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ABSTRACT

This report is an overview of the current status of farmers in the U.S. economy, with an emphasis on the characteristics of displaced farmers, the reasons for their displacement, the effects of their displacement on the economy, and some policy recommendations for the future. Following an executive summary, the report is organized in five sections. The first section examines farming in the rural economy, considering the structure of agriculture in the United States, the farm work force, and agriculture-related businesses. In the second section, dislocation from agriculture is put in perspective, with information supplied about historical movement from the farm, Job Training Partnership Act guidelines on dislocated workers, and definitions and data concerning dislocated farmers for the 1980s. The third section discusses the number and distribution of at-risk farmers and the characteristics of displaced farmers. The impacts of farmer dislocation on farm production and prices, the rural community, and federal assistance for displaced farmers are the subject of the fourth section. The final section draws conclusions and makes recommendations for policy regarding dislocated farmers. An annotated bibliography of 40 items is included in the paper. (KC)

Dislocated Farmers: Number Distribution and Impacts

By

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and

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DISLOCATED FARMERS: NUMBER, DISTRIBUTION, AND IMPACTS

by

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October 1987

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Philip L. Martin and Alan L. Olmstead

Executive Summary

Agriculture is the foundation of the food and fiber sector of the U.S. economy, which employs about 18 percent of the workforce and accounts for 18 percent of GNP to manufacture farm inputs, produce farm products, and distribute them to consumers. Farming or agriculture employs only 2 percent of the full-time U.S. workforce, and most farmers obtain most of their incomes from nonfarm sources. However, farming is the chief economic activity in about one fourth of the nation's 3,150 rural counties, and economic conditions in agriculture which displace farmers have had substantial impacts on both rural and urban economies.

Farmers have experienced roller-coaster economic conditions during the past 15 years. Farm prices and farm assets jumped during the 1970's, peaked in 1981, and have been falling since. Although it is hard to predict how many farmers will be displaced and whether farmers will leave agriculture at a faster than normal rate during the next five years, USDA financial data indicate that 100,000 to 150,000 farm operators,[1] or about one in six commercial farms, are financially-stressed and may be forced out of agriculture by the early 1990s. These farmers tend to be younger than financially-strong farmers and to have less off-farm income or a weaker link to the nonfarm labor market. Financially-stressed farmers are concentrated in the 12 Midwestern states from Wisconsin and the Dakotas south to Texas; according to USDA financial data, almost half of all financially-stressed commercial farmers are in Iowa, Minnesota, Wisconsin, Texas, and Missouri. Between 1985 and 1987, farm financial stress has been reduced because farm incomes have been bolstered by near-record government payments to farmers.

Farmer displacement today differs from displacement in the 1960's and 1970's in its numbers, causes, and consequences. Between 1960 and 1980, the number of farmers declined by about 120,000 annually; since 1980, about 40,000 farmers have been exiting each year. Displacement in the 1950's and 1960's was caused by the push of labor-saving farm mechanization and the pull of higher-wage nonfarm jobs, while today's displacement is more often caused by financial stresses due to evolving farm trade patterns and changes in farm policies that reduce the value of farmland. Finally, the impacts of displacement in the 1980's are different: earlier farmer displacement impacted heavily on the urban areas to which displaced farmers moved as well

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[1] A farmer or farm operator is the (one) person in charge of a farm; this person may be a sole proprietor, the senior member of a partnership, or a manager hired by the landowner. The farmer/operator may live on or off the farm and devote all workdays or only one workday annually to making farm decisions. The farm may consist of only owned land, only land leased or rented from others, or some combination.

as the rural areas that farmers left. Displacement today primarily affects the rural communities that farmers leave.

This report estimates the number, distribution, and impacts of displaced farmers. Three decisions are required to make such estimates: first, the definition of a "self-employed farmer;" second, the definition of an "unemployed self-employed farmer;" and third, a decision about whether "family members" should be eligible for dislocation assistance if the farmer is displaced.

Farmers typically engage in several work activities during the year. After outlining several options, the report recommends that self-employed farmers be defined by how they allocate their work time. Farmers are asked in the Census of Agriculture whether they devoted the majority of their work time to self-employed farming activities during the previous year, and according to the 1982 Census of Agriculture, one-half of the nation's 2.4 million farmers reported that farming was their principal occupation. Principal farmers who are displaced should be the primary targets of displacement assistance programs; however, data on farmers whose principal occupation is farming is collected only in years in which a Census of Agriculture is conducted.

The definition of an unemployed self-employed farmer is more complex: the report recommends that a self-employed farmer be considered unemployed if financial stress causes: (1) the farmer to quit farming by moving from the farm in search of a job or to sign an agreement to have someone else operate the farm; (2) the farmer to enter bankruptcy or foreclosure proceedings; or (3) the farmer to make farming a secondary activity because of high debt-to-asset ratios and/or negative cash flows. These unemployment criteria emphasize an actual or potential shift in the allocation of a self-employed farmer's time away from farming that can be documented. The number of farmers unemployed by the first two criteria is small; to estimate potential displacement, several indices which combine data on farm characteristics and debt-to-asset ratios are developed. Finally, the report recommends that family members normally be eligible for dislocation assistance; even if family members could remain employed near the farm, dislocation may require a family's relocation and perhaps retraining. Farmers who have been and are likely to be displaced are concentrated in the Midwest and South because states in these regions include most of the farmers at risk, viz, cash grain and dairy farms operated by farmers whose principal work activity is farming.

The impacts of farmer dislocation in the 1980's are confined to local levels. About one-fourth of the nation's counties are considered "farming-dependent," but they include just one-fourth of the nation's farmers. Farm failures have very local effects: in Illinois or Wisconsin, they do not affect state economies, except insofar as the recession in durable goods manufacturing exacerbates the transition from farm to nonfarm jobs. More severe local impacts are found in the rural communities of the Plains states; in these areas, the 1970's farm boom halted economic decline or led to increased economic activity which cannot be sustained in the 1980's because of changed farm policies and farm economics. The link between U.S. farm policies and the changing structure of farming is hotly debated; to the extent that

farmer dislocation has been caused by changed farm policies, such as the whole-herd dairy buyout program or the Conservation Reserve Program, Congress should consider allocating some of the funds which first encouraged and then discouraged farming activities to assist farmers and ag-related workers who have been dislocated.

Policy Recommendations

1. The farm financial crisis threatened about 100,000 commercial farmers, but most of these farmers have not been displaced. The farm economy's turnaround in 1987-88 means that most of the survivors will be able to remain farmers if they wish. Existing programs should continue, but there is no need for additional "crisis" assistance programs under Title III of JTPA.

2. There may be another 1984-86 farm financial crisis in the future. A federal assistance program may be justified to handle displaced farmers in such a crisis because of farmer characteristics and because of link between farm program changes and displacement. Such a farmer assistance program should be targeted on persons whose principal occupation was farming; allow local flexibility in determining the mix of services offered; and recognize that administrative costs are likely to be higher because the rural population is dispersed.

3. Future farmer displacement is likely to be related to changes in federal farm programs, much as the 1984-86 farm crisis was linked to changes in farm programs and trade patterns. Future farmer assistance programs could automatically target the farmers and areas most likely to need assistance by having the assistance program be part of the farm program, so that, for example, a reduction in tobacco price supports automatically triggered adjustment assistance for tobacco farmers and communities in the southeast.

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> Economic Development entails a process of decline in employment in industries providing the basic needs of people relative to employment in industries supporting standards of living above these basic needs (p. 141).
>
> Unfortunately, a large proportion of our low income farm operators are boxed in--that is, they are past the prime work age, and they have limited potential for training designed to make them skilled nonfarmworkers (p. 145).
>
> The People Left Behind (1967)

1. Farming in the Rural Economy

Agriculture is often considered the crown jewel of the U.S. economy, an economic sector whose productivity is heralded around the world. A major cause and effect of rapidly rising agricultural productivity has been the exit of labor from agriculture: between 1910 and 1985, employment in agriculture decreased 75 percent. Farmers and farmworkers were pushed out of agriculture by labor-saving machines and chemicals, and pulled into nonfarm jobs by higher nonfarm wages and incomes; in the process, farm production became concentrated on fewer and larger farms. The farm productivity record is impressive: with about the same amount of land, farmers today produce three times what was produced in 1910.

Farming is part of the larger food and fiber sector of the U.S. economy which supplies consumers with food, clothing, and tobacco products. This food and fiber sector employs about 18 percent of the U.S. labor force and accounts for 18 percent of GNP (Lee, 1987). Of the 21 million full-time equivalent workers employed in the food and fiber sector, only 12 percent are employed on farms; most food sector workers are employed in wholesale and retail trade (28 percent), eating places (17 percent), and food processing and other manufacturing (14 percent). Food sector employment has remained at 20 to 21 million since 1975, but labor force growth has reduced the food sector's share of total employment from 21 percent in 1975 to 18 percent in 1985. In 1947, by contrast, food sector employment was 41 percent of total U.S. employment.

Commercial farming in the 1980s involves businesses that are typically larger and more capital-intensive than nonfarm businesses. In 1979, American agriculture used $43,000 of physical capital (machinery and buildings) per worker, compared with $21,500 for the economy as a whole (CEA, 1984). Unlike the 1930's, when farming was a more homogeneous collection of mostly family-sized and family-operated businesses, farming in the 1980's has a tri-partite structure of rural residences, family farms, and large commercial farms.

a. The Structure of U.S. Agriculture

The Census of Agriculture defines a farm as a place that normally sells at least $1,000 worth of farm products annually. The most recent Census of Agriculture in 1982 enumerated 2.4 million farms. The USDA conducts a parallel Farm Costs and Returns Survey (FCRS) annually, and it indicates that the number of farms decreased to 2.3 million in 1985 and 2.2 million in 1987.

The annual "loss" of farms in 1986-87 has almost returned to pre-crisis 1982-83 levels: there was an estimated loss of 39,000 farms in the year ended June 1, 1987, versus a loss of 31,000 in 1982-83. By contrast, there was a loss of 53,000 farms in 1984-85 and 63,000 in 1985-86.

The FCRS indicates that the "average" farm in 1985 had a gross cash income of $68,700 and a net farm income of $13,900. (The weighted average poverty line for a family of four in 1985 was $11,000.) However, the average farm family also had an off-farm income of $17,900, so that the average farm and nonfarm income of a farm family--$32,900--was greater than the mean household income of all Americans ($27,400). In addition, the average farm family has more assets and net worth than the average nonfarm family.

Farm averages indicate that farm families are relatively affluent as a group. However, farm averages obscure the tri-partite structure of farming. Income and wealth measures of well-being are much more revealing if farms are divided into three groups: rural residences, family farms, and large farms.

Over one-half of all U.S. farms sell more than $1,000 but less than $10,000 worth of agricultural products. These "rural residences" are usually part-time, retirement, or hobby farms that have a few animals or sell fruits and vegetables. These small farms have earned the rural residence label because most are the homes of persons with nonfarm jobs.[1] Farms are often sized by their acreage--an acre is about the size of a football field--and most rural residences have less than 40 acres of land and "farming" requires only the efforts of one person for less than five weeks each year, meaning that, during most weeks of the year, no one is employed on the farm. Collectively, such rural residences accounted for 3 percent of farm sales in 1985 (Table 1).

A few rural residences have struggling full-time farmers, but most are operated by persons with substantial off-farm incomes.[2] Rural residences that

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[1]Thus, a "gentlemen farmer" may or may not do farmwork in the sense of driving a tractor or hoeing weeds; however, so long as the gentlemen farmer makes farming decisions such as what to plant and when to harvest, he or she is considered the farmer or farm operator.

[2]USDA data report only averages; they do not indicate that e.g., 10 percent of all rural residences are operated by full-time farmers and 90 percent are the rural homes of nonfarm workers.

sold less than $5,000 worth of farm products in 1985, on average, lost $2,700 farming but had average off-farm incomes $22,600. Such very small rural residences have an average $12,000 in debts but $100,000 in assets, for a debt-to-asset ratio of 12 percent. Clearly, the rural residences which are half of all U.S. farms are, on average, not substantial farmers or debt-stricken farmers facing dislocation or needing displacement assistance.

At the other end of the farm size spectrum are the large commercial farms that account for one-half of all farm sales. The 93,000 largest farms, which each sell more than $250,000 in farm products annually, had average net farm incomes of $260,000 in 1985 and assets of $2.5 million each. These 93,000 largest farms--equivalent to the number of farms in Ohio--are the expanding sector of U.S. agriculture. Although very large farms have higher average debt-to-asset ratios than most farms--38 percent in 1985 for farms with annual sales of $500,000 or more and 29 percent for farms with sales of $250,000 to $499,999--the average equity or wealth of farm operator households was $2.6 and $1.3 million, respectively, suggesting that the typical very large farmer could exit agriculture as a millionaire. Some very large farm operators may exit farming with no equity, but it is hard to design or justify retraining assistance programs for such highly-leveraged entrepreneurs.

The remaining 1.1 million farms, each selling farm products worth $10,000 to $249,999 annually, often fit the stereotype of the troubled "family farm." This family farm sector can be subdivided into small family farms that each sell $10,000 to $39,999; and large family farms with sales of $40,000 to $249,999.

Small family farms share many rural residence characteristics. Most have less than 160 acres of land, and most offer less than 5 months of employment. In 1985, small family farms were one-fifth of all farms, but on average small family farms lost money farming. Small family farms have lower off-farm incomes than rural residence, so farm losses plus off-farm incomes of $14,000 to $19,000 give small family farms lower total incomes than rural residences. Small family farms have more debts and assets than rural residences--their debt-to-asset ratios average 16 percent, but they have average equities or net assets of $200,000 in their farms.

About one-fourth of all U.S. farms satisfy the family farm stereotype. These family farms, which usually have 160 to 640 acres each, require 6 months to 2 years of labor annually to generate farm sales of $40,000 to $249,999. There are 554,000 such family farms and, on average, they are economically healthy. The average family farm makes money farming, but not much--most family farms are in the sub-group with an average 1985 net farm income of $6,600 and an average off-farm income of $10,300. About one-fourth of the average family farm's total assets are offset by debts, but equity or net assets are $400,000 to $600,000 per farm.

The structure of agriculture is tri-partite: half of all "farms" are money-losing rural residences that do not depend on farming for family income; almost half are small and mid-sized family farms that, on average, generate relatively low family incomes; and almost 100,000 are large operations in

which their owners have more than $1 million in equity or net assets. The rural residences and small family farms that, on average, lose money farming are 72 percent of all farms, so these "farmers" get more than 100 percent of their family incomes from off-farm sources. Thus, 1.6 million "farmers" can be expected to continue to lose money farming year-after-year, and no traditional farm policy which attempts to increase farm incomes by supporting or increasing farm prices is going to affect their incomes substantially because they simply do not produce enough.

At the other end of the farm spectrum are the almost 100,000 large farm businesses with much more wealth than the average American family. In-between are 550,000 family farmers. Some are well-off; others took on debt to expand during the inflationary period of the late 1970s and early 1980s and have been struggling since. Family farmers were not the only farmers who expanded at the wrong time; large farms also expanded, and some have or will fail. However, the failure of large farms causes less worker dislocation than family farm failure because large farms employ less family labor and more hired workers, and hired workers often find re-employment with the failed farm's new operator.

Small, family, and large farms fail, displacing farm families, but there may be less of an impact on farmworkers and agriculture-related businesses than is sometimes imagined because the land they free up is typically farmed by someone else. For example, the number of farms has been halved since the late 1950s, but total farmland has remained at about 1 billion acres, indicating that fewer farmers are farming the same amount of land. However, the fewer and larger farms that remain after displacement are more likely to buy from regional vendors or directly from manufacturers, bypassing small town businesses.

The discussion of net farm income and debt-to-asset ratios may obscure an important distinction between large commercial farms and small farms. One way to appreciate the financial differences between large and small farm operations is to separate liquidity--a farm's annual net profit--from solvency--the farm's ratio of debts-to-assets. The liquidity measure is an annual measure of how the farm fared as a business; solvency or the debt-to-asset ratio is an indicator of its long-run viability. Ideally, liquidity and solvency should be combined to determine the degree of financial stress, but the large number of money-losing small farms makes it hard to develop such an index. For example, the FCRS reported that 58 percent of all California farms had a negative cash farm income in 1986; however, 44 percent of all California farms had no debt. Such discrepancies occur because of the large number of rural residences included in farm statistics: in California, 72 percent of the farms that had sales of less than $40,000 in 1986 lost money farming, but 53 percent were debt free and only 11 percent had debt-to-asset ratios greater than 0.4.

The major conclusion of this summary of farm structure is that only about one-fourth of all U.S. farms are in the stereotypical family farm group. Within this group, the risk of dislocation varies by commodity, geography, and operator characteristics (Section 3). However, financial stress data are most

reliable only for "commercial farms," that is, farms with annual sales of $40,000 or more. Such commercial farms are only 1/4 of all U.S. farms, but it is important to note that most of the excluded "small farms" are the rural residences of nonfarm workers which generate farm losses year-after-year. Even for commercial farmers, there is no timely isolation of farmers whose principal occupation is farming; such a distinction can be made only during Census of Agriculture years (years ending in 2 and 7).

b. The Farm Workforce

Three distinct kinds of workers do the nation's farmwork: farmers and their unpaid family members; hired workers; and employees of agricultural service firms. Farm labor data are notorious for their unreliability; the best data describe farm operators, several sources provide (contradictory) data on hired workers; and very little is known about agricultural service workers.

The 1982 Census of Agriculture reported that 71 percent of all farmers lived on the farm they operated; that 54 percent worked off the farm, including 35 percent who did 200 days or more of off-farm work; and that the average age of farmers was 50. The percentage of farmers who work off the farm has been rising as the number of farms decreases (Table 2); the rise in nonfarm work would be even more dramatic if data were available on trends in the farmer and/or spouse working off the farm.

Farm operators[1] are older than average white males; hired workers tend to be younger than average minority men and women. The 1983 Hired Farm Work Force report found that 27 percent of the 2.6 million hired workers were minorities, and that the median age of all farmworkers was 25 years. However, just as farms can be subdivided into rural residences, family farms, and large farms, so farmworkers can be subdivided into casual, seasonal, and regular or year-round workers. The 37 percent of the hired workforce that was casual did less than 25 days of farmwork in 1983, and collectively performed just 4 percent of all days of farmwork contributed by hired workers. The 34 percent of the hired workforce that was seasonal, doing 25 to 149 days of farmwork, contributed 27 percent of all hired worker days. The 28 percent of the hired workforce that was regular or year-round did 150 or more days of farmwork and contributed 69 percent of all hired worker days.

Agricultural service workers and other ag related workers are the least understood part of the farm workforce. The Standard Industry Classification (SIC) system divides agriculture into the production of crops (01) or livestock (02) and the provision of agricultural services (07). Farms are assigned to the SIC commodity group from which they derive 50 percent or more of their sales, such as grapes (0172) or tree fruits (0175), and farms that derive 50 percent or more of their sales from crops but have no single crop that accounts for 50 percent of sales are general crop farms. Agricultural

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[1]Farm operators are persons who actively manage a farm. They may be owner-operators, renters or sharecroppers, or hired farm managers.

service firms such as crop harvesting (0722) or packaging fresh fruits and vegetables (0723) may do their work on grape or tree fruit farms but remain classified as agricultural service businesses.

The quarterly reports filed by employers whose workers are covered by unemployment insurance laws, the ES-202 reports, indicate that there were 57,000 agricultural service firms which employed an average 434,000 workers in 1981. By comparison, 42,000 crop and livestock farms reported hiring an average 614,000 workers in 1981. Thus, the ES-202 data indicate that 41 percent of average agricultural employment is in agricultural service firms.

There is very little demographic data on the characteristics of agricultural service workers, but it appears that most ag service workers have characteristics that are similar to those of farmworkers. Detailed California data indicate that about 60 percent of the workers who had their maximum earnings with agricultural service employers in 1984 were employed primarily by farm labor contractors (0761) and farm management services (0762); a pattern that may also recur in other states.

c. Ag-Related Businesses

Farming is a business which purchases many of its inputs such as seeds, fuels, fertilizers, implements, and credit from nonfarm suppliers and also relies on nonfarm food processors and manufacturers to convert raw farm products into food and clothing for consumers. It is hard to determine the size and health of ag-related business for several reasons, including the fact that many farm input suppliers such as banks deal with both farmers and nonfarmers, and many food processors and retailers handle both domestically-grown and imported products. Much of the Congressional testimony has focused on the implications of farm bank failures for the U.S. financial system, although commercial and savings banks held only 11 percent of the 1985 farm real estate debt and 36 percent of the non-real estate debt (Statistical Abstract, 1987, p. 627).

Farm input businesses come in all sizes and shapes. Chemicals, fuels, and fertilizers are often supplied by divisions of major corporations; workers dislocated if these divisions shrink or close are presumably eligible for the same dislocation services available to other dislocated industrial workers e.g., some workers dislocated when farm equipment manufacturers reduced production and employment received trade adjustment assistance payments.

The farm input businesses that have received most attention are farm banks and farm implement dealerships. Chemical and fertilizer companies have become active participants in debates over farm policy, largely because the programs that reduce farm production also reduce their sales. However, representatives of such companies did not testify on agriculturally-oriented worker dislocation assistance programs.

It appears that farm implement dealers have been among the most affected ag related businesses: farmers' expenditures for machinery dropped from $8 billion in 1979 to $3.8 billion in 1985 (Statistical Abstract, p. 637). As a result, farm implement dealerships are experiencing structural changes that are similar to those occurring in farming: there are fewer and larger surviving dealerships. A 1984 survey of implement dealers indicated that most dealers are older persons who want to "hang-on" even though the consensus was that only 5,000 of the then active 8,800 implement dealers were needed (Committee on Small Business, 1985, p. 6). Implement dealer testimony also highlighted an unintended consequence of modifying bankruptcy laws to help distressed farmers: dealers reportedly must "tighten their credit policies" in response. The 700 to 800 so-called "shortline" farm equipment manufacturers that provide specialized equipment to handle particular crops such as fruit and nut harvesters have also seen their sales drop.

Farm banks have also received Congressional scrutiny, but largely because of the effects farm bank failures may have on the nation's financial system, not because farm bank failures increase to rural unemployment. Very few banks fail; most are taken over by a stronger bank, limiting worker displacement. For example, in 1984 only 78 insured commercial banks failed throughout the U.S., and farm loans were only 10 percent of the loans in these banks portfolios. Instead of the farm financial crisis reducing farm banking employment, it is likely that delinquent loans, foreclosures, and other farm financial problems require farm banks to hire more employees.

Aggregate data do not indicate that displaced farmers are generating massive second-round unemployment, even in the Midwest. However, it is true that some population-based (schools, barbershops) and wealth-based (jewelry stores) business in remote areas are likely to shrink or fail if displaced farmers leave the area. However, in many such areas, failing businesses either reflect long-run trends, such as fewer-and-larger farm implement dealerships, or are the fate of relatively new businesses started during the recent farm boom.

2. Dislocation from Agriculture

a. An Historical Perspective

Dislocation from agriculture goes hand-in-hand with economic development in all societies. The nation's first census in 1790 found that 95 percent of all Americans lived in rural areas, and most of them were farmers. In 1800, farm income was almost 40 percent of national income, and each person employed in agriculture produced enough food for about four other people.

Over the next century, the farm population rose with westward expansion, peaking at 32 million people or one-fourth of the U.S. population on 6.8 million farms in 1935. The fact that the peak number of farms occurred during the Depression is no accident; early in the 20th century farmers began to be pushed by low farm prices and pulled by higher nonfarm wages out of agriculture, and the 1935 peak was due to massive urban unemployment which

pushed some ex-farmers back into agriculture and kept farmers who wanted to leave trapped in agriculture.

The farm population began to decline during World War II, and decreased sharply during the 1950's and 1960's. The farm population was 30 to 32 million between 1910 and 1940, but then dropped to 23 million in 1950, 16 million in 1960, 10 million in 1970, and 6 million in 1980 (Banks, 1973 and Statistical Abstract). The years of heaviest net outmigration from farming were 1940-45, with 1.6 million migrants annually, and 1950-55, with 1.1 million; by contrast, under the 1974 definition of a farm (annual sales of $1,000 or more), the farm population dropped from 6.1 to 5.4 million between 1980 and 1985.

Most of the farm population is in the South and Midwest, so most displacement occurs in these areas. In 1950, for example, over half of the farm population was in the South and one-third was in the Midwest; so that the Northeast and West had just 15 percent of the farm population. By 1970, the North Central or Midwest region surpassed the South in farm population.

The 1980 Census of Population reported that about 25 percent of all Americans lived in rural areas, but most of these rural Americans have nothing to do with farming. Indeed, fewer than 10 percent of all rural residents live on farms, and most of the rural nonfarm residents are employed in jobs that have few or no direct linkages with farming.

Labor leaves agriculture in several ways. First, some farmers and their families leave agriculture by selling their farms in order to move and seek a nonfarm job or retire. Second, the children in farm families may leave agriculture for nonfarm jobs, so that a generational change marks a transition from agriculture. Third, families may stay living on their farms, but some family members may work off the farm full- or part-time; other family members may remain in farming full-time, part-time, or not at all. Although labor has always exited agriculture in all three ways, during the 1950s and 1960s most families left agriculture by physically moving or seeing their children leave farming. Today, there is more of the third type of labor transfer out of agriculture, as farmers and their spouses derive more of their family income from nonfarm sources.

Farmers and their families left agriculture in substantial numbers in the 1940's, 1950's, and 1960's. During these decades, rural areas were gaining manufacturing, service, and government jobs, but not enough to stem off-farm migration. However, the 1970's witnessed a Rural Renaissance, as the farm, manufacturing, service, and government sectors added jobs in rural areas, so that the 1970's rural population growth rate was 1-1/2 times higher than the urban rate despite two energy crises which raised transportation costs (Beale, 1975). This rural nonfarm renaissance coincided with an agricultural boom.

The 1970's were agriculture's boom years. The falling dollar and "world food shortages" fueled farm exports and increased farm prices, and low or negative real interest rates encouraged farmers to borrow money and buy rapidly-inflating farmland to expand and enjoy capital gains. According to

one ? sure, the average farm operator's income was 40 to 50 percent higher than average nonfarm household incomes in the mid-1970's (Harrington, 1987, p. 9). Farm assets increased in value by 2-1/2 times in the 1970's, making farmland one of the 1970's premier investments and pushing farm assets to $1 trillion. Farm debt also increased, from $54 billion in 1970 to $202 billion in 1981.

Early in the 1980's, these expansionary forces reversed direction. Interest rates rose and so did the dollar, increasing the cost of servicing farm debts and reducing overseas markets for U.S. farm products. U.S. government-supported farm prices had established a world-wide floor for farm prices during the 1970's, encouraging other nations to expand production and driving down livestock and grain prices in the 1980's. Farmers, saddled with debt assumed during the 1970's, saw the value of their primary asset, farmland, fall as their interest cost burdens rose, provoking the farm financial crisis of the 1980's. In the mid-1980's, farm assets are about three-fourths of their 1981 peak value, farm debt is about 23 percent of farm assets, and the real value of farm equity is about the same as it was in the mid-1960's (Federal Reserve, 1987).

The causes and effects of the 1980's displacement from agriculture are quite different from the displacement of the 1950's and 1960's. A recent USDA report summarizes these differences:

> The rapid decline in the number of farms and farm population between 1950-70 was caused mainly by mechanization and other labor-saving innovations. That development encouraged some farm families to acquire more land from existing small farmers whose heirs or replacements were attracted to urban areas by the availability of higher paying jobs. Today, displacement extends to the larger and more efficient farm operators who made investment decisions based on the favorable economic environment of the 1970's, a situation drastically different from today's environment of low farm prices, declining land values, and pessimism about the future of export markets. Because much of the economic distress now is concentrated in about 11 percent of farm operations, displacement has chiefly involved ownership changes of some existing farms rather than substantial declines in the total number of farms. (Petrulis, 1987, p 4).

Thus, the numbers of farm families affected by dislocation in the 1980's is much lower and dislocated farm families are more likely to be better prepared for nonfarm jobs because larger and more leveraged farm operators often have more education and business skills.

b. JTPA Guidelines on Dislocated Workers

The main federally-funded sources of help for dislocated workers are the programs authorized by the Job Training Partnership Act (JTPA) of 1982

(PL 97-300). Title IIA provides about $1.8 billion to states to assist economically-disadvantaged workers, and Title III allocates about $200 million to states to assist dislocated workers, 75 percent by formula and 25 percent in grants.

JTPA Title IIA guidelines restrict eligibility to "economically disadvantaged" persons. An economically disadvantaged person is a person or family: (1) receiving food stamps, AFDC, or welfare; or (2) a family with a "low income." JTPA Title III Section 302(a) guidelines (20 CFR 631.30) restrict eligibility to "dislocated workers." Dislocated worker guidelines were established in October 1986 amendments to JTPA (PL 99-496) and elaborated in June 24, 1987 proposed rules as persons (Federal Register, p. 23684):

1. who have been laid-off, are eligible for or have exhausted their UI benefits, and are unlikely to return to their previous industry or occupation.

2. who have been laid-off or received a notice of lay-off because of the permanent closure of any plant or facility.

3. who are long-term unemployed (not-defined) and have limited opportunities for employment or reemployment in the same or a similar occupation in the area.

4. who were self-employed (including farmers and ranchers) and are unemployed because of natural disasters or as a result of general economic conditions in their community.

The DOL regulations elaborate on natural disasters (they include, but are not limited to, any hurricane, tornado, storm, flood, high water, wind-driven water, earthquake, landslide, mudslide, snow storm, drought, fire explosion, or other catastrophe) and general economic conditions. The general economic conditions which can cause a self-employed person (farmer) to become unemployed include: (1) the failure of one or more businesses to which the farmer supplied or from which the farmer obtained a substantial proportion (not defined) of products or services; (2) large-scale layoffs or permanent closures of plants or facilities which support a significant portion (not defined) of the state or local economy; and (3) generally high levels of unemployment (not defined) or depressed prices or markets (not defined) for the articles or commodities produced by the farmer.

These proposed eligibility regulations are only exemplary; governors are authorized to establish procedures to identify "substantial groups of eligible individuals" and then "to determine the following categories of individuals to be eligible to participate" in dislocated worker programs. These categories include self-employed farmers, ranchers, professionals, independent tradespeople and other business persons formerly self-employed but presently unemployed or such persons who are in the process of going out of business. Governors are instructed to establish procedures to determine if e.g., a farmer is going out of business by considering: foreclosure notices; the failure of a farm to return a profit (not defined) during the previous

12 months; entry into bankruptcy proceedings; failure to make payments on loans secured by tangible business assets; an inability to obtain the capital necessary to continue operations; a debt-to-asset ratio sufficiently high to be indicative of the likely failure of the farm; and, finally, "other events indicative of the likely insolvency of the farm." The family members of farmers who are determined to be dislocated are also eligible for assistance "to the extent that their contribution to the farm... meets minimum requirements as established by the Governor."

This "laundry list" of actual or potential factors which can cause dislocation from farming makes it hard to specify a definition of "dislocated farmer" that can be estimated from available data. Each state will determine (1) exactly who is a self-employed farmer, i.e., determine what percentage of an individual's or household's time must be allocated to farmwork or what proportion of income must come from self-employed farmwork and then (2) determine when such self-employed farmers are unemployed. The regulations contain much more detail on factors that have or are likely to cause the unemployment of a farmer than they do on what constitutes a "self-employed farmer."

Worker dislocation eligibility criteria are state-specific. The only federal controls over state-specific definitions are the biennial review of state JTPA programs conducted by DOL and the oversight activities of regional DOL offices. Thus, state-operated dislocated worker programs for farmers have even less uniformity than state-operated unemployment insurance (UI) systems, since the federal government mandates minimum standards for UI systems.

Participants in Title IIA and Title III programs have access to the similar services: primarily job search assistance and training. Job search assistance includes workshops to assess skills, review application and interviewing procedures, and learn about available jobs. Training can be on-the-job (OJT) or in classrooms; generally, participants prefer OJT, because they can earn while they learn and OJT may enhance the probability that the OJT employer will hire them permanently. Employers are induced to hire OJT participants because they are reimbursed 50 percent of each worker-trainee's wages for a two to six month training period. Classroom training is also offered, and participants may be fully reimbursed for tuition, books, and fees for up to one year, and partially reimbursed for childcare and transportation expenses.

JTPA worker dislocation projects vary from state-to-state. In 1987, there were Title III projects specifically designed to assist dislocated farmers in 10 states: Wisconsin, Kansas, Nebraska, Iowa, Minnesota, Montana, South Dakota, North Dakota, Texas, and Missouri. These Title III farmer-specific projects had a 1986 budget of about $5 million, but more money was spent on dislocated farmers in these and other states because displaced farmers can also be served through regular Title III programs and Title IIA programs.

The Nebraska "Agriculture-in Transition" program provides an example of one state's guidelines and programs. Displaced farmers and their families are

eligible for on-the-job or classroom training, job search, and other supportive services if they are low-income and thus eligible under Title IIA (net farm and off-farm family income of $12,240 or less in 1985). Ag-related workers are automatically eligible if they receive food stamps, welfare payments, or AFDC. A dislocated farmer or ag-related worker is an individual who was primarily a farmer, is leaving farming or making farming a secondary occupation, and is not likely to return. The nonworking spouse of a dislocated farmer is also eligible for services, but not other non-working family members. By limiting participation to persons actually leaving farming, Nebraska has achieved a placement rate of about 79 percent (Saupe and Salant, p. 104).

The Nebraska program initially focused on dislocated farmers: persons forced to leave farming or make it a secondary occupation because of (1) an inability to obtain the financing needed to continue farming; (2) debt-to-asset ratios of 70 percent of more; and (3) farmers in foreclosure or bankruptcy proceedings. Financially-stressed farmers and (self-defined) ag-related workers become eligible by satisfying the low-income criterion.

Wisconsin also requires displaced farmers to document their exit from farming, and achieves a similar 77 percent placement rate for participants. Michigan, by contrast, permits farmers to participate in its displaced farmer program if their debt-to-asset ratio is 0.4 or higher. The Michigan displaced farmer program is operated by the Extension Service, so it readily attracted participants but, because many participants were already part-time farmers, it has a relatively low placement rate of 23 percent (Saupe and Salant, p. 104). Note that all definitions which make eligibility contingent on a farmer's inability to obtain financing or debt-to-asset ratios permit banks to influence the number of eligible persons: e.g., banks write down the value of farm assets, they increase debt-to-asset ratios.

The experience with definitions and eligibility requirements indicates that a strict definition which requires a displaced farmer to leave farming will generate a higher placement rate. Conversely, looser Michigan-style definitions generate more participants but lower placement rates. Definitions and eligibility criteria have not been major issues in the Midwestern states with dislocated farmer programs because there has not been a flood of applicants for the limited services available. The major financial advantage to employers is reimbursement of up to 50 percent of the participant's wage while the person is receiving OJT for two to six months, so that an employer paying a participant $6 hourly has a net wage cost of only $3.

A precise definition of an unemployed self-employed farmer is more complex than a definition of an unemployed wage and salary worker because there is no lay-off notice, notice of exhausted UI benefits, or certification that unemployment has persisted 15 weeks or more. States establish definitions of dislocated self-employed persons to DOL, and so far DOL has not objected to both restrictive (must switch from farming to nonfarming) and nonrestrictive (inability to farm full-time) definitions of eligibility. DOL prefers to establish only broad eligibility criteria and then permit states to have discretion in establishing precise definitions.

A major problem with most DOL dislocation assistance programs is that (ex-)farmers have unique characteristics: they tend to be older, to have a variety of skills, and to have more assets than typical JTPA participants. A 50 year old ex-farmer may have been managing a business which was once worth more than $500,000, that hired seasonal or year-round employees, and that required daily managerial and financial decisions. Being displaced can still leave the ex-farmer with a net worth of more than $100,000; explaining why a disproportionately high percentage of displaced farmers simply retire. It is very hard to design an employment and training program which is attractive to such ex-farmers and which also operates within traditional JTPA guidelines on worker eligibility and skills taught.

c. Definitions and Data for the 1980s

The experience through mid-1987 with dislocated farmer programs indicates that: (1) DOL is avoiding specific criteria to define dislocation; instead, it permits states to define when a self-employed farmer becomes unemployed; (2) unemployment is hard to define for self-employed farmers, many of whom already have an off-farm source of income; and (3) there has not been a surge farmer applicants for dislocated farmer assistance programs, even in the Midwest. However, DOL program data may not be indicative of the scope of financial stress in agriculture because such program data are available only for states with farmer assistance programs, e.g., only 2,400 of 40,000 financially-distressed farmers were enrolled in assistance programs in six states in 1987 (Saupe and Salant, p. 104). USDA collects and reports national data that help to indicate the state-by-state distribution farm financial stress and likely dislocation. The most commonly cited financial stress indicator is the debt-to-asset ratio of the farms in a certain farm sales class, region, or commodity.

Debt-to-asset ratios can range from 0 (no debt) to 100 percent or more (insolvency); the normal benchmarks are the 40 percent danger level and the 70 percent likely-to-experience-bankruptcy-or-foreclosure level. Most farm financial stress studies consider all farmers whose debts are 40 percent or more of their assets to be "at risk" of being displaced, although this 40 percent and more indicator is only a crude indicator of how many farmers will actually become unemployed. Some farmers with high debt-to-asset ratios also have negative cash flows; that is, their net farm incomes do not cover family living allowances and principal and interest obligations.

Debt-to-asset ratios are not the ideal indicator of farmers likely to be displaced, but they are the only timely indicators available of which indicate the financial condition of a national sample of farmers. Ideally, the proper indicator for farmer dislocation program planning would be an examination of financial and other data for family farmers whose principal occupation is farming, mostly the 554,000 farms with annual farm sales of $40,000 to $250,000 that were discussed in Section 1. However, a measure which combines farm size, the principal occupation of the operator, and the financial condition of the farm will not be available until 1987 Census of Agriculture data are released in 1988-89 (the 1982 COA included little financial stress data because financial stress was not an issue then).

Annual debt-to-asset ratios are derived from questionnaires mailed to about 24,000 farm operators in the annual Farm Costs and Returns Survey (FCRS). The FCRS conducted in the spring of 1987 indicated that about one-fourth of all sample farms had debt-to-asset ratios of 40 percent or more: 19 percent were in the 40 to 70 percent range, 9 percent in the 70 to 100 percent range, and almost 6 percent were insolvent. Thus, most "farmer dislocation" is, in 1987, still "potential dislocation"--most of the farmers in the 40-to-70 percent range can still obtain the financing needed to continue farming, especially if farmland prices stabilize or increase.

Most U.S. farmers are not in danger of being dislocated. A careful USDA analysis of the 1987 FCRS data on the 631,000 commercial farms that account for 90 percent of U.S. farm production indicates that one-sixth or about 100,000 might generate losses for lenders (Hanson, 1987). This analysis grouped commercial farmers with annual farm sales of $40,000 or more into little or no debt categories (415,000 or 66 percent); high debt (122,900 or 19 percent); and very high debt or insolvency (92,300 or 15 percent).

However, not all farms with high debts are in financial difficulty; many new or expanded businesses have high debt-to-asset ratios. A farm with a high debt-to-asset ratio that can service its debt is not likely to be in financial difficulty. According to Hanson, 84 percent of the commercial farms surveyed in February-March 1987 were financially strong; just 104,100 or 16 percent were likely to be unable to meet their loan obligations. Many of these 100,000 "financially-stressed" farmers will not be displaced and made unemployed; even if a lender forecloses, the lender may lease the farm back to the operator. However, debt-to-asset ratios are the single best indicator of the relative numbers of farmers who are likely to be displaced, so they are used here to distribute the financial stress problem across states.

Oebt-to-asset financial stress is most severe in the Northern Plains states of Kansas, Nebraska, North Dakota, and South Dakota and the Lake states of Michigan, Minnesota, and Wisconsin, where one third of all sample farms had debt-to-asset ratios of 40 percent or more, and least severe in the Appalachian states of Kentucky, North Carolina, Tennessee, Virginia, and West Virginia, where only 9 percent of all farms had debt-to-asset ratios of 40 percent or more. USDA reports conclude that farm financial stress is concentrated in the Midwest--which includes the four Northern Plains states, the three Lake states, and the five Corn Belt states of Ohio, Illinois, Indiana, Iowa, and Missouri. A recent USOA report notes that farm financial stress is concentrated in the Midwest because the Midwest has a "large number of medium-sized farms, which tend to have higher debt/asset ratios, and by the high number of farmers specializing in cash grains and dairy products." (Petrulis, 1987, p. 4). Cash grain farms have been hurt by falling U.S. exports, and dairy farmers by policies to reduce persistent surpluses of dairy products.

High debt-to-asset ratios would not be problems for farmers if farmland prices had continued to rise. However, as exports and farm policy changes dimmed the outlook for grain and dairy prices, their effects were soon reflected in farmland prices. Indeed, lenders directly affect the number of

farmers with particular debt-to-asset ratios: as lenders write farm assets up or down, they decrease or increase the number of "displaced farmers" whether the definition is a debt-to-asset ratio of .4 or .7. Usually, only 1 to 2 percent of a state's farmland changes owners involuntarily in any year, so farmland price series reflect a modest level of turnover. U.S. farmland prices as measured by USDA increased 42 percent between 1977 and 1981, and then fell 27 percent between 1981 and 1986. Farmland prices dropped most in the Midwest, e.g., 49 percent in the Corn Belt states, or more than the 38 percent gain between 1977 and 1981.

3. The Number and Distribution of At-Risk Farmers

The starting point for an analysis of the farm sector is the Census of Agriculture (COA). The latest available COA is for 1982; the 1987 COA will be mailed early in 1988. The COA includes data on the number of farms in each state and the characteristics of farm operators in each state. This section first outlines farm sector data from the 1982 Census of Agriculture and then augments it with more recent financial data.

A simple distribution of farmers at-risk of being displaced can be generated by multiplying the number of principal farm operators in the 1982 COA by the average debt-to-asset ratio for that state's farms. Table 3 reports the number of farmers who self-reported in the COA that they allocated the majority of their working time to farming, multiplies this number by the statewide debt-to-asset ratio, generates a state-by-state index of financial distress, and distributes this financial distress index across states. This financial stress index is generated for 1984 and 1985. This simple COA-based financial stress index indicates that Iowa, Minnesota, Wisconsin, Nebraska, and Illinois included 33 percent of all financially-distressed farmers in 1984 and 34 percent in 1985. The magnitude and distribution of financial stress was stable across states between 1984 and 1985.

This financial stress index does not indicate the number and characteristics of farmers who were displaced. Indeed, there is no source of national data on the characteristics of displaced farmers; instead, there is only data on the financial characteristics of farmers who remain farmers--"farmers" who are no longer farming are not recorded in USDA data. Thus, USDA financial data can only indicate the number, distribution, and characteristics of "at-risk" farmers because displaced farmers fall out of the USDA's data collection system.

Most discussions of "at-risk" farmers are based on the FCRS survey data which indicate that about one sixth of all commercial farmers are in financial distress and may be displaced. A February-March 1987 survey of commercial farm operators developed "financial stress" data which indicate that 104,100 or 16 percent of 630,800 commercial farms (sales of $40,000 or more) are likely to be unable to repay all of their farm loans. The 104,100 "potential displacement" number is the number of farms with debt-to-asset ratios of .4 or higher that are not servicing their loans; farmers with debt-to-asset ratios of .7 or higher who are only partially servicing their loans; and farmers who are insolvent (Table 4). A similar analysis of 634,000 commercial farms in

January 1985 also indicated that 17 percent of such commercial farm operators were either "financially stressed" of "financially vulnerable"--these terms were defined very similarly to the 1987 financial stress definition (Melichar 1985, p. 33).

Farms in financial stress can be distributed across states. In order to separate out the effects of year-to-year changes (e.g., Texas farmland prices did not drop sharply until 1985-86, when they declined by 26 percent), a 3-year average for the period 1984-86 of farms with potential loan losses was developed. Thus, states can be ranked by their number of farms in financial distress over the 1984-86 period.

As Table 5 indicates, two thirds of the commercial farms in financial stress are in 12 Midwestern states, and almost 40 percent of the distressed commercial farms are in the five states of Iowa, Minnesota, Wisconsin, Texas, and Missouri (Table 6). These Midwestern states have had the most distressed farmers since the early 1980's.

Iowa has more financially distressed farms than any other state--12,600 or 11 percent of U.S. commercial farms at-risk of failure between 1984 and 1986. However, there has been less farmer displacement than might have been expected given the enormous changes in Iowa's agricultural economy during the 1980s. From 1970 to 1980, the value of Iowa farmland increased 400 percent and farm debt quadrupled from $2.6 to $9.5 billion. After peaking in 1981, Iowa farmland values fell 60 percent by 1987.

These farm changes had their most dramatic effects outside of agriculture. The number of farms decreased by 9,000 between 1981 and 1987, but this net loss of farms reflects continuing farmland consolidation, retirement, and displacement. More dramatic were the changes in farm equipment sales: from 3,000 combines sold in 1980 to 635 in 1985 and from 7,000 to 2,000 tractors sold during this period. The Iowa agricultural-industrial complex was shaken, e.g., John Deere's ottumwa works reduced employment from 1,750 to 950 workers, but emigration and a strong nonfarm economy kept the state's unemployment rate below the national average. Generally, the smaller the town, the more adverse effects of the farm crisis; these smaller towns are also the hardest places to deliver assistance services.

The proportion of commercial farms in financial distress varies from state-to-state. Half of New York's commercial farmers were in distress between 1984 and 1986, as were between 20 and 30 percent of the commercial farmers in New Jersey, Mississippi, Louisiana, Nebraska, and four other states. The Midwestern states such as Iowa that are associated with farm financial stress typically have 15 to 20 percent of their farmers in the financially-stressed category.

The FCRS sample data has been used to develop financial stress data for small noncommercial farms, those with annual sales of $40,000 or less. Such small farms accounted for 14 percent of the value of farm sales in 1985; 886,000 small farms are represented in the FCRS data (the 600,000 excluded

small farms produce very little farm output). Most small farms are not full-time enterprises, and most are not in financial distress; of the 886,000 small farms represented in the FCRS between 1984 and 1986, only 5.6 percent are in financial distress, versus 16.5 percent of the 679,000 commercial farms.

The distribution of financially-distressed small farms across states is similar to the distribution of financially-distressed commercial farms. However, in most states, fewer than 5 percent of the small farms are in financial distress.

The number of commercial farms in financial distress decreased 15 percent between 1985 and 1987 (Table 7). In most regions, the number and percentage of commercial farmers in financial distress declined between 1985 and 1987; the South Central region which includes Arkansas, Louisiana, Oklahoma, and Texas was the only exception to this decline in financial stress. By 1987, 21 to 22 percent of the commercial farms faced financial stress in the most hard-hit regions. It is important to note that if a debt-laden farmer in the FCRS sample is replaced by a financially-strong farmer, the FCRS survey indicates that farm financial conditions have improved even though a farmer has been displaced.

Most commercial farmers who are in financial distress today assumed too much new debt 5 to 7 years ago. The major reasons why farmers took on new debt was to expand, and common reasons for expansion were to take another family member into the business or because the farmer/investor believed that farm land and commodity prices were going to continue increasing.

A major problem with farm financial data is that most farm indicators group farmers by annual sales or commodity group, not the farmer's principal occupat on. Annual sales subcategories can separate "commercial" (sales greater than $40,000) from the remaining "small" farms, but this is not always a useful distinction for employment and training programs because e.g., a "boutique" 20 acre vineyard can generate annual sales of more than $40,000. Sales and commodity data can be combined to develop stress indices, but no such index can isolate principal farmers directly.

The Bureau of Labor Statistics (BLS) has been asked to determine how to estimate the number of farmers displaced annually. In the nonfarm sector, BLS has relied on unemployment insurance records to identify layoffs and business closures. Since self-employed farmers are not covered by the UI systems (and the one-third of the hired farm workforce employed on smaller farms is also not covered), BLS is likely to consider obtaining data from the June annual USDA "clean-up" of its sample of U.S. land segments to determine who was displaced. However, changes in the names of farm owners will not be sufficient to indicate displacement; additional questions or a survey to determine exactly why farm ownership changed may be required in order to separate voluntary from involuntary farm ownership changes.

b. Displaced Farmer Characteristics

Very little is known about the characteristics of displaced farmers. The February-March 1987 NASS survey compared the characteristics of financially-strong and financially-distressed farmers, and found that financially distressed farmers were younger (63 vs. 38 percent were younger than 44), had less off-farm income ($8,200 vs. $22,100), and had larger families (3.7 vs. 3.2). About three-fourths of both groups were full-time farmers (Table 8). An Iowa study using 1985 data reported that the most highly leveraged and financially vulnerable farmers were younger and better educated, but it found uneven patterns of off-farm income: insolvent farmers had the highest average off-farm incomes, and those with debt-to-asset ratios of 40 to 70 percent had the lowest average off-farm incomes (Jolly 1986).

An Iowa study of farmers displaced in 1983-84 indicates that those displaced were an average 42 years old with 18 years experience farming (Otto 1986). Most of those displaced were livestock and grain farmers (63 percent); and half of them reportedly got into financial trouble because they bought land, buildings, or machinery (Ibid., p. 283).

The Iowa study found that three fourths of the "displaced farmers" stayed in their communities, and half continued to live in the same house. The main reason that displaced farmers did not relocate was (1) their wives continued to work in the same nonfarm job as was held while the family farmed and (2) most displaced farmer husbands found local jobs (71 percent)--15 percent were unemployed and 2 percent were employed out of the area (Ibid., p. 286). This Iowa study suggests that most displaced farmers do not want or have to relocate after being displaced.

4. The Impacts of Farmer Dislocation

a. Dislocation and Farm Production and Food Prices

The number of farmers leaving agriculture is small by historical comparison, and more farmers exiting agriculture today are better prepared to find nonfarm jobs. The current pattern of farmer dislocation should have minimal impacts on aggregate farm production and food prices. The international changes that are expanding the supply of farm products faster than the demand for farm products assure long-run stable or declining food prices, although weather may cause short-run fluctuations in food prices.

Historically, the number of farmers leaving agriculture has been inversely related to farm prices; when prices are falling, more farmers leave agriculture. In the past, farm prices were affected largely by domestic factors, such as weather and farm programs. Weather and farm programs still affect farm prices, but the agricultural economy has become part of the world economy, so that foreign factors help to determine U.S. farm prices. Most assessments of domestic and worldwide food production and consumption trends conclude that there is and will continue to be substantial overcapacity in the farming systems of most nations for the foreseeable future; no credible analysis concludes that American consumers will pay more for food because some

American farmers are being displaced. Indeed, USDA data suggest that U.S. excess farm capacity reached $9 billion in 1985, meaning that the land withdrawn from production under farm price support programs and food donated under P.L. 480 could have added about 6 percent to total farm production (Dvoskin 1987).

b. Dislocation and the Rural Community

Too few persons who are primarily farmers will be displaced during the 1980's to have substantial impacts even at the local level, except in a few areas. However, the "agribusiness sector" which expanded or was established during the 1970's in several Northern Plains states may shrink in the 1980's because a shrunken farm economy in these areas cannot support current population levels.[1]

There is no standard definition of agribusiness or ag-related businesses. One USDA report has defined agribusiness to include (1) crop, livestock, and agricultural services (SIC codes 01 through 09); (2) agricultural input industries that range from farm machinery (SIC 3523) and farm credit agencies (SIC 613) to miscellaneous repair shops (SIC 7692, 7699); and (3) agricultural processing and marketing industries such as food and tobacco (SIC 20 and 21), warehousing (SIC 4221 and 4222), and food products machinery (3551). USDA also considers wholesale and retail trade (SIC 51, 54, 56, and 58) and some of printing and publishing (SIC 27) to be part of the agribusiness complex (Petrulis, 1987, p. 7).

This USDA definition of agribusiness finds that 702 of 2,443 rural counties had farm-related earnings that were at least 20 percent of total county earnings; however, these counties include only one fourth of the nation's 2.3 million farmers. The 702 farming-dependent counties added to their populations at a lower rate than other rural counties in the 1970's, and during the first half of the 1980's, many farming-dependent counties lost population, as they had done in the 1940s, 1950s, and 1960s.

The implication of these numbers is that there are farming-dependent counties, but they contain relatively few farmers and relatively few displaced farmers. Thus, the multiplier effects of displacement from agriculture are minimal except in remote areas. The minimal secondary multiplier effects result from both the low number of farmers (and families) involved and from the fact that most of the land freed-up by displacement is still being farmed by someone. The current restructuring of agriculture is primarily a series of

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[1]Recent population estimates indicate that Iowa was the only state to lose population each year since 1980, meaning that Iowa was losing population even during the 1980-81 farm boom. Iowa commentators say that those leaving the state include retirees, middle-aged persons displaced by or worried about the farm economy, and young people completing their education. To the extent that the farm financial crisis accelerated retirements, it may have also increased Iowa's population losses.

ownership changes which maintain rural economic activity, not a mechanization and consolidation wave that depleted rural populations as occurred in the 1960s. The decision to take marginal land out of production and thus reduce economic activity is often the result of government farm programs.

There are farming-dependent remote counties which have or will experience the displacement of farmers and the closure related businesses during the 1980s. However, this displacement has a peculiar characteristic: much of "credit" for the maintenance or expansion of such rural communities in the 1970s and their demise in the 1980s belongs to farm policies and international trade patterns. During the 1970s, farming "fencerow to fencerow" meant that farming became profitable in these remote areas, so farms were expanded or farm-related businesses were established or expanded to supply inputs and to handle the farm commodities produced in the Midwest. Even with near-record government payments to farmers in the mid-1980s, many farmers are not re-investing in their farms.[1]

Farm policy and trade patterns reversed in the 1980s. First, PIK reduced acreage by one third in 1983, with negative employment and income multipliers in these farming-dependent regions for ag-related business.[2] In 1985 Congress established a Conservation Reserve Program to encourage farmers to take up to 45 million acres of farmland out of production by 1990 for at least 10 years and receive an annual rent from the government for planting trees or cover crops. Land that is "highly erodible," was owned or farmed by the applicant for at least 3 years, and produced commodities that have government support programs is eligible, and farmers who "contract" with USDA to idle their land for 10 years get annual rents of $40 to $60 per acre (up to $50,000 annually) in exchange for idling their land. By mid-1987, about 23 million acres had been taken out of production; The Fertilizer Institute estimated that CRP had reduced fertilizer sales by $300 to $350 million.

USDA tried to limit the multiplier effect of reduced farm production due to the CRP by limiting nonfarmed CRP land to 25 percent of a county's cropland, but it has granted waivers in 35 counties to exceed this ceiling. Note that a 25 percent loss of production due to idled CRP land will have much larger multiplier effects on rural communities than the change in ownership of all 16 percent of the commercial farms that are experiencing financial stress,

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[1]A recent article in the Wall Street Journal emphasized the tendency of farmers and their bankers to invest much of the $56 billion in net farm income expected in 1987 outside of agriculture. Even though farmers are getting record government payments--about $46,000 in cash, loans, and commodity certificates for each of Iowa's 102,000 farms--they are not spending enough locally to revive stagnating rural towns. See "Rich Harvests Masks Long-Term Erosion in Farm Economy" Wall Street Journal, November 9, 1987, p. 1.

[2]In 1983, the Small Business Administration guaranteed up to 90 percent of loans (of up to $150,000) made to farm-related businesses adversely-affected by the PIK program.

even if no one else farmed the land released by these commercial farms. Much of the land being idled is in the states experiencing the most financial stress: over 54 percent of the 5.3 million acres idled in the CRP by mid-1987 were in North Dakota, Montana, Kansas, Texas, and South Dakota.

c. Federal Assistance for Dislocated Farmers

Most economists believe that the major reason why the federal government should assist displaced workers is to prevent politically powerful workers from resisting economic changes that increase productivity. Although simple economic theory assumes that economic change is costless, the reality of unemployment has prompted an unemployment insurance system whose benefits are sometimes supplemented by negotiated supplemental insurance benefits. In addition, the federal government has enacted special worker protection programs to gain the acquiescence of powerful groups of workers (and employers) to change, such as the 1978 expansion of the Redwoods National Park which reduced logging activities in Northern California. In the early 1980's, such special worker protection programs added $4 billion to the $20 billion in UI benefits paid to assist displaced workers (Martin 1983).

Special worker protection programs came under attack as payoffs to politically-powerful groups of workers who could find some federal role in their unemployment, and they were sharply reduced in the early 1980's. Generally, such programs are not an optimal way to assist displaced workers for several reasons: they may slow the workers' adjustment to new skills or jobs; they encourage unemployed workers to lobby for benefits rather than seek retraining for new jobs; and they are inequitable--unemployed workers may get very different levels of adjustment assistance based on where they had worked and thus what assistance program or programs are available to them.

Despite the generally negative effects of special adjustment assistance programs, displaced farmers may be such a unique group that a special farmer assistance program should be made a part of future farm programs which might displace farmers. The main reasons for such a special farmer assistance program include: the fact that farmers already have an "assistance program" in the form of price support programs which cost $20 to $30 billion annually; because federal farm programs encouraged farm production and employment to expand in the 1970's and contract in the 1980's;[1] and because a special program may be necessary to help move excess human resources from agriculture into the nonfarm economy.

The most compelling reason for a special assistance program for farmers is the $20 to $30 billion annual cost of farm programs; such government payments are now half of farmers' net income. These programs were initially established during the 1930's to prop-up farmers' incomes by supporting farm prices. Higher-than-market support prices did not prevent millions of farmer

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[1]Some of the 1970's expansion can be attributed to federal farm credit programs which permitted expansion-minded farmers to add to their farms.

from leaving agriculture, but they did encourage farm output to expand so that farm surpluses have been a problem since the 1950's. During the 1980's, the average annual cost of farm price support programs has tripled; since price support programs are still justified as support for family farmers, an adjustment assistance program that moved redundant and money-losing farmers out of agriculture might be justified by savings in farm price support payments, if such payments are reduced because fewer farmers would remain to be supported. For example, $5,000 of employment and training assistance for each of the 150,000 farms in financial distress would cost $750 million, or 3 percent of 1987 federal expenditures on farm programs. Such an exodus of farmers would not affect farm production or prices; farm prices have been stable or declining despite the (net) exit of 40,000 farmers annually.

The rural counties most affected by declining 1980's farmer displacement were often the rural boom counties of the 1970's. The 1970's boom was traceable to federal farm programs and international markets for farm products; the 1980's bust is attributable to these same factors. Thus, to the extent that federal farm programs were responsible for the "overexpansion" or slowed demise of rural towns in the 1970's, federal assistance policies may be justified to return to population and business equilibria in the 1980's.

Any special farmer assistance program must be cognizant of the unique characteristics of farmers. Farmers are unique in several ways: they are older than most U.S. workers, they are typically dispersed and thus expensive to bring together at a training site, and they typically have substantial assets. Age and assets make many farmers reluctant to relocate; suggesting that farmer assistance programs may want to offer a two-tiered program of relocation and retraining assistance for younger farmers who are displaced, and some form of local public and private employment for older displaced farmers who are unlikely to relocate.

5. Conclusions and Options

American agriculture is an economic subsector comprised of 2.4 million diverse business enterprises. There are farms in almost all U.S. counties, but farming is a primary economic activity in only about one fourth of the nation's counties. Many of these farming counties in the Midwest lost farms and population during the 1950's and 1960's, witnessed an economic resurgence in the 1970's, and have fallen on hard times in the 1980's.

Farm financial data indicate that 100,000 to 150,000 farmers are financially-stressed and may be displaced during the current period of economic adjustment. These financially stressed farmers threatened with displacement are primarily commercial farms with annual sales of $40,000 or more. Most of the 100,000 financially-stressed commercial farms are in the Midwestern states, from the Dakotas to Wisconsin, east to Indiana, south through Missouri to Texas, and west to Nebraska. Most of the 50,000 smaller financially-stressed farms are in these same states, plus Kentucky and Tennessee. Financially-stressed farmers tend to be younger, have smaller farms, and less nonfarm income.

Many of these financially-stressed farmers will not be displaced if the 1987 turnaround in the farm economy continues. Livestock prices are up in 1987 for the second year, and feed prices remain low. The amount of potential farm loan losses has dropped dramatically, from $8 billion in 1986 to $6 billion in 1987. Finally, the 1986 tax reform law's restrictions on the passive farm losses of nonfarm investors appears to have discouraged nonfarm investors, perhaps slowing the production expansions which typically follow a period of higher farm prices. In sum, above average levels of farmer displacement appear to have been primarily a 1984-86 problem.

Displaced farmers are unlike most other displaced workers. Self-employment complicates a precise definition of unemployment for farmers, and the fact that most farm families already obtain a majority of the family's income from nonfarm sources while they lose money farming year-after-year makes "displacement" an elusive concept. "Displaced" farmers typically remain in the county in which they farmed, usually find re-employment within one year, and often have spouses who maintain the same nonfarm job held while the family farmed. Thus, it appears that once farmers voluntarily quit farming or are "displaced" by bankruptcy or foreclosure, most labor market adjustments by "displaced farmers" to nonfarm jobs have been relatively rapid.

Programs designed to assist displaced farmers have had to grapple with relatively small numbers of participants[1] who are dispersed in rural areas and, hence, have high costs per person served ($1,500 to $4,000); the difficulties of serving an older, often isolated population with substantial assets and sometimes few local employment alternatives; and a direct link between federal farm program changes and displacement. Small numbers, unique characteristics, and the federal link or cause of displacement make farmer displacement unique.

These uniquenesses mean that a flexible displaced farmer assistance program may be justified to handle a future farm financial crisis. Any such special farmer assistance program must be flexible for several reasons. First, considerably more funds may have to be devoted to recruiting participants and to administering the programs in remote areas, so that per participant costs may be higher. Second, the current policy of permitting governors to determine exact eligibility criteria probably provides needed administrative flexibility, but it does produce inequities across states that may have to be reviewed in future programs. Third, the direct federal link to some farmer displacement, such as that caused by the whole herd dairy buyout or the Conservation Reserve Program, suggests that at least a small part of the $20 to $30 billion which is devoted annually to federal farm subsidies be earmarked to assist displaced farmers. Federal farm policies have been farmer assistance policies for decades, and it may be appropriate to use some farm policy expenditures to aid farmers who are forced out of agriculture.

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[1]Saupe and Salant report that there were 2,400 farmers enrolled or receiving some service in six states; this is 6 percent of the farmers in financial-distress in these states (p. 104).

Three policy recommendations flow from an analysis of farm financial and related data. First, the farm financial crisis is receding in 1987-88; there appears to be no need for an additional "crisis" farmer assistance program beyond the programs already established. Second, a flexible farmer assistance program could be developed to handle a future farm financial crisis which reflects the unique characteristics of farmers: their self-employment status, their age and wealth, and their reluctance to move. Third, farmer adjustment programs should be an integral part of future federal farm program changes which displace farmers, such as the whole herd dairy buyout program. Tying farmer assistance to farm program changes automatically helps to target assistance, so that, e.g., a reduction in tobacco price supports would automatically trigger assistance for tobacco farmers.

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TABLE ´. THE U.S. FARM SECTOR: 1960, 1982, AND 1985

MEASURE	YEAR	RURAL RESIDENCES	SMALL FAMILY FARMS	FAMILY FARMS	LARGE COMMERCIAL FARMS
FARM SALES($)	1960	<2500	2500-9999	10,000-39,999	>40,000
PER FARM	1982	<10,000	10,000-39,999	40,000-199,999	>200,000
	1985	<10,000	10,000-39,999	40,000-249,999	>250,000
PERCENT OF FARMS	1960	46	32	19	3
IN EACH SALES	1982	49	23	23	4
CLASS	1985	51	21	24	4
PERCENT OF	1960	5	22	40	33
FARM SALES BY	1982	3	9	39	49
SALES CLASS	1985	3	6	41	49
APPROX ACRES	1960	<45	45-175	175-700	>700
PER FARM	1982	<40	40-160	160-640	>640
	1985	<40	40-160	160-640	>640
APPROX EMPLOYMEI	1960	< 9 WEEKS	9-36 WEEKS	36-144 WEEKS	>136 WEEKS
PER FARM	1982	<5 WEEKS	5-20 WEEKS	20-100 WEEKS	>100 WEEKS
	1985	<5 WEEKS	5-20 WEEKS	20-100 WEEKS	>100 WEEKS
NET FARM INCOME	1960	$806	$2,594	$6,030	$17,274
PER FARM	1982	($737)	($121)	$10,100	$169,402
	1985		-$1635(1)	$6566(2)	$51,160(3)
OFF-FARM INCOME	1960	$2,732	$1,706	$1,390	$2,177
PER FARM	1982	$19,894	$15,092	$10,746	$16,696
	1985		$20,743(1)	$10,347(2)	$10,757(3)
TOTAL INCOME	1960	$3,538	$4,300	$7,420	$19,451
PER FARM	1982	$19,157	$14,971	$20,846	$186,098
	1985		$22,378	$16,913	$61,917
FARM INCOME AS	1960	23%	60%	81%	89%
PERCENT OF TOTAL	1982	-4%	-1%	48%	91%
INCOME	1985		-7%	39%	83%
AVERAGE ASSETS	1960	$18,600	$40,000	$105,000	$260,000
PER FARM	1982	$134,493	$313,372	$791,174	$2,337,491
	1985	$119,295	$269,567	$668,512	$4,326,137(4)

SOURCE: HARRINGTON AND MANCHESTER; ECONOMIC INDICATORS OF THE FARM SECTOR

(1)FARMS WITH SALES OF LESS THAN $40,000

(2)FARMS WITH SALES OF $40,000 TO $99,999

(3)FARMS WITH SALES OF $100,000 OR MORE

(4)FARMS WITH SALES OF $500,000 OR MORE

Table 2. U.S. Number of Farms and Farm Operators Reporting Off-Farm Work, by Census Regions: 1949-82

Region/Number or Percent	1949	1959	1969	1978	1982	Percentage Change[a] 1949-59	1959-69	1969-78	1978-82
United States									
No. of farms (1,000)	5,382	3,708	2,730	2,479	2,204	-31.1	-26.4	-9.7	-11.7
No. reporting any off-farm work (%)	38.8	44.9	54.3	55.1	53.9	-20.4	-10.9	-8.3	-13.9
No. reporting ≥ 100 days (%)	23.3	29.9	39.9	44.4	43.7	-10.7	-1.5	1.0	-13.4
Census regions									
Northeast									
No. of farms (1,000)	400	255	152	149	132	-31.1	-26.4	-0.02	-12.2
No. reporting any off-farm work (%)	47.1	47.7	31.0	64.2	51.5	-35.5	-35.0	70.9	-34.1
No. reporting ≥ 100 days (%)	34.4	35.6	24.2	54.8	42.5	-34.2	-32.0	79.9	-37.7
North Central									
No. of farms (1,000)	1,868	1,460	1,152	1,103	978	-21.8	-21.1	-4.4	-12.0
No. reporting any off-farm work (%)	34.6	33.6	50.5	46.6	45.3	-24.1	18.5	-12.4	-14.8
No. reporting ≥ 100 days (%)	18.5	24.1	34.4	35.1	34.5	1.7	12.6	-2.4	-13.8
South									
No. of farms (1,000)	2,652	1,645	1,161	1,015	815	-38.0	-29.4	-13.4	-22.0
No. reporting any off-farm work (%)	39.3	47.5	58.2	59.6	63.9	-25.0	-13.5	-11.1	-14.9
No. reporting ≥ 100 days (%)	23.7	32.9	45.0	50.4	54.4	-14.0	-3.5	-2.0	-14.4
West									
No. of farms (1,000)	462	348	265	286	280	-25.4	-24.1	-8.1	-2.4
No. reporting any off-farm work (%)	46.2	48.9	55.1	57.4	55.7	-22.1	-12.2	11.9	-13.9
No. reporting ≥ 100 days (%)	30.7	35.6	41.7	46.7	45.2	-15.2	-8.2	-19.2	-13.4

[a]Percentage change in number of farms in each class.

Source: U.S. Department of Commerce, Census of Agriculture 1950 (1959, 1969, 1978, 1982). Washington, D.C.: U.S. Government Printing Office.

TABLE 3 FINACIALLY STRESSED FARMS: 1984-85

STATE	FARMS 1982 COA	FARMS PER DIST	OPERATORS(1) PRIN FARMERS	OPERATOR PER DIST	PER OF ALL FARMS	DEBT-TO -ASSET RATIO-1984	FINAN STR INDEX-84	DIST OF INDEX-84
ALABAMA	48,448	2.13%	18,316	1.48%	38%	19.5	357162	1.30%
ALASKA	570	0.03%	231	0.02%	41%	10.4	2402	0.01%
ARIZONA	7,334	0.32%	3,501	0.28%	48%	17.0	59517	0.22%
ARKANSAS	50,525	2.22%	25,701	2.08%	51%	23.0	591123	2.15%
CALIFORNI	82,463	3.63%	40,633	3.29%	49%	25.7	1044268	3.81%
COLORADO	27,111	1.19%	16,336	1.32%	60%	23.8	388797	1.42%
CONNECTI	3,754	0.17%	1,957	0.16%	52%	11.1	21723	0.08%
DELAWARE	3,338	0.15%	1,956	0.16%	59%	26.8	52421	0.19%
FLORIDA	36,352	1.60%	15,610	1.26%	43%	17.5	273175	1.00%
GEORGIA	49,630	2.19%	23,075	1.87%	46%	28.5	657638	2.40%
HAWAII	4,595	0.20%	2,565	0.21%	56%	7.5	19238	0.07%
IDAHO	54,714	2.41%	15,268	1.24%	28%	24.0	366432	1.34%
ILLINOIS	98,483	4.34%	63,756	5.16%	65%	21.9	1396256	5.09%
INDIANA	77,180	3.40%	40,189	3.25%	52%	25.1	1008744	3.68%
IOWA	115,413	5.08%	86,041	6.96%	75%	30.5	2624251	9.57%
KANSAS	73,315	3.23%	47,293	3.83%	65%	26.0	1229618	4.48%
KENTUCKY	101,642	4.48%	49,062	3.97%	48%	20.9	1025396	3.74%
LOUISIANA	31,628	1.39%	14,629	1.18%	46%	20.7	302820	1.10%
MAINE	7,003	0.31%	3,644	0.29%	52%	20.1	73244	0.27%
MARYLAN	16,183	0.71%	8,740	0.71%	54%	15.5	135470	0.49%
MASSACHU	5,401	0.24%	2,941	0.24%	54%	12.0	35292	0.13%
MICHIGAN	58,661	2.58%	30,197	2.44%	51%	23.9	719557	2.62%
MINNESOT	94,382	4.16%	67,742	5.48%	72%	29.5	1998389	7.28%
MISSISSIP	42,415	1.87%	19,236	1.56%	45%	26.4	507830	1.85%
MISSOURI	112,447	4.95%	58,511	4.73%	52%	23.2	1357455	4.95%
MONTANA	23,570	1.04%	16,898	1.37%	72%	23.8	402172	1.47%
NEBRASKA	60,243	2.65%	47,549	3.85%	79%	32.0	1521568	5.55%
NEVADA	2,719	0.12%	1,553	0.13%	57%	16.6	25780	0.09%
NEW HAMI	2,757	0.12%	1,301	0.11%	47%	9.7	12620	0.05%
NEW JERSE	8,277	0.36%	4,197	0.34%	51%	11.0	46167	0.17%
NEW MEXI	13,484	0.59%	6,896	0.56%	51%	15.2	104819	0.38%
NEW YORK	42,207	1.86%	25,564	2.07%	61%	23.3	595641	2.17%
NORTH CA	72,792	3.21%	39,795	3.22%	55%	21.1	839675	3.06%
NORTH DA	36,431	1.60%	30,592	2.48%	84%	25.6	783155	2.85%
OHIO	86,934	3.83%	43,174	3.49%	50%	19.6	846210	3.08%
OKLAHOM	72,523	3.19%	32,847	2.66%	45%	22.1	725919	2.65%
OREGON	34,087	1.50%	15,542	1.26%	46%	23.7	368345	1.34%
PENNSYLV	55,535	2.45%	31,058	2.51%	56%	15.7	487611	1.78%
RHODE ISL	728	0.03%	346	0.03%	48%	9.5	3287	0.01%
SOUTH CA	24,929	1.10%	11,299	0.91%	45%	24.1	272306	0.99%
SOUTH DA	37,148	1.64%	30,267	2.45%	81%	30.0	908010	3.31%
TENNESSE	90,565	3.99%	36,802	2.98%	41%	16.2	596192	2.17%
TEXAS	185,020	8.15%	79,900	6.47%	43%	13.0	1038700	3.79%
UTAH	13,984	0.62%	6,155	0.50%	44%	14.9	91710	0.33%
VERMONT	6,315	0.28%	4,093	0.33%	65%	14.8	60576	0.22%
VIRGINA	51,859	2.28%	24,090	1.95%	46%	15.1	363759	1.33%
WASHINGT	36,080	1.59%	17,968	1.45%	50%	20.8	373734	1.36%
WEST VIRG	18,742	0.83%	7,117	0.58%	38%	12.2	86827	0.32%
WISCONSIN	82,199	3.62%	57,939	4.69%	70%	27.4	1587529	5.79%
WYOMING	8,861	0.39%	5,805	0.47%	66%	16.0	92880	0.34%
SUM	2,270,976	100.00%	1,235,787	100.00%	54%	22.2	27434471	100.00%

SOURCE. CENSUS OF AGRICULTURE, 1982 AND ECONOMIC INDICATORS OF THE FARM SECTOR, 1986 & 1987

(1)FARM OPERATORS WHOSE PRINCIPAL OCCUPATION WAS FARMING IN 1982

--FARMING ACCOUNTED FOR 50 PERCENT OR MORE OF WORKTIME

TABLE 3 FINACIALLY STRESSED FARMS: 1984-85

STATE	DEBT-TO -ASSET RATIO-1985	FINAN STR INDEX-85	DIST OF INDEX-85
ALABAMA	19.7	360825	1.17%
ALASKA	8.6	1987	0.01%
ARIZONA	18.2	63718	0.21%
ARKANSAS	26.3	675936	2.20%
CALIFORNI	27.1	1101154	3.58%
COLORADO	29.4	480278	1.56%
CONNECTI	18.3	35813	0.12%
DELAWARE	23.5	45966	0.15%
FLORIDA	18.3	285663	0.93%
GEORGIA	29.2	673790	2.19%
HAWAII	7.9	20264	0.07%
IDAHO	27.4	418343	1.36%
ILLINOIS	25.5	1625778	5.28%
INDIANA	28.5	1145387	3.72%
IOWA	35.6	3063060	9.95%
KANSAS	30.4	1437707	4.67%
KENTUCKY	21.7	1064645	3.46%
LOUISIANA	24.3	355485	1.16%
MAINE	20.5	74702	0.24%
MARYLANI	17.3	151202	0.49%
MASSACHU	9.0	26469	0.09%
MICHIGAN	27.0	812889	2.64%
MINNESOT	36.0	2438712	7.93%
MISSISSIPP	28.5	548226	1.78%
MISSOURI	24.7	1445222	4.70%
MONTANA	25.1	424140	1.38%
NEBRASKA	35.3	1678480	5.45%
NEVADA	18.1	28109	0.09%
NEW HAMP	6.4	8326	0.03%
NEW JERSE	10.8	45328	0.15%
NEW MEXI	17.8	122749	0.40%
NEW YORK	23.9	610980	1.99%
NORTH CA	23.1	919265	2.99%
NORTH DA	29.0	887168	2.88%
OHIO	21.8	941193	3.06%
OKLAHOM	25.9	850737	2.76%
OREGON	25.7	399429	1.30%
PENNSYLV	26.3	816825	2.65%
RHODE ISL	8.3	2872	0.01%
SOUTH CA	24.7	279085	0.91%
SOUTH DA	32.1	971571	3.16%
TENNESSE	16.3	599873	1.95%
TEXAS	15.9	1270410	4.13%
UTAH	14.9	91710	0.30%
VERMONT	15.0	61395	0.20%
VIRGINA	15.3	368577	1.20%
WASHINGT	24.2	434826	1.41%
WEST VIRG	14.1	100350	0.33%
WISCONSIN	30.7	1778727	5.78%
WYOMING	16.0	92880	0.30%
SUM	24.9	30771096	100.00%

STATE RANKING	DIST OF INDEX-84
IOWA	9.57%
MINNESOT.	7.28%
WISCONSI	5.79%
NEBRASKA	5.55%
ILLINOIS	5.09%
MISSOURI	4.95%
KANSAS	4.48%
CALIFORNI	3.81%
TEXAS	3.79%
KENTUCKY	3.74%
INDIANA	3.68%
SOUTH DAI	3.31%
OHIO	3.08%
NORTH CAI	3.06%
NORTH DAI	2.85%
OKLAHOM/	2.65%
MICHIGAN	2.62%
GEORGIA	2.40%
TENNESSEI	2.17%
NEW YORK	2.17%
ARKANSAS	2.15%
MISSISSIPI	1.85%
PENNSYLV	1.78%
MONTANA	1.47%
COLORADO	1.42%
WASHINGT	1.36%
OREGON	1.34%
IDAHO	1.34%
VIRGINA	1.33%
ALABAMA	1.30%
LOUISIANA	1.10%
FLORIDA	1.00%
SOUTH CAI	0.99%
MARYLANI	0.49%
NEW MEXI	0.38%
WYOMING	0.34%
UTAH	0.33%
WEST VIRG	0.32%
MAINE	0.27%
VERMONT	0.22%
ARIZONA	0.22%
DELAWARI	0.19%
NEW JERSE	0.17%
MASSACHU	0.13%
NEVADA	0.09%
CONNECTI	0.08%
HAWAII	0.07%
NEW HAMI	0.05%
RHODE ISL	0.01%
ALASKA	0.01%
SUM	100.00%

STATE RANKING	DIST OF INDEX-85
IOWA	9.95%
MINNESOT.	7.93%
WISCONSI	5.78%
NEBRASKA	5.45%
ILLINOIS	5.28%
MISSOURI	4.70%
KANSAS	4.67%
TEXAS	4.13%
INDIANA	3.72%
CALIFORNI	3.58%
KENTUCKY	3.46%
SOUTH DAI	3.16%
OHIO	3.06%
NORTH CAI	2.99%
NORTH DAI	2.88%
OKLAHOM/	2.76%
PENNSYLV	2.65%
MICHIGAN	2.64%
ARKANSAS	2.20%
GEORGIA	2.19%
NEW YORK	1.99%
TENNESSEI	1.95%
MISSISSIPI	1.78%
COLORADO	1.56%
WASHINGT	1.41%
MONTANA	1.38%
IDAHO	1.36%
OREGON	1.30%
VIRGINA	1.20%
ALABAMA	1.17%
LOUISIANA	1.16%
FLORIDA	0.93%
SOUTH CAI	0.91%
MARYLANI	0.49%
NEW MEXI	0.40%
WEST VIRG	0.33%
WYOMING	0.30%
UTAH	0.30%
MAINE	0.24%
ARIZONA	0.21%
VERMONT	0.20%
DELAWARI	0.15%
NEW JERSE	0.15%
CONNECTI	0.12%
NEVADA	0.09%
MASSACHU	0.09%
HAWAII	0.07%
NEW HAMP	0.03%
RHODE ISL	0.01%
ALASKA	0.01%
SUM	100.00%

TABLE 4
COMMERCIAL FARMS BY DEBT-SERVICE CAPACITY: 1987

DEBT SERVICE	*DEBT-TO ASSET RATIO*					ALL COMMERCIAL FARMS
	NO DEBT	*.01 TO .4*	*.4 TO .7*	*.7 TO 1*	*INSOLVENT*	
FARMERS MAKING:						
FULL PAYMENT OF PRINCIPAL AND INTEREST	567,000 FARMS OR 84 PERCENT OWE $57 BIL OR 67% OF ALL FARM DEBT AND ARE NOT FINANCIALLY-STRESSED					334,400
PARTIAL SERVICE				104,100 FARMS OR 16 PERCENT OWE $28 BIL OR 33% OF FARM DEBT AND ARE FINANCIALLY-STRESSED		112,200
NO SERVICE						184,200
TOTAL	120,900	294,700	122,900	55,000	37,300	630,800

SOURCE: FCRS SURVEY IN FEBRUARY-MARCH, 1987
COMMERCIAL FARMS EACH SELL FARM PRODUCTS WORTH $40,000 OR MORE ANNUALLY

TABLE 5
THE NUMBER AND DISTRIBUTION OF FINANCIALLY DISTRESSED FARMERS:1984-86

STATE	ALL FARM TOTAL	ALL FARMS COMMERCIA	ALL FARMS SMALL(2)	FINANCIALLY-STRESSED FARMS ALL STRES	PER DIST	PER OF ALL FARMS
ALABAMA	29,852	6,541	23,311	1,705	1.05%	5.71%
ARIZONA	7,081	2,387	4,694	427	0.26%	6.03%
ARKANSAS	30,940	12,466	18,474	2,987	1.84%	9.65%
CALIFORNIA	54,074	23,204	30,870	4,000	2.47%	7.40%
COLORADO	19,709	10,884	8,825	2,238	1.38%	11.36%
CONNECTICUT	1,935	956	979	123	0.08%	6.36%
DELAWARE	2,553	1,950	603	481	0.30%	18.84%
FLORIDA	18,099	6,272	11,827	1,450	0.90%	8.01%
GEORGIA	30,343	12,684	17,659	3,527	2.18%	11.62%
IDAHO	20,503	10,593	9,910	1,873	1.16%	9.14%
ILLINOIS	67,518	41,755	25,763	7,009	4.33%	10.69%
INDIANA	55,723	23,438	32,285	6,444	3.98%	11.73%
IOWA	88,156	63,581	24,575	15,127	9.34%	17.29%
KANSAS	56,696	29,104	27,592	7,330	4.53%	12.94%
KENTUCKY	51,422	11,447	39,975	4,402	2.72%	8.56%
LOUISIANA	18,468	6,327	12,141	2,509	1.55%	13.59%
MAINE	7,139	2,781	4,358	515	0.32%	7.21%
MARYLAND	10,175	5,155	5,020	612	0.38%	6.01%
MASSACHUSET	3,208	1,161	2,047	210	0.13%	6.55%
MICHIGAN	43,911	13,502	30,409	3,583	2.21%	8.16%
MINNESOTA	86,409	48,497	37,912	15,699	9.69%	18.28%
MISSISSIPPI	28,142	7,986	20,156	3,189	1.97%	11.33%
MISSOURI	76,691	24,276	52,415	8,834	5.45%	11.57%
MONTANA	16,614	11,792	4,822	1,894	1.17%	11.40%
NEBRASKA	37,683	31,135	6,548	6,003	3.71%	21.73%
NEVADA	15,603	694	14,909	1,840	1.14%	3.95%
NEW HAMPSHIR	1,305	715	590	40	0.02%	3.12%
NEW JERSEY	12,337	3,452	8,885	228	0.14%	15.01%
NEW MEXICO	8,615	3,328	5,287	823	0.51%	6.67%
NEW YORK	31,619	18,854	12,765	2,199	1.36%	25.53%
NORTH CAROLI	42,857	15,311	27,546	2,193	1.35%	7.00%
NORTH DAKOTA	27,873	21,325	6,548	4,262	2.63%	9.94%
OHIO	53,474	23,394	30,080	4,257	2.63%	7.96%
OKLAHOMA	51,800	17,879	33,921	5,189	3.20%	10.02%
OREGON	30,519	6,366	24,153	1,731	1.07%	5.67%
PENNSYLVANIA	44,544	19,493	25,051	3,836	2.37%	8.61%
RHODE ISLAND	328	120	208	6	0.00%	1.83%
SOUTH CAROLI	14,102	3,948	10,154	923	0.57%	6.55%
SOUTH DAKOTA	30,312	21,208	9,104	5,836	3.60%	19.09%
TENNESSEE	57,147	9,403	47,744	3,099	1.91%	5.42%
TEXAS	130,157	35,984	94,173	8,733	5.39%	6.72%
UTAH	7,138	2,927	4,211	528	0.33%	7.40%
VERMONT	4,850	3,361	1,489	335	0.21%	6.91%
VIRGINA	35,971	7,103	28,868	739	0.46%	2.05%
WASHINGTON	23,081	10,702	12,379	1,802	1.11%	7.81%
WEST VIRGINIA	11,003	871	10,132	262	0.16%	2.38%
WISCONSIN	70,005	42,144	27,861	10,078	6.22%	14.28%
WYOMING	6,861	3,943	2,918	851	0.53%	12.40%
UNITED STATES	1,574,545	682,399	892,146	161,961	100.00%	10.35%

SOURCE: FCRS SURVEY WITH 14,000 FARM RESPONSES IN FEBRARY-MARCH OF EACH YEAR
DATA FOR STATES WITH FEWER THAN 500 FAMRS CANNOT BE CONSIDERED RELIABLE
EXCLUDES ALASKA AND HAWAII AND ABOUT 650,000 VERY SMALL FARMS
THAT PRODUCE LESS THAN 10 PERCENT OF U S FARM OUTPUT
(1)FARMS WITH ANNUAL SALES OF $40,000 OR MORE
(2)FARMS WITH ANNUAL SALES OF LESS THAN $40,000
(3)PERCENT OF ALL COMMERCIAL OR SMALL FARMS IN THE STATE

TABLE 5

THE NUMBER AND DISTRIBUTION OF FINANCIALLY DISTRESSED FARMERS:1984-86(2)

STATE	FINANCIALLY-STRESSED FARMS COMMERCIA	PER DIST	PER OF COMM(3	FINANCIALLY-STRESSED FARMS SMALL(2)	PER DIST	PER OF SMALL(3)
ALABAMA	987	0.88%	15.09%	718	1.44%	3.08%
ARIZONA	386	0.34%	16.17%	41	0.08%	0.87%
ARKANSAS	2,065	1.84%	16.57%	922	1.85%	4.99%
CALIFORNI	2,852	2.54%	12.29%	1,148	2.31%	3.72%
COLORADO	1,963	1.75%	18.04%	275	0.55%	3.12%
CONNECTI	123	0.11%	12.87%	0	0.00%	0.00%
DELAWARE	334	0.30%	17.13%	147	0.30%	24.38%
FLORIDA	982	0.88%	15.66%	468	0.94%	3.96%
GEORGIA	2,270	2.02%	17.90%	1,257	2.53%	7.12%
IDAHO	1,604	1.43%	15.14%	269	0.54%	2.71%
ILLINOIS	4,778	4.26%	11.44%	2,231	4.48%	8.66%
INDIANA	4,073	3.63%	17.38%	2,371	4.76%	7.34%
IOWA	12,581	11.21%	19.79%	2,546	5.12%	10.36%
KANSAS	5,233	4.66%	17.98%	2,097	4.21%	7.60%
KENTUCKY	1,483	1.32%	12.96%	2,919	5.87%	7.30%
LOUISIANA	1,623	1.45%	25.65%	886	1.78%	7.30%
MAINE	384	0.34%	13.81%	131	0.26%	3.01%
MARYLAN	514	0.46%	9.97%	98	0.20%	1.95%
MASSACHU	107	0.10%	9.22%	103	0.21%	5.03%
MICHIGAN	2,117	1.89%	15.68%	1,466	2.95%	4.82%
MINNESOT	11,511	10.26%	23.74%	4,188	8.42%	11.05%
MISSISSIP	2,166	1.93%	27.12%	1,023	2.06%	5.08%
MISSOURI	5,741	5.12%	23.65%	3,093	6.22%	5.90%
MONTANA	1,446	1.29%	12.26%	448	0.90%	9.29%
NEBRASKA	5,393	4.81%	17.32%	610	1.23%	9.32%
NEVADA	57	0.05%	8.21%	1,783	3.58%	11.96%
NEW HAMI	23	0.02%	3.22%	17	0.03%	2.88%
NEW JERSE	206	0.18%	5.97%	22	0.04%	0.25%
NEW MEXI	447	0.40%	13.43%	376	0.76%	7.11%
NEW YORK	1,731	1.54%	9.18%	468	0.94%	3.67%
NORTH CA	1,833	1.63%	11.97%	360	0.72%	1.31%
NORTH DA	3,793	3.38%	17.79%	469	0.94%	7.16%
OHIO	2,630	2.34%	11.24%	1,627	3.27%	5.41%
OKLAHOM	3,212	2.86%	17.97%	1,977	3.97%	5.83%
OREGON	627	0.56%	9.85%	1,104	2.22%	4.57%
PENNSYLV	2,129	1.90%	10.92%	1,707	3.43%	6.81%
RHODE ISL	0	0.00%	0.00%	6	0.01%	2.88%
SOUTH CA	603	0.54%	15.27%	320	0.64%	3.15%
SOUTH DA	4,080	3.64%	19.24%	1,756	3.53%	19.29%
TENNESSE	1,032	0.92%	10.98%	2,067	4.15%	4.33%
TEXAS	6,097	5.43%	16.94%	2,636	5.30%	2.80%
UTAH	290	0.26%	9.91%	238	0.48%	5.65%
VERMONT	271	0.24%	8.06%	64	0.13%	4.30%
VIRGINA	506	0.45%	7.12%	233	0.47%	0.81%
WASHINGT	1,490	1.33%	13.92%	312	0.63%	2.52%
WEST VIRG	42	0.04%	4.82%	220	0.44%	2.17%
WISCONSI	7,689	6.85%	18.24%	2,389	4.80%	8.57%
WYOMING	695	0.62%	17.63%	156	0.31%	5.35%
UNITED ST	112,199	100.00%	16.44%	49.762	100.00%	5.58%

SOURCE: FCRS SURVEY WITH 14,000 FARM RESPONSES IN FEBRARY-MARCH OF EACH YEAR
DATA FOR STATES WITH FEWER THAN 500 FAMRS CANNOT BE CONSIDERED RELIABLE
EXCLUDES ALASKA AND HAWAII AND ABOUT 650,000 VERY SMALL FARMS
THAT PRODUCE LESS THAN 10 PERCENT OF U S FARM OUTPUT
(1)FARMS WITH ANNUAL SALES OF $40,000 OR MORE
(2)FARMS WITH ANNUAL SALES OF LESS THAN $40,000
(3)PERCENT OF ALL COMMERCIAL OR SMALL FARMS IN THE STATE

TABLE 6
FINANCIALLY STRESSED FARMS RANKED BY STATE: 1984-86

ALL FARMS		FINANCIALLY-STRESSEI		FINANCIALLY-STRESSED FARMS			
STATE	ALL FARMS	STATE	ALL FARMS	STATE	COMMERCIAL	STATE	SMALL(2)
TEXAS	8.31%	MINNESOT.	9.69%	IOWA	11.21%	MINNESOTA	8.42%
IOWA	5.59%	IOWA	9.34%	MINNESOT.	10.26%	MISSOURI	6.22%
MINNESOT.	5.49%	WISCONSIN	6.22%	WISCONSIN	6.85%	KENTUCKY	5.87%
WISCONSIN	4.51%	MISSOURI	5.45%	TEXAS	5.43%	TEXAS	5.30%
ILLINOIS	4.19%	TEXAS	5.39%	MISSOURI	5.12%	IOWA	5.12%
MISSOURI	3.86%	KANSAS	4.53%	NEBRASKA	4.81%	WISCONSIN	4.80%
TENNESSEI	3.65%	ILLINOIS	4.33%	KANSAS	4.66%	INDIANA	4.76%
KANSAS	3.62%	INDIANA	3.98%	ILLINOIS	4.26%	ILLINOIS	4.48%
INDIANA	3.51%	NEBRASKA	3.71%	SOUTH DAI	3.64%	KANSAS	4.21%
CALIFORNI	3.45%	SOUTH DAI	3.60%	INDIANA	3.63%	TENNESSEE	4.15%
OHIO	3.42%	OKLAHOM/	3.20%	NORTH DAI	3.38%	OKLAHOMA	3.97%
OKLAHOM/	3.31%	KENTUCKY	2.72%	OKLAHOM/	2.86%	NEVADA	3.58%
KENTUCKY	3.29%	NORTH DAI	2.63%	CALIFORNI	2.54%	SOUTH DAKO	3.53%
NEVADA	2.98%	OHIO	2.63%	OHIO	2.34%	PENNSYLVAN	3.43%
PENNSYLV.	2.85%	CALIFORNI	2.47%	GEORGIA	2.02%	OHIO	3.27%
MISSISSIPF	2.82%	PENNSYLV	2.37%	MISSISSIPF	1.93%	MICHIGAN	2.95%
MICHIGAN	2.81%	MICHIGAN	2.21%	PENNSYLV	1.90%	GEORGIA	2.53%
NORTH DAI	2.74%	GEORGIA	2.18%	MICHIGAN	1.89%	CALIFORNIA	2.31%
VIRGINA	2.30%	MISSISSIPF	1.97%	ARKANSAS	1.84%	OREGON	2.22%
NORTH CAI	2.00%	TENNESSEI	1.91%	COLORADC	1.75%	MISSISSIPPI	2.06%
ARKANSAS	1.98%	ARKANSAS	1.84%	NORTH CAI	1.63%	ARKANSAS	1.85%
SOUTH DAI	1.95%	LOUISIANA	1.55%	NEW YORK	1.54%	LOUISIANA	1.78%
OREGON	1.95%	COLORADC	1.38%	LOUISIANA	1.45%	ALABAMA	1.44%
GEORGIA	1.94%	NEW YORK	1.36%	IDAHO	1.43%	NEBRASKA	1.23%
ALABAMA	1.91%	NORTH CAI	1.35%	WASHINGT	1.33%	NORTH DAKO	0.94%
NEBRASKA	1.76%	MONTANA	1.17%	KENTUCKY	1.32%	FLORIDA	0.94%
WASHINGT	1.47%	IDAHO	1.16%	MONTANA	1.29%	NEW YORK	0.94%
IDAHO	1.31%	NEVADA	1.14%	TENNESSEI	0.92%	MONTANA	0.90%
COLORADC	1.26%	WASHINGT	1.11%	ALABAMA	0.88%	NEW MEXICO	0.76%
LOUISIANA	1.18%	OREGON	1.07%	FLORIDA	0.88%	NORTH CARO	0.72%
FLORIDA	1.16%	ALABAMA	1.05%	WYOMING	0.62%	SOUTH CARO	0.64%
MONTANA	1.06%	FLORIDA	0.90%	OREGON	0.56%	WASHINGTON	0.63%
SOUTH CAI	0.90%	SOUTH CAI	0.57%	SOUTH CAI	0.54%	COLORADO	0.55%
NEW MEXI(	0.79%	WYOMING	0.53%	MARYLANI	0.46%	IDAHO	0.54%
WEST VIRG	0.70%	NEW MEXI(	0.51%	VIRGINA	0.45%	UTAH	0.48%
MARYLANI	0.65%	VIRGINA	0.46%	NEW MEXI(	0.40%	VIRGINA	0.47%
NEW YORK	0.55%	MARYLANI	0.38%	ARIZONA	0.34%	WEST VIRGIN	0.44%
MAINE	0.46%	UTAH	0.33%	MAINE	0.34%	WYOMING	0.31%
UTAH	0.46%	MAINE	0.32%	DELAWARI	0.30%	DELAWARE	0.30%
ARIZONA	0.45%	DELAWARI	0.30%	UTAH	0.26%	MAINE	0.26%
WYOMING	0.44%	ARIZONA	0.26%	VERMONT	0.24%	MASSACHUSI	0.21%
VERMONT	0.31%	VERMONT	0.21%	NEW JERSE	0.18%	MARYLAND	0.20%
MASSACHI	0.20%	WEST VIRG	0.16%	CONNECTI(	0.11%	VERMONT	0.13%
DELAWARI	0.16%	NEW JERSE	0.14%	MASSACHI	0.10%	ARIZONA	0.08%
CONNECTI(	0.12%	MASSACHI	0.13%	NEVADA	0.05%	NEW JERSEY	0.04%
NEW JERSE	0.10%	CONNECTI(	0.08%	WEST VIRG	0.04%	NEW HAMPSH	0.03%
NEW HAMI	0.08%	NEW HAMI	0.02%	NEW HAMI	0.02%	RHODE ISLAN	0.01%
RHODE ISL	0.02%	RHODE ISL	0.00%	RHODE ISL	0.00%	CONNECTICU	0.00%
UNITED ST	100.00%	UNITED ST	100.00%	UNITED ST	100.00%	UNITED STAT	100.00%

SOURCE: FCRS SURVEY OF 14,000 FARMS IN FEBRARY-MARCH OF EACH YEAR
EXCLUDES ALASKA AND HAWAII AND ABOUT 650,000 VERY SMALL FARMS THAT PRODUCE LESS THAN 10 PERCENT OF U S FARM OUTPUT
(1)FARMS WITH ANNUAL SALES OF $40,000 OR MORE
(2)FARMS WITH ANNUAL SALES OF LESS THAN $40,000

TABLE 7
FINANCIALLY-STRESSED FARMS BY REGION: 1985 AND 1987

STATES	FARMS WITH POTENTIAL LOAN LOSSES 1985	PER DIST	1987	PER DIST	PERCENT OF ALL COMMERCIAL FARMS 1985	1987
IOWA, MINN WIS, MISSOURI	37,700	31%	36,600	35%	21%	22%
KAN, NEB N DAK, S DAK	21,100	17%	15,400	15%	19%	16%
ILL, IND MICH, OHIO	17,400	14%	12,500	12%	16%	13%
ARK, LOU OKLA, TEX	12,600	10%	14,400	14%	16%	22%
ALA, GEO MISS, N CARO	8,800	7%	7,600	7%	18%	21%
CALIF, ORE WASH	6,000	5%	4,200	4%	16%	10%
N JER, NY, PA	4,600	4%	2,900	3%	11%	8%
SUBTOTAL	108,200	88%	93,600	90%	18%	17%
OTHER REGIONS	14,300	12%	10,500	10%		
US TOTAL	122,500	100%	104,100	100%	17%	17%

SOURCE: FCRS SURVEY OF COMMERCIAL FARMS, 1985 AND 1987

TABLE 8
THE CHARACTERISTICS OF FARM OPERATORS: 1987

CHARACTERISTIC	FINANCIALLY-STI OPERATORS	FINANCIALLY-STRESSED OPERATORS
AVERAGE OFF-FARM INC	$22,078	$8,189
HOUSEHOLD SIZE	3.2	3.7
AGE DISTRIBUTION		
PERCENT UNDER 35	16	32
35-44	22	31
45-55	24	21
55 OR OLDER	38	16
FULL-TIME FARMERS(%)	75	77
AVERAGE FARM SALES	$138,589	$119,972
AVERAGE FARM ASSETS	$535,848	$305,031
AVERAGE FARM DEBT	$107,703	$272,517
AVERAGE NET WORTH	$428,145	$32,514

SOURCE: FCRS SURVEY, FEBRUARY-MARCH, 1987

Annotated Bibliography

Banks, Vera and Calvin Beale. Farm Population Estimates, 1910-1970 (Washington: USDA-RDS 523, 1973).

This statistical summary of farm population trends notes that the rate of outmigration slowed in the 1960's but that, by 1970, the North Central Region had replaced the South as the area with the largest farm population (44 percent in 1970 versus 39 percent).

Belongia, M. and R. A. Gilbert. "Agricultural Banks: Causes of Failure and the Condition of Survivors," Federal Reserve Bank of St. Louis Review, May 1987, pp. 30-40.

This article notes that about half of the 340 banks which failed between 1984 and 1986 were "agricultural banks," which means that agricultural loans were 17 percent or more of total loans. About one-third of the nation's 4,700 banks are agricultural banks; meaning that about 170 of 1,570 or 11 percent failed between 1984 and 1986.

A comparison of failed and surviving banks between 1981 and 1986 indicates that the major factor contributing to bank failure was the failed banks tendency to make farm and nonfarm loans equal to more of their assets so that, when loan delinquencies rose, they were more exposed to failure. Both survivors and failures made about 50 percent of their loans to agriculture, but only 5 percent for farm real estate.

Bureau of the Census. Census of Agriculture (Quinqennial) (Washington: Department of Commerce, 1982, published in 1984).

This periodical report on U.S. agriculture generates data on farm operators and hired workers by state and county. Operator characteristics include age, sex, race, place of residence, principal occupation, and days of off-farm work during the census year. Hired workers are recorded as having worked more or less than 150 days on the responding farm.

Committee on Government Operations. Counting All the Jobless: Problems with the Official Unemployment Rate. H. of R. Report 96-661, 1987.

This report concludes that farmers and their families are being displaced and farm related businesses are failing in rural areas that are not creating new jobs, but this distress is not reflected in official unemployment statistics (rural unemployment is lower than urban unemployment). This alleged rural underestimate is due to: (1) definitions of employment which count part-time workers as employed and fail to count all the unemployed because of their reliance on UI data and (2) lack of reliability for small area samples.

Committee on Government Operations. House of Representatives. Job Training Partnership Act and Farmers, November 15, 1985 (Washington: USGPO, 1986).

This 1985 Iowa hearing was held to explore how JTPA should help farmers. Iowa was the first state to serve displaced farmers under JTPA (in July 1984); DOL explicitly authorized states to serve displaced farmers under JTPA Title III in April 1985 (p. 12). Iowa was assisting 300 to 400 farmers in 1985-86 of an estimated 6,000 to 8,000 eligible (p. 59). Senator Harkin requested that a negative cash flow make a farmer automatically eligible for JTPA assistance (p. 24), and that a bank telling the farmer to go elsewhere for loans also be considered eligible in order to help farmers "before they have lost everything" (p. 27).

One suggestion was a form of Trade Adjustment Assistance for farmers, e.g., if auto workers get TAA when increased imports displace them, then farmers could get similar assistance if other nations' export subsidies reduce their foreign markets. TAA died in 1985.

Some of the testimony also illustrates how soft displacement statistics are; e.g., Iowa was expected to lose 12,400 farms (there were an average 12,000 financially-distressed commercial farms between 1984 and 1986) (p. 7 and p. 41). This "displacement" is predicted to yield 24,800 jobless, or 2 per farm (ignoring employed spouses who keep working). There will be 992 rural business failures (1 per 13 farm ownership changes) that "create" 24,800 more jobless (25 unemployed per rural business failure). These numbers are exaggerated--they are far too high on the jobless estimate; and they ignore the jobs created or maintained by new farm owners.

JTPA service providers noted their concerns (p. 43): farmer displacement is individual and dispersed, not the result of a plant closing with a clear date of displacement or a central place to bring persons needing service; the difficulty of enrolling farmers quickly (industrial workers can enroll as soon as they have layoff notices, even if the layoff is not for 6 or 12 months); and the difficulties of determining the eligibility of small businesses. Additional concerns include the fact that farmers have options unavailable to displaced industrial workers, such as reducing operations or selling land or equipment. Many farmers reportedly refuse to accept AFDC or food stamps, denying them automatic eligibility for JTPA assistance.

Committee on the Judiciary. House of Representatives. Hearings on Farm Bankruptcy, November 6 and 12, 1985 (Washington: USGPO, Senate Hearing 99-511, 1986).

This hearing explores reactions to a proposal to restrict farm foreclosures.

Committee on Small Business. House of Representatives. Crisis in the Rural Economy and Its Effect on Small Business, June 29 and July 30, 1985 (Washington: USGPO, 1986).

This hearing includes the results of a 1984 survey of about 500 farm implement dealers. Like farmers, most are relatively old--more than half were older than 45 and over 40 percent of the respondents were not earning a profit at the time of the survey. The dealers expect a transition to fewer and larger farm implement dealers.

Congressional Budget Office. Dislocated Workers: Issues and Federal Options, 1982.

This report reviews definitions of displaced workers, data on how many workers are displaced, and options for federal assistance programs. The report emphasizes the difficulty of assisting older and experienced blue-collar workers with programs that are geared to low-income or entry-level workers. For example, it questions the usefulness of Employment Service job referrals and low-income employment and training programs to experienced and skilled workers.

Dvoskin, Dan. "U.S. Farm Excess Capacity," Choices, Vol. 1, No. 2, 1987, pp. 26-27.

This article estimates the excess capacity of the U.S. farming sector to be about 6 percent of 1985 farm production.

Economic Research Service. Economic Indicators of the Farm Sector (Annual) (Washington: USDA, 1985, published in 1987).

This series of five publications report the number and characteristics of farm operators by region and state based on the annual Farm Costs and Returns Survey of about 24,000 farms. The Farm Sector Review publication includes most of the aggregate financial distress data, and the State Financial Summary has state-by-state data.

Farm Finance: Minnesota and North Dakota Assistance Programs Available to Farmers, GAO Report RCED-87-143FS, 1987.

This report is a compilation of state laws and programs in these two states designed to provide financial assistance or protect the property of farmers. In most cases, these laws and programs prevent hasty action by lenders against their farm borrowers.

Financial Characteristics of U.S. Farms, January 1, 1987 (Washington: USDA, ERS, AIB No 525, 1987)

This report, based on the FCRS survey, concludes that the farm sector's financial position improved in 1986 because higher government support prices raised net farm income to about $38 billion and farm debt declined. As in

previous years, 39 percent of all U.S. farms entered 1987 debt-free, and another 39 percent had low debt (debt-to-asset ratio less than 0.4). However, the 21 percent of all farms with debt-to-asset ratios greater than 0.4 owed 66 percent of all farm debt, and these high debt-to-asset ratio farmers were most likely to be: (1) farms with annual sales greater than $250,000; (2) cash grain farms; and (3) farms in the Lake States and Northern Plains.

Gainer, William. Dislocated Workers: Extent of Closures, Layoffs, and the Public and Private Response (Washington: GAO, 1986).

This survey of 2,400 firms who were likely to have laid off 20 percent of their workers in 1983 and 1984 indicated that about 25 percent actually had displaced workers, generating an estimate of 2.4 million displaced workers annually. Most displaced workers got little or no assistance from their former employers.

Guth, E. Analyse des Marktes für Landwirtschaftliche Arbeits-Krafte (Gottingen: Institute für Agraokonomie, 1973).

Western Europe has had more recent experience with definitions of and programs for dislocated farmers and other rural workers. This book summarizes the extent of attachment to agriculture in Germany and develops a model to test the factors which lead to an exit from farming.

Hanson, Gregory. "Potential Loan Losses of Farmers and Lenders," USDA-ERS Unpublished paper, 1987.

This paper analyzes the February-March 1987 FCRS survey of farm financial conditions. This paper develops "financial stress triangles" that put 104,000 of 631,000 commercial farmers (sales of $40,000 or more) "at-risk" of causing farm lenders financial losses. The paper projects that $6 to $8 billion of farm loans will be written-off in 1987-88, so that three-fourths of the expected $20 billion farm loan losses from the 1980s farm crisis will have been written-off.

Harrington, D. and A. Manchester. "Profile of the U.S. Farm Sector," pp. 25-53 in Agricultural-Food Policy Review USDA-ERS, AER 530, 1985.

This profile emphasizes the diversity of U.S. farms. It divides farms into four classes on the basis of their annual farm sales: rural residences (1982 sales less than $10,000), small family farms ($10,000-$39,999), family farms ($40,000-$199,999), and larger-than-family-farms ($200,000 or more). Almost half of all farms were rural residences in 1982, and they generated less than 5 weeks of employment.

Harrington, David and Thomas Carlin. The U.S. Farm Sector: How is it Weathering the 1980s (Washington: USDA-ERS-AIB 506, 1987)

This study defines commercial farms as the 28 percent of all farms with annual sales of $40,000 or more and notes that most commercial farms had

positive after-tax returns in 1985. The commercial farms that produce 90 percent of all U.S. farm products generate household incomes that equal or exceed the U.S. average. Based on the 1985 FCRS, this report concludes that up to 11 percent of the 631,000 commercial farms in 1985 may go out of business: this implies 69,400 displaced farmers over (presumably) the next decade.

Holt, J. and R. Chandler. A Suggested Approach to Identifying and Measuring the Population of Displaced Farmers and Ranchers, unpublished manuscript, 1987.

This paper recommends that displaced farmers be identified by determining how many of the farm operators in the USDA-NASS June area frame screening are displaced farmers. The June Enumerative Survey is a 1 percent sample of the 16,000 U.S. land segments; all farm operators within each "land segment" are identified. Displaced farmers are farm operator names and SSNs that are identified in one year but not the next; however, this change does not indicate the reason why the farmer was displaced, e.g., displacement could occur in the area screening if the farmer sold land to a developer or if the farm changed operators because of retirement, sale, or bankruptcy. Additional question(s) are necessary to determine why a farm's operator changed from year to year.

Horvath, Francis. "The Pulse of Economic Change: Displaced Workers of 1981-85," Monthly Labor Review Vol. 110, No. 6, June 1987, pp. 3-12.

This article is based on supplementary questions attached to the January 1986 CPS. BLS estimates that 10.8 million workers aged 20 or more had lost a job between January 1981 and January 1986 because of plant closings, employers going out of business, or layoffs from which they had not been recalled. However, less than half (5.1 million) of these displaced workers had been at the jobs from which they were displaced three years or more.

About two-thirds of the 5.1 million displaced workers were re-employed in January 1986, but 40 percent of the displaced workers 55 or older left the labor force, and another 15 percent were unemployed when interviewed. Only 33,000 displaced workers were self-employed or unpaid family workers; a total of 80,000 displaced workers (self-employed and wage and salary) reported that farming, forestry, or fishing was the occupation from which they were displaced, and 72 percent of these workers were re-employed when interviewed.

Huffman, Wallace. "Production, Consumption, and Labor Supply decisions of Farm Households," Iowa State University, June 25, 1987.

This paper surveys the integration of the farm(er) and nonfarm labor markets and develops a household decision-making model. The paper notes that the share of farmers' personal income that derived from nonfarm sources was already 27 percent in 1950, rose to more than 50 percent in 1968, and has stayed above 50 percent since, except for 1973 and 1975. This nonfarm income is increasingly income from nonfarm businesses and professions.

"Human Stress and Adjustment in Agriculture," in Increasing Understanding of Public Problems and Policies-1986 (Oak Brook, Illinois: Farm Foundation, 1986).

Includes an article by Neil Harl on farm financial stress which concludes that farmers should be eligible for interest rate reductions and they should be allowed to put their land in a "trust" until economic conditions improve; an article by W. and J. Heffernan which concludes that JTPA is of limited assistance because (1) (ex)farmers "are seeking higher status jobs than those for which current job training programs have traditionally trained people" and (2) many ex-farmers have too much wealth (net worth) to qualify for training programs (p. 98); and an article by R. J. Hildreth which concludes most displaced farmers prefer to find other employment close to home.

Several of these articles conclude that displaced farmers--given their preference to stay in the area--could best be helped by rural development efforts. Hildreth notes that Section 1440 of the 1985 Food Security Act requires USDA to make special grants for education and counseling programs "that develop alternatives for farmers who have been adversely affected by the current farm and rural economic crisis or displaced from farming" between December 1986 and December 1988 (p. 108). Several commentators have noted that the budget costs to promote the adjustment of farmers to other occupations may be lower than the cost of using farm programs to keep them in farming.

Jolly, Robert. "Financial Adjustment Requirements for Commercial Agriculture," Examination of Current Agricultural Credit Conditions, Committee on Agriculture, House of Representatives Serial S9-25, 1986.

Jolly emphasizes the difficulty in measuring financial stress, noting that a negative cash flow can indicate stress or expansion or a routine build up of grain or livestock inventories (p. 219). Iowa data indicate that financially-vulnerable farmers tend to be younger.

Kosters, Marvin. "Job Changes and Displaced Workers: An Examination of Employment Adjustment Experience," pp. 275-306 in P. Lagan (ed.) Essays in Contemporary Economic Problems: the Impacts of the Reagan Program (Washington: AEI, 1986).

This paper defines displaced workers as those whose jobs are permanently terminated and then discusses (1) the costs of displacement; (2) who bears this cost; and (3) policies to reduce or spread displacement costs. The paper concludes that relatively few workers suffered costly losses from job loss, and that the major losers were older steel workers. The paper argues that displaced workers are similar to other unemployed workers in their diversity, so that they should be assisted under general programs for the unemployed.

Lee, Chinkook et al. Measuring the Size of the U.S. Food and Fiber System (Washington: USDA-ERS-AER 566, 1987).

This report indicates that 21 million full-time equivalent workers were employed in the food and fiber sector in 1985, but only 12 percent of this food sector employment was on farms. Food and fiber employment is primarily in wholesale and retail trade (28 percent), eating places (17 percent), and food processing and other manufacturing (14 percent). Food and fiber employment has been stable at 20 to 21 million since 1975; labor force growth has reduced its share of total employment from 21 percent in 1975 to 18 percent in 1985.

Martin, Philip L. Labor Displacement and Public Policy (Lexington, MA: Lexington Books, 1983).

This book summarizes unemployment and displacement parameters and then compares the regular UI system and special worker protection programs. The book concludes that it is better to reform the regular UI systems than to permit SPP's to proliferate.

Mazie, S. and H. Bluestone. Assistance to Displaced Farmers (Washington: USDA, AIB 508, 1987).

This bulletin notes that only 40,000 farmers have been exiting agriculture annually since 1980, versus 120,000 annually between 1960 and 1980. It cites a prediction that about 15 percent or 350,000 of the 2.3 million farmers in business in 1980 may leave agriculture during the 1980s, and that their transition to nonfarm jobs may be eased through programs of personal support, financial bridges, and help to find nonfarm jobs.

McKenzie, Richard B. The Displaced Worker Problem: How Large is it? (Center for the Study of American Business, 1987, No. 79).

This booklet reviews the BLS estimates of displaced workers and GAO estimates of plant closings and suggests that (1) the BLS 5.1 million permanent job losers between 1981 and 1986 may be misleadingly high and (2) that GAO did not fully analyze the notice and benefits that may have been made available to dislocated workers by private companies.

Melichar, Emanuel. Statement in The Problems of Farm Credit Hearings before the Committee on Banking, Finance and Urban Affairs, House of Representatives Serial 99-58, 1985.

Melichar notes that "severe financial problems have been concentrated among those farmers who were highly leveraged as the boom of the 1970's ended, usually because they had expanded their operations" (p. 19). Financial data indicate that: (1) net farm income before interest payments has been stable in the 1980's, so that farmers with little to no debt have had stable net farm incomes and (2) 1980's farm income has not sustained the expectations that were built into 1970's land prices, so much of the 1970's capital gain on farmland was wiped out in the 1980's. Using the "financial stress triangle," Melichar concludes that about 17 percent of the commercial farms were stressed or vulnerable in January 1985.

National Agricultural Statistical Service Farm Labor (Quarterly) (Washington: USDA)

This publication is based on a survey of about 14,000 farms; it is the subset of the FCRS farm sample that hires labor. Farm Labor reports the number of self-employed operators, unpaid workers, and hired workers employed during the week which contains the 12th day of the month in January, April, July, and October. If is it assumed that there is one operator per farm, then most operators are not working on their farms during a typical survey week--during the week of April 6-12, 1986, for example, an estimated 1.3 million self-employed operators were working on 2.2 million U.S. farms.

National Commission for Employment and Unemployment Statistics. Counting the Labor Force and Rural Employment and Unemployment Statistics (Washington: NCEUS, 1979).

These reviews of rural labor force data summarize the problems of defining and enumerating self-employed rural workers and the unreliability of small area data. These reports suggest that the CPS be expanded, definitions be standardized, and data aggregation procedures be re-examined.

National Governors Association, "Information Exchange," April 16, 1986.

This report on a January 1986 meeting first talks about 15 percent or 200,000 farmers and ranchers who are in "severe financial difficulty," including 130,000 in 13 midwestern states (note that the first numbers imply 1.3 million total farms--this is not congruent with the 1.6 million in the FCRS or the 2.4 million in the COA). The report notes that states have invested modest sums to assist farmers; have experimented with displaced farmer definitions, and have experienced problems with finding accepted nonfarm jobs in rural areas for ex-farmers.

An appendix summarizes data on the number of distressed farms and all farms by state. Much of this appendix data is not congruent with FCRS data: e.g., FCRS data indicate that about 2,200 of Colorado's 20,000 farms are financially-distressed, not the 4,000 to 5,000 in the appendix. In Indiana and Illinois, FCRS estimates of financial distress are higher than in the NGA repsort; in Iowa and Kentucky, the base number of farms in FCRS is smaller than NGA reports; and in Michigan and Minnesota, the NGA number of farmers in financial distress is approximately twice the FCRS level. No source is provided for the NGA data.

Otto, Daniel. "Analysis of Farmers Leaving Agriculture for Financial Reasons: Summary of Survey Results for 1984" in New Dimensions in Rural Policy: Building Upon our Heritage (Washington: Joint Economic Committee Print 99-153, 1986).

This study is based on secondary data on 482 farmers who left Iowa farms in 1983-84. Those "displaced" were an average 42 years old, with a mean 1.8 children, and with 18 years experience farming (p. 282). Most of those displaced were livestock grain farmers (63 percent).

Most exiting farmers simply sold out and paid off their debts (46 percent); only 23 percent were foreclosed by lenders (p. 283). Half of the exiting farmers blamed purchases of land, machinery, or building as the reason they became over leveraged. Most farmers, especially older farmers, continued to live in the same house (49 percent) or the same town (27 percent); only 25 percent left their communities (p. 285). Most displaced farmers stayed in their communities, and 15 percent were unemployed within a year of being displaced. One reason so many farmers did not relocate is because they or their wives were already working off-the-farm before displacement (p. 286).

Petrulis, Mindy et al. How is Farm Financial Stress Affecting Rural America? (Washington: USDA; ERS-AER-568, 1987).

This report emphasizes the economic difficulties of Midwestern rural counties which are most dependent on farming. These "nonmetro farming-dependent areas" are most at risk because they cannot provide local alternatives to displaced farm families and outmigration leads to secondary job losses.

Pine, Art. "As Their Plight Eases, Farmers Pay Off Debt," Wall Street Journal, July 27, 1987, p. 1.

This profile of Sumner Iowa (population 3,500) discusses farmers' aversion to assuming new debt to expand despite higher hog prices and low feed costs, the availability of low-cost farmland, and the willingness of farm lenders to lend (on a cash flow basis only). The early 1980s "debt shock" may have changed farmer behavior--farmers are reportedly postponing buying new equipment and are using less fertilizer. The ag-related businesses that closed between 1984 and 1987 in this area included an implement dealership and two new-car dealerships.

Richards, Bill. "Deregulation Raises Prices, Cuts Services in Many Rural Areas," Wall Street Journal, October 5, 1987, p. 1.

This article focuses attention on an often overlooked cause of the rural population decline and malaise of the 1980s: rising prices due to the deregulation of communication and transportation services. The article notes that the rural ethos of self-sufficiency is mythical, since it was federal regulations which required e.g., equal telephone, power, and transportation rates which subsidized rural development. Deregulation raised rural prices e.g., in some areas basic telephone rates rose 300 percent between 1984 and 1987 because rural areas have fewer people over whom to spread fixed costs.

Salant, P., Smale, M., and W. Saupe. Farm Viability: Results of the USDA Family Farm Surveys (Washington: USDA, ERS-RDRR 60, 1986).

This report examines the financial status of 1,087 farm households in the Mississippi-Tennessee Sand-Clay Hills area in 1980 and 529 households in southwestern Wisconsin in 1982. Part-time farm operators were defined as those who worked off-the-farm for at least 160 hours during the survey year (p. 6). About 15 percent of the Mississippi-Tennessee farmers planned to quit

farming within five years; these exiting farmers were usually close to retirement (average age 63), had an average 32 years of farming experience, and generated gross sales of $10,400 from 85 acres. About 18 percent of the Wisconsin farmers planned to stop farming; they were an average 60, had an average 31 years farming experience, and generated gross sales of $38,400 from 118 acres. The report concludes that it is difficult to design human resource policies to assist such exiting farmers.

Saupe, W. and P. Salant. Programs and Policies to Assist Dislocated Workers. Manuscript prepared for NCEP, 1987.

This study reviews the characteristics of displaced farmers and programs to assist them. Most displaced farmers were relatively young (under 45), worked off the farm before being displaced, and remained in their communities after displacement. The study concludes that JTPA Title III programs which assist workers dislocated by structural economic changes are useful, but that very small percentages of at-risk farmers are enrolled. Given the propensity of displaced farmers to remain in their communities, rural development efforts are recommended in addition to employment assistance.

Technology and Employment: Innovation and Growth in the U.S. Economy (Washington: National Academy of Sciences, 1987).

This study estimates that the number of workers displaced in the U.S. economy from all causes ranges from 1 to 2.3 million annually, and generally fewer than 15 percent of them take advantage of retraining services. To promote the acceptance of productivity-increasing technological change, the NAS panel recommended that adjustment assistance be available to all displaced workers, regardless of cause; the cost is estimated to be about $1.5 billion annually.

The Farm Crisis: Structural Defect or Simple Adjustment? Agriculture and Human Values, Vol. III, No. 4, Fall 1986.

This collection of 11 papers examines various aspects of mid-1980s farm stress. Most of the papers argue that any further reductions in the number of family farmers will threaten socially-valuable rural institutions; however, alternative policies to preserve family farmers and these institutions are not developed.

The People Left Behind. Report by the President's National Advisory Commission on Rural Poverty, 1967.

This report and a series of background papers describe the conditions of 14 million poor Americans in the mid-1960s. The report focuses on the causes of rural poverty, current programs to deal with rural poverty, and needed changes in current programs.