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FARM FINANCIAL STRESS AND THE U.S. FARM CRISIS:
ORIGINS AND DIMENSIONS OF THE PROBLEM

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FARM FINANCIAL STRESS AND THE U.S. FARM CRISIS:
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INTRODUCTION

Many farmers are currently facing severe financial stress resulting in asset liquidations, problems in obtaining credit, and even bankruptcy. Farm lenders and many agribusiness firms are encountering similar financial stress problems. The focus of this discussion is on the origins and dimensions of the financial distress problem in agriculture. The discussion will be structured as follows. First the magnitude of the financial stress problem in agriculture will be documented. Then the causes of stress will be identified and discussed. Finally, a brief review of some of the resolution options will be presented. The discussion of resolution will not be in detail, but will attempt to identify the broad categories of resolution alternatives.

FINANCIAL STRESS IN AGRICULTURE

Melichar (November 1984) was the first to document the financial condition of the agricultural sector; those data will not be repeated in detail here. A key dimension of this documentation is the distribution of debt (Table 1). This distribution indicated that in 1984 approximately 58 percent of the farms in the United States had leverage ratios of 10 percent or less, 24 percent had ratios of from 11-40 percent, 11 percent had ratios of 41-70 percent and 8 percent had leverage ratios in excess of 70 percent.

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This highly leveraged category (greater than 70 percent) controlled 31 percent of the debt and 8 percent of the assets in U.S. agriculture. Survey data from individual Iowa farms support Melichar's results (Jolly, 1984). Of the 1,231 farmers surveyed, 31 percent had no real estate or nonreal estate debt and exhibited debt-to-asset ratios averaging 1.8 percent; these farmers are not financially stressed by the current economic conditions in agriculture. In contrast, 40 percent of the farmers have both real estate and nonreal estate debt and a debt-to-asset ratio averaging 41.7 percent. Table 2 indicates the distribution of operators, assets, and liabilities for the Iowa sample by debt-to-asset category; the distributional results are very similar to those in Table 1 from Melichar's work. Size classification of the data (Table 3) suggests that financial stress problems are not unique to a particular size farm - farms of all sizes are encountering such stress.

A 1985 nine state survey of financial conditions in Midwest agriculture corroborates many of the earlier results (Table 4). It indicates that the average debt/asset ratio ranges from 21.2 percent in Ohio to 36.9 percent in Iowa. The percent of farms with a debt/asset ratio of 70 percent or greater ranges from 4.6 percent in Ohio to 16.2 percent in Iowa. With respect to the number of farmers expecting to quit farming in 1986, the percentages range from 3.0 percent in North Dakota to 6.0 percent in Missouri.

Other recent studies indicate that the financial stress in agriculture is not unique to the Midwest. A national survey in January 1985 by Farm Journal and the Food and Agricultural Policy Research Institute indicates that nationwide, 15.4 percent of farmers have debt-to-asset ratios exceeding 70 percent, and 17.9 percent have debt-to-asset ratios of 40-70 percent; these farmers account for 30.8 percent and 34.9 percent of the debt

respectively (Farm Journal, March 1985). For the central states, the data indicate a more severe problem; 21.0 percent of the farmers have debt-to-asset ratios exceeding 70 percent and 21.5 percent have ratios of 40-70 percent. Comparing these numbers to those obtained for Iowa in 1984 suggests that the financial conditions have deteriorated significantly in just one year.

A recently released USDA study also documents the nationwide characteristics of the problem (USDA, 1985b). That study estimated that as of January 1985, 6.3 percent of family-sized farms in the United States holding 9.3 percent of the debt are insolvent; 7.4 percent of the farms holding 11.1 percent of the debt have debt-to-asset ratios of from 70-100 percent, and 20 percent of the farms holding 25.9 percent of the debt have debt-to-asset ratios of 40-70.

Using data from the Farm Costs and Returns survey Melichar has attempted to combine information on return on assets, return on equity, amount of equity and debt/asset ratio to assess the financial condition of commercial farmers (Melichar, 1986). This classification system included four financial positions: good, fair, stressed and vulnerable. Melichar states that "to be considered in 'good' financial position, a farmer had to have a favorable combination of returns and equity cushion: with relatively heavy debt, very high returns that appeared adequate to service it; or, with little or no debt, returns that were positive. At the other extreme, a farmer with a highly adverse combination of returns and equity cushion was classified as 'vulnerable'" (Melichar, 1986). The results of this analysis are summarized in Table 5. In essence they suggest that 10 percent of the farmers holding 10 percent of the assets and 23 percent of the debt are

vulnerable, and another 7 percent of the operators holding 7 percent of the assets and 10 percent of the total debt are stressed.

As noted earlier financial problems caused by low cash flow and farm income are compounded by declining land values. Nationwide real estate values declined 12 percent during 1985 with declines of 26 percent in Minnesota, 21 percent in Iowa, 18 percent in Nebraska, 17 percent in Kansas and 16 percent in Wisconsin and Indiana (USDA, 1985a). State surveys show that in some counties of Iowa and Minnesota, land values have declined in excess of 50 percent from their 1981 peak nominal values. In real terms, nationwide land values in 1985 were equivalent to their 1972-73 value.

Financial management strategies and enhanced farm and off-farm income can be used to relieve the stress for many farms, but those with higher debt loads and leverage ratios (for example, 70 percent or greater) will likely not be able to obtain sufficient relief from various financial and farm management strategies to stave off asset liquidation or default. In essence, approximately 15 percent of the U.S. farmers are encountering significant financial stress, and at least 8-10 percent of U.S. farm assets must find a new owner in the next year or so, or the debt secured by those assets will not be serviced. Even those with debt-to-asset ratios of 40-70 percent will experience declining equity (even if land values stabilize) unless commodity prices rise, interest rates and other input prices fall, or productivity increases.

The financial stress problems faced by farmers have important implications beyond the farm gate. One of the first is the "shortfall" in interest and principal payments that the lenders will not receive. Doye and Jolly estimated that nationwide in 1986 \$2.2 billion of scheduled interest

payments and \$6.2 billion of principal payments would not be made by farmers because they do not have the cash to service loan obligations (Doye and Jolly, 1985). These "shortfalls" have a significant impact on the earnings and the liquidity of those who make loans to farmers.

Furthermore, lenders are encountering significantly higher loan loss ratios. Federal Reserve Bank data indicate that delinquency and chargeoff rates at commercial banks are high and continue to climb (Melichar, 1986). Past due and nonperforming loans totaled 9.2 percent of the outstanding farm production loans of commercial banks in 1985 compared to 5.0 percent in 1983. Chargeoffs of farm loans increased from 2.2 percent of loans outstanding in 1984 to 3.7 percent in 1985. Of the 118 banks that failed in 1985, 68 or 58 percent were agricultural banks.

A recent GAO study of the Farm Credit System has projected its losses at \$2.6 billion for the year ending June 30, 1986, and some analysts are suggesting that the "surprises" in the portfolio in the form of under-collateralized loans may add to the losses (Wall Street Journal, October 7, 1985). Nationwide, 363 of the 975 banks on the FDIC's troubled bank list are agricultural banks (Des Moines Sunday Register, October 13, 1985). Analysis by Reinders indicates that with 3 to 5 percent loss ratios (which some lenders are now encountering) even a very financially sound lender with 20 percent equity can remain in business for only three to four years (Reinders, 1985).

The agricultural input supply firms have financial problems as well. Ginder indicates that there has been a 400 percent increase in accounts receivable write-offs (losses) from 1981 to 1984 in a representative sample of cooperative input supply firms in the central states (Ginder, 1985).

Approximately one-third of the sample firms have debt-to-asset ratios exceeding 70 percent. If bad debts total 1 to 2 percent of sales, 25 percent of these firms will have debt servicing problems, and bad debt of 3 to 4 percent of sales would almost double the number of firms with debt servicing problems. Currently, these firms have 1 percent of sales in accounts receivable outstanding for 180 days or more (much of which will not be collected) and another 1 percent in accounts receivable of 60 to 180 days. Thus, many agribusiness firms are also financially vulnerable and a relatively small increase in non-payment on accounts receivable or a loss due to a farmer bankruptcy would threaten their survival.

The community impacts of financial stress are also important. Numerous analysts have expressed concern about declining economic activity and employment opportunities, reduced property values and revenues for support of public services, lower personal income, and increased demand for local community social services. One study of eight agriculturally dependent regions in the Midwest found that if the lower income levels of the 1980s continue there would be 15 percent fewer jobs in Minnesota in the commercial sector compared to the higher income levels of the 1970s. Property tax delinquencies have more than doubled in a number of these communities while federal assistance funding to facilitate adjustments in rural communities declined by 18 percent from 1982 to 1984. This analysis indicates that "revenues will fall short of existing expenditure levels by \$106 per capita on average in the eight multi-county regions examined...the higher taxes and reductions in service necessary to overcome such shortfalls have the potential to permanently change the quality of life in rural America."

As to the longer run future of agricultural incomes and thus the prospects for improvement of financial conditions, most analysts are not optimistic. A recent FAPRI study projects that under current farm legislation, net farm income will decline from \$26.6 billion in 1985 to \$21.8 billion in 1989 (Womack, 1986). Farm commodity prices and gross farm receipts are also projected to decline during this period, and excess production capacity in U.S. agriculture remains high. Thus, this analysis (along with others not cited) suggests continued financial stress for the agricultural sector for at least the next 2-3 years.

CAUSES

The roots of the financial problems of farmers today can be traced in large part to the environment of the 1970s and the dramatic changes in that environment during the early 1980s. The decade of the 1970s can be characterized by high inflation rates, growing foreign and domestic demand for farm products, very low or negative rates of interest, and a willingness to substitute asset appreciation for current earnings on the part of both farmers and credit institutions. Farmers borrowed heavily to purchase capital inputs and farmland and to aggressively expand their operations. Then in the 1980s interest rates rose to unprecedented high levels, foreign and domestic demand for farm commodities declined significantly because of worldwide recession, incomes dropped dramatically, and land values began a steady, steep decline. Those farmers with high debt loads found it difficult to collateralize and service that debt with high interest rates, low incomes and decreasing land values.

It is important to understand the broader dimensions of today's "farm problem" as more than just low prices, high interest rates and low farm income. Clearly, farm incomes are lower than they were during a large part of the 1970s, but similar income levels were encountered in prior years without the severity of the financial pressures currently being felt. In fact, there are six additional characteristics of the current financial stress in agriculture.

In addition to lower incomes, farmers have a much higher debt-to-income ratio than in prior years. Based on USDA data, aggregate debt of the U.S. agricultural sector was approximately 90 percent of net farm income in 1950,

resulting in a debt to income ratio of less than one. This ratio rose to two in 1960, to approximately three in 1970, and now stands in excess of ten to one (USDA, 1985c).¹ Although nonfarm income of farmers has increased in relative importance in recent years, this income is concentrated on smaller farms that have lower debt loads, so does not significantly improve the debt carrying capacity of those farmers with the majority of the debt (Melichar, November 1984). Thus, farmers are attempting to carry a much larger debt load per dollar of debt servicing capacity (i.e., income) which adds to their financial pressure. In fact, to obtain a debt-to-income ratio representative of the mid-1970s would require incomes to more than triple, not a realistic possibility in the near future. Furthermore, the maturity structure on debt has shortened; farmers with lower incomes and higher debt loads are being required to repay that debt more rapidly. Institutional lenders such as banks and PCAs have shortened maturities to reduce their interest rate risk exposure. Although Federal Land Banks and other long-term institutional lenders have not adjusted terms significantly, land contracts, which comprise a substantial portion of farm real estate debt, have become shorter in maturity in recent years.

Another balance sheet adjustment which has occurred on many farms is that of reduced liquidity. In 1950 approximately 27 percent of the asset

¹Melichar has recalculated this ratio for by adjusting total income and debt by an estimate of the amount attributable to landlords (Melichar, November 1984). The result is a lower debt to income ratio than that obtained with unadjusted data. However, similar adjustments must be made in earlier years to obtain comparable data, suggesting that the trend of a significantly rising debt to income ratio over time still occurs.

base on the typical farm firm was liquid (i.e., financial assets or crop and livestock inventories); in 1980 only 11 percent was liquid (USDA, 1982).²

In the past, liquidity provided a safety valve for that farmer who did not generate sufficient income to meet the debt servicing requirement; he or she could sell part of the liquid asset base without sacrificing part of the productive plant--the land, machinery or breeding stock. Today, liquidity is gone--forcing some farmers to consider selling part of the fixed asset base to service their indebtedness.

In reality, farmers dramatically restructured their balance sheets during the 1970s, increasing the amount of fixed assets compared to inventories and other assets easily converted to cash in times of financial stress; and increasing the amount of current liabilities compared to longer term obligations, thus adding to the current debt servicing requirements. Improved farm incomes will help reduce the financial stress in agriculture, but will only eliminate this mismatching of assets and liabilities if farmers use the additional income to either pay down debt or increase liquidity rather than purchase fixed assets. Even if farmers use their improved incomes to restructure their balance sheets, the process will be slow--thus suggesting that financial stress will be a long-run problem for the agricultural sector.

²Melichar has argued that the USDA Balance Sheet of Agriculture significantly understates financial assets in the agricultural sector, but even with his adjustments the proportion of total assets that were liquid (financial assets plus crop and livestock inventories) in 1980 is not altered substantially (Melichar, 1983).

An additional characteristic of the current financial stress in agriculture is the increased income and collateral risk faced by most farmers. Although the income risk in agriculture may not be significantly larger this decade than last, the responsibility for managing that risk is being transferred from the public to the private sector. In addition to income risk, farmers are now facing collateral risk as well. During the three decades from 1950 to 1980, even when farm incomes turned down, the lending community was willing to extend credit to the agricultural sector because collateral values (specifically land values) were stable or rising. A key reason lenders have turned conservative during the last five years is that in addition to income risk, they are facing reduced collateral values and deteriorating security positions. Legitimately so, the borrower who has financial losses combined with declining collateral is perceived to be less credit-worthy than one who has financial losses but stable or rising collateral values.

A further consequence of declining collateral values is that the traditional safety valve of the 1970s for farmers who could not meet the cash flow--that of refinancing--is either no longer available, or is quite costly because of higher interest rates. In reality, the agricultural sector no longer has a financial safety valve; adjustments on the liability side of the balance sheet to reduce financial pressure by extending the terms on the debt are no longer possible for many operators, and liquidity is nonexistent in many cases. Thus, a significant number of farmers are having to consider asset liquidations as a means of reducing or eliminating the financial pressures they are facing.

A seventh characteristic of today's financial stress in agriculture is that of higher and more volatile interest rates (Melichar, January, 1984). When queried as to what is the fundamental reason why they have encountered financial difficulties, many farmers respond that they did not anticipate the dramatic rise in interest rates that occurred from the mid-1970s to 1980. A shift from relatively low real and nominal interest rates to relatively high rates is particularly devastating for an industry like agriculture that has a large proportion of its total debt used to finance fixed assets on a variable rate. In other industries with a larger proportion of the debt used in inventory financing, it is easier to adjust debt utilization to rising interest rates. Because of the dominance of fixed assets in the asset base of the agricultural sector, and the necessity to finance those fixed assets with longer term financial obligations, it has been much more difficult for the farm sector to adjust to rising rates than other sectors of our economy.

RESOLUTION

There are fundamentally two basic approaches to resolution of financial stress in agriculture. The first approach is to change the environment--to reinstate the economic policies of the 1970s that resulted in low interest rates, rapid increases in land values, expanding export markets, high commodity prices, and wide profit margins. The second general strategy to resolve financial stress is for the agricultural industry and the firms in that industry to adapt to the "new environment," to restructure so as to be viable in a period of tight profit margins, high interest rates, lower land values and competition in export markets. It is unlikely that the environment will return to that of the 1970s, so a more realistic approach to resolution is adjustment by the industry and firm.

At least five long run adjustments are necessary to obtain a financially stable agricultural sector. These adjustments include:

1. Mothball excess capacity. The U.S. agricultural sector currently has approximately 5 to 10 percent excess production capacity (Tweeten). This contributes significantly to the current low rate of return on farm assets. Yet, the productive capability of some of the agricultural asset base is deteriorating because of excessive soil erosion. Conversion of 20 to 30 million acres of steep, erosive and low yielding grain land to grass or nonuse is one way to eliminate excess production and reduce soil erosion.
2. Lower resource values. In a period of excess capacity, a normal economic response is lower resource earnings and lower asset values. Land values in parts of the United States are 50 percent below the peak of the early 1980s. Given current prospects for prices, interest rates, and

expected input costs, farm asset values may fall further. The financial stress of farmers further compounds the problem because a major strategy for alleviating financial stress is asset liquidation. Such liquidations increase the supply of land on the market and further contribute to land price declines.

3. Debt reduction. The total debt load of agriculture is not evenly distributed. About one-third of the farmers owe approximately two-thirds of the debt. For many of these farmers, earning capacity of assets is not sufficient to cover debt service costs with current interest rates and profit margins. This "excessive" debt must either be redistributed or eliminated. Redistribution may occur through debt-financed purchases of assets from those having cash flow problems by financially sound farmers or other investors. A reduction of the industry debt load will occur by repayment of debt with earnings from either on- or off-farm sources, by liquidation of assets, by substitution of equity from outside the agricultural sector for farm debt, or by discharge of debt by agricultural lenders. Probably a significant amount of agricultural debt will be discharged or written off over the next three to five years by the public and private lending institutions that service agriculture. This discharge of indebtedness will represent significant costs to lenders in the short run, but it will reduce the sector debt load and improve agriculture's financial condition in the long run.

4. Restructuring asset ownership. Some farmers with very high debt loads cannot "afford" to own all of their assets, and these assets must find new owners. This asset restructuring in many cases will accompany the redistribution and restructuring of debt. Lenders will inventory some

assets in lieu of the note or mortgage, but these assets will eventually be placed on the market. Accompanying this restructuring of the ownership pattern of assets will be a set of important issues concerning the tenure arrangements in agriculture including the institutional structure and property rights of tenants versus landlords, the advantages and disadvantages of the separation of ownership and operation of real estate, and the volatile issue of outside equity in agriculture.

5. Lower interest rates. Interest rates, real and nominal, are very high by historical standards. Most analysts agree that reduction in the government deficit will result in lower real and nominal interest rates and a somewhat lower valued dollar. The importance of lower interest rates for agriculture is difficult to overstate; a 1 percent decline in interest rates on the over \$200 billion of U.S. agricultural debt would result in an approximate \$2 billion increase in net farm income. Tweeten estimates that lower interest rates resulting from a balanced budget would reduce the value of the dollar in foreign markets by 20 percent, leading to a 10 percent increase in exports within two years and as much as a 20 percent improvement in the longer run (Tweeten, 1985).

Much of the recent discussion of resolution of financial stress in agriculture has focused on the appropriate public sector response. The key question has been what kind of state or federal government program can be developed and implemented to facilitate the adjustment process. Only limited federal assistance has been provided thus far, and it would appear that the problem is sufficiently large that adequate funds are not available for state programs to be of substantial assistance. It is not clear that further public sector assistance will be forthcoming; consequently, it may

be prudent and appropriate to focus attention on the aforementioned adjustments along with private sector resolution strategies--contract renegotiation, debt restructuring, loan writeoffs, deal cutting, sale leasebacks--and the costs and benefits of these options.

Table 1. U.S. Farm: Debts and Assets by Leverage

	<u>Debt to Asset Ratio (percent)</u>				<u>Total (%)</u>
	<u>0-10</u>	<u>11-40</u>	<u>41-70</u>	<u>71+</u>	
Operators (%)	58	24	11	8	100
Debt (%)	5	32	32	31	100
Assets (%)	47	32	14	8	100

Source: Melichar, January 1984 Federal Reserve Bulletin.

Table 2. Estimated Percentage Distributions of Sample Farm Operators, Their Assets and Liabilities by Relative Debt Levels*

	<u>Debt to Asset Ratio (percent)</u>			
	<u>0-10</u>	<u>11-40</u>	<u>41-70</u>	<u>71+</u>
Operators (%)	36	35	18	10
Assets (%)	30	40	21	9
Liabilities (%)	3	32	40	25

Source: Farm Finance Survey, March 1984, Iowa Department of Agriculture.

*Totals may not equal 100 due to rounding errors.

Table 3. Estimated Percentage Distributions of Iowa Farm Operators, Their Debt and Assets by Farm Size and Debt Level Categories*

		Debt-to-Asset Ratio (%)			
		0-10	11-40	41-70	71+
Farm Size**					
Very small	Number in Sample	13	7	7	5
	% Operators	41	22	22	16
	% Assets	39	25	25	11
	% Debt	0	25	41	34
Small	Number in Sample	61	45	25	17
	% Operators	41	30	17	11
	% Assets	41	31	18	11
	% Debt	3	25	33	38
Medium	Number in Sample	211	199	95	58
	% Operators	37	35	17	10
	% Assets	34	37	18	11
	% Debt	3	31	35	31
Large	Number in Sample	29	55	33	6
	% Operators	24	45	27	5
	% Assets	24	45	26	5
	% Debt	4	35	47	14
All	Number in Sample	314	306	160	86
	% Operators	36	35	18	10
	% Assets	30	40	21	9
	% Debt	3	32	40	25

Source: Farm Finance Survey, March 1984, Iowa Department of Agriculture.

*Totals may not equal 100 due to rounding errors.

**<u>Size Category:</u>	Very small	<u>Assets:</u>	Under \$50,000
	Small		\$50,000-\$199,999
	Medium		\$200,000-\$999,999
	Large		\$1,000,000 and over

Table 4. Comparison of Debt/Asset Ratios for All States in Survey

States	Average debt/asset ratio	Percent of all farmers with debt/asset ratio			Percent quitting 1986	Average gross value of sale (Dollars)
		Less than 40%	Between 40 and 69%	More than 69%		
Illinois	30.8	70.6	18.2	11.2	5.0	89,286
Iowa	36.9	61.7	22.1	16.2	4.9	112,220
Kansas	31.8	69.2	18.3	12.5	5.6	70,352
Michigan	28.6	76.9	17.6	5.5	4.3	77,665
Missouri	24.7	78.8	14.1	7.1	6.0	42,251
Nebraska	34.3	63.2	23.0	13.8	6.4	117,921
North Dakota	34.7	62.2	23.1	14.7	3.0	95,946
Ohio	21.2	82.8	12.6	4.6	5.0	59,424
Wisconsin	26.2	74.7	18.7	6.6	4.4	94,115

Source: "Ohio - 1985 Farm Finance Survey Results," February 24, 1986, Ohio Crop Reporting Service.

Table 5. Percentage distribution of commercial farm operators and their assets and debt, by financial position, January 1985

Financial Position	Operators	Assets	Total Debt	Debt owed to--		
				Banks	Farm Credit System	Farmers Home Adm.
Good	70	65	51	47	53	39
Fair	13	18	16	15	15	18
Stressed	7	7	10	13	12	12
Vulnerable	10	10	23	25	20	31
Total	100	100	100	100	100	100

Data are for 634,000 "commercial" farms (farms with sales of \$40,000 or more in 1984), from the 1984 Farm Costs and Returns Survey, ERS, USDA. Criteria that were used to classify farm operators by financial position are presented in Appendix Table A-1. The percentages of assets and debt shown apply to the amounts of farm assets and debt, respectively, reported by these operators of commercial farms, rather than to total farm loans reported by farm lending institutions or to total assets and debt shown in the USDA's Balance Sheet of the Farm Sector.

Source: Melichar, "The farm credit situation and the status of agricultural banks," April 24, 1986.

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