5.9 |
| 80 to 90 Percent | 3.5 | 7.8 |
| 90 Percent | 92.4 | 86.3 |
| Total | 100.0 | 100.0 |

^a Guaranteed farm operating and farm ownership loans are capped at \$400,000 and \$300,000, respectively.

Source: Guaranteed System's master file.

Loans in default had a slightly higher probability of carrying the maximum guarantee rate (90 percent) than nondefaulting loans--92.4 percent versus 86.3 percent. A lower guarantee percentage means the lender must absorb greater losses in the case of default. The greater the risk of default, the greater the incentive for a lender to seek the highest guarantee percentage available from FmHA.

Interest Rates

Loans with a higher than average probability of default typically get charged higher interest rates with shorter term commitments to compensate the lender for greater default risk. Under the FmHA guarantee programs, as operated in fiscal 1988, lenders could charge their guaranteed customers no more than one percentage point higher than their average farm customer received. Therefore, little difference in rates charged among guarantee borrowers should be expected. Yet, loans in default show a higher probability of carrying variable-rate terms and somewhat higher variable interest-rates. The mean rate on variable rate loans posted at mid-1990 was a half a percentage point higher for loans in default (Table 5).² Fixed-rate loans showed no difference between defaulted and nondefaulted loans.

Table 5. Selected Loan Terms for Defaulted and Nondefaulted Guaranteed Loans, Fiscal 1988

| Loan Attribute | Loans in Default | Loans not in Default |
|--|--------------------------|----------------------|
| | <i>Percent</i> | |
| Average Interest Rate on 5/90: | | |
| Fixed Rate | 10.1 | 10.1 |
| Variable Rate ^a | 11.9 | 11.4 |
| Proportion of Guaranteed Loans on 5/90 with: | | |
| Fixed Rates | 21.2 | 27.2 |
| Variable Rates | 78.8 | 72.8 |
| Total | 100.0 | 100.0 |
| Proportion of Variable Rate Loans Using a Base Rate of: | | |
| Lender's Prime | 32.6 | 46.9 |
| Major Bank Prime | 24.3 | 32.3 |
| Regional Bank Prime | 26.3 | 4.3 |
| FCS Rate | 4.7 | 6.7 |
| U.S. Treasury Rate | 3.3 | 6.7 |
| Other ^b | 9.0 | 3.1 |
| Total | 100.0 | 100.0 |
| | <i>Percentage Points</i> | |
| Spread Between Base Rate and Rate Charged on Variable Interest Rate Loans: | | |
| Mean | 2.4 | 2.0 |
| Median | 2.0 | 2.0 |

^a Variable rates vary depending upon frequency of adjustment and frequency of reporting to FmHA. Therefore, comparisons made from one loan to the next may be inappropriate.

^b Includes Federal Home Loan Mortgage Corporation, Federal Reserve Discount, Federal Funds, and other rates.

Source: 1988 and 1992 survey of FmHA's guaranteed loan applicant folders.

² Comparisons of variable rate loans is difficult to properly assess because the rate quoted depends upon when the lender last updated the loan record.

Variable rate defaulted loans tended to use a wider range of base rates than nondefaulted loans. Where 79 percent of nondefaults were tied to the lender's own prime or a major bank prime rate, defaults were more equally tied to either the lender's own prime rate, a regional bank prime, or major bank prime rate. The use of an FCS base rate is lower in the defaulted population because the default rate on FCS loans was low.

Less Collateral

Loans in default were not as well collateralized as their nondefaulting counterparts. Average loan-to-collateral value ratios were 0.62 for defaulting loans, but only 0.53 Borrowers for nondefaulting loans (Table 6). The absolute value of collateral and the quality was also better for nondefaulting loans. Where collateral was equally spread between chattel, crops, and real estate for nondefaults, nearly half of the collateral value backing a defaulting loan was concentrated in crops, either growing or in inventory. Typically, most of the crop collateral value results from expected values of growing crops. This collateral often does not materialize when production does not meet projected output and is more frequently sold without the proceeds being applied against the loan. It was not uncommon for the listed crop collateral value to be equal to the entire value of projected crop income for the coming year.

Table 6. Collateral Backing Defaulted and Nondefaulted Guaranteed Loans, Fiscal 1988

| Attribute | Loans In Default | Loans not in Default |
|---------------------------------------|------------------|----------------------|
| | <i>Dollars</i> | |
| Average Net Value of Collateral: | | |
| Machinery and Chattel | 53,565 | 64,503 |
| Crops | 84,650 | 65,739* |
| Real Estate | 39,174 | 67,906* |
| Total | 177,938 | 198,701 |
| Average Loan Amount | | |
| | <i>Ratio</i> | |
| Loan-to-Collateral Ratio ^a | 0.62 | 0.53 |

^a Average loan amount divided by total net collateral value, weighted.

* Mean values significantly different at the five percent level.

Source: 1988 and 1992 survey of FmHA's guaranteed loan applicant folders.

Borrower Characteristics

Data suggest that borrowers with defaulting loans typically owned less farmland, had fewer assets, and projected greater gross incomes than borrowers with nondefaulted loans. Noteworthy among the farm enterprise distribution is that the percentage of defaulting borrowers listing cotton or tobacco as their major enterprise was nearly double that of the nondefaulting borrowers (Table 7). The majority of this category are believed to be cotton farms. Poultry operations on the other hand, although small in number, had very low default rates. This might be attributable to the high percentage of poultry operations borrowing only through the FO program and from more stable incomes resulting from production contracting.

**Table 7. Selected Guaranteed Loan Program Borrower Characteristics
Defaulted and Nondefaulted, Fiscal 1988**

| Borrower Attribute | Borrowers In Default | Borrowers not In Default |
|--|----------------------|--------------------------|
| | <i>Percent</i> | |
| Proportion whose Major Farm Enterprise is: | | |
| Cash Grain | 37.1 | 44.3 |
| Dairy | 11.7 | 16.0 |
| Beef, Hog, and Sheep | 15.5 | 15.1 |
| Cotton and Tobacco | 21.6 | 11.0 |
| Specialty Crops | 6.7 | 7.5 |
| General Farming | 3.8 | 3.0 |
| Poultry | 0.6 | 3.0 |
| Other Livestock | 2.1 | 0.3 |
| Other Enterprises | 0.9 | 0.0 |
| Proportion with Total Assets of: | | |
| Less than \$100,000 | 24.9 | 12.7 |
| \$100,000 to \$499,999 | 56.4 | 59.4 |
| \$500,000 to \$999,999 | 12.6 | 21.3 |
| \$1,000,000 or More | 6.1 | 6.7 |
| Proportion with Gross Cash Farm Income of: | | |
| Less than \$40,000 | 4.1 | 9.0 |
| \$40,000 to \$99,999 | 19.6 | 25.4 |
| \$100,000 to \$249,999 | 50.9 | 44.8 |
| \$250,000 to \$499,999 | 20.2 | 15.4 |
| \$500,000 or More | 5.3 | 5.4 |
| Proportion with Planned Farmland of: | | |
| Less than 100 Acres | 15.2 | 8.4 |
| 100 to 499 Acres | 34.5 | 34.1 |
| 500 to 999 Acres | 28.1 | 30.0 |
| 1,000 to 1,499 Acres | 10.2 | 13.1 |
| 1,500 Acres or More | 12.0 | 14.5 |
| | <i>Acres</i> | |
| Average Planned Farm Size ^a | | |
| Farmland Owned | 172.3 | 322.0* |
| Farmland Rented | 624.3 | 592.6 |
| Cropland Owned | 113.2 | 196.0* |
| Cropland Rented | 491.9 | 445.2 |

^a Borrower's projection of acres to be farmed in the coming year.

* Mean values significantly different at the five percent level.

Source: 1988 survey of FmHA's guaranteed loan applicant folders.

The lack of financial resources among defaulting farmers is evident in that the amount of farmland owned is roughly half that of nondefaulting borrowers, or just 172 acres. But, defaulting borrowers rented slightly more total farmland than nondefaulting borrowers. Therefore, in terms of total farmland acres, defaulting borrowers planned only slightly smaller operations.

Defaulted Borrowers Project Greater Expenses

Defaulting borrowers were projecting greater cash incomes, but were also projecting much greater cash expenses than nondefaulting borrowers. The result is projected net cash incomes of borrowers in default was only 58 percent of nondefaulted borrowers (Table 8). The fact that defaulting borrowers were anticipating tighter cash flows is consistent with expectations about these borrowers. On average, projected cash income-to-expense ratios were 1.41 for defaulting borrowers and 1.56 for nondefaulting borrowers. Also, the proportion of borrowers with high ratios (greater than 1.4) was less for borrowers in default.

Table 8. Average Projected Cash Income Statement for Guaranteed Loan Program Borrowers Defaulted and Nondefaulted, Fiscal 1988

| Borrower Attribute | Borrowers In Default | Borrowers not in Default |
|--|----------------------|--------------------------|
| | <i>Dollars</i> | |
| Cash Farm Income From: | | |
| Livestock Sales | 69,060 | 52,468* |
| Crop Sales | 113,751 | 107,785 |
| Other Sales | 23,936 | 33,712* |
| Total | 206,897 | 190,420 |
| Net Nonfarm Income | 8,012 | 9,380 |
| Total Cash Income | 215,516 | 201,255 |
| Cash Expenses for: | | |
| Hired Labor | 10,756 | 10,262 |
| Interest | 20,285 | 22,255 |
| Property Taxes | 1,806 | 3,026* |
| Family Living | 13,815 | 14,906* |
| Total ^a | 187,401 | 152,965* |
| Net Cash Income | 28,115 | 48,400* |
| | <i>Ratio</i> | |
| Cash Income/Expense Ratio ^b | 1.41 | 1.56* |
| | <i>Percent</i> | |
| Proportion with Cash Income/Expense Ratios: | | |
| Less than 1.0 | 2.1 | 2.3 |
| 1.0 to 1.09 | 12.9 | 10.6 |
| 1.1 to 1.39 | 55.3 | 49.4 |
| 1.4 to 1.69 | 15.8 | 22.1 |
| 1.7 or More | 14.0 | 15.6 |
| Total | 100.0 | 100.0 |

^a Totals include expenses not listed.

^b Defined as the ratio of total gross cash income to total cash expenses.

* Mean values significantly different at the five percent level.

Source: 1988 and 1992 survey of FmHA's guaranteed loan applicant folders.

These projections were made for just one year, typically calendar year 1988, and therefore may not be indicative of the borrower's longer term prospects. Defaults were registered through mid-1992 and so many of these borrowers would have made income and expense projections for subsequent years that might present a different picture. Furthermore, cash income projections do not provide an indication of long-term profitability because noncash expenses, such as capital depreciation, are not considered.

Defaulting Borrower are More Leveraged

The total value of assets held by defaulting borrowers is significantly less than nondefaulting borrowers. Defaulting borrowers had an average \$352,017 in assets as opposed to \$420,999 for nondefaulting borrowers (Table 9). Although real estate accounts for much of the difference, machinery and livestock asset values are also less for defaulting borrowers. The percentage of defaulting borrowers with less than \$100,000 in assets is nearly double (24.9 percent) that of nondefaulting borrowers (12.7 percent).

**Table 9. Average Balance Sheet for Guaranteed Loan Program Borrowers
Defaulted and Nondefaulted, Fiscal 1988**

| Borrower Attribute | Borrowers In Default | Borrowers not In Default |
|--------------------------------------|----------------------|--------------------------|
| | <i>Dollars</i> | |
| Value of Assets: | | |
| Livestock | 32,663 | 42,915* |
| Machinery | 82,875 | 93,794* |
| Real Estate | 163,755 | 220,235* |
| Total ^a | 352,017 | 420,999* |
| Value of Liabilities: | | |
| Chattel and Crop | 128,178 | 109,599* |
| Real Estate | 109,061 | 148,008* |
| Other | 24,616 | 18,519 |
| Total | 261,866 | 279,359 |
| Value of Equity | 90,151 | 141,884* |
| | <i>Ratio</i> | |
| Debt/Asset Ratio: | | |
| For All Borrowers | 0.92 | 0.70* |
| For Solvent Borrowers | 0.67 | 0.62* |
| | <i>Percent</i> | |
| Proportion with Debt/Asset Ratio: | | |
| Less than 0.4 | 10.2 | 13.7 |
| 0.4 to 0.7 | 25.2 | 44.2 |
| 0.7 to 1.0 | 38.3 | 33.7 |
| 1.0 or More | 26.3 | 8.4 |
| Total | 100.0 | 100.0 |

* Totals include assets not listed.

* Mean values significantly different at the five percent level.

Source: 1988 and 1992 survey of FmHA's guaranteed loan applicant folders.

On the liability side of the balance sheet, defaulting borrowers reported less real estate debt but greater chattel and crop debt. The net affect is that average total liabilities of defaulted borrowers are only slightly less than nondefaulting borrowers. Lower debts did not offset the difference in total assets, leaving borrowers in default with nearly \$52,000 less equity than nondefaulting borrowers.

With a much smaller asset base and only slightly less debt burden, defaulting borrowers are more leveraged than nondefaulting borrowers. Defaulting borrowers had an average debt/asset ratio of 0.92 while nondefaulting borrowers averaged 0.70. Both these ratios are very high compared to all farm operators, which report an average ratio of less than 0.20. These ratios decline significantly if insolvent borrowers are excluded. The debt/asset ratios falls to 0.67 for defaulting and 0.62 for nondefaulting borrowers.

Over one in four borrowers in default was insolvent in fiscal 1988 and hence had no equity in their farm operation. This compares to only 8.4 percent for nondefaulting borrowers. Clearly, guarantees made on loans to insolvent borrowers represent a much greater default risk to the agency. Moreover, two-thirds of defaulting borrowers had ratios in excess of 0.70 as opposed to 42 percent for nondefaulting borrowers.

Much of the little equity that borrowers do possess tends to be in real estate. Debt/asset ratios for the nonreal estate portion of the balance sheet were different at 1.14 for defaulting and 0.74 for nondefaulting borrowers. The low equity position of borrowers produced high guaranteed loan amount-to-equity ratios. For defaulting borrowers with equity, the ratio was double that of nondefaulting borrowers with equity--8.47 to 4.00.

Conclusions

The default rate on fiscal 1988 guaranteed farmer program loans through mid-1992 has been relatively modest, especially when the period in which these loans were made is taken into consideration. These loans were guaranteed on the heels of a period of significant financial turmoil in U.S. agriculture and just a few years after loan guarantees were elevated in importance. Loans in default exhibit some common characteristic, many of which were anticipated given the objective of the programs. We found that annual operating loans are the greatest source of defaults and that defaults were regionally concentrated in the Delta and Southern Plains. Banks were more likely to originate a defaulting loan than were FCS lenders, but less likely than other classes of lenders. Defaulting loans had a greater tendency to be larger in size, have less collateral, and carry a greater guarantee rate than nondefaulting loans. Analysis of borrowers indicates that defaulting farmers had fewer financial assets and were more leveraged than their nondefaulting counterparts. Not only were defaulting borrowers more leveraged, they also were more likely to project slimmer cash flow margins (less projected net cash income), mostly due to higher projected operating expenses. Guaranteed loans made to farmers with insolvent balance sheets had a high probability of default.

References

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