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Charles B. Dodson and Steven R. Koenig*

Farm loan programs administered by USDA's Farm Service Agency (FSA) serve as an important source of credit for farmers, especially those considered less creditworthy. Loans either made or guaranteed by FSA comprise nearly 10 percent of outstanding farm debt. Recent declines in the prices of grains, oilseeds, and hogs have raised concerns about the financial viability of many farm businesses. Because FSA's mission is to serve the least creditworthy farm borrowers, a downturn in the farm economy would be expected to have a sizable and more immediate impact on its loan portfolio. Therefore, it is important to assess the financial strength of FSA borrowers and to anticipate which groups of FSA borrowers are more likely to experience greater financial stress.

FSA Farm Loan Programs in Brief

FSA offers both guaranteed and direct loan programs to family farmers temporarily unable to obtain private commercial credit. Under the guaranteed loan program, FSA guarantees loans made by conventional lenders for up to 95 percent of the principal. Applicants unable to qualify for a guaranteed loan may be able to obtain a direct loan. Direct farm loans are made and serviced directly by FSA county office staff, who also provide supervision and credit counseling.

FSA operates a guaranteed and direct farm ownership (FO) and operating loan (OL) program. Guaranteed or direct FO loan funds can be used to purchase farmland, construct or repair farm structures, and develop farmland to promote soil and water conservation. Guaranteed FO loans can also be used to refinance existing indebtedness. OL loans can be for a variety of purposes, including the purchase of livestock, machinery, annual operating expenses, and the refinancing of existing debt under certain conditions.

Through the Emergency Disaster Loan Program (EM), FSA provides loans to cover production or physical losses in an essential farm enterprise in counties that the Federal government designated as disaster areas. FSA also provides direct loans to beginning farmers through the Beginning Farmer Downpayment Farm Ownership Program to assist them in the purchase of a farm or ranch.

Congress established FSA's loan limits to ensure the programs assist family-sized farms. Farmers can borrow up to \$200,000 under the FO and OL programs. In 1998, Congress amended the Consolidated Farm & Rural Development Act increasing loan limits under the guaranteed program to \$700,000 for both the FO and OL programs¹. Beginning in 1996, EM total indebtedness was capped at \$500,000. Much of FSA's loan funds are targeted toward beginning

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¹Until 1999, guaranteed FO and OL loan program indebtedness to a single borrower was capped at \$400,000 and \$300,000, respectively.

or socially disadvantaged farmers, especially for the direct FO program. Generally, a beginning farmer is an applicant who has operated a farm or ranch for not more than 10 years.

Since the mid-1980s, FSA's lending policy has shifted from making direct loans to making guaranteed loans. Prior to this, less than 2 percent of total farm lending was delivered through guaranteed lending programs. By the 1990s, guaranteed lending accounted for over two-thirds of FSA's total annual lending volume. The switch to guaranteed lending has caused outstanding guaranteed loan volume to swell to \$6.5 billion, while outstanding direct loan volume has shrunk below \$9.8 billion at the end of fiscal 1997 (Figure 1).

Data and Analysis

Analysis of FSA's farm loan portfolio was undertaken using data from USDA's Agricultural Resource Management Survey (ARMS) for 1996 and 1997². ARMS collects data to measure the financial condition and operating characteristics of farm businesses and the well-being of farm operator households. Our analysis focuses on identifying broad groups of borrowers within FSA's guaranteed and direct loan portfolios who may be most susceptible to a downturn in farm economic conditions.

ARMS includes detailed information on a farmer's farm loans including: the lender, principal balance, interest rate, term, purpose, date of origination, and Federal guarantee status (see Exhibit 1). Using this information, we were able to identify guaranteed and direct loans. FSA loans that were for terms greater than seven years or were identified as a real estate loan was considered to be an FO loans. All other loans were considered to be OL loans. Using the interest rate, it was possible to identify EM loans originated prior to 1985³. While it was also possible to identify beginning farmer downpayment loans using the interest rate, there were insufficient sample numbers for meaningful analysis. Tables 1 through 7 summarize the characteristics of FSA borrowers by various attributes including farm type, farm size, and indebtedness.

FSA's Loan Portfolio Is Diversified

The characteristics of FSA's loan program participants and distribution guaranteed and direct debt was analyzed by production specialty. A farm business was considered specialized if more than half of the annual value of farm production came from a single commodity or related group of commodities. Using this definition, 82 percent of guaranteed borrowers and 78 percent of direct borrowers were considered specialized. Consequently, the financial well-being of most guaranteed and direct FSA borrowers is heavily influenced by the profitability of a single commodity. While borrowers were not diversified, FSA's lending programs were found to serve a broad range of specialized farm types (Table 1). This diversity should help to minimize deterioration in overall portfolio quality, as long as low farm incomes or losses are confined to a limited number of commodities.

In general, the distribution of FSA's lending activities among farm types was found to reflect the

²For a full description of the data see Sommer et al., pp. 2-3 and pp. 62-63.

³For loans made prior to 1985, we could not separate EM loans from FO and OL in the ARMS data base.

underlying distribution of all farm debt. However, there is some concentration of FSA lending among particular farm types, especially dairy. Lending to dairy farms accounts for 22 percent of total direct loan volume and 18 percent of total guaranteed debt outstanding. FSA's higher concentration in dairy likely reflects the weak financial performance of dairy farms during the early-1990s. But, dairy farms appear to have financially recovered from this adversity with only 5 percent of guaranteed and 9 percent of direct program borrowers considered vulnerable to failure (Tables 1 and 2).⁴ FSA's concentration in dairy may enhance overall portfolio quality in the near term because low feed prices and strong milk prices offer a more optimistic profit picture, at least until the second quarter of 1999 (USDA, WASDE).

After dairy, corn-soybean farms represent a relatively high concentration of lending risk for FSA with these farms owing 19 percent of guaranteed and 16 percent of direct debt (Tables 1 and 2). A disproportionate share of corn-soybean farms with direct loans were considered vulnerable. Nationwide, one-in-four of all vulnerable direct borrowers were corn-soybean farms. While prices for corn and soybeans have declined sharply in 1998, the financial prospects of corn-/soybean farms are somewhat buoyed by Federal income support payments and relatively strong equity positions. The average net worth of corn-soybean farms with direct loans exceeded \$400,000 and few had debt-asset ratios exceeding 0.70 going into 1998. Nonetheless, these borrowers represent a significant amount of FSA's exposure. An extended multi-year period of low commodity prices or a notable decline in farm real estate values would likely result in a larger share of these borrowers facing serious repayment difficulties.

Small grain (wheat and barley) farms accounted for a relatively small share of total FSA borrowers and loan volume. But, notable financial stress was evident in this group. For the 1996-97 period, 30 percent of the farms with guaranteed loans and 22 percent of small grain farms with direct loans were vulnerable to failure. Further, a high proportion of these farms have debt-asset ratios exceeding 0.70. Household income and farm net worth of small grain farms were lower than reported for other farm types. With low wheat prices expected to continue into 1999, financial stress among these farms will continue to build (USDA, WASDE). Because many of these borrowers were highly indebted, they may be financially susceptible to declines in farmland values.

FSA also had significant exposure with specialized cattle farms, which were primarily cow-calf operations. Of all direct loan program borrowers identified as vulnerable to failure, 25 percent specialize in cattle production. With weak cattle prices and poor grazing conditions in some major cattle regions during 1998, the financial strength of these borrowers can be expected to have deteriorated. However, the financial condition of these farms can be expected to stabilize or improve somewhat in 1999 as prices are expected to recover (USDA, WASDE).

For the 1996-97 period, FSA was an important source of debt financing for poultry farms. Nearly one-fourth of all debt owed by poultry farms was either owed to or guaranteed by FSA. This is mostly a consequence of recent growth in guaranteed loans made to poultry farms.

⁴In this study, a farm business was considered vulnerable to failure, if it had negative cash farm income and a debt-to-asset ratio greater than 0.40.

Poultry farms represented 14 percent of all FSA guaranteed debt, compared with only 3 percent for the direct program debt. A large share of poultry farms with FSA program debt were highly leveraged with debt-asset ratios exceeding 0.70. Further, many were considered financially vulnerable. However, these levels of indebtedness are of less concern than they would be for grain or livestock farms because the contracts under which broilers and eggs are produced remove most of the price and production risk. Nonetheless, these data do indicate that FSA's guaranteed loan portfolio is sensitive to changes in the poultry industry.

Only a small share of FSA borrowers relied on hog production for the majority of their income. Thus, FSA's farm loan portfolio is less likely to suffer adversely as a result of the operating losses incurred by pork producers in the last half of 1998. While pork production is not the primary enterprise, it remains an important secondary enterprise for many corn-soybean farms and for diversified crop-livestock farms. In the past, crop-livestock farms have been able to withstand periods of low grain prices because low grain prices meant low feed costs and more profit potential for livestock enterprises. But, with historically low hog prices, these enterprises are expected to remain unprofitable into at least early 1999.

Larger Farms Have More Financial Resources

Nearly four-fifths (79 percent) of FSA's direct loan program debt were owed by smaller family farms with annual sales of less than \$250,000, nearly all of which were single family-sole proprietorships (Table 3). In contrast, the guaranteed program serves more larger farms with 64 percent of the guaranteed loan program debt owed by farms with less than \$250,000 in annual sales (Table 4). These farms were not only larger in size but also tend to involve multiple families. One-third of these farms were organized as partnerships or family corporations. Most of the FSA program borrowers with more than \$250,000 in annual sales appear financially strong. Only 6 percent of these larger farms with guaranteed debt were considered vulnerable to failure. Ten percent had debt-asset ratios greater than 0.70. For both direct and guaranteed program borrowers with over \$250,000 in annual sales, the average household income was over \$90,000 and the average net worth over \$700,000.

Over half of all vulnerable farms with FSA direct program debt had less than \$50,000 of annual sales (Table 3). This group is considered vulnerable because the farm business traditionally operates at a loss. Consequently, these households rely more heavily on nonfarm income. Thus, the ability of these borrowers to repay debt will be heavily influenced by their ability to subsidize farm losses with off-farm income. Off-farm employment opportunities remain strong for most rural residents indicating that the outcomes for these borrowers might not be as bleak as their farm income statements might suggest. On the other hand, off-farm income may not be sufficient to service debt and cover greater farming losses.

In general, smaller farms with FSA indebtedness received a greater share of their total financing through either direct or guaranteed loans (Tables 3 and 4). Hence, failing to secure FSA credit could have a bigger impact on their ability to continue their farming operations. Among FSA direct and guaranteed program borrowers with less than \$50,000 in annual sales, FSA provided more than 70 percent of their debt capital, whereas borrowers with sales more than \$250,000

obtained less than half of their debt through FSA.

More FSA Program Debt Indicated Greater Financial Stress

Farms with sizable guaranteed or direct FSA debt burdens displayed greater signs of financial stress. More specifically, farms with either direct FO or direct OL debt exceeding \$150,000 appeared less financially secure than farms with smaller amounts owed to FSA. These particular farms were large in size, averaging more than \$250,000 in annual sales. Many of these farms were highly leveraged with 18 percent of those with large direct FO loans reporting debt-asset ratios greater than 0.70 (Table 5). Further, 30 percent were considered vulnerable to failure. Likewise, farms with large direct OL indebtedness were highly leveraged with 37 percent reporting debt-asset ratios greater than 0.70.

Farms with larger amounts of guaranteed indebtedness also appeared more financially stressed than those farms with lesser amounts. Over one-fourth of the FSA borrowers with large amounts of FSA guaranteed indebtedness was considered financially vulnerable compared to 2 percent with small amounts of FSA guaranteed indebtedness. Also, many were highly leveraged with debt-asset ratios greater than 0.70. Farms with larger amounts of guaranteed debt were large, with most averaging more than \$500,000 in annual sales and net worths of greater than \$700,000. Given that these large-loans accounted for a large portion of FSA's loan portfolio, their performance would be expected to have a strong influence on overall loan portfolio quality.

Older Direct Payment Debt Is Less Vulnerable

Much of the outstanding direct program debt currently owed consists of real estate loans originating in 1984 or earlier (Table 6). The average age of this debt was 20.5 years suggesting that many of these loans are nearing maturity. As would be expected of loans nearing maturity, loan balances were smaller and borrowers older, averaging 55 years of age. Most of the farms in this group should be able to withstand temporary periods of reduced profitability. Less than 1-10 was considered financially vulnerable compared with 1-in-5 for farm businesses with FSA direct debt originating in the 1990s.

Farms that obtained direct loans during the 1990s are much more likely to face financial adversity as a result of reduced profitability. Nearly 20 percent of those FSA borrowers who incurred direct debt after 1993 have debt-asset ratios greater than 0.70. Additionally, about a third were found to have less than \$100,000 of farm equity. Consequently, a period of annual operating losses combined with a decline in asset values may force many of these farmers into insolvency. Farmers incurring FSA direct debt during the 1990s are also younger, averaging about 47 years of age. Also, nearly a third of all FSA direct program debt originated during the 1990s was owed by farmers under 40. This would be consistent with FSA's emphasis on serving young and beginning farmers.

Emergency Loan Borrowers Were More Vulnerable

For FSA borrowers with direct debt incurred since 1984, those with emergency loans were more

financially vulnerable than those with other program loans. Nearly, one-fourth of the EM borrowers were considered vulnerable to failure, compared with only 16 percent for all other direct program borrowers (Table 7). When compared with other direct loan program borrowers, EM borrowers were more likely to be highly indebted with debt-asset ratios exceeding 0.70 and have net worths of less than \$100,000. The relative financial weakness of these borrowers is not surprising given these programs assist borrowers who have already suffered a substantial economic loss.

Loans made under the EM program have been less targeted to family-size farms than the other programs. Consequently, farms with EM loans were larger and borrowers older than other FSA loan program borrowers. These FSA borrowers tend to have greater amounts of debt and relied on other lenders for a greater share of their total financing needs than other direct borrowers with FO or OL loans. Therefore, FSA may have less of an influence on their financial condition.

Farmland Appreciation An Important Source of Equity

The average net worth of US farmers has increased more than 30 percent during the 1990s. The greater net worth has enabled FSA program borrowers, as well as all other farmers, to greatly improve their financial situation and enhance their ability to withstand an economic downturn. But, much of the increase in net worth has been a consequence of rising real estate values and not retained earnings. If the increase in equity had arisen from increased earnings, farmers would likely have liquid assets that could be available during a period of financial stress. But, wealth arising from higher farmland values is not as liquid as wealth held in other financial assets. Accessing this equity would require farmers to either sell real property or arrange for additional loans using the real estate as security, both of which are significant financial set-backs.

Deflating current balance sheet farmland asset values back to 1990 levels gives some indication of how much of current farm equity was merely due to appreciating farmland values. On average, 20 percent of an FSA borrower's farm net worth was from farmland appreciation during this decade. Because there was considerable geographic variation in farmland appreciation, some farmers benefitted more than others (Figure 2). For example, one of the reasons wheat farmers are much more susceptible to an economic downturn is that farm real estate values in the Northern and Southern Plains increased less than in other regions. In the Plains, the rise in average farm net worth was only 15 percent from appreciating farmland values, while FSA borrowers in the Cornbelt and Lake States saw their net worth increase nearly 30 percent from higher farmland values.

Because so much of their current wealth is held in real estate, the financial resiliency of FSA borrowers is closely tied to land values. A fall in farmland values similar to what occurred during the 1980s would likely force some FSA program borrowers out of farming. We examined resiliency of FSA borrowers to declines in farmland values by simulating a reduction of farmland values of up to 30 percent for farm businesses in the ARMS database.⁵ Such large declines in

⁵This was a static analysis where all other variables were held constant.

farmland values pushes the number of direct borrowers with debt-asset ratios exceeding 0.70 from 9 percent to 14 percent. For guaranteed borrowers, the percentages increase from 10 percent to 16 percent. While this indicates a majority of FSA borrowers have sufficient equity to withstand a 30-percent decline, a notable share of borrowers would become technically insolvent. Under this scenario, approximately one-fourth of FSA's loan volume in either direct or guaranteed programs would be owed by farmers who are insolvent or nearly insolvent (having debt-asset ratios 0.70 or more). Obviously, an event of this magnitude would require a substantial commitment of FSA resources to handle greater caseloads of loan restructuring and liquidations.

A decline in farmland values will be more consequential for those farm types that were more indebted. Wheat and barley farmers with FSA program loans were more susceptible to a decline (Figures 3 and 4). A 30-percent decline in farm real estate values would result in one-third of the FSA guaranteed debt owed by wheat and barley farms to be owed by farms with debt-asset ratios exceeding 0.70. Conversely, many dairy farmers with FSA program loans could withstand a decline in farmland values because of their strong equity positions. For the guaranteed loan program, a 30-percent decline in farmland values would appear to have a substantial impact on poultry loans, doubling the number of farm borrowers nearing insolvency. However, much of the debt for poultry farms is for financing structures, and their values are not greatly affected by general changes in farmland values. The value of these assets mostly reflects the economics of the poultry industry.

Conclusions

Many FSA farm loan program borrowers appear able to withstand the current financial adversity facing much of US agriculture, at least in the near term. While many are likely to face temporary repayment difficulties, the majority have sufficient equity to withstand a year of operating losses or declines in farmland values and continue farming. But, because strong equity positions are often a consequence of past appreciation in farmland values, this equity is not liquid. For some, existing debts would need to be restructured and operating losses covered with additional borrowing, thereby increasing their level of financial risk. If there is a multi-year period of low commodity prices or if there is a notable decline in farmland values, the percentage of FSA farm borrowers vulnerable to failure would mount.

Some groups were identified as especially susceptible to an economic downturn and would bear closer monitoring. FSA program borrowers who specialized in wheat and barley, EM borrowers, new borrowers, and those with large FSA program loans all exhibited higher levels of financial stress. Because each of these groups was found to be less solvent than other FSA borrowers, a sustained period of operating losses or a notable decline in real estate values would result in many of these borrowers becoming insolvent. While these higher risk lending groups do not represent a majority of FSA's total loan portfolio, they would require a substantial commitment of FSA resources to handle greater caseloads of loan restructuring and liquidations. But, not all farm types are facing adversity. Dairy and poultry farms, which make up a large share of all FSA program borrowers, should fare well in the near term.

References

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Table 1. Selected characteristics of guaranteed FSA borrowers, by farm type

	Corn, Soybean, Milo	Wheat & Barley	Southern Crops ¹	Fruit, Veg. Nursery	Cattle	Hogs	Poultry	Dairy	CRP ²	Diversified farms ³
Distribution of program ⁴ :	Percent									
Borrowers	17	8	14	2	16	2	8	12	2	18
Debt	19	6	7	3	10	4	14	18	2	17
Vulnerable farms ⁵	21	20	4	2	15	4	13	5	--	14
Farms within each farm type:										
Vulnerable	14	30	3	10	11	19	19	5	1	9
Debt-to-asset ratio > 0.70	4	19	4	15	5	14	25	17	10	10
Farm assets	703,310	518,744	420,666	1,316,637	588,591	515,732	553,561	806,252	523,622	797,984
Real estate	419,602	319,020	256,048	898,914	380,745	268,436	475,220	416,767	367,532	552,741
Farm debt	204,007	156,637	83,836	247,609	130,763	230,178	280,882	273,805	147,055	189,788
FSA gte'd debt	123,392	87,911	54,827	121,230	69,043	174,030	196,695	158,133	103,899	105,084
Net worth	499,303	362,107	336,830	1,069,029	457,828	285,555	272,679	532,447	376,567	608,195
Net farm income	36,189	10,960	38,594	105,777	1,500	33,976	10,182	46,771	16,887	48,793
Value of farm production	225,411	106,131	140,426	439,712	81,672	513,687	499,714	322,843	119,346	169,946
Farm household income	44,035	33,369	53,370	93,583	34,133	D	62,955	45,160	D	44,596
Wage & salaries	20,305	23,153	28,154	10,043	21,031	D	39,028	15,312	D	23,329
Acres owned	136	373	54	91	530	52	78	137	308	448
Acres operated	422	667	135	197	1163	124	102	231	278	1,175

Source: 1996-97 USDA ARMS; ¹Includes cotton, rice, tobacco, and peanuts. ²Conservation reserve payments are the primary farm income source. ³Farms with no primary enterprise. ⁴The following 3 rows add to 100 percent. ⁵Vulnerable farms had a debt-to-asset ratio > 0.40 and negative net farm income. D = Insufficient data for disclosure.

Table 2. Selected characteristics of direct FSA borrowers, by farm type

	Corn, Soybean, Milo	Wheat & Southern Barley Crops ¹	Fruit, Veg.. Nursery	Cattle	Hogs	Poultry	Dairy	CRP ²	Diversified farms ³
Percent									
Distribution of program ⁴ :									
Borrowers	17	7	2	20	1	3	18	3	22
Debt	16	9	2	17	1	3	22	3	18
Vulnerable farms ⁵	27	12	2	25	1	0	9	2	17
Farms within each farm type:									
Vulnerable	21	22	12	16	10	2	7	6	11
Debt-to-asset ratio > 0.70	6	25	6	11	7	1	8	1	7
Dollars									
Farm assets	569,624	489,266	759,388	523,633	419,195	496,246	546,463	338,190	478,224
Real estate	345,567	287,275	507,316	341,635	249,322	400,878	287,066	249,304	280,235
Farm debt	166,892	185,915	189,522	151,256	202,689	164,602	183,544	96,143	146,041
FSA direct debt	79,627	100,585	98,022	72,595	87,076	86,677	104,665	63,772	68,610
Net worth	402,731	303,351	569,866	372,377	216,505	331,823	362,919	242,046	332,182
Net farm income	22,856	15,687	58,280	19,187	20,488	5,373	32,652	16,496	25,803
Value of farm production	168,474	109,940	552,047	85,702	270,322	629,460	249,533	61,191	117,660
Farm household income	40,878	32,532	44,406	35,619	D	24,831	37,288	D	40,065
Wage & salaries	24,630	22,253	17,547	23,368	D	10,963	7,498	D	19,735
Acres									
Acres owned	158	494	172	672	112	149	88	361	107
Acres operated	451	878	268	1,283	278	160	143	417	238

Source: 1996-97 USDA ARMS; ¹Includes cotton, rice, tobacco, and peanuts. ²Conservation reserve payments are the primary farm income source. ³Farms with no primary enterprise. ⁴The following 3 rows add to 100 percent. ⁵Vulnerable farms had a debt-to-asset ratio > 0.40 and negative net farm income. D = Insufficient data for disclosure.

Table 3. Selected characteristics of direct borrowers, by annual farm sales volume

	Under \$50,000	\$50,000 - \$100,000	\$100,000 - \$250,000	Over \$250,000
	Percent			
Distribution of program ¹ :				
Borrowers	39	18	29	14
Direct debt	22	19	37	21
Vulnerable farms ²	52	12	26	9
Farms within each size class:				
Vulnerable farms	18	9	12	9
Debt-to-asset ratio > 0.70	8	9	11	8
	Dollars			
Farm assets	274,989	494,438	572,814	1,106,233
Real estate	204,191	331,078	317,938	588,212
Farm debt	66,539	145,960	191,726	385,607
FSA direct debt	48,053	91,081	107,590	124,724
Net worth	208,449	348,478	383,183	720,625
Net farm income	(274)	8,260	26,069	109,294
Value of farm production	23,326	137,812	192,135	568,751
Farm household income	26,717	22,744	32,763	94,808
Wage & salaries	26,338	16,396	12,738	10,643
	Acres			
Acres owned	203	298	323	323
Acres operated	354	518	652	758

Source: 1996-97 USDA ARMS

¹ Each of the following three rows sum to 100 percent.

² Vulnerable farms had a debt-to-asset ratio greater than 0.40 and negative net farm income.

Table 4. Selected characteristics of guaranteed borrowers, by annual farm sales volume

	Under \$50,000	\$50,000 - \$100,000	\$100,000 - \$250,000	Over \$250,000
	Percent			
Distribution of guaranteed program ¹ :				
Borrowers	36	14	29	21
Debt	16	11	37	36
Farms within each size class:				
Vulnerable ¹	14	8	13	6
Debt-to-asset ratio > 0.70	7	11	14	10
Net Worth < \$100,000	28	13	11	10
Farm assets	300,417	525,128	741,815	1,231,278
Real estate	219,258	361,809	479,551	708,236
Farm debt	69,580	125,489	205,806	393,074
FSA guaranteed debt	48,864	87,123	139,548	190,114
Net worth	230,836	399,639	536,008	838,204
Net farm income	(8,872)	9,274	34,770	112,316
Value of farm production	22,253	171,136	184,299	622,553
Farm household income	29,387	33,297	39,333	96,764
Wage & salaries	27,827	20,921	22,908	17,443
			Acres	
Acres owned	150	335	374	231
Acres operated	217	642	1,002	614

Source: 1996-97 USDA ARMS

¹ Each of the following two rows sum to 100 percent.

² Vulnerable farms had a debt-to-asset ratio greater than 0.40 and negative net farm income.

Table 5. Selected FSA program statistics, by size of a borrower's program indebtedness¹

	Small ²	Intermediate ³	Large ⁴
Distribution of: ⁵			
		Percent	
Direct FO program			
borrowers	27	55	18
debt	8	57	35
Guaranteed FO program			
borrowers	28	54	18
debt	5	54	41
Direct OL program			
borrowers	52	38	10
debt	21	51	28
Guaranteed OL program			
borrowers	55	42	3
debt	13	73	14
Share of borrowers in each loan size group that are vulnerable ⁶ :			
FO program			
direct	6	17	30
guaranteed	2	18	25
OL program			
direct	16	21	17
guaranteed	4	11	30
Share of borrowers in each loan size group with a debt-asset ratio of >0.70:			
FO program			
direct	2	5	18
guaranteed	2	11	23
OL program			
direct	4	25	37
guaranteed	6	13	32

Source: 1996-97 USDA ARMS

¹ Only loan program debt originated since 1984 is included. ² Less than \$50,000 in program debt outstanding.

³ \$50,000 to \$150,000 of program indebtedness for direct loans, \$50,000 to \$250,000 for guaranteed FO, and \$50,000 to \$350,000 for guaranteed OL indebtedness. ⁴ Defined as near the borrowing limit which was over \$150,000 for direct loans, over \$250,000 for guaranteed FO and over \$350,000 for guaranteed OL. ⁵ The

following 8 rows sum to 100 percent. ⁶ Vulnerable farms had a debt-to-asset ratio greater than 0.40 and negative net farm income.

Table 6. Selected characteristics of direct FSA borrowers, by year in which most of the farm business's FSA debt was incurred.

	1994 or later	1990-93	1984-89	1984 or earlier
Distribution of direct program ¹ :			Percent	
Borrowers	22	15	18	45
Debt	21	16	20	43
Vulnerable farms ²	31	22	15	32
Farms within each debt age class:				
Vulnerable	19	20	11	9
Debt-to-asset ratio > 0.70	19	7	9	5
Dollars per farm				
Farm assets	491,476	603,175	519,164	506,590
Real estate	275,227	349,842	321,882	319,152
Farm debt	179,475	183,869	161,138	147,751
FSA	80,047	90,613	95,157	75,575
Net worth	312,001	419,306	358,026	358,839
Net farm income	20,129	12,761	28,601	28,614
Value of farm production	182,498	208,165	176,507	162,304
Farm household income	31,097	34,158	37,076	42,098
Wages & salaries	16,871	20,842	15,003	19,600
Acres per farm				
Acres owned	196	264	316	293
Acres operated	545	464	527	539
Years				
Operator years of age	46.4	47.98	52.6	54.8
Age of outstanding FSA debt	1.1	5.6	10.4	20.5

Source: 1996-97 USDA ARMS. ¹ The following three rows sum to 100 percent.

² Vulnerable farms had a debt-to-asset ratio greater than 0.40 and negative net farm income.

Table 7. Selected characteristics of direct borrowers with FSA direct debt originated since 1984, by type of lending program

	EM program ¹	OL & FO program
	Percent	
Distribution of direct program ²		
Borrowers (since 1984)	18	82
Debt (since 1984)	15	85
Farms within each loan program group:		
Vulnerable farms ³	23	16
Debt-to-asset ratio > 0.70	25	10
Farm assets	583,789	500,907
Farm debt	210,440	165,917
FSA	70,589	92,526
Net worth	382,349	334,990
Net farm income	13,632	15,564
Value of farm production	214,066	174,283
Farm household income	29,845	29,175
Acres owned	343	241
Acres operated	833	456

Source: 1996-97 USDA ARMS. ¹ Includes farm businesses with any outstanding EM indebtedness. ² Following two rows sum to 100 percent. ³ Vulnerable farms had debt-to-asset ratios > 0.40 and negative net farm income.

Exhibit 1. ARMS questions concerning farm debt, interest rates, and terms.

LENDER CODES for column 1	
1	FARM CREDIT SYSTEM
2	COMMERCIAL BANKS
3	LIFE INSURANCE COMPANIES
4	FARMERS HOME ADMINISTRATION (FmHA) (now called USDA FARM SERVICE AGENCY or FSA)
5	CONTRACTOR
6	INDIVIDUALS from whom any land in this operation was bought under a mortgage or deed of trust
7	INDIVIDUALS from whom any land in this operation was bought under a land purchase contract
8	SAVINGS AND LOANS ASSOCIATIONS, RESIDENTIAL MORTGAGE LENDERS
9	STATE AND COUNTY LENDING AGENCIES
10	IMPLEMENT DEALERS AND FINANCING CORPORATIONS
11	CO-OPS AND OTHER MERCHANTS
12	INPUT SUPPLIERS
13	ANY OTHER INDIVIDUALS
14	ANY OTHER LENDERS
15	OTHER DEBTS (such as unpaid bills, etc.)

Please think about the four largest loans this operation had on December 31, 199X. Include farm/ranch loans, any loans for non-farm purposes that are secured by assets of the farm/ranch and debt on your (the operator's) house (*if owned*). Starting with the largest of these loans--

1 → Who was the lender? (Largest loans first.) [Use Lender Code Table]	2 What was the balance owed on Dec. 31, 1996 including outstanding principal plus unpaid interest? DOLLARS	3 What was the interest rate? PERCENT	4 What was the original term of the loan? YEARS	5 What year was it obtained? [Enter last 2 digits of]	6 What percent was for FARM purposes? PERCENT	7 Was this loan-- 1 An operating loan? (one year or less) 2 A non-real estate loan? 3 A real estate loan? [Enter code.]	8 [Ask only if column 1 is NOT code 4.] Was this loan guaranteed by FSA (FmHA)? [If yes, enter 1.]
xxxx	xxxx	xxxx _ _	xxxx	xxxx _ _	xxxx	xxxx	xxxx
xxxx	xxxx	xxxx _ _	xxxx	xxxx _ _	xxxx	xxxx	xxxx
xxx	xxxx	xxxx _	xxxx	xxxx _ _	xxxx	xxxx	xxxx
xxx	xxxx	xxxx _	xxxx	xxxx _ _	xxxx	xxxx	xxxx

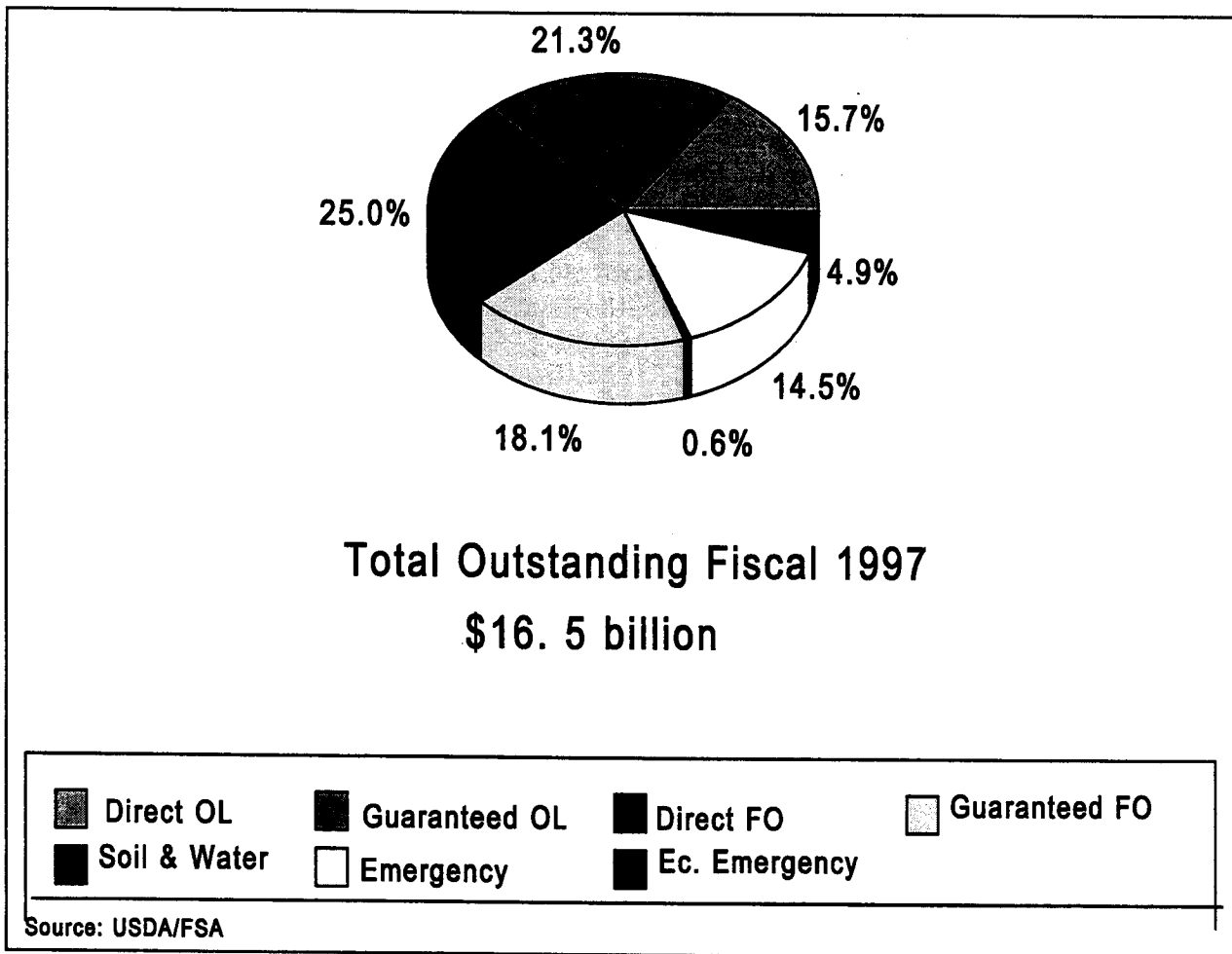


Figure 1. Distribution of FSA loan obligations by loan program, FY 1997.

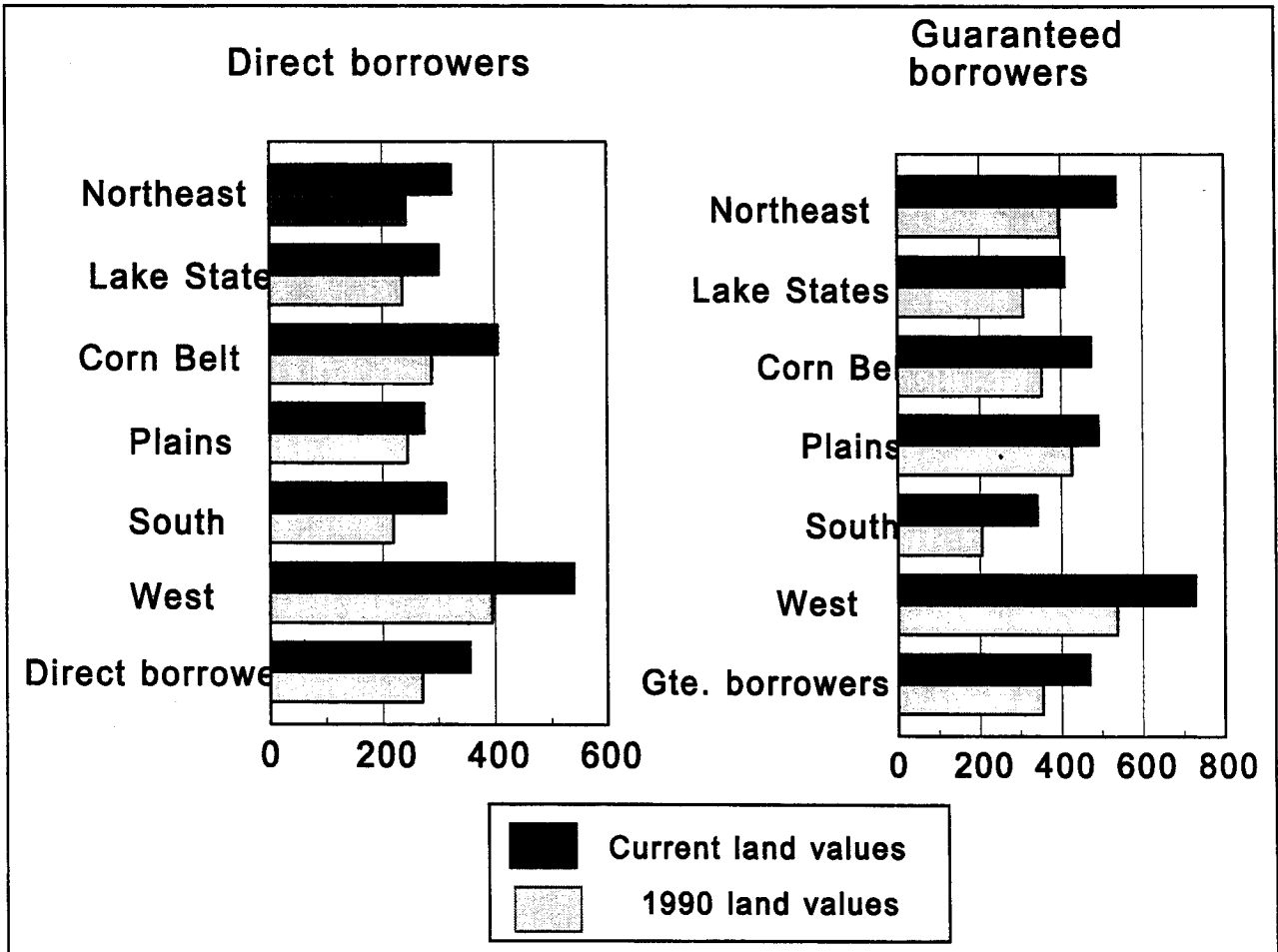


Figure 2. Average farm net worth (\$1,000) for FSA program borrowers by USDA production region, using current land values and 1990 land values.

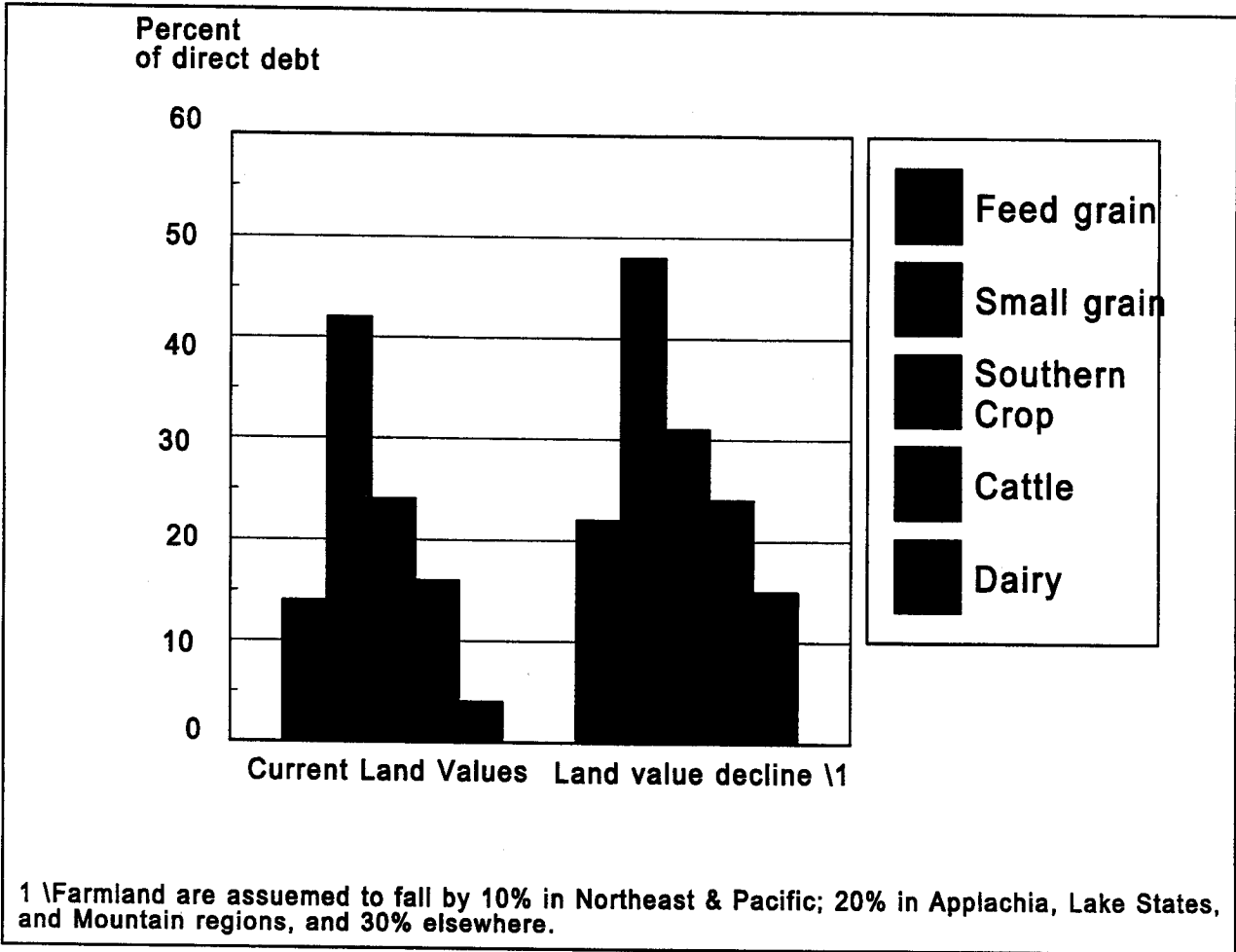


Figure 3. Share of FSA direct program debt owed by farms with debt-asset ratios exceeding 0.70, and assuming a decline in land values, by farm type.

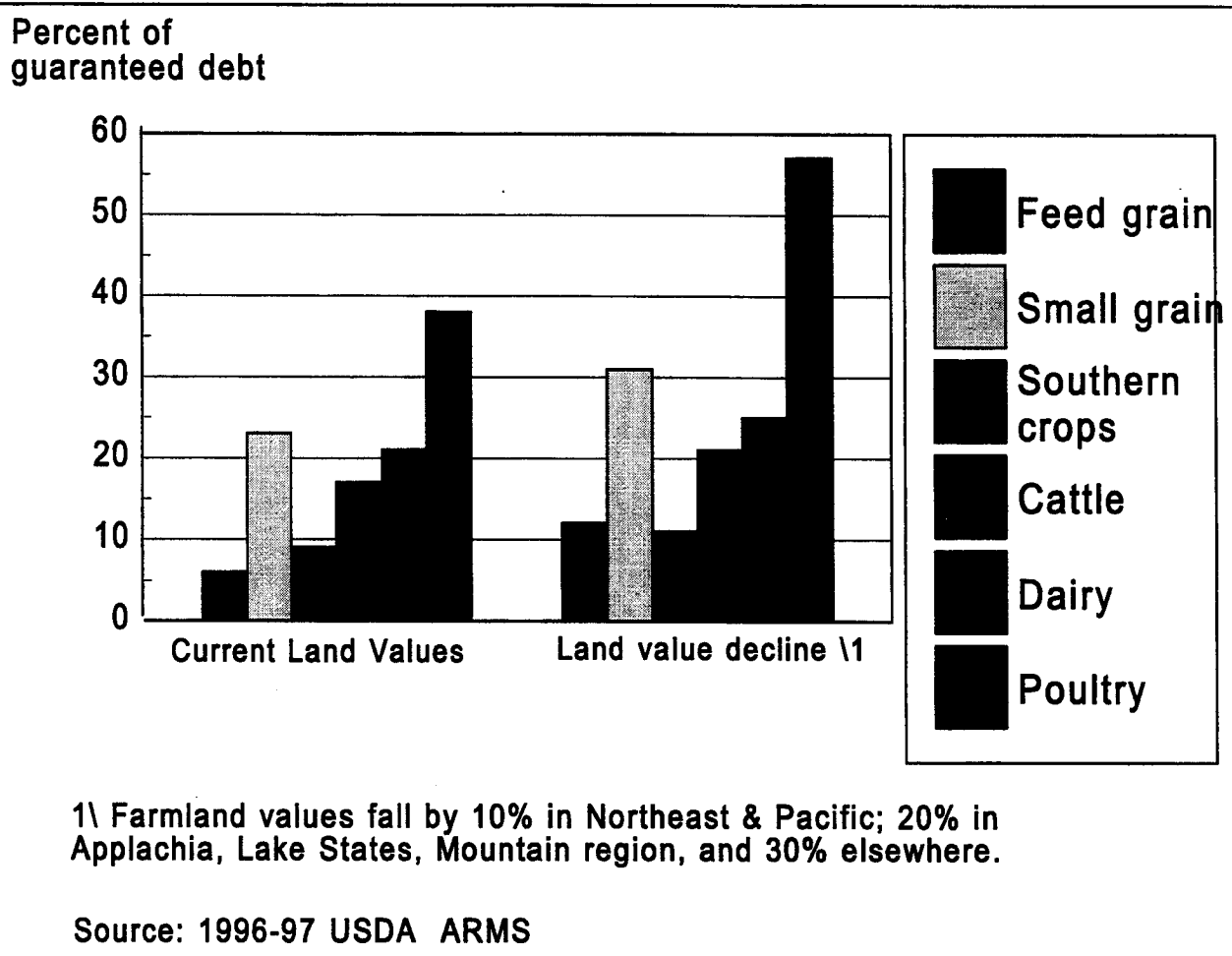


Figure 4. Share of FSA guaranteed program debt owed by farms with debt-asset ratios exceeding 0.70, and assuming a decline in farmland values, by farm type.