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Financial Characteristics of U.S. Farms, January 1, 1987



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FINANCIAL CHARACTERISTICS OF U.S. FARMS, JANUARY 1, 1987. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin No. 525.

ABSTRACT

Farm income reached a record high in 1986, but financial stress in some segments of the farm sector continued. Land values, particularly on cash grain and livestock farms in the Midwest, continued to fall. However, conditions are apparently improving for these operations and for the lenders supplying them credit, mainly due to record-high Government support and lower production expenses.

KEYWORDS: Assets, balance sheet, cash flow, debt, Farm Costs and Returns Survey, financial stress, region, sales class, type of farm, financial characteristics.

PREFACE

This analysis was prepared by Jim Johnson, Mitch Morehart, Liz Nielsen, David Banker, and Jim Ryan of the Agriculture and Rural Economy Division. The authors wish to thank David Harrington for his review and helpful comments. We especially want to thank Adrie Custer for editorial guidance and Kay Gurick for all of her work in preparing the text. For further information, call Mitch Morehart at (202) 786-1801 or Jim Johnson at (202) 786-1800.

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SUMMARY

Farm sector income and cash flow in 1986 rose substantially over 1985 levels due largely to lower costs of agricultural inputs and higher Government support payments. Preliminary estimates put 1986 net farm income in the \$38-billion range, up from the \$32 billion earned in 1985. Farm debt declined in 1986, but farm asset values, particularly land values, continued to fall, although at a slower pace than in previous years.

The 1986 farm sector financial profile reflects mostly improved liquidity (capability to meet payments as they come due during the year), profitability (net farm income), and solvency (ability to pay all legal debts). These improvements signal that the farm economy may be recovering after several years of relatively low commodity prices, declining farm exports, plunging farmland values, and high debt loads. In 1986, most farmers earned enough to meet principal and interest payments, reduce debt outstanding, and meet other financial commitments. However, continued foreclosures and debt restructuring by lenders indicate that not all farmers are sharing equally in the recovery.

Data from the 1986 Farm Costs and Returns Survey (FCRS) indicate that earnings varied widely by farm size, type, and location. Over 82 percent of all farms with sales greater than \$100,000 generated positive net cash farm income, compared with 23 percent of farms with sales less than \$10,000. Dairy, poultry, and nursery and greenhouse operations reported the lowest percentage of operations with negative farm business income, measured by both net cash farm income and net farm income. The Northern Plains, Corn Belt, and Lake States had the lowest percentage of farms with negative net cash farm income.

Nearly 39 percent of all farms entered 1987 debt free, and another 39 percent had debt/asset ratios less than 0.40, indicating that debt was less than 40 percent of assets. Both figures were about the same on January 1, 1986. The relative debt position of farmers (debt/asset ratio), on average, dropped slightly (0.224 to 0.218) from January 1, 1985, to January 1, 1986. At the beginning of both 1986 and 1987, 21 percent of farms had debt/asset ratios greater than 0.40. The percentage of outstanding debt held by these highly leveraged farms remained stable at about 66 percent of all debt. The percentage of total debt owed by technically insolvent farms (debt/asset ratios greater than 1.0) dropped from 16 percent in 1985 to less than 14 percent in 1986. The highest debt/asset ratios were among farms with sales greater than \$250,000, cash grain farms, and farms in the Lake States and Northern Plains.

A more complete assessment of financial performance can be obtained by jointly considering income and leverage measures. Farm operations were classified by one of four income/solvency positions for each income measure: favorable, marginal income, marginal solvency, and vulnerable (see summary figure). The choice of which income measure to use is based on one's interests, such as household versus business performance or long-term versus short-term performance. Each combination gives a somewhat different assessment. For example, the net farm income measure results in 57 percent of farms falling in a favorable financial position, net cash household income results in 47 percent, and net cash farm income results in 41 percent. But all income measures place about 151,000 (10 percent of the survey estimate of number of farm operations) farms in a vulnerable financial position in 1986, compared with 155,000 in 1985.

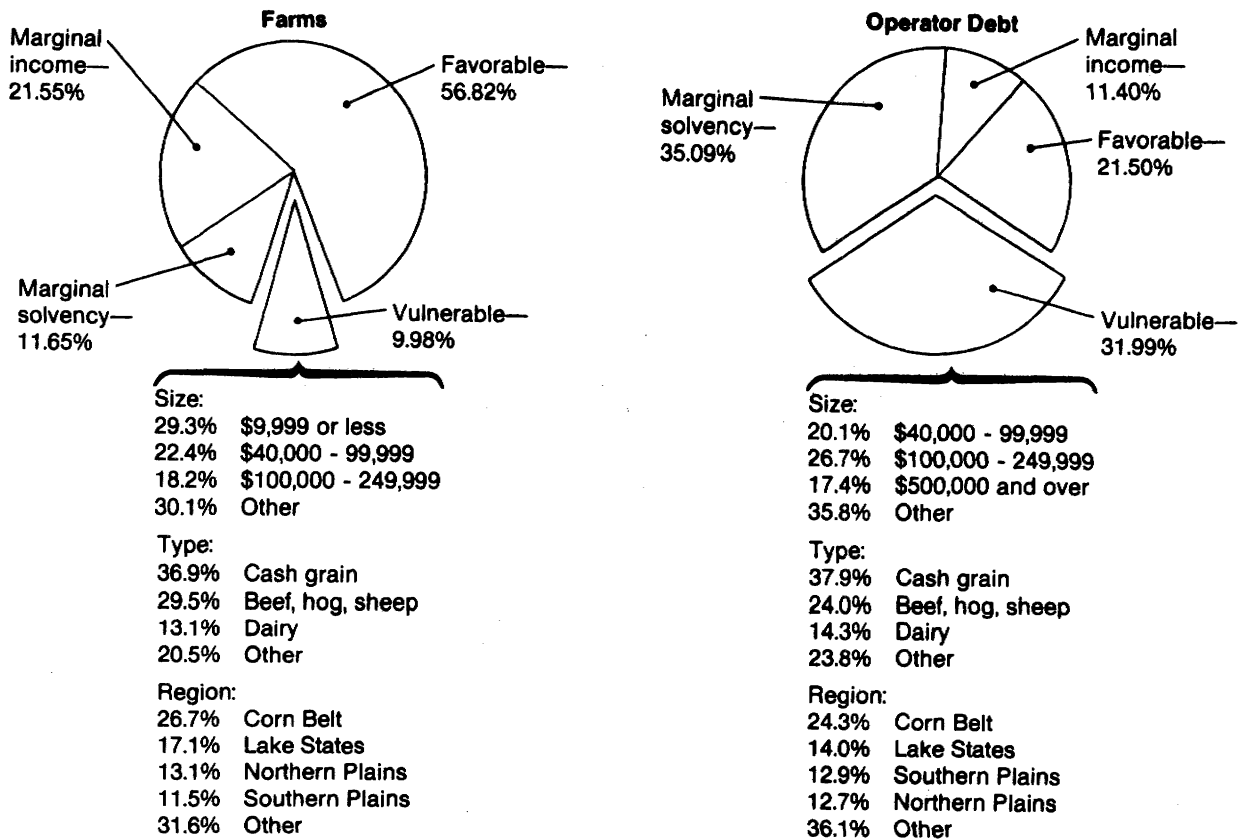
The 1986 FCRS gives an expanded number of survey farms of 1.57 million, compared with the official estimate of 2.2 million farms. Differences between farm number estimates from these two sources are accounted for primarily by farms with sales of less than \$10,000. For 1986, the FCRS gives an estimate of the number of farms with sales over \$40,000 that is 95 percent of the official number of farms.

Farmers have transmitted their financial stress to lenders through inadequate security for loans and reduced earnings due to delinquencies and loan losses. The distribution of lender-held debt, by leverage position of borrowers, suggests that most lenders' portfolios are still at risk. Although the proportion of debt held by technically insolvent farms fell in 1986, debt owed by farms with debt/asset ratios of 0.40-1.0 increased from 50 percent to 53 percent of all debt.

Lenders generally appear to be imposing credit restraints on their borrowers, as further land value declines have reduced the loan value of farmland as security. Loan defaults and writeoffs are contributing to the drop in debt levels, and limited credit availability is encouraging farmers to reduce debt and limit capital spending.

Summary Figure 1

Distribution of Farms and Operator Debt by Net Farm Income/Solvency Position and Farm Size, Type, and Region



Source: 1986 Farm Costs and Returns Survey.

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Financial Characteristics of U.S. Farms

January 1, 1987

INTRODUCTION

The financial profile of the farm sector has changed dramatically during the past 15 years. Farm asset and debt levels rose to record highs in the late 1970's, outpacing gains in income and cash flow. In contrast, the 1980's have seen falling asset values and, more recently, a rapid drop in the level of farm debt outstanding. Record-high use of Government commodity programs to support farm income and a concerted effort by farmers to reduce expenses has pushed sector income and cash flow to alltime highs.

Adjustments in asset values, debt levels, and income and expense flows have affected both farmers and lenders. Some highly efficient farmers with little debt burden have maintained strong returns and a relatively sound financial position, despite losing net worth as asset values have eroded. Many highly leveraged farmers have had low returns and insufficient cash flow to service debt. Farmers' income generating and debt repayment capabilities vary widely and are not solely a function of leverage. Farm lenders have also encountered financial performance difficulties as farm stress translates into reduced or inadequate security for loans and reduced earnings caused by delinquencies and loan losses.

This report presents the latest information on the financial performance of farm operators. We develop a profile of farm businesses' net income, cash flow, liabilities, assets, and returns on investment to help identify and document the diversity in farm financial conditions by size of business, commodity specialization, and area of the country. Data for this report were obtained from the U.S. Department of Agriculture's Farm Costs and Returns Survey (FCRS) conducted by the National Agricultural Statistics Service (NASS) in February and March of 1987 for the 1986 calendar year.

FINANCIAL PROFILE OF THE FARM SECTOR

Estimates of the farm sector's income statement and balance sheet provide a perspective on the aggregate earnings and financial position of the farm sector. These financial tools also provide a foundation for understanding the diversity in the capital structure of farm businesses, the ability of farm businesses to generate enough cash to meet their financial obligations, and the returns earned by assets used in the production of agricultural commodities.

Trends in Farm Income

Nominal net incomes have recovered from the low levels earned during 1977-83 to levels that may well exceed record earnings during 1973-75 (table 1). Data for 1986 and 1987 are based on earning prospects for individual commodities, production expenses, and Government programs. These prospects suggest that in 1986 both net cash income (a measure of farm business liquidity) and net farm income (a measure of profitability) increased substantially from their 1985 levels in real terms, and reached record highs in nominal terms. Furthermore, forecasts for 1987 indicate that net farm income may again rise in both nominal and real terms despite a continued drop in market receipts.

Income in 1986 as well as its outlook for 1987 depends heavily on Government loan and direct payment programs and on changes in production expenses. Direct Government payments rose to nearly \$12 billion in 1986 and could well exceed \$15 billion in 1987. Meanwhile, production expenses are expected to continue the contraction that began in 1985. Both factors are important. In 1986, the drop in expenses exceeded the drop in cash receipts by nearly \$4 billion, while Government payments increased by \$4 billion. If the 1987 forecast holds, expenses will have declined by nearly 19 percent or \$27 billion in the last 3 years. The drop in expenses and the increase in payments should push expected real net incomes well above their early 1980's levels.

Changes in Assets and Debts

Total farm asset values stood at \$696 billion on December 31, 1986, compared with \$754 billion a year earlier (table 2). The drop was primarily a result of declining real estate values, which dropped 12 percent in 1985 and another 8 percent in 1986. The largest decline in land values was in the Delta and Lake States while values increased in the Northeast and decreased by smaller percentage amounts than a year earlier in the Corn Belt and Northern Plains.

Table 1--Farm sector income, 1970-87

Year	Cash receipts	Direct Government payments	Production expenses	Net cash income		Net farm income	
				Nominal	Deflated ^{1/}	Nominal	Deflated ^{1/}
<u>Billion dollars</u>							
1970	50.5	3.7	44.5	18.4	43.7	14.4	34.2
1971	52.7	3.1	47.1	18.0	40.6	15.0	33.8
1972	61.1	4.0	51.7	23.2	49.8	19.5	41.8
1973	86.9	2.6	64.6	36.0	72.6	34.4	69.4
1974	92.4	.5	71.0	34.8	64.5	27.3	50.5
1975	88.9	.8	75.0	29.6	49.9	25.5	43.1
1976	95.4	.7	82.7	29.9	47.4	20.2	32.0
1977	96.2	1.8	88.9	27.8	41.4	19.9	29.5
1978	112.2	3.0	103.2	33.1	45.9	25.2	34.9
1979	131.5	1.4	123.3	33.3	42.5	27.4	34.9
1980	139.7	1.3	133.1	34.2	39.9	16.1	18.8
1981	141.6	1.9	139.4	32.8	34.9	26.9	28.6
1982r	142.6	3.5	140.0	38.0	38.0	23.4	23.4
1983r	136.6	9.3	140.4	37.1	35.7	12.7	12.2
1984r	142.5	8.5	142.7	38.9	36.1	32.2	29.8
1985r	143.9	7.7	133.7	47.0	42.2	32.1	28.8
1986P	135.9	11.8	122.1	52.7	46.0	38.2	33.4
1987F	128-130	14-16	114-116	52-56	45-47	40-44	34-37

r = revised. P = preliminary. F = forecast. ^{1/} Deflated by the GNP implicit price deflator, 1982=100.

Table 2--Farm sector balance sheet 1/

Item	1984r	1985r	1986P	1987F
	<u>Billion dollars</u>			
Assets:				
Real estate 2/	639.6	559.6	515.4	514-516
Nonreal estate	208.1	194.8	180.4	194-198
Total assets	847.7	754.4	695.8	708-714
Liabilities:				
Real estate	103.5	97.6	90.1	82-84
Nonreal estate	87.1	77.9	67.4	74-76
Total liabilities	190.7	175.5	157.4	156-160
Equity (nominal)	657.0	578.9	538.4	552-558
Equity (1982\$)	608.9	519.2	470.2	468-474
	<u>Ratio</u>			
Debt/asset ratio	22.4	23.3	22.6	22-23

r = revised. P = preliminary. F = forecast. 1/ Excludes household dwellings. 2/ Includes CCC storage and drying loans.

Nonreal estate asset values also fell by about 8 percent in 1986 with most of the decline in the value of stored crops and the value of machinery and equipment on farms.

Farm debt fell by over \$18 billion in 1986, a substantial increase over the pace of annual debt reductions in 1984 and 1985. Debt outstanding dropped at the end of 1986 despite a \$3-billion growth in outstanding Commodity Credit Corporation (CCC) crop loans. Outstanding real estate and nonreal estate debt categories declined. The drop in real estate debt may reflect lender writedowns and writeoffs of nonperforming loans, lower land values, and fewer credit-financed land purchases. The drop in nonreal estate debt reflects fewer planted acres of major crops, lower input prices, and reduced capital expenditures. Government payments and marketing certificates also reduced the need for operating loans.

The sector's total net worth fell to about \$538 billion in 1986, the lowest nominal dollar level of owner equity since 1970, largely due to the drop in land values because real estate accounts for nearly 75 percent of total farm asset values. However, the major increases in the ratios of debt to net worth and debt to assets in each year since 1979 were reversed in 1986. Large reductions in the level of debt outstanding in 1986 left the ratios of debt to net worth and debt to assets below those for 1985 despite the continued drop in land values.

In another major reversal of the 1980's trend to date, owner equity may well increase in 1987. This increase could result from relative stability in both real estate and nonreal estate asset values and a further reduction in the level of debt outstanding. In contrast to 1986, debt outstanding to the CCC may contribute nearly a third of the total drop in debt, largely because of farmers using commodity payment-in-kind certificates to redeem crop loans. If these 1987 forecasts hold, the farm sector's debt burden may ease for the first time in this decade.

Trends in Returns and Cash Flow

Recent changes in the sector's income and balance sheet have substantially altered both the returns earned by assets and equity and the ability to service debt out of current earnings. When measured before interest payments, and in constant dollars, cash flow is down from the peak years of the 1970's but has remained above pre-peak levels (table 3). Farmers with little or no debt saw their real returns rise during the 1970's, and currently remain above pre-peak levels. A rise in the level of debt outstanding and an increase in real interest rates dramatically raised interest expenses from the early 1970's through 1980-84. Thus, cash flow after interest for 1980-84 was not only below levels earned during the peak years of the 1970's, but was also below the level earned in the pre-boom years of 1970-71.

In 1985 and 1986, cash flow after debt service resembled the pre-boom level of earnings. Annual returns to production assets increased 32 percent in 1985 and 10 percent in 1986. The improved earnings combined with the decreased debt to lower the ratios of debt to annual cash flow and debt to annual returns on production assets. In 1985, debt was 6.5 times higher than returns to assets and 3.6 times higher than net cash flow. But, in 1986, the ratio of debt to annual returns to assets dropped to 5.3 and the ratio of debt to net cash flow fell to 3.1. The ratio of debt to returns is in the range of the pre-boom 1960's and 1970's level while the ratio of debt to cash flow remains above the pre-boom level.

The rise in net farm income kept aggregate returns to operators, assets, and equity in 1986 higher than in 1985 (table 4). Continued large Government payments and further declines in production expenses may help aggregate returns to assets and equity increase again in 1987. The rate of return to assets rose from 3.7 percent in 1985 to 4.7 percent in 1986, because of the fall in asset and equity values in 1986. This rate should rise further in 1987 as aggregate returns to assets continue to increase. Returns to equity have been negative in some years of the 1980's, reflecting the sector's large interest commitment. In 1986, aggregate return to equity likely exceeded pre-boom levels for the first time since the boom years of 1972-74. Rates of return to equity from current income are now above levels earned during the 1950's and 1960's, because of the substantial reduction in farm sector net worth.

While the sector's rate of return should continue to improve in 1987, the ratio of debt to net cash flow and ratio of debt to return on assets remain at relatively high levels, although both are now declining to the more traditional levels earned during the 1960's. This drop indicates that farmers likely had more breathing room for debt service and other cash commitments in 1986, than they did a few years ago. However, farmers with above average debt levels will continue to have difficulty servicing their debt from current income.

Aggregate financial data demonstrate that real incomes for the entire farm sector are larger now than they have been at any time in the last decade, rates of return have increased to levels earned early in 1970's, and the drop in asset and equity values has slowed. This situation raises questions that require individual farm business data: What proportion of farmers are now facing financial difficulties? What are their production and financial characteristics? What share of debt and assets do they hold? To which lenders is their debt owed? And, what portion of this debt may be at risk of loss?

FINANCIAL MEASURES

Information required to analyze the financial performance of farm businesses can be derived from the farm's income and cash flow statement and its balance sheet. These tools provide the basis for monitoring the solvency, liquidity, and profit positions of the farm business. By considering other sources of farm family income and family living allowances, they also permit analyses of the income position of the farm household. In this report, solvency, liquidity, and profitability are used as follows:

Solvency. The farm's capital structure, which shows the relationship between the levels of assets and debt. The relationship between assets and debt indicates whether the sale of all assets would generate enough cash to pay off all debt.

Table 3--Flow of funds to the farm sector

Item	Average for period						
	1970-71	1972-74	1975-79	1980-84	1985r	1986P	1987F
<u>Billion 1982 dollars</u>							
Gross cash income	128.9	165.7	157.8	152.2	140.5	133.4	124-126
Less: expenses ^{1/}	75.1	87.4	94.5	90.1	75.6	67.9	67-69
Equals: cash flow	53.8	78.3	63.3	62.2	64.9	65.5	55-57
Less: interest paid	7.6	8.9	12.8	19.6	16.1	14.2	12-14
Equals: net cash flow	46.1	69.3	50.7	42.4	48.8	51.3	42-44

r = revised. P = Preliminary. F = forecast. ^{1/} Equals total operating expenses including business taxes but excluding interest paid.

Table 4--Farm income, returns, assets, and equity

Item	Average for period						
	1970-71	1972-74	1975-79	1980-84	1985r	1986P	1987F
<u>Billion 1982 dollars</u>							
Gross farm income	132.7	170.2	162.6	152.3	148.7	140.0	124-126
Returns to operator	31.1	50.6	30.0	16.5	24.4	29.7	26-28
Returns to assets, labor, management	43.5	67.5	48.8	42.6	47.8	49.7	44-46
Returns to assets	19.6	41.6	22.8	18.9	26.9	29.5	27-29
Returns to equity	12.0	32.6	10.2	-.7	10.8	15.3	14-16
Equity in assets ^{1/}	522.5	583.5	720.8	807.5	561.8	495.8	452-454
Total farm assets ^{1/}	637.6	705.8	867.6	994.1	718.4	633.3	598-608
<u>Percent</u>							
Percent return to equity	2.3	5.6	1.4	-.1	1.9	3.1	2.5-4.5
Percent return to assets	3.1	5.9	2.7	2.0	3.7	4.7	4.0-5.0

r = revised. P = Preliminary. F = forecast. ^{1/} Average as of December 31 of current year and December 31 of previous year.

Liquidity. The farm's cash flow position, which determines whether or not a farm business (or household) can generate enough cash to meet financial obligations.

Profitability. A measure of the value of agricultural production, indicating whether the farm generates enough gross revenue from all sources each year to fully cover all costs associated with production, including depreciation of the farm's capital.

Farm Operator Cash Flow and Net Income Statement

The combined cash flow and net income statement in this report is organized to show the proportion of farm businesses and farm households that generate enough cash to meet various levels of financial obligations. Included in these statements are:

Net cash farm income (NCFI) after payment of all cash expenses including interest. This calculation indicates whether the farm is meeting all cash business expenses out of gross cash earnings of the business. NCFI gives a current or short-term perspective on the earnings position of the business since it does not account for capital used in production. This income measure is also conceptually equivalent to the net cash income estimate developed for the entire sector. It indicates whether farmers are covering all cash costs, including payment of interest charges, out of gross cash earnings and shows the cash available to meet family consumption, taxes, and other expenses.

Net farm income (NFI). This is a longer term measure of earnings since it is the difference between gross farm income (the sum of gross cash income, nonmoney income items such as the onfarm consumption of fruits, vegetables, and meats, and the change in crop and livestock inventories) and total expenses (all cash expenses plus depreciation). Net farm income indicates the level of profit or loss associated with a current year's production. Over time, this measure of income indicates the ability of the farm to survive as a viable business unit.

Net cash household income (NCHI). This component of the combined income and cash flow statement provides a household perspective by combining cash earnings from nonfarm sources with the cash available from the business after payment of all commitments including debt service. The cash available after family living expenses is estimated by subtracting an estimate of nonmetropolitan cash living requirements.

We developed estimates for family living expenses and principal payments from secondary information. The family living expense estimate is the nonmetro household mean money income (\$22,383 for 1985) less estimated Federal income tax (\$2,243), State income tax (\$356), and an estimated implicit net rental value of farm dwellings (\$4,567). After these adjustments, the family living allowance was estimated at \$15,200 for the average farm family in 1985. The estimated living allowance for 1986 (\$15,500) equals the 1985 allowance adjusted for changes in the annual Consumer Price Index (CPI) (approximately 2 percent). Principal payments were estimated by lender based on the amount of real estate and nonreal estate debt held by farm operators for each lender. The principal repayment commitments we used are consistent with real estate debt repayment in the 10th year of a 30-year schedule, nonreal estate debt repayment in the 3rd year of a 7-year schedule, and interest rates charged by each lender for each debt category.

The estimated percentage of outstanding debt repaid varied by lender. Specific principal repayment levels calculated for use in the analysis were: Federal land banks, 1.21 percent, life insurance companies, 1.36, Farmers Home Administration, 8.92, commercial banks, 9.91; individual and others, 5.93, and Production Credit Associations, 12.42 percent. These figures indicate that lenders with a larger proportion of their total portfolio in real estate have smaller repayment percentages. To calculate the total principal repayment amount for each farm, the above percentages were applied to the amount of outstanding liabilities reported for each lender, and amounts were summed across all lenders.

Farm Operator Balance Sheet

The farm operator balance sheets we used were developed directly from farmers' responses to survey questions. Assets include the farm operator's estimate of current market value for land and buildings owned; the estimated market value of the operator's dwelling if located on the farm or ranch; the farm share of all trucks, tractors, all farm machinery, equipment, tools, and automobiles; livestock and poultry; all crops stored on- or off-farm valued at current market prices; all purchased seed, feed, fertilizer, chemicals, fuel, and other inputs on hand; and an estimate of the market value of any other assets of the farm business such as savings accounts, stocks, or bonds.

Farm debt was reported by operators as debt owed on January 1, 1987, that was related to the agricultural operations of their farm or ranch. Debt was defined to include all farm business obligations, and survey enumerators were instructed not to collect debt for nonfarm purposes. Debt outstanding was reported by lender rather than by purpose. The categories of lenders included the Commodity Credit Corporation, Production Credit Associations, Federal land banks, Farmers Home Administration, commercial banks and savings and loan associations, life insurance companies, merchants, dealers, cooperatives, individuals who sold farmland, and other lenders (see app. fig. 2).

Farm Operator Returns

Farm operator returns to assets and returns to equity combine aspects of both the income statement and balance sheet to measure farm business profitability. An estimate of the cost of operator management and labor is required to estimate these measures so that they are consistent with sector accounts. The charge for operator management was estimated to be 5 percent of the value of total calendar year crop and livestock sales plus Government payments plus net change in the value of inventories minus purchased feed and livestock expense. We determined the charge to operator labor by multiplying the number of weeks worked during the year reported in the FCRS by the average hours worked per week reported in the FCRS to estimate annual labor hours. We then multiplied annual labor hours by annual average State operator wage rates for all hired workers in 1986 reported by NASS. Rates of return to assets were then calculated by subtracting the operator management and labor charges from net farm income plus interest and dividing by total asset value. Returns to equity were calculated by subtracting interest charges from the total return to assets and dividing by net worth.

Farm Business and Household Income and Solvency Positions

Relying on one measure of financial performance to assess the current financial performance or the future economic viability of a farm operation can

be misleading. The debt/asset ratio is a poor indicator of financial stress because it reveals little about the income generating potential of an operation. For example, a high leverage ratio is acceptable when the return on assets exceeds the costs of debt capital.

The framework for evaluating individual farm financial health is based on combined income and solvency positions (see Appendix I). What follows is a description of the financial situation faced by operations which were classified as favorable, marginal income, marginal solvency, or vulnerable farms as a result of employing these criteria.

Favorable: Favorable Solvency and Positive Earnings

Farm businesses and households with debt/asset ratios of 0.40 or less are considered to be in a favorable solvency position. Farms are more likely to be in this position if the operation's assets (particularly land) have not declined substantially, the unit was not purchased with substantial debt financing and has not been refinanced or offered as security for other indebtedness, and profits have been used to reduce outstanding debt. What follows is a description of the characteristics of farms in favorable solvency and income positions.

Positive net cash farm income. Farms in this income position are in favorable shortrun liquidity positions. The operation is generating adequate income to cover all business expenses other than debt repayment. However, this positive income measure may cloud longer term difficulties if it is achieved through inventory reduction or inadequate capital replacement. Also, a full-time family farm's positive net cash farm income may be insufficient to provide an adequate standard of living. Their low debt/asset ratios suggest that these operations have the option of borrowing to meet cash shortages.

Positive net farm income. Farms in this earnings class are in more favorable longer term profitability positions. Adjusted cash income reflects possible inventory accumulation, and depreciation accounts for the proportion of the productive life of the capital stock consumed during the calendar year. Larger farms will generally have positive net farm incomes only if the net cash farm income is positive. That is, for larger units, depreciation will likely be large relative to inventory increases or nonmoney adjustments. In contrast, part-time and smaller units may have negative net cash farm income (due to low volume of sales) but positive net farm income (due to nonmonetary income components, particularly the imputed rental value of the operator's dwelling and the value of home consumption of farm products). Farms with positive net farm income may not be generating adequate earnings to meet family living expenses and debt repayment obligations.

Positive net cash household income. Farms with positive household income are generating sufficient income from farm and nonfarm sources to meet all current financial obligations, including family living expenses and debt repayment. The combination of positive household income and relatively low debt/asset ratios suggests that farm households in this classification are in a good shortrun liquidity position.

Marginal Income: Favorable Solvency and Negative Earnings

Farms with low leverage levels are probably feeling little pressure from their lenders to restructure debt or reorganize crop and livestock mixes. However,

they may be facing an earnings problem as they are unable to generate sufficient income to meet all obligations. Farms in marginal liquidity positions have favorable solvency levels, but have negative income as calculated by the various measures.

Negative net cash farm income. Farms in this negative income position have a short-term business liquidity problem. The farm is not generating sufficient income to cover its operating expenses. Larger units may have negative net cash farm income due to inventory accumulation for future expanded production. While full-time farm families cannot sustain negative cash income indefinitely, units that do not rely solely on agricultural production for income may be able to. Many of these smaller farms may have negative net cash farm income, but positive net farm income (with the addition of nonmoney items) and positive net cash household income (with the addition of off-farm income). Regardless of the cause, negative net cash farm income may increase financial problems if it forces a substantial reduction in savings or an increase in indebtedness.

Negative net farm income. Farms in this income position have operated at a loss during the year. For many larger operations, depreciation and inventory changes will give these farms positive net cash farm income, but negative net farm income. Commercial farms with favorable solvency positions, but negative net farm income need to evaluate operational changes to correct this situation. Negative net farm income is sustainable only through eroded savings or increased borrowing. Smaller units may have an improved net farm income (relative to net cash farm income) due to nonmoney income additions. Those who rely on off-farm income may experience little financial stress despite a relatively poor performance by their farm business.

Negative net cash household income. The financial situation of farms with negative net cash household incomes generally eroded during the year, even though the low leverage position indicates that financial difficulties are shortrun liquidity problems. Commercial operations may be forced to borrow, since their off-farm income sources are inadequate to cover operating losses. Smaller farms may have positive nonmoney income to offset their negative cash household incomes.

Marginal Solvency: High Leverage and Positive Income

Highly leveraged operations face greater risks and potential losses than do farms with less leverage. A higher debt/asset ratio suggests that the operation has fewer unencumbered assets to offer as security for short-term loans to meet cash shortfalls. Farms with positive current income can use these earnings to reduce debt and decrease debt service expenses, improving their potential for positive incomes. However, debt reduction does not guarantee an improved solvency position in the future, since relatively larger declines in asset values may result in a less favorable ratio of debts to assets, even after debt levels have been reduced. This scenario has hurt the solvency position, and thus financial risk-bearing ability, of many farm operations in those regions where farm real estate values dropped substantially during the 1980's. Those who generate positive earnings can reduce outstanding debt.

Positive net cash farm income. Farms in this shortrun favorable liquidity position are generating sufficient income to cover operating expenses, including interest paid on debt. The farm family may have to temporarily

reduce their standard of living as available funds are used to reduce outstanding debt. Capital replacement may not be adequate for continued profitability. Larger units may be generating positive cash earnings through dependence on Government commodity programs. Smaller units in this high leverage, positive net cash farm income position tend to rely on agricultural production as the primary income source. Unfavorable production or market conditions, even if limited in duration, could reduce the viability of all operations in this position.

Positive net farm income. Farms in this more favorable longer term profitability position may find servicing existing debt a burden if price or production levels decline. However, they are generating adequate earnings when nonmonetary income adjustments are made to maintain current capital stocks. As with farms in favorable solvency positions, larger units will generally earn positive net farm income only if net cash farm income is positive. Smaller operations may again find that the value of nonmoney items exceeds depreciation, resulting in a positive net farm income, but a negative net cash farm income. Current business management decisions would probably use positive earnings to reduce outstanding debt, rather than to expand or replace capital.

Positive net cash household income. Farms with adequate income from all sources to meet operating expenses, debt service, and family living expenses will probably take advantage of this favorable liquidity situation to reduce debt and improve their solvency position. Larger units for whom net cash household income is the only positive earnings measure (that is, negative NCFI and negative NFI) are relying on off-farm income (excluding the nonmoney adjustment) to meet current expenses.

Vulnerable: High Leverage and Negative Income

Highly leveraged operations that generate insufficient earnings to meet current financial obligations are in vulnerable liquidity and solvency positions. Farms with high debt/asset ratios have a relatively smaller proportion of equity that can be converted to cash by increasing debt. Lenders are reluctant to approve such equity conversions for highly leveraged operations when real estate values are continuing to decline (although at a slower pace), particularly when those operations are not earning enough to meet current cash expenses. For farms in this dually vulnerable position, the form in which assets (and the equity) are held is as important as the magnitude of those asset (and equity) levels. Farms with a high proportion of assets held as cash, crop, and livestock inventories, and other current assets will have readier access to cash to meet shortfalls than those with primarily fixed (real estate) assets. Farms with negative earnings and primarily fixed assets, can only generate cash by converting equity, thereby increasing indebtedness.

Limited additional distinction can be made for highly leveraged farms with negative earnings by all income measures. Those with negative net cash farm income have not met current operating expenses, even though they may have reduced inventories in an attempt to do so. Negative earnings reported by net farm income and net household income suggest that even when nonmoney income items and off-farm income are considered, income is inadequate to meet financial obligations.

Farms classified as vulnerable will continue to face limited credit availability. Increasing earnings may require reducing operating expenses,

restructuring enterprise combinations, and delaying capital expenditures. Partial or complete asset liquidation ultimately may be necessary.

FARM OPERATOR BUSINESS AND HOUSEHOLD INCOME

In 1986, a larger proportion of farmers were able to meet cash commitments out of current cash earnings than in 1985. In addition, almost 70 percent of operators had profitable operations in 1986, as measured by net farm income. Improvements were not consistent across all leverage categories, however. This section looks at the distribution of net cash income to gauge the cash flow position of farm operators along with net farm income to ascertain the profitability of their operations.

The share of farms with negative NCHI decreased from 44.7 percent in 1985 to 41.4 percent in 1986 (app. table 24). For those with debt/asset ratios between 0.01 and 0.70, this percentage dropped 5-7 points during 1986. Likewise, the figure dropped from 66 to 62 percent for insolvent farms. Farms with no debt showed a small increase, however, possibly reflecting that group's decrease in off-farm income.

NCFI had a different pattern, with nonindebted farmers showing an improvement in that cash flow measure. Also, average cash flow of operators with midrange debt/asset ratios (0.11-0.40) declined slightly during 1986. The overall improvement in NCFI from 1985 to 1986 (48.3 to 46.9 percent with negative values) was smaller than the improvement in NCHI. The difference was probably due to the overall rise in nonfarm income, which strengthened NCHI.

The trend of improved cash flow is consistent with aggregate sector income estimates. In 1986, reduced farm production expenses and increases in Government payments strengthened agriculture's cash flow position. The data suggest, however, that debt repayment put a drag on cash flow in 1986. The share of all farms with a negative cash flow which excludes principal and interest payments was 12 percent lower than the share of all farms with a negative cash flow after principal and interest deductions (40 and 52 percent, respectively). Average interest payments decreased by \$1,200 between 1985 and 1986, however.

Overall, the longer term financial picture looked better in 1986 than the shorter term perspective (despite a heavy drawdown of inventories), with 32 percent of all farms having a negative NFI. This percentage increased as the debt/asset ratio rose.

Sales Class

The percentages of farms with negative cash flows (farm and household) decreased as farm size (as measured by gross sales) increased. Although the same relationship held true between profitability and farm size, the differences were less pronounced (app. table 25). Average nonfarm income was highest in the lowest two sales classes (below \$20,000) and in the top class (\$500,000 and above). The latter group also showed the highest growth in nonfarm income during the year (63 percent), while nonfarm income decreased by 22 percent for farms with sales between \$40,000 and \$99,999.

The improvement in business cash earnings was spread across all sizes of farms, with the largest relative increase being for smaller farms with sales

less than \$40,000. Nevertheless, only 37 percent of these smaller farms had a positive net cash income in 1986. The discussion of farm characteristics in Appendix II provides a perspective for understanding the farm earnings of these smaller operations. A large share of the operators of these farms are part-time farmers and have a primary job other than farming.

Over 80 percent of farms with sales above \$40,000 had a positive net cash income in 1986, compared with 78 percent in 1985. The improvement in the share of commercial farms with positive net cash income is traceable to reduced operating and interest expenses, particularly for the largest farms, and to increased Government payments. Midsized operations apparently gained most from the increase in payments, probably because of the relative concentration of grain production on these farms.

Farm cash flow was higher than household cash flow except for farms with sales below \$10,000, as measured by the percentages of farms with negative NCFI and NCHI, with the differences being greatest for sales categories with low average nonfarm incomes. For farms with sales below \$10,000, the difference was significant: The percentage of farms with negative NCFI was 77 percent, compared with 46 percent with negative NCHI. This difference might be due to a large average off-farm income (\$30,719) and small estimated debt repayments, both of which helped to boost NCHI.

Based upon our analysis of income-based measures of financial performance, larger farms appear to be better off than smaller farms from both a short- and long-range perspective. Also, the cash flow positions of larger farm businesses appear to be healthier than either the longrun profitability of large farms or the shortrun cash flow positions of large farm households.

Farm Type

From both a cash flow and a profitability perspective, poultry, followed by nursery and greenhouse operations, appeared to have the strongest financial performance in 1986. At the other end were other livestock; other crop; beef, hog, and sheep; and vegetable, fruit, and nut farms, all of which had relatively large percentages of farms with negative measures of cash flow and net farm income. The data indicated, however, that a strength (weakness) in cash flow did not necessarily correspond to a strength (weakness) in NFI within a farm class.

Other livestock farms had the highest percentage (76.9 percent) of operators with negative NCFI, primarily because these farms had the lowest average gross cash farm income (\$33,324) of any farm type. Poultry and dairy farms had the lowest percentage of farms with negative NCFI (25.6 percent and 17.0 percent, respectively).

Vegetable, fruit, and nut, and other livestock farms had the highest average off-farm income (\$43,280 and \$41,566). Poultry farms had the highest average NCHI (\$120,670), and nursery and greenhouse farms had the next highest average NCHI at \$54,820. Tobacco and cotton farms had the largest share of farm households with negative NCHI (52.9 percent), and poultry farms had the lowest share (18.1 percent).

Profitability appeared to be better than cash flow in five types of farms: tobacco and cotton; vegetable, fruit, and nut; nursery and greenhouse; other crop; and beef, hog, and sheep. Of these, the share of farms with negative NFI was lower than the share with negative NCFI or NCHI. On the other hand,

NCFI was the strongest measure of financial performance for cash grain and dairy farms. Net cash household income was weaker than any other measure for tobacco, cotton, and dairy farms.

Other livestock farms had the largest share of farms with negative NFI (46.6 percent). The three farm types with the smallest share were nursery and greenhouse (11.2 percent), poultry (16.9 percent), and dairy (21.8 percent).

Region

The Northern Plains and the Lake States showed strength in all three measures of financial performance. The Mountain, Delta, and Southern Plains region were relatively weak by these measures, while the remaining regions had mixed results.

The Southern Plains had the largest percentage of farm businesses with negative NCFI (67.6 percent), followed by the Southeast (63.3 percent), and the Delta (62.4 percent). The Northern Plains had the lowest percentage of farms with negative NCFI (26.2 percent) followed by the Corn Belt (35.9 percent).

Average off-farm income was highest in the Pacific region (\$43,767) followed by the Southern Plains (\$35,095). Appalachia had the largest percentage of farms with a negative NCHI (49.4 percent); the Pacific region had the lowest (33.6 percent).

The share of farms with a negative NFI indicates that farms in the Southern Plains have the weakest long-term financial prospects of all regions (44.9 percent). Farms in the Appalachian region appear to have the strongest position (20.9 percent). In the majority of the regions, the percentage of farms with a negative financial indicator was lower for NFI than for NCFI or NCHI. In the Southern Plains and Pacific regions, the percentage of farms with a negative NCHI was close to or lower than the other measures. These statistics were supported by relatively high values of nonfarm incomes which strengthened NCHI values.

Age and Occupational Specialty

Farm operators between 35 and 44 years of age had the highest percentage of farms with negative NCFI (50.6 percent). Farmers between 55 and 64 years of age had the lowest percentage (42 percent). Farm operators between 35 and 54 years had the lowest percentage of farms with negative NCHI (approximately 33 percent). Farm operators over 65 had the largest percentage of farms with negative NCHI, over 61 percent. They also had the lowest level of average off-farm income (\$15,481).

For operators older than 55, the share of farms with negative NFI was significantly smaller than the share of farms with negative NCFI or NCHI, indicating a greater degree of longrun financial stability than shortrun liquidity. On the other hand, for operators between the ages of 35 and 54, the share of operators with negative NFI slightly exceeded the share with negative NCHI, but the percentage with negative NCFI exceeded the percentage with negative NCHI by 17 points. High interest payments in these age groups reduced the levels of NCHI and NCFI (and increased the percentage with negative values), but high levels of nonfarm income helped to boost NCHI.

Farm operators who indicated that their primary occupation was farming had the best NFI and farm business cash flow positions. Hired managers had the highest share of negative NCHI and NFI (over 50 percent each), although operators who indicated their primary occupation to be "other" (part-time farmers) had the largest percentage with negative NCFI. Average nonfarm income was highest for operators with other primary occupations (\$43,861), followed by hired managers (\$28,734), and those who are primarily farmers (\$12,763).

FARM OPERATOR ASSETS AND DEBTS

Farm operators held assets valued at \$452 billion and debts totaling \$98.5 billion on January 1, 1987, giving an average debt/asset ratio of 0.218. Operators held about \$504 billion in assets and \$113 billion in debt at the end of 1985, giving an average debt/asset ratio of 0.224. On average, the relative debt positions of farm operators decreased by a small amount. Note that asset values are estimated and represent the judgment of farmers and ranchers as to the value of their holdings.

Thirty-nine percent of farm operators had no debt (the same as at the end of 1985), about 4 percent were insolvent, and 22 percent had debts greater than 40 percent of assets.

At the end of 1986, 3.7 percent of farms were technically insolvent (debt/asset ratios above 1.0) compared with 4 percent a year earlier. The amount of debt held by these farms declined from 16.1 percent in 1985 to the current figure of 13.9 percent. Thus, the survey suggests that while the portion of farm operators with low- to moderate-debt levels remained almost identical between 1985 and 1986, the share of farmers and debt in the more highly leveraged positions changed considerably. Both the share of insolvent operators and the debt held by these farmers dropped, possibly because of operators leaving the farm sector or because of highly leveraged farms reducing their debt burden.

As a group, farm operators had estimated average assets of \$300,378 and debts of \$65,396. The estimated market value of land and buildings accounted for 67 percent of total assets reported by farmers and ranchers, farm equipment accounted for 14.7 percent, livestock for 9.4 percent, crops for 4 percent, and purchased inputs and other assets for about 3.6 percent.

Total assets dropped by about \$52 billion during 1986, over 10 percent. Land and buildings were responsible for the majority of the decrease, totaling over \$51 billion (a 15-percent decline). The value of equipment declined by 12 percent, an indication that farmers are delaying capital equipment purchases and are not covering depreciation. Total livestock inventories increased slightly, while crops stored on the farm decreased by 24 percent. The latter statistic could signal financial stress if inventories are being drawn down to maintain a positive cash flow. Purchased inputs and other assets increased sharply, which may be a response to lower input prices.

Overall, farms with debts in excess of 70 percent of assets reported a smaller level of average assets per farm than did farms with lower debt/asset ratios (excluding farms with no debt). The share of land and buildings in total assets decreased as degree of leverage increased. Average net worth was also inversely related to the debt/asset ratio, ranging from \$233,942 for farms with no debt to -\$85,527 for insolvent farms. Farms with no debt held the

largest proportion of assets (30 percent). On the other hand, insolvent farms, which held 14 percent of the debt, held only 2 percent of the assets. The composition of lenders also changed somewhat by debt/asset level, with the Farm Credit System increasingly relied upon as the ratio increased.

Sales Class

The estimated net worth of farm operators averaged \$234,982 on January 1, 1987, but ranged from a low of \$129,000 for farms with less than \$10,000 in sales to over \$1.4 million for farms with sales in excess of \$500,000. This strong positive relationship between net worth and size of farm is historically consistent.

Land and buildings decreased as a share of total assets as farm size increased, declining from 80 percent of assets on farms with sales less than \$10,000 to 57 percent of assets on farms with sales over \$500,000 (the figures were 85 and 65 percent on January 1, 1986). For farms with sales of less than \$10,000, land, equipment, and livestock accounted for 95 percent of total assets, compared with 85 percent for farms with sales of over \$500,000. Crop, livestock, and other assets were more important to the asset structure of commercial-size farms than to smaller farms.

Sources of debt also varied by sales class of farm. Farms with sales of less than \$20,000 obtained a larger share of debt from banks than all farms as a group, and less from the Farm Credit System. Farms in the sales classes that fall between \$20,000 and \$500,000 have the largest portion of debt (40-50 percent) held by the Farm Credit System. Outstanding debt of farms in the largest sales category (over \$500,000) is nearly equally divided between the Farm Credit System, commercial banks, and other sources of funds, with the latter leading at 38 percent.

While the average debt/asset ratio for all farm operators was 0.22, average debt/asset ratios ranged from 0.10 for the smallest farmers to 0.31 for all farms with sales over \$250,000. Within the higher sales categories (sales of \$40,000 and above) the greatest proportion of assets was owned by farmers with debt/asset ratios from 0.11 to 0.40. In all of the lower sales classes (below \$40,000), on the other hand, the greatest share of the assets was owned by farmers with no debt. However, in all sales classes, except below \$10,000, farmers with debt/asset ratios between 0.41 and 0.70 held the largest percentage of debt.

Farm Type

Vegetable, fruit, and nut farms and dairy farms reported the highest levels of assets per farm in 1986. Vegetable, fruit, and nut farms had the largest average net worth of any farm type (\$333,000). Cash grain producers followed by dairy and poultry producers, vegetable, fruit, and nut farms, and tobacco and cotton farms reported the highest average debt/asset ratios. Nursery, greenhouse, and livestock operations (beef, hogs, sheep, and other) reported the lowest average debt/asset ratios.

The structure of the asset base of farms varied considerably by type of farm. Land and buildings accounted for about 75 percent of total farm assets for vegetable, fruit, and nut growers, nurseries and greenhouses, and poultry operations. Land and buildings accounted for around 70 percent of the assets of beef, hog, sheep, tobacco, cotton, and other crop farms. Land and

buildings were relatively less important to dairy, other livestock, and cash grain farms, although this item remained the single largest component of total assets. Machinery, equipment, and the estimated value of the dairy herd accounted for about 36 percent of dairy farm assets. Livestock inventories accounted for 12 percent of all assets on beef, hog, and sheep farms, 19 percent on dairy farms, 8 percent on poultry farms, and 25 percent on other livestock farms.

Region

Farmers in the Mountain and Pacific regions reported the highest average level of farm assets and net worth. The lowest average level of assets were reported by farmers in Appalachia, a result consistent with the generally smaller farms found in that region. However, the average net worth of farmers was lowest in the Lake States, followed by the Corn Belt, the Delta States, and the Appalachian region.

Farmers in the Northern Plains, Lake States, and Corn Belt reported the lowest land and building values as a component of total assets (55-60 percent of total assets), possibly due in part to the drop in land values in these regions, as well as the nature of the enterprises. Farmers in these three regions had heavier investments in farm equipment as a component of total assets than did other regions.

The debt/asset ratio varied considerably among regions, with the lowest levels recorded in the Appalachian region (0.11) and the Northeast (0.12). The Lake States, Northern Plains, and Corn Belt had the highest ratios (0.32, 0.30, and 0.26).

Age and Occupational Specialty

On January 1, 1987, older operators were more financially solvent than their younger counterparts, with debt/asset ratios ranging from 0.08 for farmers over 64 to 0.33 for farmers less than 34 years of age. While 8 percent of farmers under 34 were insolvent, less than 1 percent of farmers over 65 had debt/asset ratios over 1.0. The average value of farm assets increased with age up to age 64 and decreased above that age, probably reflecting older farmers' liquidation of assets and/or transfer of property to younger family members. Farmers between the ages of 35 and 54 had the highest average debt levels (\$87,000-\$90,000) followed by farmers younger than 35 (\$71,079).

Operators age 55 to 64 had the greatest average net worth, while those under 34 had the lowest level. Land represented a greater share of total farm assets for older operators than for younger operators (ranging from 74 to 58 percent), while the reverse was true for equipment (with equipment being 20 percent of assets for the youngest farmers but only 11 percent for the oldest). More crop and livestock inventory was held on the farm by younger operators than by older operators at the beginning of 1987.

Farms with hired managers as operators had a higher average debt/asset ratio than either full-time farmers or part-time farmers (0.31, 0.23, and 0.17, respectively). On average, hired managers' operations also had the highest net worth, which reflects the larger size of their operations.

The asset value of operations run by hired managers was estimated to be, on average, three times the asset value of operations run by full-time farmers and six times the asset value of operations run by part-time farmers. On the

other hand, the average debt level of farms with hired managers was 4 times the average debt of full-time farmers' operations and 11 times the average debt of part-time farmers.

Part-time farmers hold a larger portion of their assets in land than do either hired managers or full-time farmers (78 percent compared with around 64 percent). They also hold less crop and livestock inventory on the farm (8 percent versus approximately 15 percent). Full-time farmers, however, have the greatest share of total assets as equipment (16 percent) on their farms, compared with 11 percent for part-time farmers and 8 percent for hired managers.

FINANCIAL PERFORMANCE OF INDIVIDUAL FARM OPERATORS

A framework we developed for evaluating the financial performance of farm businesses jointly considers both earnings position and financial leverage (see Appendix I). Furthermore, data from the 1986 Farm Costs and Returns Survey also permit (for the first time) a distinction between net cash income and net farm income which gives a more comprehensive evaluation of a farm's financial situation. The viability of farm households is assessed (as in previous years), using net cash household income measures in combination with the solvency position of the farm business.

In addition to combined income and solvency positions, financial performance of individual farm operators is evaluated by calculating selected financial ratios. Three ratios are discussed in more detail in Appendix I.

Net Cash Farm Income and Solvency

In 1986, 41.4 percent of farms were in the most favorable relative short-term financial position having both a positive NCFI and a low to moderate debt level (debt/asset ratios below 0.41), up from 40.4 percent in 1985 (table 5). These farms accounted for 21.6 percent of total operator debt outstanding in 1986, compared with 21.0 percent in 1985. Over 55 percent of farms with sales above \$40,000 were in this favorable income/solvency position, while only 33 percent of the remaining small farms (sales of \$40,000 or less) qualified. Farms with sales over \$40,000 accounted for about 50 percent of all farms in a favorable financial position.

Marginal farm businesses, those whose financial position is most susceptible to changes in their business environment, may be characterized either by positive earnings and high debt levels or by negative earnings and low to moderate debt levels (debt/asset ratio below 0.41). Considering net cash income and solvency, 48.7 percent of farms surveyed were in this position in 1986 compared with 49.7 percent in 1985. The majority of this change in distribution is due to the decline in the percentage of farms with negative NCFI and low debt levels (38.3 in 1985 to 37 in 1986). Of these marginal farms with solvency problems, 80 percent had sales above \$40,000, while those with cash flow difficulties were predominantly smaller operations (sales of \$40,000 or less).

From a net cash income/solvency perspective, 9.9 percent of farm businesses were in the most vulnerable financial position in 1986. Although nearly identical to the 10 percent of such farms in 1985, within this group of farms the proportion with debt/asset ratios above 1.0 declined from 2.14 to 1.74

Table 5--Farm businesses: Net cash income position and debt situation by liquidity/solvency class and debt/asset ratio

Farms with positive net cash income	Debt/asset ratio						All farms
	Favorable			Marginal solvency			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	300	129	194	106	42	29	800
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.22	.20	.49	.37	.15	.09	1.52
\$40,000 to \$499,999	5.50	4.62	8.98	5.03	2.27	1.40	27.80
Less than \$40,000	14.21	3.76	3.42	1.62	.34	.43	23.77
All sizes	19.93	8.59	12.88	7.02	2.76	1.92	53.10
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.53	3.19	4.53	3.72	1.31	13.28
\$40,000 to \$499,999	0	1.84	14.17	14.99	8.88	5.89	45.78
Less than \$40,000	0	.46	1.45	1.38	.34	.97	4.60
All sizes	0	2.83	18.81	20.90	12.95	8.17	63.66
	<u>Billion dollars</u>						
Total debt	0	2,791	18,531	20,587	12,754	8,046	62,708
Farms with negative net cash income	Debt/asset ratio						All farms
	Marginal income			Vulnerable			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	286	107	164	90	34	26	707
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.03	.04	.12	.08	.04	.02	.32
\$40,000 to \$499,999	.87	.73	1.91	1.67	.87	.64	6.69
Less than \$40,000	18.08	6.34	8.86	4.21	1.33	1.08	39.89
All sizes	18.98	7.11	10.88	5.96	2.24	1.74	46.90
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.17	.98	1.58	.47	.92	4.11
\$40,000 to \$499,999	0	.39	4.04	6.22	3.87	3.20	17.71
Less than \$40,000	0	.89	4.81	5.31	1.93	1.58	14.51
All sizes	0	1.45	9.82	13.11	6.26	5.70	36.34
	<u>Billion dollars</u>						
Total debt	0	1,428	9,678	12,910	6,166	5,615	35,797

1986 Farm Costs and Returns Survey

percent. In 1986, the group of farms classified as vulnerable held 25.1 percent (\$24.7 billion) of total operator debt compared with 26.4 percent (\$29.9 billion) a year earlier. Sixty-six percent of these farms had sales of less than \$40,000.

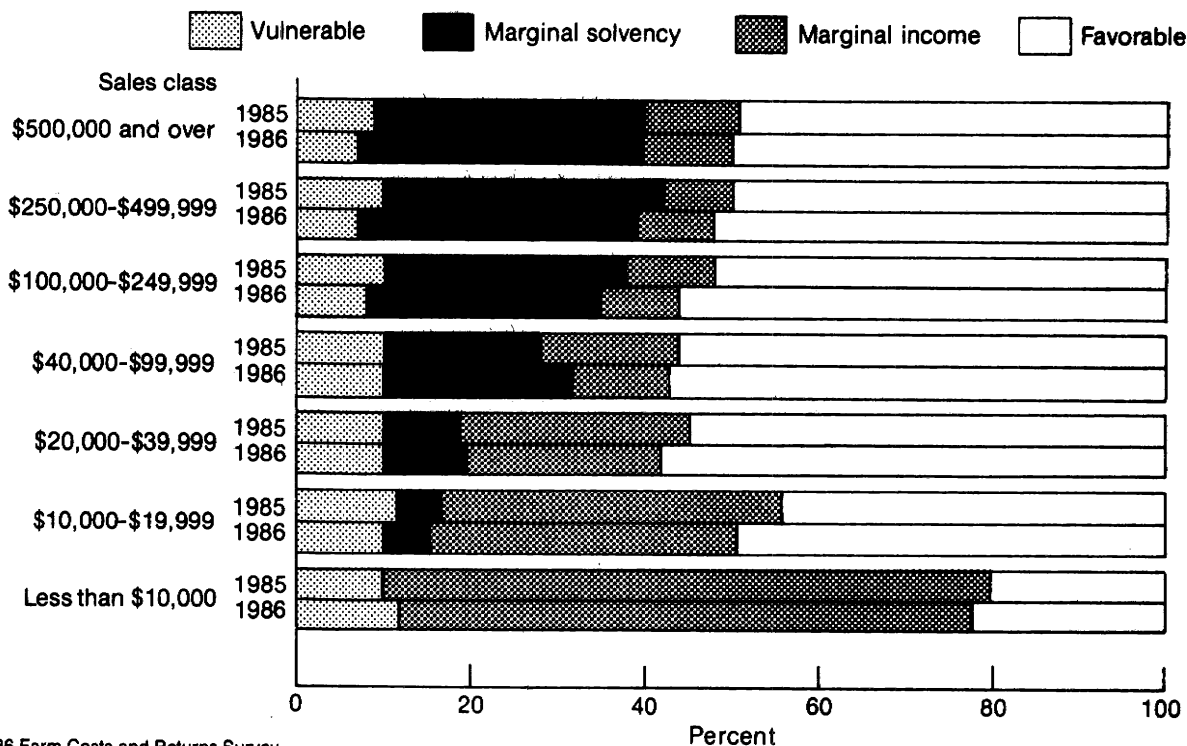
Sales Class

The percentage distribution of farm operators by earnings (using NCFI) and solvency position within sales class categories for both 1985 and 1986 suggest a direct relationship between increased sales and improved financial performance with the exception of the smallest sales class in 1985 (fig. 1). Another distinct relationship involving sales class pertains to farms in marginal income/solvency positions. A greater proportion of commercial-size farm businesses with marginal financial performance experienced solvency problems than did farms with sales below \$40,000.

Income problems were more prevalent for the smaller farm operations. This is consistent with the tendency of larger farms both to use debt more frequently and to carry higher debt/asset positions when they do borrow. The percentage of farms in the most vulnerable income/solvency position declined for sales categories above \$100,000 between 1985 and 1986. The percentage of farms in a marginal financial position increased, primarily for farms with positive earnings and a highly leveraged financial position. This group could include highly leveraged farms with favorable income in 1986 and farms with positive income moving to a higher debt/asset position as their asset values continue to erode. The financial situation of farms with sales between \$20,000 and \$99,999 remained generally unchanged between 1985 and 1986; slightly more were in a favorable situation but the same number remained vulnerable. Operations

Figure 1

Distribution of Farms Within Sales Classes by Net Cash Farm Income and Solvency Position



1985 and 1986 Farm Costs and Returns Survey.

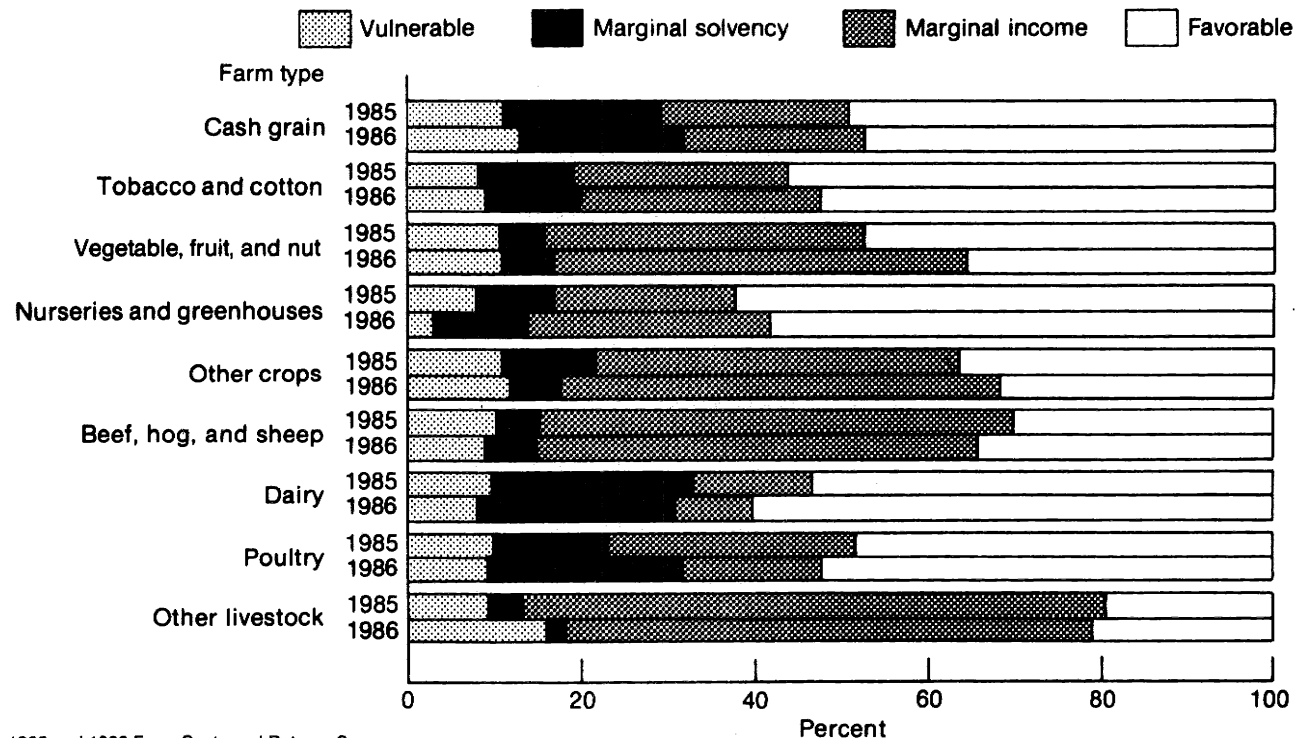
with sales between \$10,000 and \$19,999 had both a lower proportion of farms in the worst relative financial position in 1986 and more in a favorable position.

Farm Type

The percentage of farms with negative cash income increased for all crop farms, except for nurseries and greenhouses, and decreased for all livestock farm types except for "other livestock" (fig. 2). Thus, with the exception of nursery and greenhouse operations, the percentage of crop farms in the most vulnerable cash income and solvency position increased between 1985 and 1986. In contrast, all livestock enterprises, with the exception of other livestock, had fewer farm businesses with negative net cash incomes and debt/asset ratios above 0.40 in 1986 than in 1985. In 1986, over 50 percent of tobacco, cotton, and poultry, and 60 percent of nursery and greenhouse and dairy operations were in a favorable income and solvency position. Nearly 50 percent of each of the following farm types was in a marginal position with income a major problem: beef, hog, and sheep; vegetable, fruit, and nut; and "other crop" farms. These farms also had the smallest percentage of farms in a favorable position. Unlike other farm types in a marginal income/solvency position in 1986, 20 percent of dairy and poultry operations indicated more solvency difficulties than income problems. The cash grain category also had nearly 20 percent of farms with positive cash flow but high debt in 1986. Overall, the other livestock farm category had the largest percentage of farms in a vulnerable position in 1986 followed by cash grain and other crop farms. The cash grain and other crop farm categories also had the largest percentage of farms in a vulnerable position in 1985.

Figure 2

Distribution of Farms Within Farm Types by Net Cash Farm Income and Solvency Position



1985 and 1986 Farm Costs and Returns Survey.

Region

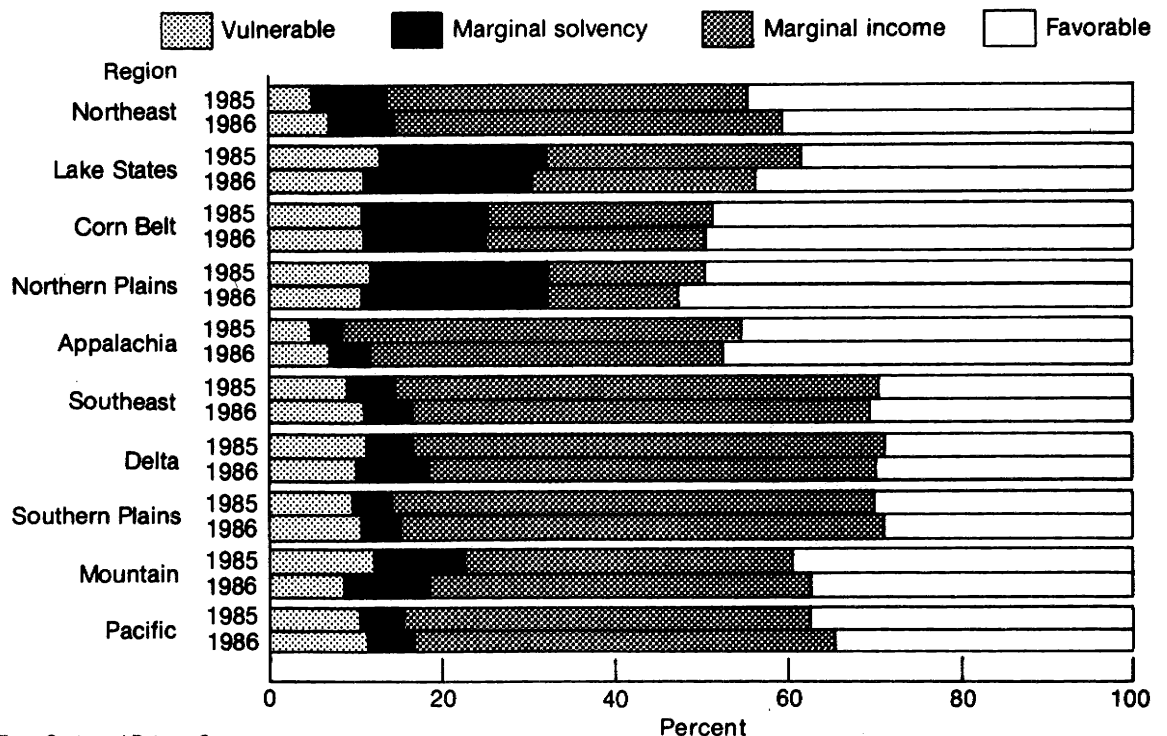
Comparing the net cash farm income and solvency distribution of farms within regions for 1985 and 1986 reveals improved financial conditions in the Lake States, Northern Plains, Delta, and Mountain regions (fig. 3). The Northeast and Appalachia had the fewest farms in a vulnerable position in both 1985 and 1986. The Northern Plains had more marginal farm businesses with a solvency problem rather than income difficulties. The Corn Belt and Lake States also had a large share of farms in this marginal financial position. These observations are consistent with the improved earnings but continued erosion of asset values in these regions. The percentage of farms in a vulnerable position increased in the Southeast and Appalachia and remained steady in the Corn Belt. Over 50 percent of farms in the Corn Belt and Northern Plains were in the most favorable income and solvency position in 1986.

Net Farm Income and Solvency

Evaluation of farm business earnings based on net farm income reveals that 68 percent of farms were profitable in 1986 (table 6). The remaining 32 percent of farm businesses operated at a net loss when earnings were adjusted for depreciation, changes in inventory, and nonmoney income. Thirty-three percent of farms with sales less than \$40,000 had negative net farm incomes, while only 28 percent of farms with sales above \$40,000 were in this position. These data indicate that changes in inventory and other nonmoney income items more than offset the charges for depreciation of machinery, equipment, and other farm capital, leaving a higher percentage of farms in a positive income situation. The most improvement in the percentage of farms with positive

Figure 3

Distribution of Farms Within Regions by Net Cash Farm Income and Solvency Position



1985 and 1986 Farm Costs and Returns Survey.

Table 6--Farm businesses: Net farm income position and debt situation by liquidity/solvency class and debt/asset ratio

Farms with positive net farm income	Debt/asset ratio						All farms
	Favorable			Marginal solvency			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	451	171	234	109	39	27	1,031
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.20	.20	.40	.34	.13	.08	1.34
\$40,000 to \$499,999	5.12	4.16	8.07	4.27	1.92	1.20	24.73
Less than \$40,000	24.66	6.96	7.06	2.65	.55	.52	42.40
All sizes	29.97	11.32	15.53	7.25	2.60	1.80	68.47
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.48	2.62	4.14	1.68	1.14	10.07
\$40,000 to \$499,999	0	1.68	12.52	11.79	7.58	4.79	38.36
Less than \$40,000	0	.79	3.40	2.29	.53	1.14	8.15
All sizes	0	2.96	18.54	18.23	9.79	7.07	56.58
	<u>Billion dollars</u>						
Total debt	0	2,913	18,259	17,960	9,639	6,961	55,732
Farms with negative net farm income	Debt/asset ratio						All farms
	Marginal income			Vulnerable			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	135	66	124	86	36	28	475
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.05	.05	.20	.12	.06	.03	.50
\$40,000 to \$499,999	1.26	1.19	2.81	2.43	1.22	.84	9.76
Less than \$40,000	7.64	3.14	5.21	3.18	1.11	.98	21.27
All sizes	8.94	4.38	8.23	5.73	2.39	1.86	31.53
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.22	1.55	1.96	2.51	1.09	7.33
\$40,000 to \$499,999	0	.55	5.70	9.41	5.17	4.30	25.13
Less than \$40,000	0	.56	2.85	4.39	1.74	1.41	10.96
All sizes	0	1.33	10.10	15.77	9.42	6.80	43.42
	<u>Billion dollars</u>						
Total debt	0	1,306	9,950	15,537	9,280	6,701	42,774

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income was for small farms with sales below \$40,000. These farms have both relatively small amounts of depreciation and a large share of total farm earnings from noncash sources. Commercial-size farm operations increased their share of farms with negative net incomes. These farms likely had large depreciation charges and perhaps sales from inventory.

The relationship between net cash farm income and net farm income is presented in table 7. Of the 475,000 farms with negative NFI, 90,000 or 19 percent had positive NCFI. These farms may have either serviced their immediate cash needs by selling inventories or had insufficient cash to fully compensate for the farm's depreciating capital stock. In contrast, 31 percent of farm businesses with positive NFI did not cover cash operating expenses (including interest) out of current sales. Some farms in this position may have decided to postpone crop and livestock sales and build inventories in anticipation of more favorable prices, to feed out livestock, or for other purposes. These farms would have had a more favorable net income than cash flow. Over 48 percent of farms with sales less than \$40,000 were in this position. These farms accounted for the vast majority of farms that moved from a negative net cash income to a positive net farm income in 1986. This demonstrates the dependence of small farm operators on noncash items such as home consumption as a source of business earnings.

Using net farm income to measure earnings showed that 57 percent of farms were in the most favorable long-term or income/solvency position. These farms were holding about 22 percent of total debt owed by operators in 1986. Using net farm income as the earnings measure instead of farm net cash income affected

Table 7--Farm businesses: Net farm income position and net cash income position

Item	Negative net farm income			Positive net farm income		
	Net cash income position		All farms	Net cash income position		All farms
	Negative	Positive		Negative	Positive	
	<u>1,000 farms</u>					
Number of farms	385	90	475	322	710	1,031
Percentage of all farms (by sales):	<u>Percent</u>					
\$500,000 or more	57.03	42.97	100.00	2.62	97.38	100.00
\$40,000 to \$499,99	59.21	40.79	100.00	3.69	96.31	100.00
Less than \$40,000	91.55	8.45	100.00	48.17	51.83	100.00
All sizes	80.99	19.01	100.00	31.21	68.79	100.00
Percentage of all debt (by sales):	<u>Percent</u>					
\$500,000 or more	52.62	47.38	100.00	2.55	97.45	100.00
\$40,000 to \$499,999	62.09	37.91	100.00	5.50	94.50	100.00
Less than \$40,000	93.18	6.82	100.00	52.74	47.26	100.00
All sizes	68.34	31.66	100.00	11.78	88.22	100.00
	<u>Billion dollars</u>					
Total debt	29,23	13,542	42,774	6,565	49,167	55,732

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farms with sales of \$40,000 or less the most, raising the proportion of farms with positive earnings and low debt from 33 percent to 61 percent.

When NFI is used to measure earnings, 33 percent of farm businesses were in a marginal income/solvency position. Nearly 46 percent of farms with sales above \$500,000 were in this marginal financial situation, about the same as in a favorable situation. Within the group of marginal farms, 35 percent had solvency problems. The remaining 65 percent faced business losses in 1986. This group consisted predominantly (74 percent) of small noncommercial operations.

Ten percent of farms were in the most vulnerable income/solvency position in 1986. Moreover, large farm operations accounted for a greater proportion of farms in this situation (47.7 percent of farms), compared with the NCFI earnings measure (33.2 percent). This occurs because the charges for depreciation on larger commercial farms is more than the offsetting changes in noncash income such as inventory and home consumption of food products. Farms classified as vulnerable using the income/solvency criteria accounted for 32 percent of total debt outstanding as of January 1, 1987, compared with the 25 percent of debt held by farms classified as vulnerable using the cash income/solvency measure. This increase in debt held by operators classified as vulnerable results from more commercial-size farms falling into the vulnerable category under the net income measure. Commercial-size farms owed 66 percent of the debt in a vulnerable situation using the cash income criteria and 75 percent using net income.

Sales Class

Net farm income as a measure of earnings produces a different perspective than the cash income/solvency measure regarding the relative financial conditions of farms within sales classes (table 8). Sales classes with the largest percentage of farms in a vulnerable financial position, using the net income/solvency criteria, were those between \$40,000 and \$499,000. Both larger and smaller sales classes had a smaller percentage of farms in a vulnerable position. The relationship between earnings and solvency still held for the farms in the marginal financial performance category when the net income/solvency criteria is used in place of the cash income/solvency

Table 8--Distribution of farm operators within sales classes by net farm income and solvency position

Sales class	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	<u>Percent</u>				
\$500,000 or over	43.32	16.04	29.54	11.10	100.00
\$250,000 to \$499,999	46.47	14.75	25.79	12.99	100.00
\$100,000 to \$249,999	50.03	14.36	22.72	12.88	100.00
\$40,000 to \$99,999	51.30	16.09	19.42	13.19	100.00
\$20,000 to \$39,999	61.10	19.07	10.12	9.71	100.00
\$10,000 to \$19,999	59.05	24.79	6.16	10.00	100.00
\$9,999 or less	61.18	26.96	4.51	7.36	100.00

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measure. Farms with sales over \$40,000 still appeared to have more problem with their debt position than their income capability. Moreover, nearly 60 percent of farm businesses with sales below \$40,000 had positive net farm incomes and low debt levels in 1986; 50 percent of farms with sales between \$40,000 and \$250,000 also fell into this position.

Farm Type

When earnings are measured by net farm income, only other livestock operations had fewer than 50 percent of farm businesses in the most favorable financial position (table 9). Moreover, one in six cash grain farms was classified as vulnerable under this criteria, the highest of any farm type, because cash grain farms not only have a relatively large depreciation charge, due to their machinery investment, but also because they drew down inventories in 1986. Both of these adjustments would contribute to more cash grain farms having a negative net farm income.

Region

The distribution of farms with negative net farm income and debt/asset ratios above 0.40 ranged from 5 percent in Appalachia to 14 percent in the Lake States (table 10). The Lake States, Northern Plains, and Corn Belt had the largest shares of farms both in a vulnerable position and with positive net income but high debt loads in 1986. Over 50 percent of farms were in a favorable net income and solvency position in all regions except for the Southern Plains and the Mountain region.

Net Cash Household Income and Solvency

Estimates of farm households with positive or negative NCHI were developed by adjusting net cash farm income to reflect off-farm income, estimated principal repayments, and estimated family living allowances. Over 47.4 percent of farm households were in a favorable income/solvency position in 1986 compared with 44.4 percent in 1985 (table 11). Of these farms, 62 percent had sales of less than \$40,000. Forty-eight percent of all farms with sales above \$500,000 were in this income/solvency position in 1986. Forty-two percent of farms

Table 9--Distribution of farm operators within farm types by net farm income and solvency position

Type of farm	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	<u>Percent</u>				
Cash grain	49.85	18.21	16.15	15.79	100.00
Tobacco and cotton	65.54	13.93	10.81	9.72	100.00
Vegetable, fruit, and nut	58.47	24.97	7.40	9.16	100.00
Nursery, and greenhouse	77.13	8.68	11.64	2.56	100.00
Other crop	52.81	28.83	9.47	8.88	100.00
Beef, hog, and sheep	59.31	25.95	7.82	6.92	100.00
Dairy	58.27	10.69	19.92	11.12	100.00
Poultry	59.52	8.34	23.55	8.59	100.00
Other livestock	47.88	34.59	5.54	11.98	100.00

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were in a marginal financial position. Of this group, 43 percent had no debt and negative NCHI and were predominantly small farm operations (sales less than \$40,000). Only 27 percent of marginal farm households reported solvency difficulties, while the remaining 73 percent could not meet family living, debt service, and operating expenses out of current farm and nonfarm income. As expected, farms with high debt tended to be economically larger than farm households with cash flow problems. Marginal farm households accounted for 42 percent of total operator debt outstanding as of January 1, 1987.

In 1986, 10.5 percent of farm households were in a vulnerable position (negative net cash incomes and debt/asset ratios above 0.40) compared with 11.2 percent in 1985. Twenty-four percent of these vulnerable farm households were technically insolvent in 1985. This figure declined to 21 percent in 1986. The percentage of operator debt held by farms classified as vulnerable also declined from 36 to 35 percent. About 40 percent of farm households in a vulnerable income/solvency position had sales of less than \$40,000 in both 1985 and 1986.

Sales Class

The percentage of farm households in a vulnerable position declined between 1985 and 1986 for farms in the \$500,000 and over, \$100,000 to \$249,999, and \$10,000 to \$19,999 sales classes, and was unchanged for the remaining sales categories (fig. 4). Still, nearly one in six farm households associated with farms in the \$40,000 to \$499,999 sales range were in a vulnerable position. The relationship between economic size and the distribution of marginal farm households was similar to that for farm businesses. That is, larger farm households (sales above \$40,000) had more debt-related problems while smaller households had trouble generating cash flow. In 1986, over 50 percent of farms with sales between \$100,000 and \$499,999 had positive NCFI and debt/asset ratios below 0.40, which put them in the favorable classification.

Farm Type

Cash grain, tobacco and cotton, and dairy were the only farm types with more than 10 percent of households in a vulnerable position (negative cash

Table 10--Distribution of farm operators within regions by net farm income and solvency position

Region	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	Percent				
Northeast	64.00	21.58	8.15	6.27	100.00
Lake States	50.85	17.56	17.89	13.70	100.00
Corn Belt	56.81	17.96	13.55	11.68	100.00
Northern Plains	51.95	15.20	19.97	12.89	100.00
Appalachia	72.62	15.49	6.50	5.39	100.00
Southeast	59.71	23.47	9.19	7.63	100.00
Delta	53.93	26.73	9.13	10.20	100.00
Southern Plains	49.08	34.74	6.04	10.14	100.00
Mountain	49.53	31.29	10.59	8.60	100.00
Pacific	57.77	25.22	8.74	8.27	100.00

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Table 11--Farm households: Net cash income position and debt situation by liquidity/solvency class and debt/asset ratio

Farms with positive net household income	Debt/asset ratio						All farms
	Favorable			Marginal solvency			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	316	159	239	110	36	21	881
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.22	.21	.46	.31	.12	.09	1.42
\$40,000 to \$499,999	4.93	4.35	7.80	3.73	1.50	.91	23.21
Less than \$40,000	15.81	6.02	7.61	3.28	.80	.38	33.90
All sizes	20.96	10.58	15.87	7.32	2.41	1.39	58.52
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.54	2.99	3.33	2.95	1.27	11.08
\$40,000 to \$499,999	0	1.80	12.70	10.64	5.73	3.17	34.04
Less than \$40,000	0	.80	3.82	3.33	1.19	.45	9.59
All sizes	0	3.15	19.51	17.30	9.87	4.89	54.71
	<u>Billion dollars</u>						
Total debt	0	3,099	19,216	17,043	9,721	4,815	53,895
Farms with negative net household income	Debt/asset ratio						All farms
	Marginal income			Vulnerable			
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>1,000 farms</u>						
Number of farms	270	77	119	85	39	34	625
Percentage of all farms (by sales):	<u>Percent</u>						
\$500,000 or more	.02	.04	.14	.14	.07	.02	.43
\$40,000 to \$499,999	1.45	1.00	3.09	2.97	1.64	1.13	11.29
Less than \$40,000	16.48	4.07	4.67	2.55	.87	1.12	29.77
All sizes	17.95	5.12	7.89	5.66	2.58	2.27	41.48
Percentage of all debt (by sales):	<u>Percent</u>						
\$500,000 or more	0	.16	1.18	2.78	1.24	.96	6.32
\$40,000 to \$499,999	0	.43	5.51	10.56	7.02	5.92	29.45
Less than \$40,000	0	.55	2.43	3.36	1.08	2.10	9.52
All sizes	0	1.14	9.13	16.70	9.34	8.98	45.29
	<u>Billion dollars</u>						
Total debt	0	1,120	8,992	16,454	9,199	8,846	44,611

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income and debt/asset ratios above 0.40) in 1986 (fig. 5). The percentage of farm households in a vulnerable income/solvency position rose between 1985 and 1986 for cash grain, tobacco and cotton, and nursery and greenhouse operations, but declined for all major types of livestock farms.

In both 1985 and 1986, tobacco and cotton farms had the smallest proportion of households in a favorable income/solvency position (39 and 38 percent), while nursery and greenhouse operations had the largest percentage of households in this position (65 and 61 percent). Farm types, other than poultry, in a marginal household income and solvency position in 1986 tended to have more cash flow difficulties than solvency problems.

Region

The regional distribution of farm households by income/solvency position is given in figure 6. In both 1985 and 1986, the Northern Plains and Lake States had the largest proportion of farms in a vulnerable position (negative NCHI and debt/asset ratio above 0.40). The Northern Plains also had a larger share of farm households in a vulnerable position than farm businesses. This reflects both the relatively large debt commitment of farms in this region and smaller amounts of off-farm income. Farm households located in the Northeast and Pacific regions had the highest percentage of farms in a favorable income/solvency position.

Over 30 percent of marginal farm households had solvency problems in the Lake States and Northern Plains, while in other regions marginal farms tended to have more difficulty meeting cash demands.

Financial Ratios

Selected ratios which provide alternative measures of liquidity, solvency, profitability, and financial efficiency are estimated for various classifications of farms. These ratios are defined in detail in Appendix I along with a guide to interpretation. Although limited by the lack of acceptable standards, ratio analysis provides a relative basis for which to compare the financial position of farms.

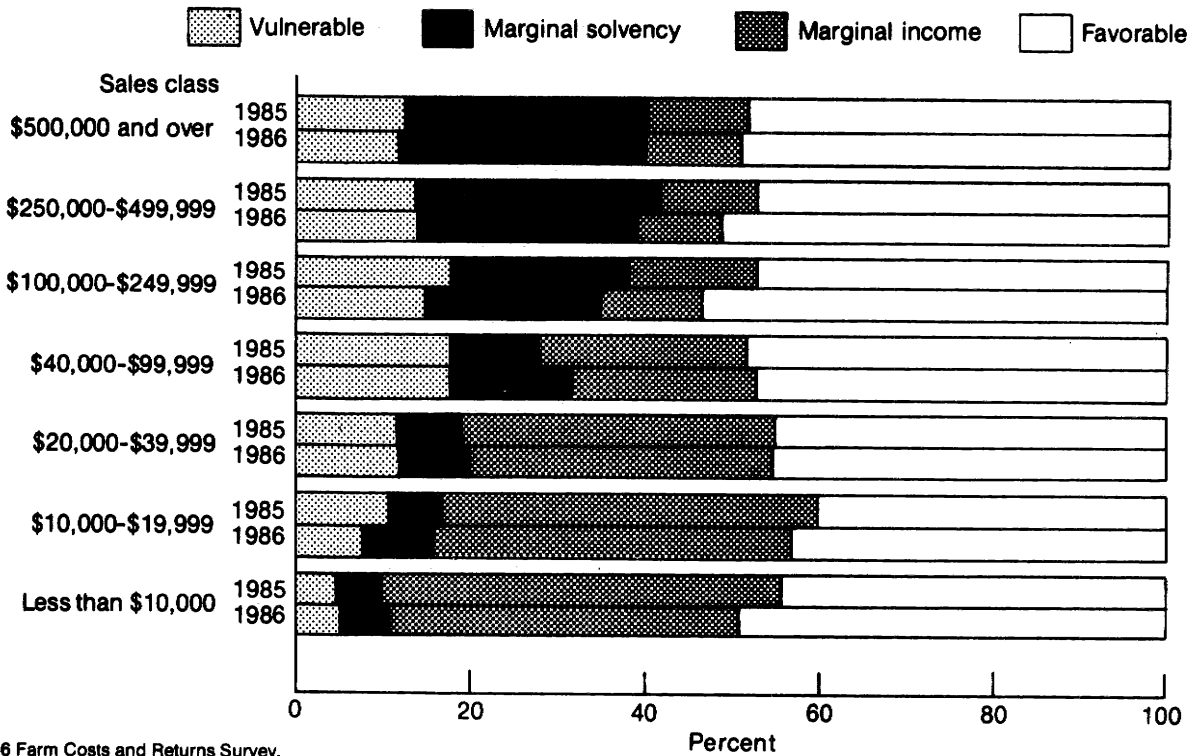
Income and Solvency Classifications

Averages of the liquidity, solvency, profitability, and efficiency ratios are given for each of the four income and solvency classifications in table 12. Only the set of financial ratios for farms classified in a vulnerable, marginal, or favorable position based on a debt/asset ratio in excess of 0.40 and a negative net cash income are discussed here. Comparable data for the net farm and net cash household income/solvency classifications are given in appendix tables 12 and 13. Ratio analysis provides additional information about the financial structure of farm businesses classified in vulnerable, marginal, or favorable financial positions.

Farms classified as vulnerable based on their combined income (negative) and solvency position (debt/asset ratio over 0.40) had a debt service coverage capability well below that for farms classified either as marginal or favorable and below that of all farms as a group. Vulnerable farm businesses, on average, fell short of covering each \$1.00 of interest and estimated principal repayments by -\$0.14. In contrast, farm businesses classified in a favorable position had \$6.16 cash availability per \$1.00 of debt service, and

Figure 4

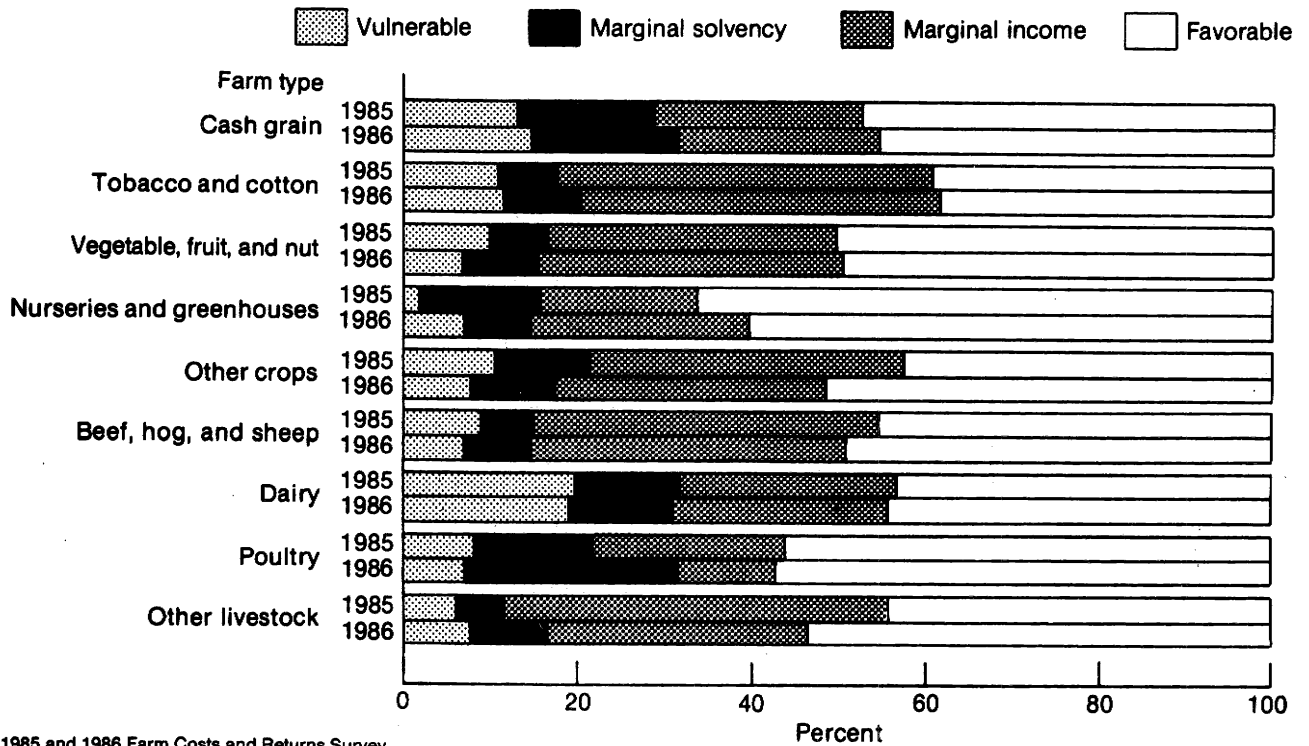
Distribution of Farms Within Sales Classes by Net Cash Household Income and Solvency Position



1985 and 1986 Farm Costs and Returns Survey.

Figure 5

Distribution of Farms Within Farm Types by Net Cash Household Income and Solvency Position



1985 and 1986 Farm Costs and Returns Survey.

farms classified in a marginal income position due to cash shortfalls had a business debt service coverage ratio of -1.76. Vulnerable farms had an average debt service commitment that took 48 cents out of each \$1.00 of gross cash income. And, given the relationship between cash expenses and income as measured by the gross ratio, vulnerable farm businesses, on average, did not generate enough cash to meet all financial obligations.

Differences between farm businesses in a vulnerable position and those either in a favorable position or in a marginal solvency position illustrate the role that control of production expenses and ability to generate earnings plays in the viability of the farm business. Farms classified in a marginal solvency position have debt/asset ratios, on average, identical to that of farms classified as vulnerable (0.69). Yet, these marginal farms generated \$2.16 to cover each \$1.00 of debt service from their farm business alone. When household debt service was considered, \$1.65 was generated. The profitability and efficiency ratios show that farms in a marginal solvency position cleared 29 cents out of each \$1.00 of gross cash farm income above total cash expenses and had the highest rate of return on assets. This ability to generate returns likely kept these highly leveraged farm businesses abreast of their cash commitments. But, the financial ratios also suggest that if costs were to rise in relation to revenues or if returns were to drop due to changes in production, prices, or other reasons, farms in the marginal solvency class could move into a more difficult financial situation. Farms in the favorable classification had a small amount of debt relative to assets (9 percent), had a small interest commitment relative to total expenses (4 percent), and generated relatively strong returns to assets.

Sales Class

Ratio values calculated from the 1986 FCRS data are presented by sales class and for all farms in appendix table 14. Each component of financial performance (liquidity, solvency, profitability, and financial efficiency) was generally directly related to economic size. The data specifically suggest that as economic size increased the relative financial strength of farm operations improved in 1986.

Average ratio values estimated for all farms surveyed for the three liquidity measures were 2.41 for the household debt service coverage ratio, 1.97 for the business debt service coverage ratio, and 0.15 for the debt servicing ratio. Differences between values of the debt service coverage ratios reflect the importance of nonfarm income to smaller farm operators (sales less than \$40,000) who accounted for 64 percent of farms surveyed in 1986. The debt service coverage ratios also revealed that without nonfarm income, farms with sales below \$40,000 would have been illiquid in 1986. Considering the debt servicing ratio across all farms, about 15 percent of gross cash income was required to service debt commitments in 1986.

The average debt/asset ratio was estimated at 0.22 for all farms surveyed in 1986. Farms in sales classes above \$40,000 had debt/asset ratios above the U.S. average. The remaining small farms had average debt/asset ratios below 0.20, demonstrating the smaller amounts of credit use typically associated with smaller operations.

Estimates for the three measures of profitability demonstrated wide disparity across sales classes in 1986. On average, farm operators in the \$250,000 to \$499,999 sales class were the most profitable by all measures. Average rate

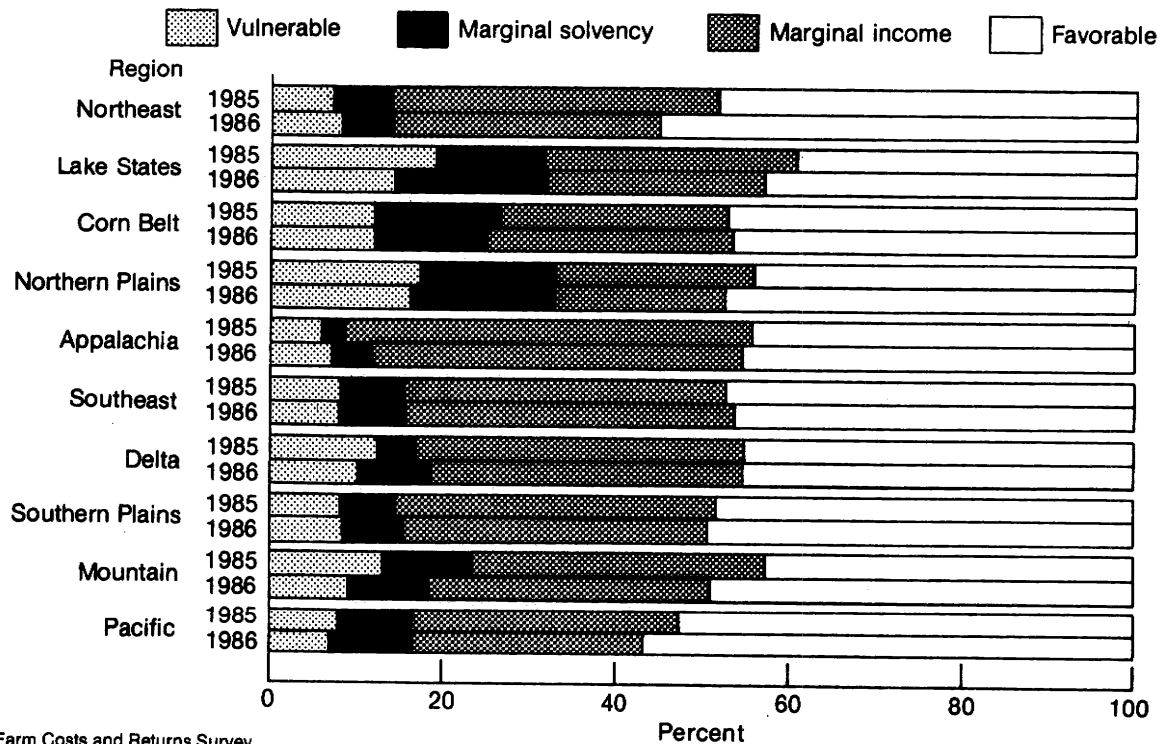
Table 12--Average financial ratios by net cash farm income and solvency position

Ratio	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
Ratio					
Liquidity measures:					
Household debt service coverage	6.02	2.39	1.65	0.10	2.41
Business debt service coverage	6.16	-1.76	2.16	-.14	1.97
Debt servicing	.07	.23	.18	.48	.15
Solvency measure:					
Debt/asset ratio	.09	.08	.69	.69	.22
Profitability measures:					
Return on equity	5.40	-5.81	17.27	-44.75	.66
Return on assets	6.07	-4.05	11.25	-6.76	2.80
Profit margin	.32	-.34	.19	-.41	.16
Efficiency measures:					
Gross	.64	1.56	.71	1.36	.81
Interest expense	.04	.16	.11	.29	.09

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Figure 6

Distribution of Farms Within Regions by Net Cash Household Income and Solvency Position



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of return on equity was estimated at 0.66 for all farms surveyed and became negative for sales categories below \$100,000. A similar distribution across sales classes occurred for average rate of return on assets with negative values estimated for sales categories below \$20,000. Profit margins above the U.S. average were estimated for farms with sales between \$250,000 to \$499,999, \$20,000 to \$39,999, and less than \$10,000.

On average, the most financially efficient group of farms using the gross ratio measure (total cash operating expenses divided by gross cash income) was farms in the \$250,000 to \$499,999 sales classes who were previously identified as the most profitable. Operating expenses exceeded gross cash income, on average, for farms with sales below \$20,000 in 1986. The average U.S. gross ratio was 0.81 in 1986. Interest expense averaged 6 percent of gross income on the largest farms, increasing to 34 percent for farms in the smallest sales category.

Farm Type

Nursery and greenhouse and poultry operations, on average, demonstrated the greatest relative financial strength among farm types in 1986. Other relationships in appendix table 15 suggest that without off-farm income, beef, hog, and sheep, other crop, and other livestock operations would have been illiquid, on average, based on estimates of both debt service coverage ratios. The average debt servicing ratio ranged from an estimate of 0.04 on poultry farms to 0.22 for other livestock farms.

Nursery and greenhouse operations were in the best relative solvency position, with an average debt/asset ratio of 0.09. Cash grain farms, on average, had the highest degree of financial risk associated with their operations in 1986.

By all measures, nursery and greenhouse and poultry farms were the most profitable operations in 1986. Average rate of returns on equity were negative for vegetable, fruit and nut, other crop, beef, hog, and sheep, and other livestock farms, indicating relative financial stress. Other livestock farms had the only negative average rate of return on assets. Average values for the profit margin ratio exceeded 0.20 on tobacco and cotton, nursery and greenhouse, and poultry farms.

Relative to other farm types, operators of nursery and greenhouse and poultry farms were the most efficient. Other livestock farms were the only farm types for which the average gross ratio exceeded 1.0 in 1986. On average, interest expenses were more than 10 percent of gross cash income for cash grain and other livestock farms.

Region

Estimates of financial ratios for farm production regions are presented in appendix table 16. The relative financial strength of a region is closely related to the performance of commodity producers presented in the previous section and the relative diversity of commodity production within the region. For example, the strong financial performance in the Delta region in 1986, based on average values of financial ratios, was partly due to the concentration of poultry production in the region.

Average values of debt service coverage ratios indicate that the Appalachian and Southern Plains regions' liquidity position depends on off-farm income.

Based on average values of the debt servicing ratio, farms located in the Lake States, Southern Plains, and Mountain regions were in the worst relative liquidity position in 1986.

Average debt/asset ratio values were lowest in the Northeast and Appalachian regions, while farm operations located in the Lake States and Northern Plains demonstrated the greatest relative financial risk.

Average rate of return on equity was negative for the Lake States, Southeast, Southern Plains, and Mountain regions. The Southeast and Southern Plains were the only regions which averaged negative rates of return on assets. Average values of the profit margin ratio indicate that farms in the Delta, Appalachian, and Northeast were most profitable in 1986.

The Delta, Northeast, and Appalachian regions were both most profitable and most efficient based on average values of the gross ratio and the ratio of interest expense to gross cash income. Interest expenses exceeded 10 percent of cash operating expenses, on average, in the Lake States, Mountain, and Southern Plains regions.

FARM OPERATOR RETURNS

To gain perspective on the leverage position of farms with differing rates of return and to provide additional insight into the distribution of earnings by farm operators, we cross-tabulated farms by farm business return to equity and debt/asset ratio, and by farm business return to assets and debt/asset ratio. The two combinations of income and solvency indicators are alternative measures of financial performance by which to judge the shortrun and longrun health of particular groups in the farm economy.

Farm operators with a favorable combination of returns and a demonstrated ability to sustain equity and service debt by earning either high returns with relatively high debt or positive returns with little or no debt (equity cushion) are in a fairly secure financial position. Farms with inadequate returns to sustain current equity or to fully service debt over the longer term are in a less stable position and will likely experience financial difficulties unless they are able to increase their returns or reduce their debt service burden.

Farm Business Returns to Assets

Because returns to assets do not account for interest payments, they demonstrated little variability across leverage groups (table 13). Over 46 percent of all operators had returns that fell between -5 and 5 percent, and nearly half of those had no debt. Even for highly leveraged groups (except insolvent farms), returns to assets most commonly were between -5 and 5 percent at the end of 1986.

While 25 percent of operations with debt/asset ratios of 0.40 and below had returns of less than -5 percent, 36 percent with debt/asset ratios above 0.40 had returns below that level. Also, farms with higher leverage (0.40 and above) had a higher percentage of farms with returns of 0.05 and above (30 percent) than did farms with lower debt/asset ratios (25 percent).

About 20 percent of all farmers were in the most financially favorable position (debt/asset ratios of 0.40 or less and returns to assets of at least

5 percent). Another 39 percent had low debt/asset ratios and returns to assets between -5 and 5 percent, and 19 percent had low debt/asset ratios but returns less than -5 percent.

Farms with intermediate leverage (in the range of 0.41 to 0.70) constituted 13 percent of all farms in 1986, and higher leveraged farms represented 9 percent of all farms. Farms with medium to high debt/asset ratios (greater than 0.40) and returns of less than -5 percent were about 6.5 percent of the operations.

Farm Business Returns to Equity

Nearly 21 percent of all farm operators had no debt in combination with a return to equity between -5 and 5 percent in 1986 (table 14), indicating some financial stability in the short run but some problems in sustaining equity in the long run. Except at high leverage levels, returns to equity most commonly ranged from -5 to 5 percent. Overall, 40 percent of farm operators fell into this category.

A greater proportion of highly leveraged farms had a low return to equity than did less indebted farms. While 64 percent of farms with debt/asset ratios greater than 0.40 had returns of less than -5 percent in 1986, only 30 percent of farms with lower debt/asset ratios had returns below that level. These figures suggest that debt is reducing the returns of some highly leveraged farms.

Eighteen percent of farms in 1986 were in the most financially favorable positions, with both low debt/asset ratios (0.40 and below) and high returns (greater than 5 percent). Some farms appeared to be earning adequate returns on their equity in 1986 despite high leverage. About 4 percent of all operators had debt/asset ratios between 0.41 and 0.70 coupled with returns to equity over 5 percent, while 2 percent had debt/asset ratios over 0.71 and returns above 5 percent. The groups in the most difficult financial position, medium to high leverage and very low returns, constituted 14 percent of all farm operators in 1986.

Table 13--Distribution of U.S. farms by debt/asset ratio and farm business return to assets, January 1, 1987 ^{1/}, ^{2/}

Farm business return to assets	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	<u>Percent</u>						
0.20 or over	1.55	0.63	1.56	1.19	.71	.66	6.30
0.10 to 0.19	2.13	1.27	2.22	1.44	.71	.39	8.15
0.05 to 0.09	4.91	1.92	3.47	2.03	.53	.29	13.16
-0.05 to 0.04	20.52	8.25	10.52	4.83	1.57	.79	46.48
-0.10 to -0.06	4.07	2.00	2.47	1.30	.43	.33	10.61
-0.20 to -0.11	2.96	1.05	2.02	1.28	.42	.36	8.11
-0.21 or less	2.76	.58	1.51	.90	.61	.84	7.18
All farms	38.91	15.69	23.76	12.98	4.99	3.66	100.00

^{1/} Farm business return to assets is net farm income minus the estimated return to operator and unpaid labor, minus the estimated return to management plus interest expense divided by total assets. ^{2/} Numbers may not add due to rounding.

Return to Equity by Sales Class, Region, and Farm Type

The 40 percent of all operators who had returns to equity between -5 and 5 percent were responsible for only 21 percent of the debt at the end of 1986 but owned nearly half of all assets (table 15). Almost 50 percent of all operators whose equity returns fell within this range earned less than \$10,000 in annual sales. They owned 12 percent of all operators' assets at the end of 1986 but held only 3 percent of the debt. The percentage of farmers who fell into the -5 to 5 percent returns range decreased with size of farms. Larger farms, particularly those with sales of \$100,000 and over tended to have a higher percentage of farms with returns under 5 percent. A greater proportion of large farm operations than small operations had a high return to equity (5 percent or more). Their solvency position was not as positive, however. Larger farm classes had a greater share of total debt than assets.

Farm operators with returns to equity below -5 percent owed over 38 percent of all farm operators' debt, with nearly 75 percent of this debt owed by farms with at least \$40,000 in sales. Farms with debt/asset ratios above 1.0 owed another 14 percent of debt. Eighty-two percent of the debt of insolvent farms was owed by farms with sales of at least \$40,000. Together, farms that were either insolvent or with returns to equity below -5 percent owed 52 percent of farm operator debt and owned 28 percent of assets. While farms with smaller sales (below \$40,000) and low returns (less than -5 percent) constituted a relatively large share of all operators with low returns (67 percent), they held only 26 percent of the debt of operators with low returns and 10 percent of all operators' debt.

Appendix table 17 shows the regional distribution of farm operators, debts, and assets by return on equity. The Corn Belt had not only the greatest share of all insolvent farms (30 percent), but also the largest share of farms with a return on equity of less than -5 percent (23 percent). In that region, nearly 33 percent of farms had returns below -5 percent, and about 5 percent were insolvent. These figures are comparable to percentages for the Lake States, the Northern Plains, and the Delta regions where about 35 percent of

Table 14--Distribution of U.S. farms by debt/asset ratio and farm business return to equity, January 1, 1987 ^{1/}, ^{2/}

Farm business return to equity	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
	Percent						
0.20 or over	1.51	0.66	1.75	1.63	1.31	NA	6.86
0.10 to 0.19	2.09	1.13	1.91	1.11	.21	NA	6.44
0.05 to 0.09	4.63	1.64	2.37	.82	.07	NA	9.53
-0.05 to 0.04	20.57	8.21	8.48	2.33	.29	NA	39.88
-0.10 to -0.06	4.20	1.99	3.33	1.07	.08	NA	10.67
-0.20 to -0.11	3.02	1.35	3.03	2.36	.33	NA	10.09
-0.21 or less	2.88	.71	2.90	3.66	2.71	3.66	16.52
All farms	38.91	15.69	23.76	12.98	4.99	3.66	100.00

NA = Not applicable. ^{1/} Farm business return to equity is net farm income, minus the estimated return to operator and unpaid labor, minus the estimated return to management, divided by total equity. ^{2/} Numbers may not add due to rounding.

farms also had returns below -5 percent, and about 4 percent were insolvent at the end of 1986. The Southern Plains and Mountain regions had a greater than average share of farms with low returns to equity (41 and 37 percent) but a lower than average share of insolvent farms (2 and 3 percent).

The Southeast had the greatest share of debt held by operators who were either insolvent or had returns on equity less than -5 percent (69 percent), followed by the Southern Plains (67 percent). Nearly 54 percent of all debt of farms which were either insolvent or had returns below -5 percent was owed in the Lake States, Corn Belt, and Northern Plains. Another 20 percent was owed in the Southeast and Southern Plains.

At the other extreme, the Northern Plains had the greatest share of operators who earned a return on equity of 5 percent or more (31 percent). They controlled 32 percent of the debt in the Northern Plains. Twenty-six percent of operators in the Corn Belt and 25 percent in the Northeast had a return on equity above 5 percent. The lowest returns occurred in the Southern Plains where only 12 percent of the farms had a return on equity of 5 percent or more.

Table 15--Distribution of farm operators, debt, and assets by farm business return to equity and sales class, January 1, 1987 ^{1/}, ^{2/}

Sales class	Farm business return to equity								All farms
	Insolv-ent farms	-0.21 or less	-0.20 to -0.11	-0.10 to -0.06	-0.05 to 0.04	0.05 to 0.09	0.10 to 0.19	0.20 or over	
	<u>Percent</u>								
\$500,000 Operators or Debt over Assets	0.11 2.22 .25	0.21 3.88 1.51	0.10 .83 .65	0.10 1.09 .75	0.36 3.18 4.47	0.18 1.08 1.08	0.19 1.57 1.67	0.60 3.54 2.02	1.85 17.40 12.40
\$250,000 Operators to Debt \$499,999 Assets	.18 1.48 .22	.34 2.14 .95	.29 1.21 .69	.21 1.13 .75	.74 2.64 3.11	.40 1.21 1.36	.46 1.32 1.17	.85 2.73 1.45	3.48 13.87 9.70
\$100,000 Operators to Debt \$249,999 Assets	.73 3.88 .61	1.77 5.47 2.19	.88 2.55 1.49	1.21 2.35 2.17	3.89 6.44 9.98	1.60 2.36 2.66	1.76 2.91 2.58	2.23 4.06 2.10	14.07 30.03 23.78
\$40,000 Operators to Debt \$99,999 Assets	1.14 3.73 .54	2.48 3.96 1.60	1.87 2.47 1.70	1.48 1.55 1.63	5.72 4.42 9.59	1.68 1.20 1.75	1.09 .88 .90	1.48 1.38 .77	16.94 19.59 18.47
\$20,000 Operators to Debt \$39,999 Assets	.38 1.26 .15	1.68 1.60 .72	1.26 1.00 .78	1.26 .52 .87	4.42 1.14 4.90	.90 .26 .58	.82 .26 .42	.79 .24 .30	11.51 6.29 8.74
\$10,000 Operators to Debt \$19,999 Assets	.43 .56 .09	1.36 .92 .44	1.40 .70 .63	1.47 .47 .99	5.67 .89 4.92	1.13 .18 .56	.59 .07 .17	.29 .10 .07	12.34 3.88 7.88
\$9,999 Operators or Debt less Assets	.70 .74 .12	5.02 1.80 1.05	4.29 1.90 1.61	4.94 .94 2.12	19.08 2.78 11.84	3.64 .29 1.61	1.53 .35 .61	.61 .14 .07	39.82 8.95 19.03
All farms Operators Debt Assets	3.66 13.87 1.98	12.86 19.78 8.46	10.09 10.65 7.55	10.67 8.05 9.29	39.88 21.49 48.80	9.53 6.59 9.62	6.44 7.37 7.52	6.86 12.20 6.79	100.00 100.00 100.00

^{1/} Farm business return to equity is net farm income, minus the estimated return to operator and unpaid labor, minus the estimated return to management, divided by total equity. ^{2/} Numbers may not add due to rounding.

Thirty-two percent of all operators with returns of at least 5 percent are classified as beef, hog, and sheep farmers, and 27 percent are cash grain farmers (app. table 18). This percentage reflects the large numbers of operators in these categories. Beef, hog, and sheep farmers also represent 40 percent of all farmers who either had returns below -5 percent or were insolvent, while cash grain farmers represented 25 percent.

The percentage of highly leveraged farms with low returns on equity varied by farm type. Other livestock, dairy, and cash grain farms had the greatest share of farmers with either a return on equity less than -5 percent or debt/asset ratio above 1.0 (47, 41, and 40 percent, respectively). They were followed closely by other crop; tobacco and cotton; vegetable, fruit, and nut; and beef, hog, and sheep farms.

Poultry farmers and nursery and greenhouse operations had the highest share with returns on equity of at least 5 percent (67 and 60 percent, respectively). Only 12 percent of other livestock farms; 17 percent of beef, hog, and sheep farms; and 19 percent of other crop farms had returns on equity of that level.

LENDER PERSPECTIVE

This section examines the vulnerability of debt and lenders associated with financially troubled farms. In particular, farms previously identified as being in a vulnerable income/solvency position are distinguished as stressed, while the remaining favorable or marginal farm operations under this criteria are referred to as nonstressed.

Debt Distribution by Lender

The FCRS collected farm operator debt by type of lender. Figure 7 displays the distribution of debt held by operators on January 1, 1987, by lender. The total debt held by commercial banks, Federal land banks (FLB's), and the Farmers Home Administration (FmHA) was \$63 billion, in contrast to about \$73 billion on January 1, 1985, and \$80 billion at the beginning of 1985 (app. table 19). Debt held by FLB's and the FmHA decreased by around 20 percent in the last year, while operators' debts held by commercial banks declined only 7 percent.

These lenders (commercial banks, FLB's, and the FmHA) held \$10.2 billion of the debt on farms with debt/asset ratios greater than 1.0. When farms with debt/asset ratios of 0.71 to 1.0 are included, this figure increases to \$22 billion. The total debt held by all lenders on farms with debt/asset ratios of 0.71 or more was nearly \$33 billion. This amount represents a 14-percent decrease from the previous year, which compares with a 12.6-percent decline in the level of debt for farms with debt/asset ratios of 0.70 and below.

The distribution of lender debt by leverage position of the operator reveals that commercial banks, FLB's, and the FmHA held about 64 percent of the total farm debt, compared with 65 percent a year earlier (table 16). About 54 percent of FmHA debt was held on farms with debt/asset ratios greater than 0.71. The comparable figure is 27.6 percent for commercial banks. The FmHA held 31.3 percent of all debt on farms with debt/asset ratios exceeding 1.0. Together, commercial banks, FLB's, and the FmHA held nearly 75 percent of total debt in this category.

Of all the debt of highly leveraged operators (debt/asset ratios exceeding 0.40), commercial banks held the largest share (18 percent). FLB's and the FmHA held the second and third largest shares (14 and 12 percent).

All lenders had at least 59 percent of their reported debt held by highly leveraged farm operators. FmHA had the highest percentage (84 percent), while merchants and dealers had the lowest share. The proportion of operators on farms with debt/asset ratios exceeding 0.70 reporting debt owed to commercial banks, Federal land banks, the FmHA, and Production Credit Associations (PCA) decreased from January 1, 1986, to January 1, 1987, with the exception of farms reporting debt owed to commercial banks with debt/asset ratios of 0.71 to 1.0. This may have resulted in part from a shift from insolvent to solvent status for some farms. The proportion of lender debt owed by insolvent operators also either decreased during this period or remained about the same.

Distribution of Operator Debt by Measure of Stress

The FCRS data on operator debt was also examined by level of stress. We used three alternative measures based on different indicators of income. A farm was considered to be financially stressed if it had a debt/asset ratio of 0.40 or more and a negative income in 1986. The three measures of income used were net farm income (NFI), net cash farm income (NCFI), and net cash household income (NCHI). Operator debt was first categorized by lender, financial position, and measure of income (app. tables 21 through 23). These data are summarized in table 17 by combining operator debt into stressed and nonstressed categories.

Figure 7

Distribution of Farm Operator Debt by Lender, January 1, 1987

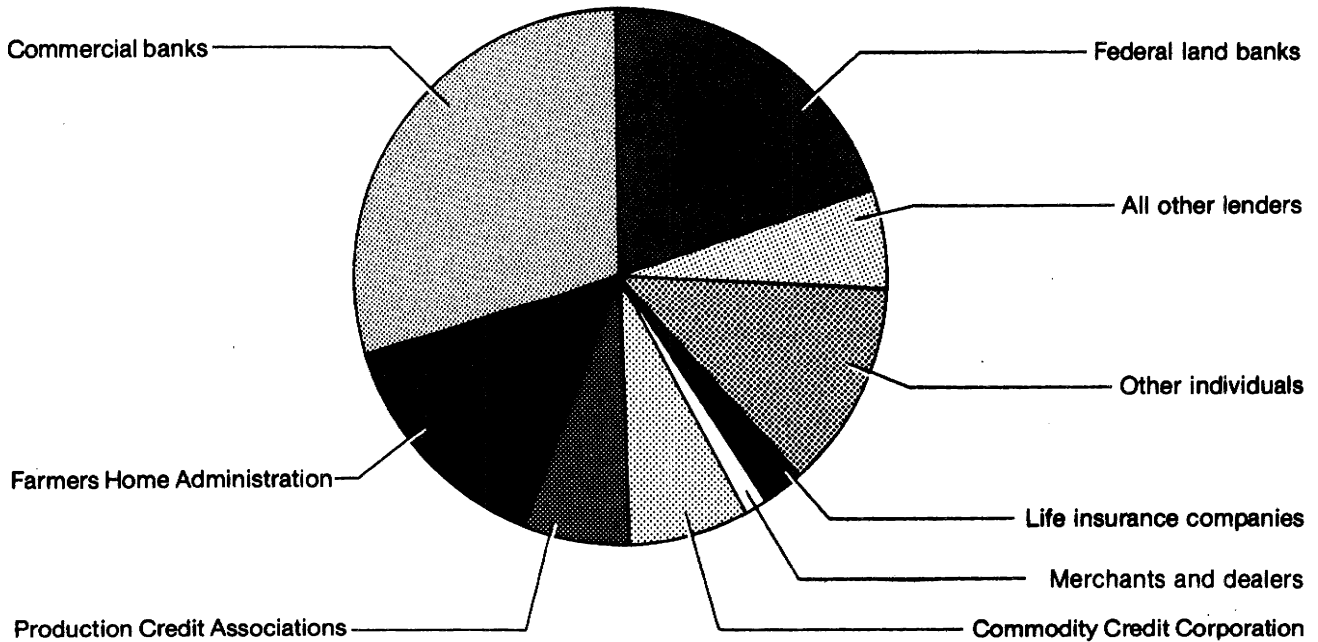


Table 16--Distribution of farm operator debt by debt/asset ratio and lender, January 1, 1987 ^{1/}

Lender	Debt/asset ratio					Jan. 1, 1987, all farms	Jan. 1, 1986, all farms ^{2/}
	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0		
Percent							
Commercial banks:							
Percentage of--							
Own debt by d/a class ^{3/}	5.7	32.8	33.9	16.0	11.6	100.0	100.0
All lender debt in class ^{4/}	39.3	33.6	29.2	24.5	24.5	29.3	27.4
All operator debt ^{5/}	1.7	9.6	9.9	4.7	3.4	29.3	27.4
Federal land banks:							
Percentage of--							
Own debt by d/a class	2.6	30.1	37.3	17.1	12.9	100.0	100.0
All lender debt in class	12.2	21.3	22.2	18.1	18.9	20.3	22.2
All operator debt	.5	6.1	7.6	3.5	2.6	20.3	22.2
Farmers Home Administration:							
Percentage of--							
Own debt by d/a class	1.1	14.4	30.2	23.8	30.4	100.0	100.0
All lender debt in class	3.6	7.2	12.7	17.7	31.3	14.3	15.1
All operator debt	.2	2.1	4.3	3.4	4.3	14.3	15.1
Production Credit Association:							
Percentage of--							
Own debt by d/a class	5.8	33.8	32.9	15.5	12.0	100.0	100.0
All lender debt in class	8.6	7.5	6.2	5.1	5.5	6.4	7.8
All operator debt	.4	2.2	2.1	1.0	.8	6.4	7.8
Commodity Credit Corporation:							
Percentage of--							
Own debt by d/a class	6.9	32.2	29.8	19.5	11.5	100.0	100.0
All lender debt in class	11.8	8.2	6.4	7.4	6.0	7.3	7.3
All operator debt	.5	2.3	2.2	1.4	.8	7.3	7.3
Merchants and dealers:							
Percentage of--							
Own debt by d/a class	10.4	30.1	27.2	18.9	13.4	100.0	100.0
All lender debt in class	2.7	1.2	.9	1.1	1.1	1.1	1.6
All operator debt	.1	.3	.3	.2	.2	1.1	1.6
Life insurance companies:							
Percentage of--							
Own debt by d/a class	4.5	16.9	51.1	15.4	12.1	100.0	NA
All lender debt in class	2.9	1.6	4.1	2.2	2.4	2.7	NA
All operator debt	.1	.5	1.4	.4	.3	2.7	NA
Other individuals:							
Percentage of--							
Own debt by d/a class	4.4	31.6	36.8	19.3	7.9	100.0	NA
All lender debt in class	13.0	13.9	13.6	12.6	7.1	12.6	NA
All operator debt	.6	4.0	4.6	2.4	1.0	12.6	NA
All other lenders:							
Percentage of--							
Own debt by d/a class	4.2	26.3	26.4	36.0	7.2	100.0	NA
All lender debt in class	5.9	5.6	4.7	11.4	3.2	6.1	NA
All operator debt	.3	1.6	1.6	2.2	.4	6.1	NA
All lenders:							
Percentage of--							
All lender debt in class	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All operator debt	4.3	28.6	34.0	19.2	13.9	100.0	100.0

NA = not applicable. ^{1/} Numbers may not add due to rounding. ^{2/} Source: Financial Characteristics of U.S. Farms, January 1, 1986. AIB-500. U.S. Dept. Agr., Econ. Res. Serv., August 1986. ^{3/} Own debt is the distribution of lender held operator debt by operator debt/asset ratio. ^{4/} All lender debt is the percent of total operator debt in each debt/asset ratio class held by a lender. ^{5/} All operator debt is the percent of total operator debt held by a lender in each debt/asset ratio class.

Table 17--Distribution of farm operator debt, by measure of stress and lender,
January 1, 1987 ^{1/}

Lender	Financial stress measure ^{2/}					
	Net farm income		Net cash farm income		Net cash household income	
	Stressed	Not stressed	Stressed	Not stressed	Stressed	Not stressed
	<u>Percent</u>					
Commercial banks:						
Percentage of--						
Own debt by category ^{3/}	31.2	68.8	28.1	71.9	33.3	66.7
All lender debt in category ^{4/}	28.6	29.7	32.9	28.1	27.9	30.1
All operator debt ^{5/}	9.2	20.2	8.3	21.1	9.8	19.6
Federal land banks:						
Percentage of--						
Own debt by category	31.0	69.0	23.5	76.5	32.8	67.2
All lender debt in category	19.6	20.6	19.0	20.7	19.0	20.9
All operator debt	6.3	14.0	4.8	15.5	6.7	13.6
Farmers Home Administration:						
Percentage of--						
Own debt by category	37.9	62.1	31.6	68.4	54.6	45.4
All lender debt in category	16.9	13.0	18.0	13.0	22.2	10.0
All operator debt	5.4	8.9	4.5	9.7	7.8	6.5
Production Credit Association:						
Percentage of--						
Own debt by category	27.6	72.4	20.5	79.5	29.8	70.2
All lender debt in category	5.5	6.8	5.2	6.8	5.4	6.9
All operator debt	1.8	4.6	1.3	5.1	1.9	4.5
Commodity Credit Corporation						
Percentage of--						
Own debt by category	20.6	79.4	12.1	87.9	22.3	77.7
All lender debt in category	4.7	8.5	3.5	8.5	4.6	8.7
All operator debt	1.5	5.8	.9	6.4	1.6	5.6
Merchants and dealers:						
Percentage of--						
Own debt by category	28.5	71.5	18.6	81.4	31.1	68.9
All lender debt in category	1.0	1.2	.8	1.2	1.0	1.2
All operator debt	.3	.8	.2	.9	.4	.8
Life insurance companies:						
Percentage of--						
Own debt by category	43.5	56.5	39.2	60.8	53.2	46.8
All lender debt in category	3.7	2.3	4.3	2.2	4.2	2.0
All operator debt	1.2	1.5	1.1	1.7	1.5	1.3
Other individuals:						
Percentage of--						
Own debt by category	29.5	70.5	24.2	75.8	31.0	69.0
All lender debt in category	11.6	13.0	12.1	12.7	11.1	13.3
All operator debt	3.7	8.9	3.0	9.5	3.9	8.7
All other lenders:						
Percentage of--						
Own debt by category	44.1	55.9	16.9	83.1	25.7	74.3
All lender debt in category	8.4	5.0	4.1	6.7	4.5	6.9
All operator debt	2.7	3.4	1.0	5.0	1.6	4.5
All lenders:						
Percentage of--						
All lender debt in category	100.0	100.0	100.0	100.0	100.0	100.0
All operator debt	32.0	68.0	25.1	74.9	35.0	65.0

^{1/} Numbers may not add due to rounding. ^{2/} A stressed farm had a debt/asset ratio greater than 0.40 on January 1, 1987 and experienced negative income in 1986. ^{3/} Own debt is the distribution of operator debt held by a lender between stressed and non-stressed farm operations. ^{4/} All lender debt is the percent of total operator debt on stressed or non-stressed farms held by a lender. ^{5/} All operator debt is the percent of total operator debt held by each lender by stress category.

The share of debt held by farm operators in a stressed position depends on the measure of farm and household earnings chosen. If net cash income is selected, 25.1 percent of all operator debt was held by stressed farmers, increasing to 32 percent if net farm income is used, and to 35 percent if net cash household income is used. The share of debt held by stressed operators is directly related to the earnings performance of farms using the various income measures. Net cash income rose in 1986, and fewer farms had negative income compared with 1985. Net farm income reflects net cash earnings adjusted for changes in inventory, depreciation, and other noncash items. A higher percentage of commercial-size farms had a negative net farm income than had net cash income in 1986. These farms also tended to have higher debt than smaller farms. The higher percentage of debt held by stressed farmers based on net farm income is consistent with these facts. The net cash household income measure includes both cash farm and nonfarm earnings and accounts for family living expenses, farm business interest, and principal repayments. A larger percentage of farms had a negative income under this measure than under either of the farm income measures.

Stressed Operator Debt by Lender

Commercial banks, FLB's, the FmHA, and PCA's held between 70 and 75 percent of the operator debt on stressed farms depending on the measure of income used. As a percentage of total operator debt, this debt varied from 18.9 percent of the total using NCFI to a high of 26.2 percent based on NCHI. The NCHI measure generally gave lenders a lower share of portfolio debt held on stressed farms. The FmHA had the largest shift in the share of debt on stressed farms based on the measure of income. For this lender, the amount of debt classified as belonging to stressed operators increased from 38 percent using NCFI to 55 percent based on NCHI.

Stressed Operator Debt by Sales Class, Region, and Farm Type

The distribution of operator debt on stressed farms was also examined by sales class, type of farm, and region (figs. 8, 9, and 10). Operators with sales of \$40,000 to \$249,999 had the highest share of debt on stressed farms irrespective of the income measure. Based on NFI, over 17 percent of the debt owed by stressed operators was held on farms with sales of \$500,000 or more in 1986. Off-farm income, which is used to supplement the income of smaller farms substantially reduced the amount of debt held on stressed farms when NCHI was used to measure income. For farms with annual sales of less than \$40,000, the share of debt held by stressed operators was 19 percent based on NCHI compared with 35 percent when NCFI was used.

Cash grain farms had the highest proportion of debt held on stressed farms, followed by beef, hog, sheep, and dairy farms. On a regional basis the largest share of stressed operator debt was held on farms in the Corn Belt. This result could be expected given the large number of cash grain farms in this region with sales of \$40,000 to \$249,999. The Lake States, Northern Plains, and the Southern Plains together accounted for between 40 to 44 percent of stressed operator debt depending on the measure of income used.

Figure 8

Distribution of Debt Held by Farm Operators in a Vulnerable Income/Solvency Position Across Sales Classes

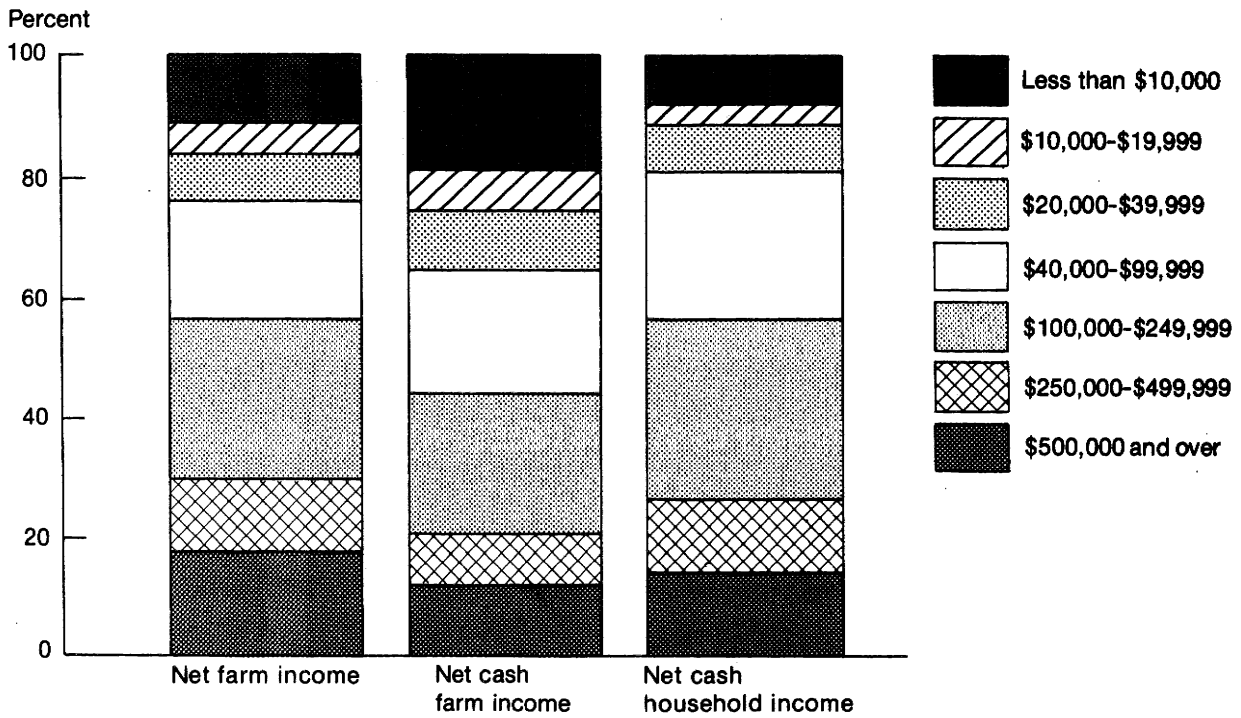


Figure 9

Distribution of Debt Held by Farm Operators in a Vulnerable Income/Solvency Position Across Farm Types

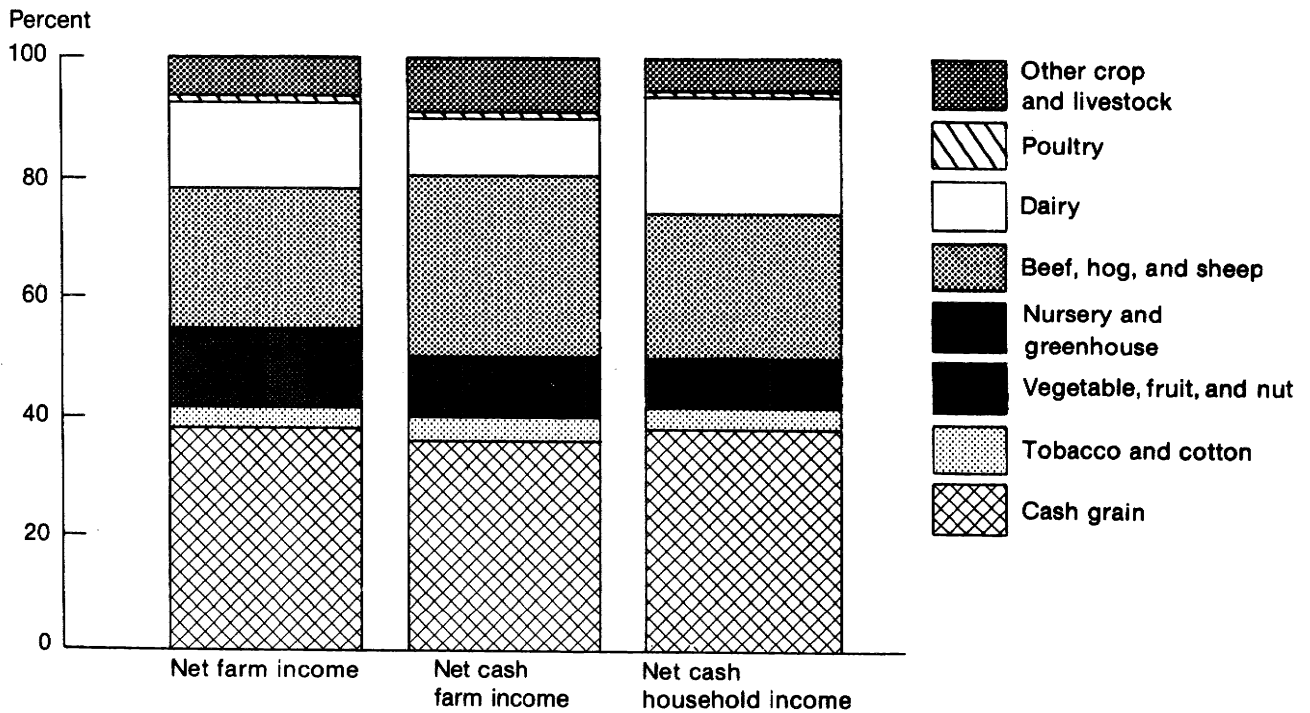
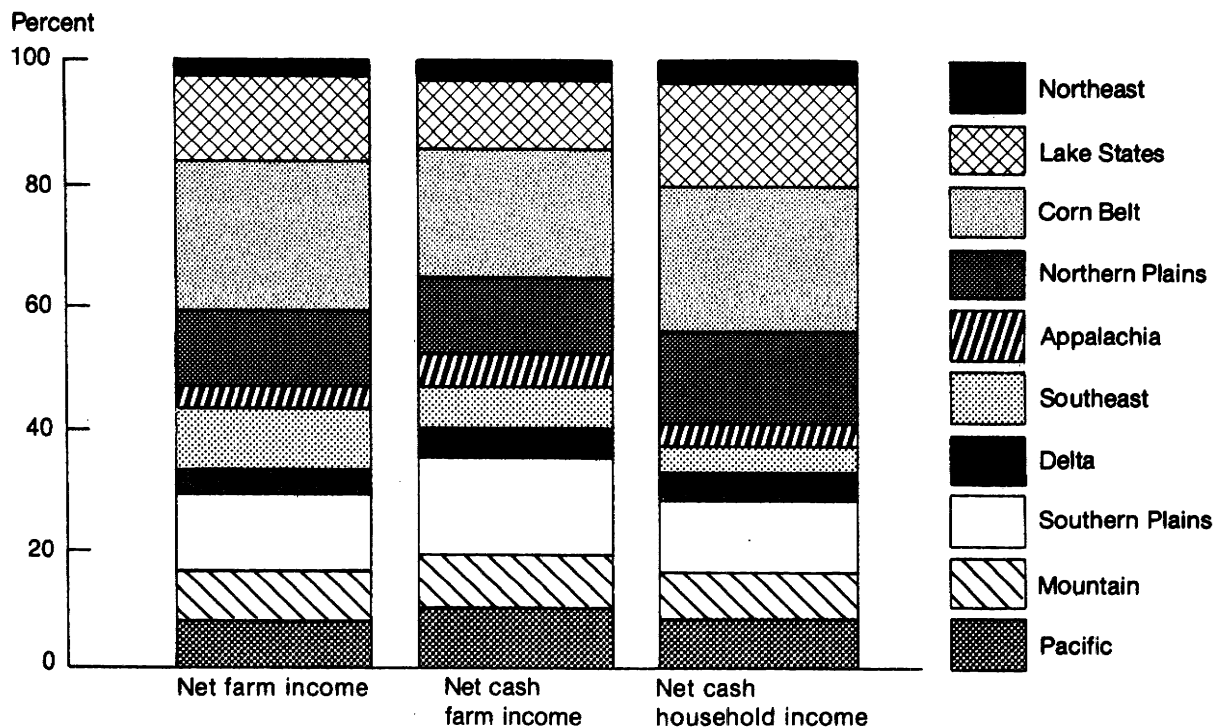


Figure 10

Distribution of Debt Held by Farm Operators in a Vulnerable Income/Solvency Position Across Regions



APPENDIX I: ASSESSING FARM FINANCIAL PERFORMANCE

Financial performance of individual farm operations can be assessed by evaluating the relationship between measures of income and relative debt position. Cash-based measures of income reveal the ability of a farm business or household to meet current debt commitments and pay family living expenses. Net farm income is a longer term assessment of earnings potential which indicates the ability of the firm to generate profits.

Solvency as measured by the debt/asset ratio reflects owner equity in the farm business and the financial risk associated with the operation. Past work has illustrated that some farm businesses with very large debt/asset ratios generate enough cash to fully service all commitments while some operations with low debt/asset ratios have either low or negative earnings. Thus, assessing financial performance requires understanding and using a variety of measures.

Several additional measures are available which address elements of financial performance (liquidity, solvency, profitability). These include financial ratios such as debt service coverage, return to assets, and returns to equity. These and other alternative financial indicators along with empirical estimates are presented and discussed for 1986.

Income Measures

Income generated by farm businesses and households during calendar year 1986, is examined with three measures (app. fig. 1).

Net Cash Farm Income (NCFI). This measure indicates the amount of funds a farm business generates that can be used to pay back principal, expand the farm business, or pay for family consumption or other obligations. We define NCFI as gross cash income minus all operating expenses including interest payments but excluding principal repayment.

Net Cash Household Income (NCHI). This estimate indicates funds available to the farm household after principal repayments and family living needs are met. It can be used for business expansion, further consumption, savings, or other obligations. NCHI is derived by adding family nonfarm income to NCFI and deducting an estimate of principal repayments and a family living allowance.

Net Farm Income (NFI). Net farm income provides a calendar year measure of the net value of agricultural production regardless of disposition and indicates the profit or loss associated with current production. NFI is constructed by adjusting gross cash income to reflect changes in inventory values while incorporating nonmoney income components and subtracting total operating expenses which include both interest and depreciation of capital stock.

Solvency Measure

Debt/asset ratios are constructed from survey data to determine the solvency of farm businesses (app. fig. 2). This measure reflects the risk of the farm operator's financial structure or equity of the farm business. Specifically, we measure the debt/asset ratio as total operator debt reported outstanding as of January 1, 1987, divided by the operator's estimate of current market value of all owned assets of the farm business.

Income and Solvency Classifications

Income and solvency measures provide the basis for classifying farm businesses and households into one of four categories of financial health for each of the three income measures (net cash farm income, net farm income, and net cash household income). These income measures are constructed for each farm unit, and that farm's relative financial health classification is based on its combined liquidity and solvency status. The farm has a favorable liquidity position if its estimated income measure is positive, and a favorable

Appendix figure 1. Farm Operator Cash Flow and Net Income Statement

CASH FLOW

Crop and livestock sales	+ Other farm income (Net CCC loan transactions, Government payments, custom income, other farm wages, etc.)	= Gross cash income from farm operation
Gross cash income from farm operation	- Cash operating expenses before interest payment	= Net cash income before interest payments
Net cash income before interest payment	- Interest expense	= Net cash farm income (NCFI)
Net cash farm income (NCFI)	- Estimate of debt repayment	= Net cash farm income after subtracting debt repayments
Net cash farm income after subtracting debt repayment	+ Nonfarm income	= Cash available to farm household from all sources
Cash available to farm household from all sources	- Estimate of cash family living allowance	= Net cash household income (NCHI) before taxes, other accrued liabilities and noncash adjustments

NET INCOME

Gross cash income from farm operation	+ Value of inventory change and nonmoney income	= Gross farm income of the farm operation
Gross farm income of the farm operation	- Total expenses including depreciation	= Net farm income (NFI)

Appendix figure 2. Farm Operator Balance Sheet

TOTAL FARM ASSETS including:	minus	TOTAL FARM DEBT held by:	equals	NET WORTH (Equity)
Land and buildings		Production Credit Associations		
Farm equipment		Farmers Home Administration		
Value of livestock inventory		Commercial banks, savings and loan associations		
Value of crop inventory		Federal land banks		
Value of purchased inputs on hand		Merchants, dealers, and co-ops		
Other assets		Life insurance companies		
		Individuals who sell land		
		Commodity Credit Corporation		
		Any other		

solvency position if its estimated indebtedness is less than 40 percent of the reported value of all assets expressed as a debt/asset ratio less than 0.40.

Income/solvency categories provide a perspective on the proportion of farm businesses and households that face financial stress from the viewpoint of liquidity and solvency (app. fig. 3). Here's what the farms in each financial health category face:

Favorable. Positive income, debt/asset ratio less than 0.40. These farms, which demonstrate both low to moderate levels of debt and positive returns, are in good short-term financial positions and are considered financially stable. These farms might take advantage of investment and expansion opportunities.

Marginal income. Negative income, debt/asset ratio less than 0.40. These farms/households generally face an earnings problem. Any financial difficulties are more likely related to current business decisions and results (crop mix, weather, program participation, prices paid and received, output levels, farm size, and efficiency) rather than to the financial riskiness of past decisions. Current earnings deficiencies can be alleviated with increased borrowing or sales of assets, both of which convert equity to cash. The resulting additional debt service burden or decreased equity base could accelerate cash flow problems and increase financial risk.

Marginal solvency. Positive income, debt/asset ratio above 0.40. Farms/households in this category are generating positive returns despite higher debt service requirements. While not experiencing short-term cash income difficulties, they are susceptible to economic changes that would prevent them from meeting existing cash commitments. At current asset values, their equity is insufficient to serve as security for additional borrowing to

Appendix figure 3. Joint Distribution of Farms by Income and Solvency Position

Income measure	Debt/asset ratio					
	No debt	0.1-10	0.11-0.40	0.41-0.70	0.71 - 1.0	Over 1.0
Positive income						
Farm businesses:						
Net cash farm income (NCFI)	Favorable			Marginal solvency		
Net farm income (NFI)						
Farm households:						
Net cash household income (NCHI)						
Negative income						
Farm businesses:						
Net cash farm income (NCFI)	Marginal income			Vulnerable		
Net farm income (NFI)						
Farm households:						
Net cash household income (NCHI)						

meet shortrun cash needs. Many of these operations may be relying on participation in Government programs to generate current earnings.

Vulnerable. Negative income, debt/asset ratios above 0.40. These farms are both highly leveraged and demonstrate income deficiencies which greatly increase their vulnerability as viable business operations. These operations do not generate sufficient income either to meet current expenses or to reduce existing indebtedness. The highly leveraged positions of these units may be due to declining asset values, increased indebtedness to meet past expansion needs or cash operating shortfalls, or a combination of these factors. Regardless of the evolution of financial circumstances leading to their current highly leveraged position, these farmers may be forced to rely on debt restructuring/forgiveness to continue operating. Even then, cash earnings may not service additional debt.

Farms that are in a favorable position by one income measure will not necessarily be in a favorable position by the other measures. Some measures may understate the financial difficulties of highly leveraged operations to the extent that debt repayment is excluded. The favorable position of one income measure relative to another will depend on the importance of farm production in total family income, and the magnitude of nonmonetary adjustments to income.

ALTERNATIVE MEASURES OF FINANCIAL PERFORMANCE

Key aspects of financial performance such as liquidity, solvency, profitability, and financial efficiency can be assessed using some common ratios (app. fig. 4). Ratio analyses, by expressing financial relationships between the income statement and balance sheet in percentage terms, provides a relative basis for monitoring and comparing the financial strength of farm businesses or farm operators. The most limiting constraint for successful use of ratio analysis is the lack of well-established standards for comparison and what constitutes acceptable deviation from these norms. Nevertheless, because ratios summarize information contained in financial statements, they are widely used by both farmers and lenders.

Debt service coverage ratios and debt servicing ratios indicate a farm's ability to repay debt. The farm business debt service coverage ratio is defined as net cash farm income (NCFI) plus interest payments divided by debt service costs (interest expense plus principal repayment). The ratio is also calculated in the same manner for farm households using NCHI. These ratios reveal the ability to service debt out of annual cash income. The debt service ratio is defined as annual principal plus interest payments divided by cash farm receipts. This ratio measures debt burden on the farm business; low values indicate a greater ability to meet debt commitments should cash receipts decline.

The debt/asset ratio is used to measure solvency. Defined as total liabilities divided by total assets, this ratio reflects risk of the operation's financial structure and ability to repay all outstanding debt.

Two measures of returns (rate of return on assets and rate of return on equity) and a profit margin ratio were chosen to assess profitability of the farm business.

Appendix figure 4. Definition and Interpretation of Financial Ratios

Ratio	Definition	Interpretation
Liquidity ratios:		
Household debt service coverage	Net cash household income (NCHI) plus interest payments divided by interest expense plus estimated principal repayments	A value greater than 1.0 indicates that the farm (considering all sources of income) is liquid. A ratio below 1.0 indicates problems in meeting family living, taxes, and other expenses.
Farm business debt service coverage	Net cash farm income (NCFI) plus interest payments divided by interest expenses plus estimated principal repayments	A value greater than 1.0 indicates that the farm business (considering only farm earnings) is liquid. A value greater than 1.0 indicates the farm business is making a net positive contribution to the household's cash income.
Debt servicing	Estimated principal repayment plus interest expense divided by gross cash farm income	Indicates the proportion of gross income needed to service debt. The ability to service debt out of cash income earned by the farm business declines as the value of the ratio increases. Lower values indicate a relative greater ability of the farm business to meet debt service requirements. Differs by farm type, but a ratio above 20 percent could indicate difficulty.
Solvency ratios:		
Debt/asset	Total yearend liabilities divided by total assets of the farm operation	Used to indicate degree of security of lenders and the relative use of owner earnings and capital. Higher values indicate greater financial risk of the farm operation. Values above 1.0 constitute technical insolvency. Farm lenders usually prefer \$2.50 to \$3.00 of assets for each \$1.00 of debt.
Profitability ratios:		
Return on equity	Net farm income minus the estimated value of unpaid labor and management divided by net worth in farm assets	Provides a measure of a farm's profits in relationship to total farm net worth. The higher the value, the more profitable the current farming operation. A negative value usually indicates relative financial stress. This ratio is typically between 2 and 5 percent for the farm sector as a whole.
Return on assets	Net farm income plus interest on farm loans minus the estimated value of unpaid labor and management divided by total farm assets	Provides a measure of farm profits relative to total farm investment. Varies by farm type, but the higher the value the more profitable the current farming operation is. Return on assets should be 1-2 percent higher than return on equity.
Profit margin	Net farm income divided by gross cash farm income	The higher the ratio value, the more profitable the current farming operation.
Financial efficiency ratios:		
Gross ratios	Total cash operating expenses including interest divided by gross cash farm income	Provides a measure of the portion of gross farm revenue absorbed by cash production expenses. Varies by type and size of farm, but the higher the value, the less efficient the farm operator.
Interest-to-gross cash income	Total interest expense divided by gross cash income	The higher the value, the more of farm gross cash income is committed to interest payments. This indicates a relatively fixed expense structure.

Rate of return on equity equals net farm income minus estimated charges for operator labor and management divided by net worth. This ratio indicates the relationship between net profits and equity of the farm business. A negative return to equity is a relative measure of financial stress, and the absolute size of the ratio roughly measures the rate at which a farm business is adding to or consuming its own capital stock. Rate of return on assets is defined as net farm income plus interest expense minus estimated charges for operator labor and management divided by total assets. This ratio reveals the returns received by the farm operator for both debt and equity capital invested. The profit margin ratio is calculated as net farm income divided by gross cash income and indicates the farm operator's ability to control the level of farm business costs relative to the revenues generated.

Financial efficiency is measured by the gross ratio and by the ratio of interest expense to gross cash income. The gross ratio equals total cash expenses divided by total cash receipts of the farm business. This ratio measures the extent to which the value of production (sold during the calendar year) exceeds annual costs of production. The lower the ratio, the more efficient the farm operation. Interest expense divided by gross cash farm income shows the proportion of cash receipts used for interest payments. This ratio reflects the burden of debt on farm operator's cash flow.

APPENDIX II: SAMPLE AND SURVEY RESPONDENT CHARACTERISTICS

Data for this report were obtained from the 1986 Farm Costs and Returns Survey (FCRS) conducted in February and March of 1987 by the National Agricultural Statistics Service (NASS). The FCRS is an integrated survey which combines multiple versions of a questionnaire to simultaneously obtain data for: cash receipts and other sources of farm revenues, production expenses, capital purchases, farm asset and inventory values, liabilities owed to various lenders, and other financial data; specific production practices in sufficient detail to develop enterprise budgets for cost of production analysis; and type of operation and operating characteristics.

The FCRS is a complex multiframe probability-based survey. Since the FCRS is a probability sample, each respondent represents a number of other farms of a similar size and type. Estimates based on a sample differ from data that would have been obtained if a complete enumeration had been taken. These differences result from sampling variability. Variation that occurs by chance because of population sampling can be measured to provide a perspective on the reliability of the data. In addition, survey estimates are always subject to nonsampling errors. Any nonsampling error was minimized by pretesting survey forms, enumerator training, and comprehensive data editing and analysis at both State and national levels.

The sample consists of two frames: a list frame of known operators stratified by economic size and other attributes, and an area frame which consists of all land segments in a State and is stratified by land use type. The area frame contains all land units in the United States, and a probability sample from it would provide unbiased estimates. However, the majority of expenses, receipts, and other economic items are accounted for by a relatively small proportion of farm operators. Thus, it is more efficient to sample these large agricultural producers with a list frame. The area frame accounts for incompleteness in a list frame. The multiple frame sampling approach uses desirable attributes of both frames.

For 1986, the FCRS used six questionnaires to obtain detailed whole farm data for all survey respondents plus enterprise specific data for wheat, soybean, sorghum, sunflower, and sheep producers. One questionnaire was devoted entirely to detailed expenditure and financial items; the remaining five contained aggregate expense and financial data and detailed enterprise production questions for the five types of operations.

There were 24,863 combined list and area frame survey contacts expected for the 1986 FCRS. Contacts among the survey versions were as follows: expenditures, 14,222 farms; wheat; 5,242 farms; soybean, 3,002 farms; sorghum, 699 farms; sunflower, 498 farms; and sheep, 1,200 farms. For the survey, a farm was defined as an establishment that either sold \$1,000 worth of agricultural products or spent at least \$1,000 for feed, supplies, equipment, maintenance or other inputs in producing farm commodities in 1986. A national enumerator training school was held from February 3-6, 1987. This was followed by State-level training schools. Data enumeration began immediately after the State training schools and lasted until March 28, 1987.

Operating Characteristics of Survey Respondents

The FCRS data set includes detailed information on financial characteristics, expenses, receipts, resource base, production practices and some limited farm

operator characteristics such as age, primary occupation, and nonfarm income. These data not only support more accurate estimates of farm sector income, but also permit a better grasp of distributional attributes of sector participants. This section presents selected economic characteristics of farm operations and farm operators drawn from the 1986 FCRS, and, where appropriate, compares them with other secondary sources.

Number of Farms

The 1986 FCRS gives an expanded number of survey farms of 1.57 million farms for 1986 compared with 1.56 million for 1985 (app. table 1). As noted, to qualify as a farm for the FCRS survey, an operation must have sold or purchased at least \$1,000 worth of agricultural products or inputs for agricultural production. In contrast, the USDA officially defines a farm as any place from which \$1,000 or more of agricultural products were sold or normally would have been sold. Most FCRS undercounting of farm numbers is for the small sales classes, especially for farms that had less than \$10,000 in sales. Published and unpublished data from NASS indicate that the FCRS provides an expansion of almost 529,000 fewer farms with sales of less than \$10,000 than the official farm number estimate. Approximately 316,000 of these are farms that would be affected by procedures to assess whether a farm might normally be expected to have \$1,000 of annual sales, a procedure not formally used in this survey.

The 1986 FCRS survey made a first attempt to measure point farms; these data will be evaluated and survey procedures adjusted as needed for future surveys. Resident contacts were asked if they grew any crops or had any livestock on the land they operated during 1986. In addition to the 1.57 million operations that clearly qualified as farms, another 405,000 places had some farming activity. Based on the limited crop and livestock information obtained from these area frame residents, about 120,000 would have qualified as farms under other survey procedures. Meanwhile, the FCRS gives a fairly close count of farms with sales over \$40,000, those generally considered to be commercial-size farm units. For 1986, the FCRS gives an estimate of the number of these size farm units that is 95 percent of the official number of farms published by USDA.

Appendix table 1--Estimated number of farms by sales class ^{1/}

Sales class	1986 FCRS ^{2/}		1985 FCRS ^{2/}		1986 USDA ^{3/}	
	Number	Percent	Number	Percent	Number	Percent
\$500,000 and over	28,618	1.8	32,549	2.1	33,210	1.5
\$250,000 to \$499,999	54,489	3.5	79,301	5.1	61,992	2.8
\$100,000 to \$249,999	218,179	13.9	226,023	14.5	210,330	9.5
\$40,000 to \$99,999	268,131	17.1	286,634	18.4	294,462	13.3
\$20,000 to \$39,999	182,329	11.6	186,686	12.0	223,614	10.1
\$10,000 to \$19,999	193,821	12.3	171,108	11.0	236,898	10.7
\$5,000 to \$9,999	182,332	11.6	171,472	11.0	265,680	12.0
Less than \$5,000	442,381	28.2	403,633	25.9	887,814	40.1
Less than \$10,000	624,713	39.8	575,105	36.9	1,153,494	52.1
Less than \$40,000	1,000,863	63.7	932,899	59.9	1,614,006	72.9
A11	1,570,279	100.0	1,557,406	100.0	2,214,000	100.0

^{1/} Numbers may not add due to rounding. ^{2/} Farm Costs and Returns survey, USDA. ^{3/} USDA., Nat. Agr. Stat. Serv.

The FCRS results on farm numbers show about 13,000 fewer farms on January 1, 1987, than on January 1, 1986. The change in farm numbers differed across sales class with the larger sales classes showing a drop in farm numbers and small sales classes showing a substantial increase.

To examine which of the changes between 1985 and 1986 could be statistically significant, we conducted a t-test to establish where significant changes occurred in the distribution of farms across sales classes (app. table 2). Using the two-tailed, 5-percent confidence cutoff of 1.96, the only significant changes in number of farms were for farms with sales of \$250,000 to \$499,999. Using a less restrictive 10-percent cutoff of 1.65, farm number changes in the \$500,000 or more category and the \$10,000 - \$19,999 category also became significant. This formal test of statistical significance agrees with the more casual observation of absolute changes in farm numbers. Overall, tests showed that the change in the total number of farms was not significant at the 5-percent level.

Regional Values of Land and Buildings

The market value of land and buildings is an important part of farmers' balance sheets. In 1985, USDA estimated that real estate accounted for 78 percent of total farm assets. Survey results for real estate market values and transaction prices are given in appendix table 3. For the 1986 FCRS, we asked farm operators to provide an estimate of the current market value of their owned land and buildings (including dwellings located on the farm). In addition to the estimated market value of owned land, farmers were asked if they bought or sold land, and whether the sale was for farm or nonfarm purposes.

Farmers reported an average value of land and buildings, including dwellings, of \$699 per acre. This compares with an average value of \$742 per acre reported in the 1985 survey, a 6-percent drop. Excluding dwellings, the average value was \$565 per acre in 1986, compared with \$602 in 1985. These data indicate that dwellings accounted for 19 percent of the value of land and buildings in 1986. The 1979 Census Farm Finance Survey reported that operator dwellings were equal to 13 percent of the 1979 value of land and buildings.

Appendix table 2--Distribution of expanded numbers of farms by sales class, 1986 and 1985 FCRS 1/

Sales Class	Expanded number of farms		Coefficient of variation		Change from 1985 to 1986		Estimated t-statistic
	1986	1985	1986	1985	Number	Percent	
	<u>Number</u>		<u>Percent</u>		<u>Number</u>	<u>Percent</u>	
\$500,000 and over	28,618	32,549	5.02	5.27	-3,931	-12.1	-1.76
\$250,000 to \$449,999	54,489	79,301	4.30	5.66	-24,812	-31.1	-4.90
\$100,000 to \$249,999	218,179	226,023	2.68	2.92	-7,844	-3.5	-.89
\$40,000 to \$99,999	268,131	286,634	2.90	3.47	-18,503	-6.5	-1.46
\$20,000 to \$39,999	182,329	186,686	4.13	4.33	-4,357	-2.3	-.39
\$10,000 to \$19,999	193,821	171,108	4.96	5.03	22,713	13.3	1.76
\$5,000 to \$9,999	182,332	171,472	5.46	5.06	10,860	6.3	.82
\$4,999 or less	442,381	403,633	4.10	4.61	38,748	9.6	1.49
All	1,570,279	1,557,406	1.83	1.93	12,873	.8	.31

1/ Numbers may not add due to rounding.

Farm Types Represented

All major types of farms were represented in the survey. Farms specializing in crop production accounted for 40.1 percent of farms, and livestock producers accounted for 59.9 percent (app. table 4). This represents a continuing increase in the number of livestock farms in existence for the past 3 years and reflects (1) the decrease in crop prices relative to livestock; (2) the large reduction in crop output as a result of crop acreage reduction programs; and (3) the large proportion of crop farm revenue generated by commodity program payments. The drop in the proportion of crop farms between 1985 and 1986 was especially noticeable for cash grain farms. The most common types of farms were beef, hog, and sheep operations (42.5 percent of all farms), and cash grain producers (23.4 percent of farms).

The data given in appendix table 4 also illustrate how farm specialization changes over time when it is based on a sales definition. The shift in farm types between 1985 and 1986 is greatest for cash grain and livestock farms. Farm types characterized by specialized and relatively fixed production technologies such as vegetable farms, nurseries, and poultry operations remained fairly stable between 1984 and 1986.

The most common farm type also varied from one region to another (app. table 5). Cash grain farms, while accounting for 23 percent of farms nationally, were 47 percent of farms in the Northern Plains, 41 percent in the Corn Belt, and 26 percent in the Lake States. Dairy farms were most common in the Northeast and Lake States; field crops in Appalachia; and vegetable, fruit, and nut in the Pacific and Northeast. Beef, hog, and sheep farms accounted for 19 percent or more of farms in all regions, but were especially prominent in the Southern Plains where 69 percent of all farms were classified as one of these farm types, and in the Delta, Southeast, and Mountain States where more than 50 percent were.

Appendix table 3--Survey values of land and buildings, by region, January 1, 1987

Region	Land and buildings					
	Owned (average value)		Purchased (average price)	Sold (average price)		
	Including operator dwelling	Excluding operator dwelling		All purposes	All purposes	Farm purposes
			Dollars per acre			
Northeast	2,028	1,569	1,106	2,374	1,558	4,529
Lake States	838	646	657	483	490	442
Corn Belt	1,004	786	944	985	840	3,397
Northern Plains	337	283	184	164	132	3,748
Appalachia	1,227	920	1,099	2,222	1,321	3,679
Southeast	956	763	920	1,136	1,823	917
Delta	972	737	779	1,569	1,391	3,344
Southern Plains	595	519	418	1,417	458	4,455
Mountain	270	238	133	120	398	91
Pacific	1,403	1,144	2,975	3,740	773	D
All	699	565	434	460	481	449

D = insufficient data for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 4--Distribution of farms by type of farm, 1986 ^{1/}

Farm type	1986 FCRS ^{2/}	1985 FCRS ^{2/}	1984 FCRS ^{2/}	1982 Census of Agriculture
	<u>Percent</u>			
Crop ^{3/}	40.1	42.3	50.6	46.1
Cash grain	23.4	25.7	23.6	25.7
Field crops	5.2	5.9	8.9	11.3
Vegetable, fruit, and nut	5.1	4.3	4.1	5.2
Nursery and greenhouse	1.6	1.5	1.6	1.6
Livestock ^{4/}	59.9	57.6	49.4	53.9
Beef, hog, and sheep	42.5	39.1	34.9	40.4
Dairy	11.7	11.3	10.6	7.3
Poultry	1.8	2.1	1.9	1.9

^{1/} Numbers may not add due to rounding. ^{2/} Farm Costs and Returns Survey, USDA. ^{3/} Includes other crop farms. ^{4/} Includes other livestock farms.

Distribution of Income and Expenses by Farm Type

The distribution of crop cash receipts between crop and livestock farms in 1986 changed only slightly from 1985. The major change for crop farms was a drop in the share of grain sales on crop farms from 87 to 83 percent and a corresponding rise in the share of grain sales on livestock farms. Livestock receipts were even more heavily concentrated on livestock farms in 1986, increasing from 90.7 percent in 1985 to 93.0 percent in 1986. These changes are consistent with changes in the relative prices of grain and livestock between 1985 and 1986 and the tendency of mixed grain livestock farms to alter their production emphasis based on profit opportunities (app. table 6). Grain, soybeans, and rice account for 78 percent of the crop sales on livestock farms. Enterprises such as cotton, vegetables, fruit, and nut, and nurseries were largely unchanged and have remained relatively constant over time.

In 1986, crop farms received about 71 percent of cash payments from commodity programs, with livestock farms receiving the remainder. Crop farms also received a large majority of the commodity certificates that were issued as partial payment of program benefits. The value of certificates issued for 1986 is reflected in other farm income and explains the big shift in the other farm income category between crop and livestock farms. Government payments are also much more important as a source of gross income to crop farms, accounting for more than 20 percent of gross cash income compared with less than 10 percent for livestock farms.

Just as crop farms accounted for a smaller share of farms in 1986, they also accounted for a smaller share of most production expenses. Crop farms had a smaller share of livestock, seed, fertilizer, customwork, rent, and other expenses commonly associated with mixed grain livestock operations (app. table 7). These farms appear to have become more predominantly livestock-oriented in 1986. Labor and chemical expenses, which are more commonly used in the production of specialty or high-value field crops, were slightly more concentrated on crop farms. As a share of total expenses, rent and general farm business-related were the largest categories of expenses for crop farms; feed and purchased livestock accounted for 45 percent of total expenses on

Appendix table 5--Distribution of farms, by type of farm, and region, January 1, 1987 ^{1/}

Region	Farm type				
	Cash grain	Tobacco, cotton	Vegetable, fruit, nut	Nursery, greenhouse	Other crop
	<u>Percent</u>				
Northeast	10.5	1.1	8.0	5.1	9.7
Lake States	26.4	.2	3.5	2.7	5.2
Corn Belt	40.8	1.0	.9	1.0	1.4
Northern Plains	47.4	NA	.1	.3	1.4
Appalachia	6.0	29.4	2.3	2.0	4.1
Southeast	12.1	5.2	6.7	4.6	8.0
Delta	19.7	6.5	.4	.2	4.2
Southern Plains	11.5	5.3	1.2	.9	2.5
Mountain	19.2	.6	3.4	.6	12.3
Pacific	5.0	.9	38.0	2.0	8.6
All	23.4	5.1	5.1	1.8	4.6

Region	Farm type				All farms
	Beef, hog, sheep	Dairy	Poultry	Other livestock	
	<u>Percent</u>				
Northeast	18.6	32.2	3.0	11.7	100.0
Lake States	22.5	35.8	.6	3.2	100.0
Corn Belt	42.0	9.5	.7	2.7	100.0
Northern Plains	43.3	6.6	.1	.7	100.0
Appalachia	46.2	6.6	2.1	1.3	100.0
Southeast	51.4	2.0	8.5	1.5	100.0
Delta	55.7	4.2	6.6	2.4	100.0
Southern Plains	68.7	1.8	1.5	6.5	100.0
Mountain	55.6	5.1	.2	3.1	100.0
Pacific	30.6	4.4	.6	9.9	100.0
All	42.5	11.7	1.8	4.0	100.0

NA = Not applicable. ^{1/} Numbers may not add due to rounding. Source: Farm Costs and Returns Survey, USDA.

livestock farms. Interest expenses were a larger share of total expenses on crop farms than on livestock farms, 12.8 percent and 10.3 percent, respectively.

Selected Structural Characteristics of Survey Population

Selected characteristics of farms and farm operators are given in appendix tables 8, 9, and 10 by farm size, farm type, and region. Average farm size (acres operated) was 498 acres, excluding land rented on an animal unit per month (AUM) basis. This compares with an average farm size of 521 acres reported in the 1985 survey. There were fewer reported owned and share-rented acres in 1986, on average. The largest farms in terms of acreage operated were cash grain at 632 acres and beef, hog, and sheep at 613 acres. If AUM land (which is rented for grazing from the Bureau of Land Management, Forest Service, or other similar agency) were included, beef, hog, and sheep farms would be the largest. On average, 339 acres of AUM land were rented by

Appendix table 6--Distribution of selected sources of income and expense items between crop and livestock farms 1/

Item	Crop farms 2/			Livestock farms 2/		
	1986 FCRS	1985 FCRS	1982 Census	1986 FCRS	1985 FCRS	1982 Census
	<u>Percent</u>					
Income from:						
Crop cash receipts	90.2	90.6	90.6	9.8	9.4	9.4
Grain	83.2	87.0	86.8	16.8	13.0	13.2
Cotton	98.5	98.1	98.1	1.5	1.9	1.9
Vegetables	98.5	98.0	98.1	1.5	2.0	1.9
Fruit	98.8	98.9	98.9	1.2	1.1	1.1
Nursery	99.9	99.9	99.8	.1	.1	.2
Livestock cash receipts	7.0	9.3	6.8	93.0	90.7	93.2
Cattle	11.3	12.6	9.3	88.7	87.4	90.7
Hogs	11.4	17.9	14.1	88.6	82.1	85.9
Dairy	.7	2.1	1.5	99.3	97.9	98.5
Government payments	71.3	75.8	NA	28.7	24.2	NA
Machine hire/custom work	64.8	68.7	71.0	35.2	31.3	29.0
Expenses for:						
Livestock purchased	10.4	11.5	6.9	89.6	88.5	93.1
Feed purchased	5.5	8.1	4.9	94.5	91.9	95.1
Seeds	72.2	76.5	75.5	27.8	23.5	24.5
Fertilizer	66.3	71.3	72.5	33.7	28.7	27.5
Chemicals	79.3	78.6	83.1	20.7	21.4	16.9
Energy and petroleum	56.9	58.6	59.8	43.1	41.4	40.2
Hired labor	64.0	60.1	64.5	36.0	39.9	35.5
Custom work	63.4	70.2	70.3	36.6	29.8	29.7
Rent	69.5	75.1	NA	30.5	24.9	NA
Real estate interest	47.9	52.4	NA	52.1	47.6	NA
Non-real estate interest	49.8	50.6	NA	50.2	49.4	NA
Property taxes	48.0	50.2	NA	52.0	49.8	NA
Total expenses	43.0	47.5	NA	57.0	52.5	NA
Farm numbers	40.0	42.4	46.0	60.0	57.6	54.0

NA = Not available. 1/ Numbers may not add due to rounding. 2/ Data for 1985 and 1986 from Farm Costs and Returns Survey, USDA. Data for 1982 from the 1982 Census of Agriculture.

livestock farms. The smallest farms in terms of acreage operated were, by far, nurseries and greenhouses which averaged 24 acres per farm. In contrast to other farm types, nurseries and greenhouses owned almost all their acreage. The largest farms were located in the Mountain States (1,816 acres), Northern Plains (942 acres), and Southern Plains (863 acres). The smallest farms in terms of acreage were in the Northeast and Appalachia.

Total harvested cropland and the types of crops harvested also varied considerably by size of farm, type of operation, and area of the country. For all farms, total harvested acreage per farm was 178 acres, compared with 202 acres in 1985. Harvested acreage increased across sales classes and ranged from a low of 21 acres on farms with less than \$10,000 in sales to 959 acres for farms with sales over \$500,000. Wheat, feed grain, and soybean production was relatively more important as a percentage of harvested acreage on midsize operations with sales ranging from \$40,000 to \$500,000. Cotton and other crops such as fruits and vegetables were more important on farms with sales over \$500,000. Farms with sales of less than \$10,000 had, on average, about 2 acres each of corn and wheat. These small farms tended to produce crops like tobacco or fruit. Grains were the predominant crops on cash grain, dairy, and livestock farms. Cotton was grown almost exclusively on farms specializing in cotton production. Fruits and vegetables were also grown almost entirely by specialized farm operations.

Appendix table 7--Distribution of income, and expenses in 1986,
within farm type 1/

Item	Farm type		All farms
	Crop	Livestock	
	<u>Percent</u>		
Gross cash farm income	100.0	100.0	100.0
Crop receipts	67.3	6.3	34.5
Grain, beans, rice	28.5	4.9	15.8
Cotton	3.1	.0	1.4
Vegetables	8.6	.1	4.0
Fruits, nuts	9.2	.1	4.3
Nursery, greenhouse	6.3	.0	2.9
All other crop	11.7	1.1	6.0
Livestock receipts	7.1	81.0	46.8
Cattle and calves	4.5	30.2	18.3
Hogs	2.0	13.1	7.9
Dairy	.3	30.8	16.7
All other livestock	.4	6.9	3.9
Government payments	11.9	4.1	7.7
Custom work, machine hire	1.5	.7	1.1
All other farm related	12.2	7.8	9.9
Cash farm operating expenses	100.0	100.0	100.0
Livestock purchased	2.7	17.4	11.1
Feed	2.1	27.7	16.7
Seed	6.6	1.9	3.9
Fertilizer, lime	10.8	4.2	7.0
Chemicals	6.7	1.3	3.6
Energy, petroleum	6.9	4.0	5.2
Hired labor	10.3	4.4	6.9
Custom work	2.3	1.0	1.5
Rent	17.3	5.7	10.7
Real estate interest	8.1	6.7	7.3
Non-real estate interest	4.7	3.6	4.1
Property tax	3.2	2.7	2.9
All other farm related	18.3	19.6	19.0

1/ Numbers may not add due to rounding. Source: Farm Costs and Returns Survey, USDA.

The distribution of gross income and expenses mirrored the distribution of harvested acreage, with both increasing by sales class. Average gross income ranged from a low of \$4,479 on farms of less than \$10,000 in sales to over \$1.1 million for farms with sales over \$500,000. Farms with sales of less than \$20,000, on average, reported cash operating expenses in excess of income. This pattern, consistent with earlier years' survey results, indicates that a large portion of this group of farms would have negative net cash incomes. Meanwhile, the average net cash income of farms with sales over \$500,000 was in excess of \$232,000 per farm.

Farms with sales of less than \$20,000 accounted for 52 percent of all farms. This group of smaller farms had 5.2 percent of livestock sales, 4.4 percent of crop sales, and received 3.3 percent of Government payments. The relatively small share of crop sales and program payments obtained by these smaller operations is consistent with their overall harvested acreage and especially their harvested acreage of program commodities such as corn, wheat, and cotton.

Crop and livestock sales were highly concentrated on larger farms. The 1.9 percent of farms with sales over \$500,000 had 27 percent of livestock sales and 35 percent of crop sales. Midsized farms received the largest percentage of Government payments. In addition, wheat and feed grains were more important in terms of crops produced on midsized farms.

Crop sales were most highly concentrated on cash grain and vegetable and fruit farms which together accounted for 63 percent of total crop sales. Meanwhile, livestock and dairy operations had over 85 percent of total livestock sales. Nearly 60 percent of Government payments went to the 23 percent of farms classified as grain farms. The Corn Belt had the largest percentage of livestock sales (23), had the second largest percentage of crop sales (20.7), and received the largest percentage of payments (27), which is consistent with the region's focus on grain production. The Pacific region had the largest share of crop sales (21.2 percent), but had only 5.2 percent of payments.

While farms with sales of less than \$20,000 reported, on average, sales and expenses which indicated negative net cash income, these farms had 33 percent of off-farm income earned by farm operators. Other larger farms earned much smaller shares of off-farm income with, for example, the largest 1.9 percent of farms with sales over \$500,000 having 2.6 percent of off-farm income.

Nearly two-thirds of farms with sales of less than \$10,000 did not consider farming their primary occupation. This result is, of course, consistent with the large proportion of off-farm income earned by these farmers. The percentage of operators who considered farming their primary job increased with farm size. Nearly 9 out of 10 operators of farms with sales over \$40,000 considered farming their primary job, with the highest percentage being on farms with sales between \$100,000 and \$250,000. These farmers also reported working the most weeks per year and the most hours per week.

Dairy and grain farms had the highest proportion of operators who declared farming their primary job. Moreover, dairy farmers also reported working the most weeks and the most hours per week. Altogether, dairy producers put in nearly 3,500 hours per year on their farm operations. The Northern Plains reported the largest percentage of full-time farm operators, while the Pacific had the lowest percentage. The Pacific and Southeast reported the fewest number of weeks worked, on average, with the Pacific also having the fewest number of hours worked per week.

Off-farm income was also relatively concentrated on smaller farm operations. Farms with sales of less than \$10,000 had 46.5 percent of total off-farm income in 1985. For 1986, these farms reported 50.4 percent of off-farm income. In another result consistent with 1986, more than 85 percent of farmers with sales over \$40,000 considered farming their primary occupation in 1985 while only 35.8 percent of farmers with sales below \$10,000 did.

The average reported age of operators in 1986 was 51 years, the same as in 1985. The 1979 Census of Farm Finance reported an average farm operator age of 50.5 years. Farmers with sales over \$40,000 tended to be younger than average while operators of smaller farms were older.

Appendix table 8--Characteristics of farm operators on January 1, 1987 by sales class 1/

Item	Sales class							All farms	
	\$500,000 or over	\$250,000 to \$499,999	\$100,000 to \$249,999	\$40,000 to \$99,999	\$20,000 to \$39,999	\$10,000 to \$19,999	\$9,999 or less		
Farms operated:									
Number	28	52	212	1,000 farms		173	186	600	1,506
Percentage of all farms	1.85	3.48	14.07	Percent		11.51	12.34	39.82	100.00
Percentage of farms in sales class operated by:									
Corporation	30.42	13.34	6.51	3.22	1.33	1.48	1.21	3.31	
Partnership	29.68	24.55	13.43	9.17	5.18	5.03	3.05	7.28	
Individual	39.77	60.75	80.04	87.56	93.49	93.48	95.74	89.36	
Cooperative	NA	1.36	NA	NA	NA	NA	NA	NA	
Acresage operated per farm:									
Owned	1,850	800	512	406	245	162	88	286	
Cash rented	1,725	473	269	167	83	41	23	138	
Share rented	201	268	208	146	65	24	7	80	
AUM rented 2/	1,087	1,046	321	207	104	39	8	156	
Total operated, less AUM	3,751	1,534	976	700	382	218	121	498	
Acresage harvested per farm:									
Corn	241	193	107	58	24	13	2	41	
Wheat	137	123	80	54	25	8	2	32	
Soybeans	128	136	86	52	24	12	2	33	
Cotton	48	17	10	4	2	1	0	4	
Other grains	115	88	61	36	16	6	2	23	
Other crops	290	131	87	60	36	24	12	44	
Total harvested	959	688	431	263	128	64	21	178	
Per farm:									
Assets	2,018,680	837,968	507,659	327,434	228,080	191,767	143,590	300,378	
Debt	616,593	260,846	139,540	75,633	35,717	20,581	14,692	65,396	
Cash operating expenses	877,560	247,775	114,701	55,185	29,954	17,066	8,676	59,305	
Gross cash income	1,110,281	345,118	152,275	70,221	35,389	16,177	4,479	73,663	
Percentage of all:									
Livestock sales	26.62	15.58	31.47	16.51	4.64	2.61	2.56	100.00	
Crop sales	35.21	15.11	26.42	13.94	4.93	2.64	1.76	100.00	
Government payments	12.71	16.35	38.32	23.11	6.22	2.09	1.21	100.00	
Off-farm income	2.59	3.01	8.33	10.33	9.42	15.95	50.36	100.00	
Farm operator average:									
Age	49	48	47	48	52	53	53	51	
Hours worked per week	58	56	58	52	43	32	23	38	
Weeks worked per year	50	50	50	48	46	44	43	46	
Percentage of operators in sales class classified as:									
Farmers	87.65	91.04	94.22	87.28	75.24	55.28	35.77	62.55	
Hired managers	6.25	.85	1.04	.82	.43	1.09	.48	.81	
Other	6.10	8.12	4.74	11.90	24.33	43.64	63.74	36.64	

NA = Not available. 1/ Numbers may not add due to rounding. 2/ AUM = animal unit month. Source: Farm Costs and Returns Survey, USDA.

Appendix table 9--Characteristics of farm operators on January 1, 1987 by type of farm 1/

Item	Farm type								
	Cash grain	Tobacco, cotton	Vegetable fruit, nut	Nursery, green-house	Other crop	Beef, hog, sheep	Dairy	Poultry	Other livestock
Farms operated:	<u>1,000 farms</u>								
Number	352	77	77	27	70	640	177	27	60
Percentage of all farms	23.35	5.12	5.10	1.79	4.62	42.51	11.74	1.78	3.98
Percentage of farms in farm type operated by:	<u>Percent</u>								
Corporation	3.73	1.48	8.98	11.49	2.60	2.61	2.47	1.30	3.75
Partnership	6.45	6.22	11.68	7.39	9.66	5.84	13.44	6.42	2.63
Individual	89.82	92.29	79.30	78.81	87.74	91.51	84.09	92.27	93.58
Cooperative	NA	NA	NA	2.31	NA	NA	NA	NA	NA
Acreage operated per farm:	<u>Acres</u>								
Owned	288	154	137	26	213	380	215	96	136
Cash rented	132	85	40	4	84	196	94	25	57
Share rented	231	100	12	0	36	39	19	3	7
AUM rented 2/	12	0	0	0	14	339	4	1	209
Total operated, less AUM	632	328	183	24	315	613	333	119	183
Acreage harvested per farm:	<u>Acres</u>								
Corn	106	14	8	0	11	23	40	11	3
Wheat	98	10	7	0	21	14	9	3	2
Soybeans	103	30	5	0	13	12	9	6	2
Cotton	2	60	1	0	3	0	0	0	0
Other grains	52	16	4	0	18	11	39	3	4
Other crops	35	22	76	6	95	37	87	10	10
Total harvested	395	152	101	6	161	98	184	34	21
Per farm:	<u>Dollars</u>								
Assets	309,301	197,326	442,143	328,036	310,582	265,572	388,569	268,675	300,512
Debt	93,879	47,970	109,098	29,356	59,216	42,061	99,341	70,589	34,917
Cash operating expenses	59,070	46,134	108,213	78,885	52,720	42,645	93,201	175,919	39,621
Gross cash income	77,813	59,091	128,733	126,928	60,378	46,797	121,897	298,092	33,324
Percentage of all:	<u>Percent</u>								
Livestock sales	5.88	.37	.31	NA	.38	44.98	40.48	5.11	2.45
Crop sales	37.59	8.75	25.59	9.45	8.78	7.62	1.86	NA	NA
Government payments	59.13	8.64	.88	NA	2.69	19.48	8.50	NA	NA
Off-farm income	18.75	3.39	9.09	1.83	5.83	48.78	4.12	1.40	6.82
Farm operator average:	<u>Number</u>								
Age	50	51	54	48	50	53	47	49	46
Hours worked per week	40	34	33	36	34	31	68	39	28
Weeks worked per year	43	45	40	42	38	48	51	49	49
Percentage of operators in farm type classified as:	<u>Percent</u>								
Farmers	75.04	63.61	60.59	54.32	47.45	52.23	91.23	68.07	34.85
Hired managers	.53	NA	4.95	1.13	1.93	NA	NA	NA	2.75
Other	24.43	36.12	34.46	44.56	50.62	47.33	8.67	31.93	62.40

NA = not available. 1/ Numbers may not add due to rounding. 2/ AUM = animal unit month. Source: Farm Costs and Returns Survey, USDA.

Appendix table 10--Characteristics of farm operators on January 1, 1987 by region ^{1/}

Item	Region									
	Northeast	Lake States	Corn Belt	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
Farms operated:	<u>1,000 farms</u>									
Number	119	187	344	153	177	89	73	170	83	111
Percentage of all farms	7.87	12.44	22.84	10.16	11.73	5.92	4.85	11.31	5.50	7.38
Percentage of farms in region operated by:	<u>Percent</u>									
Corporation	2.83	2.10	2.78	3.88	1.58	4.45	1.59	1.49	9.12	8.07
Partnership	6.49	9.25	6.12	7.97	4.65	6.24	5.33	6.10	9.01	14.20
Individual	90.68	88.65	91.06	88.13	93.43	89.28	93.05	92.41	81.82	77.69
Cooperative	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acreage operated per farm:	<u>Acres</u>									
Owned	119	179	150	487	131	221	171	474	1,171	218
Cash rented	49	75	62	253	43	93	82	318	468	120
Share rented	3	20	97	241	22	5	104	87	167	56
AUM rented ^{2/}	0	0	0	18	0	0	0	6	1,966	619
Total operated, less AUM	175	268	302	942	197	321	361	863	1,816	390
Acreage harvested per farm:	<u>Acres</u>									
Corn	20	55	89	72	17	17	11	6	12	5
Wheat	3	16	8	132	5	8	13	41	108	30
Soybeans	6	30	75	36	17	21	90	2	0	0
Cotton	0	0	0	0	2	4	20	15	2	6
Other grains	17	21	7	82	5	7	31	24	50	17
Other crops	51	55	22	90	26	41	21	24	101	60
Total harvested	97	177	202	411	72	99	186	113	273	120
Per farm:	<u>Percent</u>									
Assets	342,663	261,765	252,018	303,316	222,149	292,405	236,092	368,695	453,188	420,326
Debt	40,761	82,829	66,500	91,757	24,522	64,846	50,267	53,184	99,350	91,286
Cash operating expenses	57,505	52,946	53,868	79,064	33,656	72,898	54,309	45,263	83,335	98,275
Gross cash income	71,598	68,257	70,417	100,485	44,087	83,897	80,341	46,730	93,869	118,592
Percentage of all:	<u>Percent</u>									
Livestock sales	10.10	15.42	22.51	14.41	5.55	3.82	4.40	7.05	8.37	8.37
Crop sales	7.03	7.49	20.69	10.23	6.82	11.09	4.69	4.51	6.25	21.20
Government payments	1.44	12.31	26.89	24.82	2.82	1.89	5.45	10.49	8.68	5.20
Off-farm income	7.00	9.80	18.68	6.92	10.66	7.22	4.60	16.34	5.49	13.30
Farm operator average:	<u>Number</u>									
Age	49	49	50	49	53	53	52	54	51	52
Hours worked per week	48	48	38	45	32	28	31	31	41	32
Weeks worked per year	46	45	46	46	47	45	46	47	45	42
Percentage of operators in region classified as:	<u>Percent</u>									
Farmers	63.02	68.12	66.94	77.12	56.07	56.76	56.78	54.02	62.81	50.65
Hired managers	.58	.22	.23	.64	.46	1.84	.30	.88	1.70	3.31
Other	36.40	31.66	32.83	22.24	43.47	41.40	42.93	45.10	35.49	46.04

NA = not available. ^{1/} Numbers may not add due to rounding. ^{2/} AUM = animal unit month. Source: Farm Costs and Returns Survey, USDA.

APPENDIX III: RECONCILIATION OF FCRS AND ERS SECTOR AGGREGATE ACCOUNTS

Cash and net farm income estimates developed for farm operators from the FCRS differ from net cash and farm income estimates that are derived for the farm sector as a whole. They are conceptually equivalent measures of income. Farm income is earned by three types of individuals or corporations: operators, landlords, and contractors. Development of ERS net income estimates require that analysts expense net rent received by nonoperator landlords. As a result, the residual ERS income includes the income of both operators and contractors. Because ERS estimates are based on NASS cash receipts data, coverage for both operator and contractor income is probably very complete.

FCRS enumerators collect income data only for commodities sold from a farm or ranch. If a product is removed from the farm without being sold, it is not reported as operator sales, although for livestock producers, the portion of these sales retained by the farm operator is recorded as custom feeding income. For the 1986 survey, we tried to identify the value of agricultural commodities produced under contract which gave an estimate of \$6 billion. This estimate is likely very low since the survey question asked for the value of products produced under marketing contracts instead of all contractual arrangements that may or may not include marketing such as feeding. While some major contractors were accounted for in the FCRS, others were undoubtedly missed. Moreover, the survey did not account for the total value of livestock produced under contract. Several hundred operators reported custom feeding income but did not report the value of livestock removed from the farm (likely due to the way the question was asked). The operator income data appear to be fairly good given our data analysis effort to evaluate the amount of underreporting. Obtaining contractor data is another step that we are taking to improve the linkage between operator and sector income accounts.

The debt figures carried in the sector balance sheet for December 31, 1986, are greater than those reported from USDA's Farm Costs and Returns Survey. The difference amounts to \$78 billion or 44 percent of the balance sheet debt (app. table 11). Much of this difference can be explained by the conceptual differences underlying the debt figures from the two sources. Debt reported in the sector balance sheet is defined as all loans outstanding that are secured by farm real estate, including loans on the farmer's dwelling if it is located on the farm, plus all nonreal estate farm loans. These are defined by each lender, and definitions vary. In contrast, the FCRS asks farm operators only for their farm business debt.

The definitional differences between the sector balance sheet and the FCRS include the farm debt of landlords and debt described as farm sector debt used for nonfarm purposes. The debt on these two components is carried in the balance sheet but are not picked up in the FCRS.

To estimate farm debt of landlords, the ratio of landlord farm debt to farm operator business debt from the 1979 Farm Finance Survey (10.5 percent) was applied to the 1985 FCRS farm operator business debt. The result is \$10.4 billion for landlords' share of debt.

Debt for nonfarm purposes held by farm operators was also estimated by using figures from the 1979 Farm Finance Survey. The balance sheet defines debt based on the collateral for the loan instead of the purpose of the loan. For example, if the farmers are securing loans on farm real estate and using these loans to educate their children, then the loans are counted as farm real estate debt in the balance sheet, but not as a farm business debt in the

FCRS. The 1979 survey indicated that total debt held by farm operators was 8.8 percent greater than their farm debt. This percentage was applied to the FCRS figure for farm operators' business debt.

Differences in definitions account for at least \$39 billion of the difference in total sector debt and total debt reported by operators. The \$39 billion left in unexplained differences could occur either because the assumed amount of debt owed on farm dwellings in the sector balance is too small, landlords owe more than commonly assumed, operators' debt for nonfarm purposes is larger than assumed, the aggregate balance sheet debt is overestimated, especially for categories like individuals for which little data exist, or the FCRS underestimates operator debt totals.

Estimates of asset levels also differ between the sector balance sheet and the FCRS. The FCRS estimates \$388 billion in assets excluding farm households compared with \$711 billion in the aggregate sector balance sheet. The vast majority of the difference (66 percent) is accounted for by the difference in real estate assets; the FCRS measures only operator-owned real estate assets.

Appendix table 11--Reconciliation of the December 31, 1986, farm sector balance sheet figures with the 1986 Farm Costs and Returns Survey

Item	Amount
	<u>Billion dollars</u>
Debt:	
1. Balance sheet debt excluding farm households	177.0
2. Debt estimated from Farm Costs and Returns Survey (FCRS)	98.5
3. Difference	78.5
4. Difference attributed to:	
Landlord debt	10.4
Operator debt for nonfarm purposes	8.7
Underreporting of CCC debt in FCRS	11.8
Underreporting of small farms' debt by FCRS	8.6
Subtotal for explained differences	39.5
5. Unexplained difference in debt	39.0
Assets:	
1. Balance sheet assets (excluding farm households)	711.0
2. Reported assets from FCRS (excluding farm households)	387.7
3. Difference minus value of seed, feed, etc. on hand ^{1/}	321.5
4. Difference attributed to:	
Real estate	213.6
Livestock and poultry	1.4
Machinery and motor vehicles	21.3
Stored crops	10.8
Financial assets	20.4
Subtotal for explained differences	267.5
5. Unexplained difference in assets	54.0

^{1/} Added to the difference since there is not a comparable sector category for this item.

**APPENDIX IV: AVERAGE VALUES OF FINANCIAL RATIOS BY INCOME/SOLVENCY POSITION,
SALES CLASS, FARM TYPE, AND REGION**

Data presented in appendix tables 12 through 16 provide additional estimates of financial ratios by income solvency position, sales class, farm type, and region, respectively. These tables are discussed in this order in the main text.

Appendix table 12--Average financial ratios by net farm income and solvency position

Ratio	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	<u>Ratio</u>				
Liquidity measures:					
Household debt service coverage	6.78	1.16	1.79	.24	2.41
Business debt service coverage	5.61	-.85	2.21	.23	1.97
Debt servicing	.07	.17	.18	.37	.15
Solvency measures:					
Debt/asset	.08	.11	.68	.70	.22
Profitability measures:					
Return on equity	5.63	-9.75	30.59	-48.48	.66
Return on assets	6.20	-7.05	15.60	-7.88	2.80
Profit margin	.39	-.44	.28	-.36	.16
Efficiency measures:					
Gross	.66	1.26	.71	1.14	.81
Interest expense	.05	.12	.11	.22	.09

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Appendix table 13--Average financial ratios by net cash household income and solvency position

Ratio	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	<u>Ratio</u>				
Liquidity measures:					
Household debt service coverage	8.71	-2.73	2.60	-.32	2.41
Business debt service coverage	5.30	-.74	2.35	.26	1.97
Debt servicing	.07	.16	.17	.37	.15
Solvency measures:					
Debt/asset	.09	.09	.66	.72	.22
Profitability measures:					
Return on equity	4.78	-6.05	20.27	-37.58	.66
Return on assets	5.50	-4.19	12.75	-3.70	2.80
Profit margin	.32	-.17	.21	-.20	.16
Efficiency measures:					
Gross	.67	1.23	.70	1.13	.81
Interest expense	.05	.11	.11	.22	.09

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Appendix table 14--Average financial ratios by sales class

Ratio	Sales class			
	\$500,000 or over	\$250,000 to \$499,999	\$100,000 to \$249,999	\$40,000 to \$99,999
	<u>Ratio</u>			
Liquidity measures:				
Household debt service coverage	2.75	2.60	1.93	1.40
Business debt service coverage	2.91	2.82	2.34	1.85
Debt servicing	.09	.13	.15	.17
Solvency measures:				
Debt/asset	.31	.31	.27	.23
Profitability measures:				
Return on equity	6.96	7.95	1.69	-1.23
Return on assets	8.18	9.08	4.05	1.31
Profit margin	.13	.20	.16	.15
Efficiency measures:				
Gross	.79	.72	.75	.79
Interest expense	.06	.09	.09	.10
	<u>Ratio</u>			
Ratio	Sales class			All farms
	\$20,000 to \$39,999	\$10,000 to \$19,999	\$9,999 or less	
	<u>Ratio</u>			
Liquidity measures:				
Household debt service coverage	1.95	4.15	4.52	2.41
Business debt service coverage	1.56	.39	-1.06	1.97
Debt servicing	.16	.24	.57	.15
Solvency measures:				
Debt/asset	.16	.11	.10	.22
Profitability measures:				
Return on equity	-1.63	-2.67	-2.50	.66
Return on assets	.23	-1.14	-1.20	2.80
Profit margin	.20	.13	.29	.16
Efficiency measures:				
Gross	.85	1.05	1.94	.81
Interest expense	.10	.15	.34	.09

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Appendix table 15--Average financial ratios by type of farm

Ratio	Type of farm				
	Cash grain	Tobacco, cotton	Vegetable fruit, nut	Nursery, greenhouse	Other crop
Liquidity measures:	<u>Ratio</u>				
Household debt service coverage	1.93	1.85	3.01	9.52	2.57
Business debt service coverage	1.99	2.16	1.80	8.42	1.40
Debt servicing	.18	.14	.14	.05	.16
Solvency measures:					
Debt/asset	.30	.24	.25	.09	.19
Profitability measures:					
Return on equity	.15	2.59	-1.43	12.88	-.82
Return on assets	3.10	4.59	1.46	12.82	1.18
Profit margin	.14	.22	.05	.41	.10
Efficiency measures:					
Gross	.76	.78	.84	.62	.87
Interest expense	.12	.09	.09	.03	.09
Ratio	Type of farm				All farms
	Beef, hog, sheep	Dairy	Poultry	Other livestock	
Liquidity measures:	<u>Ratio</u>				
Household debt service coverage	2.55	1.50	9.81	3.01	2.41
Business debt service coverage	1.21	2.29	9.93	-.22	1.97
Debt servicing	.16	.14	.04	.22	.15
Solvency measures:					
Debt/asset	.16	.26	.26	.12	.22
Profitability measures:					
Return on equity	-.91	.40	52.06	-1.83	.66
Return on assets	.98	3.03	41.37	-.06	2.80
Profit margin	.13	.17	.40	.06	.16
Efficiency measures:					
Gross	.91	.76	.59	1.19	.81
Interest expense	.10	.09	.03	.14	.09

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Appendix table 16--Average financial ratios by region

Ratio	Region				
	Northeast	Lake States	Corn Belt	Northern Plains	Appalachia
	<u>Ratio</u>				
Liquidity measures:					
Household debt service coverage	2.88	1.75	2.26	1.81	3.77
Business debt service coverage	2.48	1.84	2.19	2.09	2.78
Debt servicing	.10	.18	.15	.15	.11
Solvency measures:					
Debt/asset	.12	.32	.26	.30	.11
Profitability measures:					
Return on equity	1.63	-.15	.62	.46	3.17
Return on assets	2.71	2.90	3.27	3.52	4.22
Profit margin	.25	.17	.16	.14	.32
Efficiency measures:					
Gross	.80	.78	.76	.79	.76
Interest expense	.06	.12	.10	.10	.07

Ratio	Region					
	Southeast	Delta	Southern Plains	Mountain	Pacific	All farms
	<u>Ratio</u>					
Liquidity measures:						
Household debt service coverage	2.75	4.05	2.66	1.45	3.33	2.41
Business debt service coverage	1.72	3.60	.79	1.28	1.92	1.97
Debt servicing	.12	.11	.19	.18	.13	.15
Solvency measures:						
Debt/asset	.22	.21	.14	.22	.22	.22
Profitability measures:						
Return on equity	-2.56	9.96	-1.86	-1.85	2.32	.66
Return on assets	-.04	9.96	-.11	1.08	4.24	2.80
Profit margin	.02	.34	.05	.06	.16	.16
Efficiency measures:						
Gross	.87	.68	.97	.89	.83	.81
Interest expense	.07	.06	.12	.12	.09	.09

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APPENDIX V: DISTRIBUTION OF FARM OPERATORS, ASSETS, AND DEBT BY RETURNS TO EQUITY AND BY DEBT/ASSET RATIO ACROSS LENDERS

Appendix tables 17 and 18 provide data which allows for a discussion of the distribution of operators debts, and assets by return on equity categories presented in earlier in this report. Tables 19 through 23 support the earlier discussion of lender perspective.

Appendix table 17--Distribution of farm operators, debt and assets by farm business return to equity and region

Region	Farm business return to equity								All farms	
	Insolv-ent farms	-0.21 or less	-0.20 to -0.11	-0.10 to -0.06	-0.05 to 0.04	0.05 to 0.09	0.10 to 0.19	0.20 or over		
				<u>Percent</u>						
North-east	Operators	.05	.77	.86	.85	3.34	1.03	.53	.43	7.87
	Debt	.15	.80	.39	.50	1.45	.64	.43	.54	4.90
	Assets	.03	.32	.45	.71	5.35	1.04	.53	.55	8.98
Lake States	Operators	.63	1.67	1.36	1.41	4.59	1.21	.71	.86	12.44
	Debt	2.71	2.76	1.96	1.16	2.61	1.13	1.34	2.08	15.76
	Assets	.41	1.02	1.04	1.15	4.31	1.17	.95	.79	10.84
Corn Belt	Operators	1.10	3.29	2.04	2.25	8.22	2.50	1.75	1.69	22.84
	Debt	3.91	4.68	2.31	1.61	4.47	1.86	1.59	2.78	23.23
	Assets	.64	1.98	1.63	1.84	7.24	2.65	1.71	1.47	19.16
Northern Plains	Operators	.48	1.69	.98	.92	2.93	1.16	.97	1.02	10.16
	Debt	1.90	2.90	1.29	1.00	2.58	1.04	1.37	2.18	14.25
	Assets	.26	1.22	.85	.93	3.61	1.19	1.18	1.01	10.26
Appalachia	Operators	.22	.94	1.08	1.02	5.76	1.26	.84	.62	11.73
	Debt	.34	.71	.55	.38	1.16	.22	.41	.63	4.40
	Assets	.06	.40	.50	.62	5.00	.73	.93	.42	8.67
South-east	Operators	.28	.64	.46	.60	2.88	.39	.25	.43	5.92
	Debt	.70	2.64	.38	.32	.80	.18	.29	.57	5.87
	Assets	.07	.96	.36	.40	2.94	.37	.22	.44	5.77
Delta	Operators	.26	.54	.44	.60	1.85	.33	.17	.65	4.85
	Debt	.71	.70	.35	.24	.76	.12	.14	.70	3.73
	Assets	.08	.33	.26	.41	1.71	.27	.20	.54	3.81
Southern Plains	Operators	.28	1.41	1.79	1.47	5.02	.47	.48	.39	11.31
	Debt	1.85	1.56	1.92	.81	1.80	.34	.28	.63	9.19
	Assets	.22	.78	1.29	1.30	8.86	.48	.48	.47	13.88
Mountain	Operators	.19	.97	.51	.56	2.32	.34	.28	.33	5.50
	Debt	.87	1.65	.83	.85	2.44	.47	.34	.91	8.36
	Assets	.13	.80	.69	.78	4.48	.61	.36	.44	8.30
Pacific	Operators	.18	.94	.56	.99	2.98	.83	.46	.44	7.38
	Debt	.73	1.38	.67	1.18	3.42	.59	1.16	1.18	10.30
	Assets	.07	.66	.47	1.15	5.28	1.12	.95	.64	10.33
All farms	Operators	3.66	12.86	10.09	10.67	39.88	9.53	6.44	6.86	100.00
	Debt	13.87	19.78	10.65	8.05	21.49	6.59	7.37	12.20	100.00
	Assets	1.98	8.46	7.55	9.29	48.80	9.62	7.52	6.79	100.00

Appendix table 18--Distribution of farm operators, debt and assets by farm business return to equity and type of farm

Type of farm		Farm business return to equity								All farms
		Insolv-ent farms	-0.21 or less	-0.20 to -0.11	-0.10 to -0.06	-0.05 to 0.04	0.05 to 0.09	0.10 to 0.19	0.20 or over	
		<u>Percent</u>								
Cash grain	Operators	1.44	3.48	2.41	2.06	7.69	2.09	2.05	2.13	23.35
	Debt	6.09	6.87	3.02	2.51	6.42	1.99	2.24	4.39	33.52
	Assets	.89	2.77	1.99	2.19	9.31	2.56	2.24	2.09	24.04
Tobacco, cotton	Operators	.28	.63	.51	.36	2.00	.49	.42	.42	5.12
	Debt	.72	.55	.57	.21	.59	.05	.32	.74	3.76
	Assets	.09	.22	.35	.20	1.52	.28	.33	.37	3.36
Vegetable, nut, fruit	Operators	.14	.63	.49	.59	1.82	.70	.41	.31	5.10
	Debt	.65	3.28	.51	.56	1.68	.35	.51	.95	8.51
	Assets	.05	1.21	.44	.70	3.31	.75	.53	.50	7.50
Nursery, greenhouse	Operators	.01	.15	.06	.10	.39	.51	.19	.37	1.79
	Debt	.00	.06	.07	.02	.08	.12	.09	.35	.80
	Assets	.00	.04	.06	.08	.80	.37	.12	.49	1.95
Other crop	Operators	.22	.56	.55	.47	1.95	.36	.21	.30	4.62
	Debt	.64	.97	.37	.36	.90	.15	.43	.37	4.19
	Assets	.09	.44	.32	.33	2.65	.39	.36	.22	4.78
Beef, hog, sheep	Operators	.86	4.86	4.38	4.98	20.03	3.75	1.92	1.74	42.51
	Debt	3.62	4.20	3.59	2.19	7.07	2.09	1.57	3.01	27.34
	Assets	.50	2.17	2.87	3.51	22.21	2.97	1.65	1.70	37.59
Dairy	Operators	.57	1.67	1.20	1.41	4.10	1.32	.81	.67	11.74
	Debt	1.94	3.10	2.13	1.81	3.98	1.61	1.84	1.42	17.84
	Assets	.33	1.13	1.24	1.73	6.62	1.95	1.48	.71	15.19
Poultry	Operators	.08	.16	.06	.06	.23	.13	.24	.82	1.78
	Debt	.09	.30	.16	.05	.19	.17	.15	.81	1.92
	Assets	.02	.13	.07	.04	.29	.22	.21	.61	1.59
Other live-stock	Operators	.06	.72	.44	.64	1.66	.17	.19	.10	3.98
	Debt	.11	.45	.23	.35	.59	.04	.20	.15	2.13
	Assets	.02	.36	.20	.49	2.10	.12	.60	.09	3.98
All farms	Operators	3.66	12.86	10.09	10.67	39.88	9.53	6.44	6.86	100.00
	Debt	13.87	19.78	10.65	8.05	21.49	6.59	7.37	12.20	100.00
	Assets	1.98	8.46	7.55	9.29	48.80	9.62	7.52	6.79	100.00

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Appendix table 19--Distribution of farm operator debt by debt/asset ratio, and lender, January 1, 1987

Lender	Debt/asset ratio					All farms
	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
<u>Billion dollars</u>						
Commercial banks	1,658	9,475	9,781	4,627	3,354	28,895
Federal land banks	514	6,000	7,449	3,421	2,576	19,959
Farmers Home Administration	152	2,027	4,247	3,344	4,270	14,040
Production Credit Association	364	2,125	2,072	972	758	6,290
Commodity Credit Corporation	497	2,306	2,133	1,396	823	7,156
Merchants and dealers	116	336	303	210	149	1,114
Life insurance companies	121	456	1,378	416	328	2,698
Other farmers	548	3,914	4,555	2,382	971	12,370
All other lenders	249	1,571	1,579	2,152	433	5,983
All lenders	4,219	28,209	33,497	18,920	13,662	98,505

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Appendix table 20--Distribution of farm operators reporting debt by debt/asset ratio, lender, and year

Lender	Debt/asset ratio					All farms
	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
January 1, 1987						
Percentage of operators in d/a class reporting debt owed to:						
<u>Percent</u>						
Commercial banks	49.6	58.6	63.0	69.9	61.2	35.7
Federal land banks	8.2	20.9	28.0	24.4	23.7	12.0
Farmers Home Administration	4.4	10.9	26.6	35.7	47.4	10.4
Production Credit Association	9.7	12.2	18.5	10.1	12.7	7.8
Commodity Credit Corporation	14.9	19.0	25.1	33.3	35.1	13.2
Lender	Debt/asset ratio					All farms
	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
January 1, 1986						
Percentage of operators in d/a class reporting debt owed to:						
<u>Percent</u>						
Commercial banks	49.8	58.3	61.4	61.6	67.8	35.2
Federal land banks	12.1	23.3	32.6	40.5	25.2	14.4
Farmers Home Administration	7.3	13.7	24.4	41.4	49.9	11.4
Production Credit Association	14.8	14.0	18.2	19.1	13.5	9.4
Commodity Credit Corporation	7.2	16.0	26.6	28.4	29.4	10.8

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Appendix table 21--Distribution of farm operator debt by net farm income and solvency position, and lender, January 1, 1987 ^{1/}

Lender	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
Percent					
Commercial banks:					
Percentage of--					
Own debt by position ^{2/}	24.5	14.0	30.2	31.2	100.0
All lender debt in position ^{3/}	33.5	35.9	25.3	28.6	29.3
All operator debt ^{4/}	7.2	4.1	8.9	9.2	29.3
Federal land banks:					
Percentage of--					
Own debt by position	20.0	12.6	36.3	31.0	100.0
All lender debt in position	18.8	22.4	21.0	19.6	20.3
All operator debt	4.1	2.6	7.4	6.3	20.3
Farmers Home Administration:					
Percentage of--					
Own debt by position	10.0	5.5	46.6	37.9	100.0
All lender debt in position	6.7	6.8	18.9	16.9	14.3
All operator debt	1.4	.8	6.6	5.4	14.3
Production Credit Association:					
Percentage of--					
Own debt by position	28.5	11.1	32.9	27.6	100.0
All lender debt in position	8.5	6.2	6.0	5.5	6.4
All operator debt	1.8	.7	2.1	1.8	6.4
Commodity Credit Corporation:					
Percentage of--					
Own debt by position	29.9	9.2	40.2	20.6	100.0
All lender debt in position	10.1	5.9	8.3	4.7	7.3
All operator debt	2.2	.7	2.9	1.5	7.3
Merchants and dealers:					
Percentage of--					
Own debt by position	28.1	12.3	31.0	28.5	100.0
All lender debt in position	1.5	1.2	1.0	1.0	1.1
All operator debt	.3	.1	.4	.3	1.1
Life insurance companies:					
Percentage of--					
Own debt by position	13.8	7.6	35.1	43.5	100.0
All lender debt in position	1.8	1.8	2.7	3.7	2.7
All operator debt	.4	.2	1.0	1.2	2.7
Other individuals:					
Percentage of--					
Own debt by position	24.0	12.1	34.4	29.5	100.0
All lender debt in position	14.0	13.3	12.3	11.6	12.6
All operator debt	3.0	1.5	4.3	3.7	12.6
All other lenders:					
Percentage of--					
Own debt by position	18.3	12.1	25.5	44.1	100.0
All lender debt in position	5.2	6.4	4.4	8.4	6.1
All operator debt	1.1	.7	1.5	2.7	6.1
All lenders:					
Percentage of--					
All lender debt in position	100.0	100.0	100.0	100.0	100.0
All operator debt	21.5	11.4	35.1	32.0	100.0

^{1/} Numbers may not add due to rounding. ^{2/} Own debt is the distribution of lender held operator debt by operator income and solvency position. ^{3/} All lender debt is the percent of total operator debt in each income and solvency position held by the lender. ^{4/} All operator debt is the percent of total operator debt held by the lender in each income and solvency position.

Appendix table 22--Distribution of farm operator debt by net cash farm income and solvency position, and lender, January 1, 1987 ^{1/}

Lender	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
Commercial banks:	<u>Percent</u>				
Percentage of--					
Own debt by position ^{2/}	23.1	15.4	33.3	28.1	100.0
All lender debt in position ^{3/}	31.3	40.1	23.3	32.9	29.3
All operator debt ^{4/}	6.8	4.5	9.8	8.3	29.3
Federal land banks:					
Percentage of--					
Own debt by position	20.8	11.8	43.8	23.5	100.0
All lender debt in position	19.5	21.3	21.1	19.0	20.3
All operator debt	4.2	2.4	8.9	4.8	20.3
Farmers Home Administration:					
Percentage of--					
Own debt by position	9.5	6.0	52.9	31.6	100.0
All lender debt in position	6.3	7.6	17.9	18.0	14.3
All operator debt	1.4	.9	7.5	4.5	14.3
Production Credit Association:					
Percentage of--					
Own debt by position	29.3	10.3	40.0	20.5	100.0
All lender debt in position	8.6	5.8	6.1	5.2	6.4
All operator debt	1.9	.7	2.6	1.3	6.4
Commodity Credit Corporation:					
Percentage of--					
Own debt by position	34.9	4.2	48.8	12.1	100.0
All lender debt in position	11.7	2.7	8.4	3.5	7.3
All operator debt	2.5	.3	3.5	.9	7.3
Merchants and dealers:					
Percentage of--					
Own debt by position	30.6	9.9	40.9	18.6	100.0
All lender debt in position	1.6	1.0	1.1	.8	1.1
All operator debt	.3	.1	.5	.2	1.1
Life insurance companies:					
Percentage of--					
Own debt by position	13.4	8.0	39.4	39.2	100.0
All lender debt in position	1.7	1.9	2.6	4.3	2.7
All operator debt	.4	.2	1.1	1.1	2.7
Other individuals:					
Percentage of--					
Own debt by position	25.0	11.0	39.7	24.2	100.0
All lender debt in position	14.5	12.3	11.9	12.1	12.6
All operator debt	3.1	1.4	5.0	3.0	12.6
All other lenders:					
Percentage of--					
Own debt by position	16.9	13.5	52.6	16.9	100.0
All lender debt in position	4.7	7.3	7.6	4.1	6.1
All operator debt	1.0	.8	3.2	1.0	6.1
All lenders:					
Percentage of--					
All lender debt in position	100.0	100.0	100.0	100.0	100.0
All operator debt	21.6	11.3	42.0	25.1	100.0

^{1/} Numbers may not add due to rounding. ^{2/} Own debt is the distribution of lender held operator debt by operator income and solvency position. ^{3/} All lender debt is the percent of total operator debt in each income and solvency position held by the lender. ^{4/} All operator debt is the percent of total operator debt held by the lender in each income and solvency position.

Appendix table 23--Distribution of farm operator debt by net cash household income and solvency position, and lender, January 1, 1987 ^{1/}

Lender	Income/solvency position				All farms
	Favorable	Marginal income	Marginal solvency	Vulnerable	
	<u>Percent</u>				
Commercial banks:					
Percentage of--					
Own debt by position ^{2/}	25.5	13.1	28.2	33.3	100.0
All lender debt in position ^{3/}	33.0	37.3	25.7	27.9	29.3
All operator debt ^{4/}	7.5	3.8	8.3	9.8	28.3
Federal land banks:					
Percentage of--					
Own debt by position	23.1	9.6	34.5	32.8	100.0
All lender debt in position	20.6	18.9	21.8	19.0	20.3
All operator debt	4.7	1.9	7.0	6.7	20.3
Farmers Home Administration:					
Percentage of--					
Own debt by position	8.1	7.4	28.9	54.6	100.0
All lender debt in position	5.1	10.3	13.3	22.2	14.3
All operator debt	1.2	1.1	4.3	7.8	14.3
Production Credit Association:					
Percentage of--					
Own debt by position	24.4	15.1	30.6	28.8	100.0
All lender debt in position	6.9	9.4	6.1	5.4	6.4
All operator debt	1.6	1.0	2.0	1.9	6.4
Commodity Credit Corporation:					
Percentage of--					
Own debt by position	33.4	5.7	38.5	22.3	100.0
All lender debt in position	10.7	4.1	8.7	4.6	7.3
All operator debt	2.4	.4	2.8	1.6	7.3
Merchants and dealers:					
Percentage of--					
Own debt by position	28.8	10.6	28.4	31.1	100.0
All lender debt in position	1.5	1.2	1.0	1.0	1.1
All operator debt	.3	.1	.3	.4	1.1
Life insurance companies:					
Percentage of--					
Own debt by position	13.2	8.2	25.4	53.2	100.0
All lender debt in position	1.6	2.2	2.2	4.2	2.7
All operator debt	.4	.2	.7	1.5	2.7
Other individuals:					
Percentage of--					
Own debt by position	28.2	7.8	33.0	31.0	100.0
All lender debt in position	15.6	9.7	12.8	11.1	12.6
All operator debt	3.5	1.0	4.1	3.9	12.6
All other lenders:					
Percentage of--					
Own debt by position	18.6	11.8	43.8	25.7	100.0
All lender debt in position	5.0	7.0	8.3	4.5	6.1
All operator debt	1.1	.7	2.7	1.6	6.1
All lenders:					
Percentage of--					
All lender debt in position	100.0	100.0	100.0	100.0	100.0
All operator debt	22.7	10.3	32.1	35.0	100.0

^{1/} Numbers may not add due to rounding. ^{2/} Own debt is the distribution of lender held operator debt by operator income and solvency position. ^{3/} All lender debt is the percent of total operator debt in each income and solvency position held by the lender. ^{4/} All operator debt is the percent of total operator debt held by the lender in each income and solvency position.

**APPENDIX VI: FARM OPERATOR COMBINED CASH FLOW AND NET INCOME
STATEMENTS AND BALANCE SHEETS**

The tables in this appendix describe differences in farm operator financial statements by sales class, farm type, region, operator age category, and primary occupation of operator in this report.

Appendix table 24--Combined cash flow and net income statement for all farms,
January 1, 1987

All farms	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	586,085	236,408	357,930	195,517	75,232	55,118	1506290
Percent of farms	38.90%	15.69%	23.76%	12.98%	4.99%	3.65%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	29,918	62,364	77,263	90,534	122,294	92,316	61,026
Government payments	1,541	4,591	7,121	9,039	11,992	11,750	5,214
Other farm income	1,924	4,656	9,171	12,559	18,422	33,173	7,423
Gross cash farm income	33,383	71,611	93,555	112,132	152,708	137,239	73,663
Nonmoney income	6,453	7,679	7,140	6,656	5,592	3,603	6,688
Value of inventory change	-683	669	-1,206	-1,898	-2,375	-2,507	-904
Gross farm income	39,153	79,960	99,490	116,890	155,925	138,336	79,447
Operating expenses excluding interest	24,859	50,300	66,283	78,166	104,413	102,546	52,430
Cash income before interest is deducted	8,525	21,312	27,272	33,966	48,294	34,693	21,233
Percent of farms with negative cash income	47.21%	40.91%	37.59%	27.63%	26.99%	32.59%	39.85%
Interest expense	676	3,066	8,974	17,715	21,039	17,684	6,874
Cash income after interest is deducted	7,848	18,246	18,298	16,250	27,255	17,009	14,358
Percent of farms with negative cash income	48.76%	45.28%	45.79%	45.93%	44.75%	47.63%	46.90%
Total expenses including depreciation	28,735	62,073	85,828	108,062	149,623	128,932	67,535
Net farm income	10,418	17,887	13,662	8,828	6,301	9,404	11,912
Percent of farms with negative net farm income	22.97%	27.87%	34.62%	44.14%	47.86%	50.89%	31.52%
Estimated principal repayment	0	1,148	4,681	9,902	14,966	16,454	3,927
Cash income after interest and principal	7,848	17,097	13,617	6,348	12,289	555	10,431
Percent of farms with negative cash income	48.76%	48.19%	51.69%	57.31%	58.49%	64.27%	51.53%
Off-farm income	22,298	29,276	26,833	24,303	19,840	13,511	24,287
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	14,647	30,873	24,950	15,150	16,628	-1,434	19,218
Percent of farms with negative family income	46.13%	32.60%	33.22%	43.31%	51.74%	62.13%	41.44%

Farm Costs and Returns Survey, USDA

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987

\$500,000 or more	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	3,685	3,740	9,073	6,806	2,828	1,661	27,791
Percent of farms	13.25%	13.45%	32.64%	24.48%	10.17%	5.97%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	1031853	1134273	800,292	840,240	1468531	1132823	973,579
Government payments	23,681	33,256	35,551	29,737	39,882	89,753	35,924
Other farm income	75,035	16,762	72,435	54,199	98,019	697,732	100,788
Gross cash farm income	1130568	1184290	908,278	924,175	1606432	1920308	1110291
Nonmoney income	16,472	21,683	14,148	10,975	11,130	4,644	13,818
Value of inventory change	-13,881	94,256	-4,344	16,737	-40,497	-35,943	7,255
Gross farm income	1133159	1300229	918,082	951,887	1577066	1889009	1131364
Operating expenses excluding interest	784,380	831,166	674,926	671,159	1074341	1676823	810,044
Cash income before interest is deducted	346,189	353,125	233,352	253,017	532,091	243,484	300,247
Percent of farms with negative cash income	10.35%	16.36%	13.35%	8.26%	4.04%	6.59%	10.76%
Interest expense	30,095	32,984	55,091	93,127	102,423	131,787	67,516
Cash income after interest is deducted	316,094	320,141	178,261	159,890	429,669	111,698	232,731
Percent of farms with negative cash income	10.46%	17.46%	19.40%	18.08%	19.37%	15.34%	17.38%
Total expenses including depreciation	886,751	986,281	811,950	831,892	1566115	1859609	989,545
Net farm income	246,408	313,948	106,132	119,994	10,951	29,400	141,820
Percent of farms with negative net farm income	19.11%	19.31%	33.39%	25.51%	29.78%	30.52%	27.14%
Estimated principal repayment	0	12,200	25,557	45,630	85,603	95,927	35,601
Cash income after interest and principal	316,094	307,940	152,704	114,260	344,066	15,771	197,130
Percent of farms with negative cash income	10.46%	18.93%	22.42%	32.16%	37.36%	27.43%	24.57%
Off-farm income	53,280	24,771	38,044	33,117	22,869	13,966	34,089
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	353,874	317,211	175,248	131,877	351,435	14,237	215,718
Percent of farms with negative family income	8.91%	16.32%	23.14%	30.44%	37.76%	17.27%	23.26%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$250,000 to \$499,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	5,638	7,129	19,299	12,193	5,443	2,672	52,375
Percent of farms	10.76%	13.61%	36.84%	23.28%	10.39%	5.10%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	351,332	270,866	291,349	265,594	257,921	357,305	288,913
Government payments	13,599	20,762	21,761	31,182	33,661	28,334	24,512
Other farm income	12,684	16,133	27,422	43,228	54,083	45,921	31,693
Gross cash farm income	377,615	307,761	340,533	340,003	345,665	431,561	345,118
Nonmoney income	12,393	12,400	10,425	8,471	7,921	4,964	9,912
Value of inventory change	-174	-7,832	-3,470	-13,951	6,353	-6,734	-5,294
Gross farm income	389,834	312,329	347,488	334,523	359,939	429,791	349,736
Operating expenses excluding interest	213,659	201,457	221,907	222,987	225,342	197,681	217,608
Cash income before interest is deducted	163,956	106,304	118,625	117,017	120,323	233,880	127,510
Percent of farms with negative cash income	9.70%	10.30%	9.46%	6.35%	11.46%	7.90%	9.00%
Interest expense	6,917	9,134	27,642	45,476	51,066	41,148	30,167
Cash income after interest is deducted	157,039	97,170	90,983	71,540	69,258	192,732	97,343
Percent of farms with negative cash income	13.45%	13.01%	14.37%	15.90%	26.56%	15.68%	15.77%
Total expenses including depreciation	241,982	241,133	283,931	304,250	300,855	271,491	279,444
Net farm income	147,853	71,197	63,557	30,273	59,084	158,299	70,292
Percent of farms with negative net farm income	15.85%	21.03%	27.64%	35.67%	28.08%	34.57%	27.74%
Estimated principal repayment	0	2,462	12,567	22,177	31,626	33,262	15,113
Cash income after interest and principal	157,039	94,708	78,416	49,363	37,632	159,470	82,231
Percent of farms with negative cash income	13.45%	13.01%	16.99%	25.87%	41.47%	38.19%	21.76%
Off-farm income	22,249	32,113	25,167	12,251	14,622	11,807	21,014
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	163,788	111,321	88,083	46,114	36,754	155,777	87,745
Percent of farms with negative family income	14.65%	11.76%	18.39%	31.30%	43.89%	39.73%	23.83%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$100,000 to \$249,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	34,354	32,518	69,630	43,455	21,044	10,973	211,974
Percent of farms	16.20%	15.34%	32.84%	20.50%	9.92%	5.17%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	132,207	134,791	122,573	117,636	111,003	107,028	123,043
Government payments	7,465	12,837	15,273	15,807	18,102	18,624	14,197
Other farm income	942	11,315	16,196	20,731	23,560	23,909	15,035
Gross cash farm income	140,614	158,943	154,041	154,174	152,664	149,561	152,275
Nonmoney income	8,176	9,899	7,048	7,643	6,100	4,451	7,562
Value of inventory change	-4,030	-2,216	-3,303	-4,504	-4,168	-1,563	-3,496
Gross farm income	144,760	166,625	157,787	157,313	154,596	152,449	156,341
Operating expenses excluding interest	95,108	101,886	100,260	102,513	101,267	102,978	100,377
Cash income before interest is deducted	45,505	57,056	53,782	51,661	51,397	46,583	51,899
Percent of farms with negative cash income	11.88%	11.48%	9.61%	9.67%	14.23%	9.87%	10.75%
Interest expense	2,114	5,273	13,512	23,651	25,559	26,039	14,324
Cash income after interest is deducted	43,391	51,784	40,269	28,010	25,838	20,544	37,575
Percent of farms with negative cash income	13.33%	14.78%	13.90%	20.82%	26.24%	27.29%	17.28%
Total expenses including depreciation	112,033	127,772	132,008	143,300	142,346	141,910	131,974
Net farm income	32,726	38,854	25,779	14,014	12,250	10,539	24,367
Percent of farms with negative net farm income	20.50%	22.20%	23.23%	34.56%	38.56%	37.94%	27.24%
Estimated principal repayment	0	1,648	6,692	12,876	16,718	21,483	7,862
Cash income after interest and principal	43,391	50,135	33,577	15,133	9,120	-939	29,712
Percent of farms with negative cash income	13.33%	15.07%	17.35%	31.35%	42.32%	47.10%	23.24%
Off-farm income	13,876	14,860	17,501	14,695	7,400	6,933	14,383
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	41,767	49,495	35,579	14,329	1,020	-9,506	28,595
Percent of farms with negative family income	18.80%	14.10%	20.91%	37.52%	49.92%	51.04%	27.37%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$40,000 to \$99,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	56,014	40,947	75,021	45,299	20,804	17,110	255,196
Percent of farms	21.94%	16.04%	29.39%	17.75%	8.15%	6.70%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	54,625	56,329	55,415	57,528	51,012	49,209	54,988
Government payments	4,621	6,546	7,463	7,912	9,062	10,587	7,112
Other farm income	3,396	7,338	8,591	10,860	11,404	12,158	8,121
Gross cash farm income	62,642	70,213	71,469	76,301	71,477	71,954	70,221
Nonmoney income	6,542	6,845	6,405	5,523	4,165	3,405	5,965
Value of inventory change	-1,464	-1,923	-1,348	-1,891	211	-2,436	-1,508
Gross farm income	67,720	75,135	76,526	79,934	75,853	72,923	74,678
Operating expenses excluding interest	43,874	45,953	48,232	50,735	52,360	50,150	47,819
Cash income before interest is deducted	18,768	24,259	23,236	25,566	19,117	21,804	22,401
Percent of farms with negative cash income	11.35%	8.54%	13.92%	13.62%	15.12%	20.20%	12.96%
Interest expense	1,280	3,409	7,776	13,326	13,486	11,736	7,366
Cash income after interest is deducted	17,488	20,850	15,461	12,240	5,630	10,068	15,036
Percent of farms with negative cash income	13.86%	12.78%	21.69%	31.36%	29.27%	36.82%	21.89%
Total expenses including depreciation	51,506	59,146	65,160	74,568	74,598	69,274	63,913
Net farm income	16,214	15,989	11,366	5,365	1,255	3,649	10,765
Percent of farms with negative net farm income	19.61%	22.48%	27.81%	38.17%	41.98%	44.57%	29.27%
Estimated principal repayment	0	1,330	4,036	8,319	9,987	15,426	4,725
Cash income after interest and principal	17,488	19,520	11,425	3,921	-4,357	-5,358	10,311
Percent of farms with negative cash income	13.86%	15.62%	28.12%	44.52%	48.01%	55.34%	29.34%
Off-farm income	17,145	14,259	14,144	13,344	18,639	10,563	14,806
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	19,133	18,279	10,069	1,764	-1,218	-10,295	9,616
Percent of farms with negative family income	25.90%	23.68%	37.85%	53.14%	56.88%	60.70%	38.75%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$20,000 to \$39,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	61,819	31,671	45,479	23,013	5,638	5,727	173,347
Percent of farms	35.66%	18.27%	26.23%	13.27%	3.25%	3.30%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	29,129	35,331	29,739	26,967	21,861	23,785	29,722
Government payments	2,086	2,353	2,910	4,713	4,655	3,146	2,818
Other farm income	1,627	2,590	3,137	4,139	6,754	6,132	2,848
Gross cash farm income	32,842	40,275	35,786	35,819	33,270	33,063	35,389
Nonmoney income	6,321	6,832	6,345	5,979	5,827	3,194	6,256
Value of inventory change	-1,013	420	-285	-857	-1,340	140	-512
Gross farm income	38,150	47,527	41,846	40,941	37,757	36,396	41,133
Operating expenses excluding interest	22,304	28,073	28,184	30,145	30,095	25,180	26,290
Cash income before interest is deducted	10,538	12,202	7,602	5,674	3,174	7,882	9,099
Percent of farms with negative cash income	15.99%	22.66%	28.19%	26.56%	37.81%	36.70%	23.21%
Interest expense	344	2,119	4,543	9,131	11,161	11,709	3,664
Cash income after interest is deducted	10,194	10,083	3,058	-3,457	-7,986	-3,827	5,435
Percent of farms with negative cash income	16.75%	31.06%	38.66%	46.36%	56.60%	49.68%	31.43%
Total expenses including depreciation	26,301	34,203	36,773	43,826	47,946	40,208	33,982
Net farm income	11,849	13,323	5,073	-2,885	-10,189	-3,812	7,150
Percent of farms with negative net farm income	16.55%	25.36%	32.52%	45.54%	62.98%	48.84%	28.77%
Estimated principal repayment	0	765	2,665	5,240	7,356	11,540	2,155
Cash income after interest and principal	10,194	9,319	394	-8,696	-15,343	-15,366	3,280
Percent of farms with negative cash income	16.75%	32.61%	46.32%	62.67%	64.47%	73.88%	36.94%
Off-farm income	16,985	15,981	25,135	22,920	28,784	10,281	19,850
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	11,679	9,800	10,029	-1,276	-2,058	-20,585	7,670
Percent of farms with negative family income	43.02%	45.00%	45.01%	55.50%	53.22%	79.20%	47.08%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$10,000 to \$19,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	90,298	33,690	31,817	17,707	5,889	6,439	185,839
Percent of farms	48.58%	18.12%	17.12%	9.52%	3.16%	3.46%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	13,885	14,934	11,960	13,330	11,831	10,488	13,510
Government payments	568	1,206	1,043	1,150	1,137	1,864	884
Other farm income	1,238	1,970	2,291	1,535	4,457	4,194	1,784
Gross cash farm income	15,692	18,110	15,294	16,015	17,425	16,546	16,177
Nonmoney income	6,111	6,349	6,105	5,315	4,108	3,480	5,923
Value of inventory change	-413	-322	-32	-757	-778	607	-340
Gross farm income	21,391	24,137	21,367	20,573	20,755	20,633	21,760
Operating expenses excluding interest	13,280	17,359	16,593	12,426	12,928	18,654	14,680
Cash income before interest is deducted	2,412	751	-1,298	3,589	4,497	-2,108	1,497
Percent of farms with negative cash income	34.09%	38.24%	46.92%	20.57%	25.94%	44.43%	35.85%
Interest expense	274	1,804	4,061	7,956	9,025	5,384	2,386
Cash income after interest is deducted	2,138	-1,053	-5,360	-4,367	-4,527	-7,493	-889
Percent of farms with negative cash income	34.83%	42.60%	59.69%	56.78%	73.38%	70.78%	45.05%
Total expenses including depreciation	15,276	21,958	23,825	25,097	25,648	26,383	19,601
Net farm income	6,114	2,178	-2,458	-4,524	-4,894	-5,750	2,159
Percent of farms with negative net farm income	23.49%	30.57%	45.72%	57.84%	73.40%	62.32%	34.78%
Estimated principal repayment	0	701	2,363	5,144	7,225	5,822	1,452
Cash income after interest and principal	2,138	-1,754	-7,723	-9,511	-11,752	-13,315	-2,341
Percent of farms with negative cash income	34.83%	49.38%	74.12%	76.67%	87.22%	89.00%	51.72%
Off-farm income	23,454	57,019	28,397	35,407	30,037	13,876	31,401
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	10,092	39,765	5,175	10,396	2,785	-14,938	13,559
Percent of farms with negative family income	52.12%	36.52%	52.36%	38.20%	63.96%	81.69%	49.40%

Continued--

Appendix table 25--Combined cash flow and net income statement by sales class,
January 1, 1987--Continued

\$9,999 or less	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	334,277	86,714	107,610	47,044	13,587	10,537	599,768
Percent of farms	55.73%	14.45%	17.94%	7.84%	2.26%	1.75%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	3,277	2,986	3,215	3,600	3,966	3,064	3,261
Government payments	130	142	162	224	280	702	158
Other farm income	1,031	1,226	1,009	943	1,252	1,387	1,060
Gross cash farm income	4,439	4,354	4,386	4,768	5,498	5,153	4,479
Nonmoney income	6,167	7,075	7,175	6,576	5,448	2,829	6,436
Value of inventory change	-83	115	185	-10	-239	-604	-13
Gross farm income	10,522	11,544	11,746	11,334	10,707	7,378	10,902
Operating expenses excluding interest	6,496	7,821	8,450	7,002	9,170	8,265	7,170
Cash income before interest is deducted	-2,057	-3,467	-4,064	-2,235	-3,673	-3,112	-2,690
Percent of farms with negative cash income	67.21%	78.51%	80.52%	69.20%	71.86%	77.24%	71.67%
Interest expense	168	1,123	2,963	6,227	5,944	5,473	1,507
Cash income after interest is deducted	-2,225	-4,590	-7,027	-8,461	-9,617	-8,586	-4,197
Percent of farms with negative cash income	68.96%	82.15%	89.98%	90.69%	92.37%	84.31%	77.14%
Total expenses including depreciation	7,390	10,004	12,671	14,846	16,310	14,279	9,623
Net farm income	3,132	1,540	-925	-3,512	-5,603	-6,901	1,279
Percent of farms with negative net farm income	25.00%	33.35%	45.71%	57.79%	65.63%	76.09%	34.31%
Estimated principal repayment	0	604	2,193	4,402	5,014	5,269	1,032
Cash income after interest and principal	-2,225	-5,194	-9,220	-12,863	-14,631	-13,855	-5,229
Percent of farms with negative cash income	68.96%	85.37%	94.68%	95.46%	95.83%	88.72%	78.98%
Off-farm income	24,357	35,811	41,325	42,075	34,272	27,044	30,719
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	6,632	15,117	16,605	13,712	4,141	-2,312	9,990
Percent of farms with negative family income	52.23%	40.11%	30.82%	40.15%	46.81%	67.50%	45.83%

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Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987

Cash grain	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	95,183	51,665	92,542	60,832	29,779	21,705	351,707
Percent of farms	27.06%	14.68%	26.31%	17.29%	8.46%	6.17%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	28,585	49,726	60,385	59,025	57,722	57,847	49,596
Government payments	4,970	12,143	16,805	17,294	19,486	16,406	13,204
Other farm income	2,075	10,639	18,093	24,274	30,050	22,454	15,013
Gross cash farm income	35,630	72,502	95,283	100,594	107,258	96,707	77,813
Nonmoney income	5,745	6,659	5,963	5,198	4,680	3,251	5,597
Value of inventory change	-1,407	-3,062	-3,983	-6,681	-305	-3,734	-3,290
Gross farm income	39,968	76,094	97,264	99,111	111,632	96,223	80,120
Operating expenses excluding interest	24,979	44,490	58,041	65,880	70,522	62,713	49,804
Cash income before interest is deducted	10,651	28,012	37,242	34,714	36,735	33,994	28,009
Percent of farms with negative cash income	33.99%	17.65%	24.88%	17.28%	21.29%	28.28%	24.88%
Interest expense	1,149	2,781	10,049	17,971	19,772	18,159	9,266
Cash income after interest is deducted	9,503	25,231	27,193	16,744	16,964	15,835	18,743
Percent of farms with negative cash income	35.18%	21.52%	31.30%	35.05%	43.35%	45.38%	33.45%
Total expenses including depreciation	30,808	57,797	81,274	97,118	101,862	88,305	69,085
Net farm income	9,159	18,297	15,989	1,993	9,770	7,918	11,034
Percent of farms with negative net farm income	23.76%	23.17%	31.83%	49.05%	49.23%	50.76%	33.99%
Estimated principal repayment	0	752	4,232	9,121	11,657	16,653	4,816
Cash income after interest and principal	9,503	24,479	22,961	7,623	5,306	-819	13,927
Percent of farms with negative cash income	35.18%	22.07%	34.68%	49.68%	55.77%	65.86%	39.27%
Off-farm income	18,314	17,714	21,971	20,037	23,622	11,237	19,499
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	12,317	26,692	29,432	12,160	13,428	-5,082	17,925
Percent of farms with negative family income	42.47%	27.84%	29.58%	43.06%	43.16%	63.76%	38.40%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Tobacco, cotton	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	38,477	8,669	14,163	8,142	3,488	4,205	77,144
Percent of farms	49.87%	11.23%	18.35%	10.55%	4.52%	5.45%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	20,311	67,824	76,312	52,348	66,423	77,990	44,542
Government payments	2,284	11,686	12,292	16,172	25,803	22,277	8,797
Other farm income	559	4,209	7,822	18,918	12,158	18,664	5,752
Gross cash farm income	23,155	83,720	96,426	87,439	104,383	118,931	59,091
Nonmoney income	4,742	6,581	5,605	6,845	5,127	1,118	5,149
Value of inventory change	-2	-874	-888	-349	-2,257	-616	-435
Gross farm income	27,895	89,427	101,143	93,935	107,254	119,433	63,805
Operating expenses excluding interest	16,556	57,791	66,972	58,017	67,675	86,204	40,929
Cash income before interest is deducted	6,599	25,929	29,454	29,422	36,708	32,726	18,162
Percent of farms with negative cash income	27.64%	48.27%	26.07%	17.38%	32.47%	21.84%	28.49%
Interest expense	621	4,012	6,847	15,031	19,908	12,848	5,205
Cash income after interest is deducted	5,978	21,917	22,608	14,391	16,801	19,878	12,957
Percent of farms with negative cash income	31.24%	53.08%	35.26%	43.51%	49.92%	43.41%	37.24%
Total expenses including depreciation	18,581	70,325	81,332	82,184	95,149	105,022	50,802
Net farm income	9,314	19,102	19,811	11,751	12,105	14,411	13,002
Percent of farms with negative net farm income	15.43%	24.91%	18.72%	46.22%	50.56%	46.89%	23.65%
Estimated principal repayment	0	1,000	3,814	9,791	13,167	13,824	3,195
Cash income after interest and principal	5,978	20,917	18,794	4,600	3,633	6,055	9,762
Percent of farms with negative cash income	31.24%	53.08%	45.50%	68.13%	61.17%	50.25%	42.60%
Off-farm income	14,928	15,741	16,585	20,389	19,347	14,590	16,081
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	5,406	21,158	19,879	9,489	7,480	5,145	10,343
Percent of farms with negative family income	57.33%	57.65%	34.18%	60.62%	38.40%	64.05%	52.97%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Vegetable, fruit, nut	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	31,936	12,215	19,935	7,637	2,920	2,158	76,800
Percent of farms	41.58%	15.90%	25.95%	9.94%	3.80%	2.80%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	72,639	69,696	80,695	228,974	823,360	232,102	122,827
Government payments	288	1,153	713	1,047	1,638	8,883	904
Other farm income	1,137	3,855	3,478	10,706	48,116	4,255	5,002
Gross cash farm income	74,064	74,704	84,886	240,727	873,113	245,240	128,733
Nonmoney income	9,996	11,220	10,953	9,586	9,938	1,310	10,152
Value of inventory change	-601	-320	467	-1,897	-11,923	77	-819
Gross farm income	83,459	85,604	96,306	248,417	871,128	246,627	138,066
Operating expenses excluding interest	47,980	61,285	71,800	172,533	621,567	280,811	97,011
Cash income before interest is deducted	26,084	13,419	13,087	68,195	251,546	-35,571	31,722
Percent of farms with negative cash income	49.94%	50.60%	46.82%	41.08%	40.26%	50.82%	48.01%
Interest expense	1,379	4,510	11,700	41,196	46,858	35,441	11,201
Cash income after interest is deducted	24,705	8,908	1,386	26,999	204,688	-71,012	20,521
Percent of farms with negative cash income	53.86%	53.98%	64.21%	62.37%	66.50%	64.53%	58.19%
Total expenses including depreciation	53,033	75,119	98,318	245,123	1016934	327,884	131,767
Net farm income	30,426	10,485	-2,012	3,294	-145,806	-81,256	6,299
Percent of farms with negative net farm income	20.99%	34.19%	41.62%	57.51%	42.96%	64.29%	34.13%
Estimated principal repayment	0	2,075	4,853	19,848	58,817	22,025	6,418
Cash income after interest and principal	24,705	6,833	-3,466	7,150	145,871	-93,037	14,103
Percent of farms with negative cash income	53.86%	56.32%	71.71%	70.23%	70.86%	74.90%	61.75%
Off-farm income	29,637	101,799	35,356	33,111	42,243	24,558	43,280
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	38,841	93,132	16,390	24,762	172,614	-83,979	41,883
Percent of farms with negative family income	42.80%	35.84%	45.45%	41.33%	41.46%	60.57%	42.68%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Nursery, greenhouse	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	12,699	3,206	7,205	3,195	D	D	26,932
Percent of farms	47.15%	11.90%	26.75%	11.86%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	78,067	298,634	122,923	90,025	D	D	124,958
Government payments	0	0	0	0	D	D	0
Other farm income	1,063	147	4,155	2,848	D	D	1,971
Gross cash farm income	79,130	298,780	127,079	92,874	D	D	126,928
Nonmoney income	9,308	13,047	7,875	5,121	D	D	8,783
Value of inventory change	-597	13,877	3,142	8	D	D	2,212
Gross farm income	87,841	325,704	138,096	98,003	D	D	137,923
Operating expenses excluding interest	51,301	143,830	80,896	52,315	D	D	75,309
Cash income before interest is deducted	27,829	154,950	46,182	40,558	D	D	51,619
Percent of farms with negative cash income	13.77%	14.52%	25.76%	0.00%	D	D	15.89%
Interest expense	1,196	1,852	5,677	6,573	D	D	3,576
Cash income after interest is deducted	26,634	153,099	40,505	33,985	D	D	48,043
Percent of farms with negative cash income	39.29%	14.52%	29.19%	21.04%	D	D	31.33%
Total expenses including depreciation	55,146	166,913	97,226	62,567	D	D	85,998
Net farm income	32,694	158,791	40,870	35,436	D	D	51,926
Percent of farms with negative net farm income	11.43%	3.24%	10.83%	15.02%	D	D	11.23%
Estimated principal repayment	0	3,281	3,703	6,275	D	D	2,555
Cash income after interest and principal	26,634	149,818	36,802	27,710	D	D	45,488
Percent of farms with negative cash income	39.29%	32.67%	46.71%	41.00%	D	D	40.78%
Off-farm income	30,673	44,850	13,264	12,035	D	D	24,832
Estimated family living expenses	15,500	15,500	15,500	15,500	D	D	15,500
Cash income after adding off-farm income and deducting family living	41,807	179,168	34,566	24,245	D	D	54,820
Percent of farms with negative family income	33.46%	7.57%	30.97%	44.20%	D	D	31.50%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

All other crop	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	30,331	11,373	15,167	6,731	2,805	3,252	69,659
Percent of farms	43.54%	16.32%	21.77%	9.66%	4.02%	4.66%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	14,398	89,351	69,753	87,747	128,306	63,260	52,643
Government payments	546	3,798	5,245	5,999	4,890	5,484	3,032
Other farm income	2,259	5,353	5,730	7,748	6,216	12,812	4,702
Gross cash farm income	17,203	98,502	80,728	101,494	139,412	81,556	60,378
Nonmoney income	6,108	7,745	7,607	7,505	4,235	3,205	6,626
Value of inventory change	-181	805	-1,806	734	-618	-1,078	-345
Gross farm income	23,130	107,052	86,528	109,733	143,029	83,684	66,658
Operating expenses excluding interest	14,818	70,304	62,041	88,149	101,645	63,118	46,996
Cash income before interest is deducted	2,385	28,199	18,687	13,345	37,767	18,438	13,382
Percent of farms with negative cash income	70.15%	44.83%	48.82%	64.37%	28.47%	55.95%	58.47%
Interest expense	387	3,683	7,958	18,359	22,946	11,207	5,724
Cash income after interest is deducted	1,997	24,515	10,729	-5,014	14,822	7,231	7,658
Percent of farms with negative cash income	70.32%	48.41%	55.77%	78.43%	39.28%	62.30%	62.74%
Total expenses including depreciation	17,113	90,768	79,198	120,151	137,568	80,569	60,425
Net farm income	6,017	16,284	7,330	-10,418	5,461	3,121	6,233
Percent of farms with negative net farm income	32.96%	36.11%	39.42%	45.31%	43.16%	59.27%	37.71%
Estimated principal repayment	0	1,301	4,561	10,817	21,641	15,819	3,861
Cash income after interest and principal	1,997	23,215	6,168	-15,830	-6,819	-8,587	3,797
Percent of farms with negative cash income	70.32%	50.73%	57.57%	80.59%	59.76%	80.98%	65.41%
Off-farm income	28,964	40,030	28,128	39,484	25,358	11,257	30,634
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	15,462	47,744	18,796	8,154	3,038	-12,830	18,931
Percent of farms with negative family income	41.60%	29.56%	36.19%	33.05%	31.86%	73.23%	38.71%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Beef, hog, sheep	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	305,737	103,698	136,566	64,262	17,161	12,939	640,362
Percent of farms	47.74%	16.19%	21.32%	10.03%	2.67%	2.02%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	16,630	35,637	57,898	82,115	84,140	118,699	38,952
Government payments	668	1,963	3,789	5,784	8,226	7,111	2,389
Other farm income	1,614	2,383	7,256	8,022	10,397	82,551	5,456
Gross cash farm income	18,913	39,983	68,944	95,921	102,764	208,361	46,797
Nonmoney income	6,245	6,692	6,874	6,759	5,649	4,135	6,445
Value of inventory change	-686	-289	507	465	-2,517	-2,214	-332
Gross farm income	24,472	46,386	76,325	103,145	105,896	210,281	52,911
Operating expenses excluding interest	16,591	34,916	53,872	72,487	75,346	181,155	38,018
Cash income before interest is deducted	2,322	5,067	15,072	23,434	27,418	27,206	8,779
Percent of farms with negative cash income	56.52%	57.84%	52.03%	39.12%	39.35%	47.27%	53.39%
Interest expense	303	2,455	7,294	15,861	20,567	19,137	4,627
Cash income after interest is deducted	2,019	2,612	7,778	7,573	6,851	8,069	4,152
Percent of farms with negative cash income	56.89%	63.37%	62.57%	57.63%	59.45%	60.14%	59.36%
Total expenses including depreciation	19,074	41,498	67,887	96,227	105,154	209,859	47,020
Net farm income	5,398	4,889	8,438	6,918	741	422	5,891
Percent of farms with negative net farm income	24.46%	33.79%	41.26%	43.86%	52.47%	54.84%	32.86%
Estimated principal repayment	0	970	4,163	8,700	12,675	18,788	2,637
Cash income after interest and principal	2,019	1,642	3,615	-1,127	-5,825	-10,719	1,515
Percent of farms with negative cash income	56.89%	68.52%	68.01%	66.77%	71.23%	69.45%	62.77%
Off-farm income	24,002	30,300	35,261	31,264	19,159	16,235	27,865
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	10,521	16,441	23,376	14,638	-2,165	-9,984	13,880
Percent of farms with negative family income	49.03%	36.95%	32.78%	39.66%	60.42%	60.15%	43.20%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Dairy	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	43,633	27,961	50,380	31,843	14,466	8,586	176,870
Percent of farms	24.66%	15.80%	28.48%	18.00%	8.17%	4.85%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	76,868	123,009	140,522	120,426	133,974	81,584	115,035
Government payments	2,511	3,228	3,780	4,727	4,592	7,072	3,776
Other farm income	1,613	1,720	4,420	4,224	3,711	1,907	3,085
Gross cash farm income	80,992	127,957	148,722	129,377	142,278	90,563	121,897
Nonmoney income	7,386	9,349	8,133	7,193	6,309	5,594	7,699
Value of inventory change	-2,145	-558	-1,732	612	-4,414	-2,141	-1,465
Gross farm income	86,234	136,749	155,123	137,182	144,172	94,016	128,131
Operating expenses excluding interest	52,529	87,926	102,196	89,550	93,765	57,914	82,571
Cash income before interest is deducted	28,463	40,032	46,525	39,827	48,513	32,650	39,326
Percent of farms with negative cash income	12.20%	9.12%	8.52%	13.67%	10.71%	9.10%	10.66%
Interest expense	1,039	4,276	12,736	19,796	20,474	17,121	10,630
Cash income after interest is deducted	27,424	35,756	33,790	20,031	28,039	15,528	28,696
Percent of farms with negative cash income	13.71%	11.81%	12.85%	28.31%	21.52%	25.95%	17.03%
Total expenses including depreciation	61,588	109,173	133,132	126,371	127,327	84,680	107,650
Net farm income	24,646	27,576	21,991	10,811	16,845	9,335	20,481
Percent of farms with negative net farm income	13.25%	10.37%	20.30%	32.79%	39.54%	40.70%	21.80%
Estimated principal repayment	0	1,574	7,237	12,741	15,223	15,056	6,580
Cash income after interest and principal	27,424	34,182	26,553	7,290	12,817	472	22,116
Percent of farms with negative cash income	13.71%	12.05%	22.45%	40.98%	45.85%	52.89%	25.38%
Off-farm income	7,171	10,987	8,835	8,733	6,140	8,835	8,526
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	19,095	29,669	19,888	523	3,457	-6,193	15,142
Percent of farms with negative family income	38.75%	25.60%	38.27%	54.39%	70.21%	59.63%	42.94%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

Poultry	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	7,105	4,374	6,719	5,889	D	D	26,818
Percent of farms	26.49%	16.30%	25.05%	21.95%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	221,904	273,745	304,499	313,030	D	D	295,831
Government payments	182	439	721	2,057	D	D	755
Other farm income	195	2,667	-350	4,825	D	D	1,506
Gross cash farm income	222,281	276,851	304,871	319,911	D	D	298,092
Nonmoney income	7,966	10,145	8,265	10,136	D	D	8,667
Value of inventory change	-257	-519	-1,655	765	D	D	-411
Gross farm income	229,991	286,477	311,480	330,813	D	D	306,348
Operating expenses excluding interest	117,788	138,463	205,102	186,604	D	D	167,905
Cash income before interest is deducted	104,493	138,388	99,768	133,307	D	D	130,187
Percent of farms with negative cash income	31.83%	0.00%	25.71%	20.91%	D	D	22.70%
Interest expense	1,461	2,049	9,561	14,737	D	D	8,014
Cash income after interest is deducted	103,033	136,339	90,208	118,570	D	D	122,173
Percent of farms with negative cash income	31.83%	5.23%	28.62%	26.97%	D	D	25.61%
Total expenses including depreciation	122,326	146,464	223,575	217,476	D	D	186,223
Net farm income	107,665	140,013	87,905	113,337	D	D	120,126
Percent of farms with negative net farm income	10.53%	0.00%	22.13%	24.19%	D	D	16.92%
Estimated principal repayment	0	1,373	6,200	8,507	D	D	5,100
Cash income after interest and principal	103,033	134,966	84,007	110,063	D	D	117,073
Percent of farms with negative cash income	31.83%	5.23%	30.01%	27.39%	D	D	26.05%
Off-farm income	13,419	15,072	26,176	19,785	D	D	19,097
Estimated family living expenses	15,500	15,500	15,500	15,500	D	D	15,500
Cash income after adding off-farm income and deducting family living	100,951	134,537	94,684	114,348	D	D	120,670
Percent of farms with negative family income	23.78%	0.00%	17.89%	18.66%	D	D	18.11%

Continued--

Appendix table 26--Combined cash flow and net income statement by type of farm,
January 1, 1987--Continued

All other livestock	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	20,982	13,248	15,252	6,986	D	D	59,996
Percent of farms	34.97%	22.08%	25.42%	11.64%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	12,830	32,405	26,292	14,611	D	D	22,568
Government payments	67	272	855	120	D	D	546
Other farm income	10,716	7,521	6,561	496	D	D	10,210
Gross cash farm income	23,612	40,198	33,709	15,227	D	D	33,324
Nonmoney income	6,752	11,166	8,523	9,487	D	D	8,486
Value of inventory change	3,390	24,312	-1,694	-894	D	D	5,653
Gross farm income	33,755	75,677	40,538	23,819	D	D	47,464
Operating expenses excluding interest	34,316	30,019	37,097	16,628	D	D	34,945
Cash income before interest is deducted	-10,704	10,180	-3,388	-1,402	D	D	-1,621
Percent of farms with negative cash income	68.28%	68.94%	79.83%	55.73%	D	D	70.17%
Interest expense	2,084	4,557	5,797	7,517	D	D	4,675
Cash income after interest is deducted	-12,788	5,623	-9,185	-8,919	D	D	-6,297
Percent of farms with negative cash income	69.58%	71.81%	83.30%	94.34%	D	D	76.91%
Total expenses including depreciation	42,547	45,109	46,214	26,014	D	D	45,358
Net farm income	-8,792	30,568	-5,676	-2,195	D	D	2,105
Percent of farms with negative net farm income	31.46%	41.08%	57.10%	67.64%	D	D	46.57%
Estimated principal repayment	0	1,705	4,097	6,043	D	D	2,590
Cash income after interest and principal	-12,788	3,918	-13,282	-14,961	D	D	-8,887
Percent of farms with negative cash income	69.58%	72.32%	91.04%	94.55%	D	D	79.05%
Off-farm income	37,650	38,635	44,096	58,098	D	D	41,566
Estimated family living expenses	15,500	15,500	15,500	15,500	D	D	15,500
Cash income after adding off-farm income and deducting family living	9,362	27,053	15,314	27,637	D	D	17,179
Percent of farms with negative family income	42.18%	31.90%	30.49%	40.90%	D	D	37.66%

D = data insufficient for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987

Northeast	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	50,201	24,245	26,990	12,879	D	D	118,522
Percent of farms	42.35%	20.45%	22.77%	10.86%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	35,201	97,615	89,737	80,000	D	D	67,662
Government payments	292	1,215	731	3,612	D	D	957
Other farm income	1,704	4,062	4,639	2,456	D	D	2,979
Gross cash farm income	37,197	102,894	95,107	86,068	D	D	71,598
Nonmoney income	9,059	14,066	9,099	7,655	D	D	9,855
Value of inventory change	688	1,407	-72	353	D	D	585
Gross farm income	46,945	118,367	104,134	94,076	D	D	82,038
Operating expenses excluding interest	30,486	73,386	70,557	55,187	D	D	53,139
Cash income before interest is deducted	6,712	29,508	24,550	30,881	D	D	18,460
Percent of farms with negative cash income	60.44%	46.08%	31.41%	36.41%	D	D	47.76%
Interest expense	1,003	2,628	7,367	11,659	D	D	4,366
Cash income after interest is deducted	5,709	26,880	17,184	19,222	D	D	14,093
Percent of farms with negative cash income	62.25%	47.07%	38.14%	44.43%	D	D	51.48%
Total expenses including depreciation	34,638	86,355	87,273	74,151	D	D	64,282
Net farm income	12,307	32,012	16,861	19,925	D	D	17,756
Percent of farms with negative net farm income	29.06%	21.08%	21.76%	40.67%	D	D	27.84%
Estimated principal repayment	0	1,693	4,972	9,867	D	D	3,083
Cash income after interest and principal	5,709	25,187	12,211	9,355	D	D	11,010
Percent of farms with negative cash income	62.25%	48.17%	48.24%	52.26%	D	D	55.17%
Off-farm income	22,068	25,676	22,843	10,299	D	D	21,591
Estimated family living expenses	15,500	15,500	15,500	15,500	D	D	15,500
Cash income after adding off-farm income and deducting family living	12,277	35,363	19,554	4,155	D	D	17,101
Percent of farms with negative family income	38.32%	32.46%	33.70%	52.49%	D	D	38.31%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Lake States	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	56,865	25,257	46,062	33,969	15,736	9,487	187,376
Percent of farms	30.34%	13.47%	24.58%	18.12%	8.39%	5.06%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	27,855	48,017	65,486	74,083	93,536	60,220	55,359
Government payments	843	3,885	6,071	8,201	11,068	9,315	5,160
Other farm income	1,857	5,016	9,061	11,902	15,029	16,810	7,738
Gross cash farm income	30,555	56,918	80,617	94,186	119,633	86,345	68,257
Nonmoney income	6,343	6,922	6,906	6,200	6,770	5,058	6,504
Value of inventory change	-1,240	479	-1,810	32	1,778	-404	-622
Gross farm income	35,659	64,320	85,713	100,418	128,180	91,000	74,139
Operating expenses excluding interest	21,617	35,698	53,900	62,115	78,783	50,870	45,075
Cash income before interest is deducted	8,939	21,220	26,717	32,072	40,849	35,476	23,182
Percent of farms with negative cash income	36.37%	21.40%	32.71%	19.02%	16.27%	19.18%	27.75%
Interest expense	349	1,875	7,806	16,317	20,708	17,700	7,871
Cash income after interest is deducted	8,590	19,345	18,911	15,755	20,141	17,775	15,311
Percent of farms with negative cash income	42.96%	24.82%	38.84%	36.41%	34.09%	34.39%	37.14%
Total expenses including depreciation	26,449	48,893	74,903	90,750	110,215	77,807	62,678
Net farm income	9,211	15,427	10,809	9,668	17,966	13,192	11,461
Percent of farms with negative net farm income	21.08%	20.31%	34.25%	46.01%	42.39%	35.44%	31.25%
Estimated principal repayment	0	732	4,139	9,177	13,349	16,141	4,718
Cash income after interest and principal	8,590	18,613	14,772	6,578	6,792	1,634	10,593
Percent of farms with negative cash income	42.96%	25.96%	44.63%	53.01%	55.20%	56.36%	44.61%
Off-farm income	18,436	22,312	21,550	17,854	16,709	11,648	19,130
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	11,526	25,425	20,822	8,932	8,001	-2,218	14,222
Percent of farms with negative family income	44.16%	30.30%	31.65%	39.52%	47.51%	54.93%	39.20%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Corn Belt	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	122,096	49,740	85,432	47,973	22,326	16,506	344,073
Percent of farms	35.48%	14.45%	24.82%	13.94%	6.48%	4.79%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	27,923	55,131	71,317	89,094	68,815	56,388	55,179
Government payments	1,894	5,680	8,175	10,418	10,330	10,281	6,139
Other farm income	1,496	7,314	11,159	17,677	21,618	18,193	9,099
Gross cash farm income	31,313	68,126	90,651	117,190	100,763	84,862	70,417
Nonmoney income	5,673	6,269	6,002	6,007	4,565	3,860	5,729
Value of inventory change	-1,275	-2,980	-3,562	-6,157	-1,463	-5,388	-2,979
Gross farm income	35,711	71,415	93,091	117,040	103,865	83,333	73,166
Operating expenses excluding interest	20,968	43,137	59,796	81,727	64,286	55,789	46,766
Cash income before interest is deducted	10,345	24,989	30,855	35,462	36,477	29,073	23,651
Percent of farms with negative cash income	33.96%	23.91%	28.35%	17.26%	19.57%	29.60%	27.64%
Interest expense	681	2,183	8,449	17,938	18,468	15,582	7,102
Cash income after interest is deducted	9,664	22,806	22,405	17,525	18,010	13,491	16,549
Percent of farms with negative cash income	35.01%	29.43%	34.45%	41.73%	40.79%	45.68%	35.89%
Total expenses including depreciation	24,985	52,974	78,203	114,040	91,925	79,124	61,603
Net farm income	10,726	18,441	14,888	3,000	11,940	4,210	11,564
Percent of farms with negative net farm income	20.03%	20.45%	31.80%	42.36%	47.32%	56.32%	29.64%
Estimated principal repayment	0	714	3,888	9,460	10,261	12,977	3,676
Cash income after interest and principal	9,664	22,091	18,518	8,065	7,749	514	12,873
Percent of farms with negative cash income	35.01%	30.90%	41.07%	52.62%	56.37%	68.68%	41.38%
Off-farm income	18,859	16,751	22,195	21,957	23,662	13,246	19,857
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	13,024	23,342	25,213	14,522	15,911	-1,740	17,230
Percent of farms with negative family income	45.62%	32.95%	31.47%	41.41%	50.57%	64.73%	40.93%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Northern Plains	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	34,661	24,235	43,850	30,909	12,189	7,172	153,015
Percent of farms	22.65%	15.83%	28.65%	20.19%	7.96%	4.68%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	34,029	92,360	84,447	74,117	81,108	69,591	71,231
Government payments	3,859	12,703	16,170	14,412	19,636	15,890	12,740
Other farm income	5,323	7,585	21,297	19,092	30,265	37,053	16,514
Gross cash farm income	43,210	112,648	121,914	107,621	131,009	122,534	100,485
Nonmoney income	4,299	5,769	5,421	4,874	4,488	3,356	4,940
Value of inventory change	-1,646	-2,277	-728	666	-4,985	-3,738	-1,380
Gross farm income	45,863	116,141	126,608	113,160	130,512	122,152	104,046
Operating expenses excluding interest	32,648	78,930	83,016	74,921	86,566	78,152	69,379
Cash income before interest is deducted	10,562	33,718	38,898	32,700	44,443	44,382	31,106
Percent of farms with negative cash income	20.24%	15.30%	17.18%	17.19%	18.87%	13.53%	17.54%
Interest expense	843	4,520	10,079	15,668	23,286	18,563	9,685
Cash income after interest is deducted	9,719	29,198	28,819	17,032	21,157	25,819	21,421
Percent of farms with negative cash income	21.17%	24.14%	23.39%	31.06%	34.07%	39.63%	26.17%
Total expenses including depreciation	37,443	96,563	107,290	103,398	124,313	104,275	90,198
Net farm income	8,420	19,578	19,318	9,763	6,199	17,878	13,848
Percent of farms with negative net farm income	18.13%	25.20%	24.77%	37.06%	41.83%	44.12%	28.08%
Estimated principal repayment	0	963	4,662	8,876	13,789	17,002	5,177
Cash income after interest and principal	9,719	28,236	24,157	8,156	7,368	8,818	16,244
Percent of farms with negative cash income	21.17%	25.55%	28.07%	45.16%	50.28%	54.55%	32.57%
Off-farm income	13,121	13,124	22,538	17,163	12,631	12,168	16,553
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	7,341	25,859	31,195	9,820	4,500	5,485	17,297
Percent of farms with negative family income	39.88%	22.39%	26.61%	41.13%	59.54%	54.91%	35.83%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Appalachia	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	105,009	20,227	30,380	14,123	3,601	3,288	176,627
Percent of farms	59.45%	11.45%	17.19%	7.99%	2.03%	1.86%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	20,158	57,614	63,449	93,311	132,402	86,371	41,264
Government payments	719	1,117	2,037	2,408	4,780	3,021	1,252
Other farm income	751	2,548	2,514	3,083	3,671	4,270	1,571
Gross cash farm income	21,628	61,279	68,000	98,801	140,853	93,663	44,087
Nonmoney income	6,186	8,232	7,976	6,976	5,765	3,194	6,727
Value of inventory change	-272	14,644	114	-588	-1,071	-778	1,451
Gross farm income	27,542	84,155	76,090	105,189	145,547	96,079	52,266
Operating expenses excluding interest	16,085	42,521	46,865	59,647	110,851	54,264	30,532
Cash income before interest is deducted	5,543	18,758	21,135	39,154	30,002	39,398	13,555
Percent of farms with negative cash income	43.62%	50.80%	32.84%	40.28%	53.51%	27.31%	42.22%
Interest expense	737	3,977	5,900	9,373	14,701	8,920	3,124
Cash income after interest is deducted	4,806	14,781	15,235	29,781	15,300	30,479	10,431
Percent of farms with negative cash income	44.96%	53.89%	48.80%	60.11%	70.10%	42.15%	48.31%
Total expenses including depreciation	19,287	55,652	59,309	75,139	132,850	75,603	38,165
Net farm income	8,255	28,503	16,782	30,050	12,697	20,476	14,101
Percent of farms with negative net farm income	16.76%	20.49%	18.45%	45.40%	49.35%	40.67%	20.88%
Estimated principal repayment	0	1,455	3,912	6,917	11,545	6,786	1,754
Cash income after interest and principal	4,806	13,326	11,324	22,863	3,755	23,693	8,677
Percent of farms with negative cash income	44.96%	58.22%	57.21%	71.80%	74.85%	44.65%	51.33%
Off-farm income	20,680	24,160	26,395	23,019	18,556	13,978	22,081
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	9,986	21,986	22,218	30,383	6,811	22,171	15,257
Percent of farms with negative family income	56.48%	40.38%	26.95%	48.81%	60.71%	74.02%	49.36%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Southeast	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	44,542	14,614	15,069	9,448	1,412	4,144	89,229
Percent of farms	49.91%	16.37%	16.88%	10.58%	1.58%	4.64%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	23,812	61,457	119,752	145,613	1278388	34,337	79,423
Government payments	755	2,326	1,506	3,421	7,715	3,659	1,667
Other farm income	497	1,787	2,580	4,253	78,540	5,117	2,908
Gross cash farm income	25,064	65,570	123,839	153,287	1364642	43,114	83,997
Nonmoney income	7,105	6,675	7,724	9,178	6,773	3,153	7,170
Value of inventory change	-774	61	-1,701	207	-24,522	-386	-1,048
Gross farm income	31,396	72,306	129,862	162,672	1346892	45,880	90,119
Operating expenses excluding interest	22,117	54,675	104,697	114,886	967,645	44,218	67,210
Cash income before interest is deducted	2,947	10,895	19,142	38,402	396,997	-1,104	16,787
Percent of farms with negative cash income	61.97%	56.30%	63.26%	49.59%	59.03%	65.89%	60.08%
Interest expense	319	2,365	9,027	24,064	36,817	10,456	5,687
Cash income after interest is deducted	2,628	8,531	10,114	14,338	360,179	-11,560	11,099
Percent of farms with negative cash income	62.36%	60.08%	68.83%	59.91%	63.89%	71.82%	63.28%
Total expenses including depreciation	23,850	61,975	121,659	156,170	1699038	56,967	88,675
Net farm income	7,546	10,331	8,203	6,503	-352,146	-11,087	1,444
Percent of farms with negative net farm income	19.53%	34.85%	47.46%	38.91%	67.41%	52.55%	31.10%
Estimated principal repayment	0	1,025	5,125	9,765	85,222	13,647	4,050
Cash income after interest and principal	2,628	7,506	4,989	4,573	274,957	-25,207	7,049
Percent of farms with negative cash income	62.36%	64.93%	73.30%	62.94%	66.26%	85.00%	65.80%
Off-farm income	24,222	24,959	35,797	60,723	27,818	10,593	29,586
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	11,350	16,965	25,286	49,796	287,275	-30,115	21,136
Percent of farms with negative family income	47.99%	43.95%	42.59%	33.88%	53.43%	85.02%	46.73%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Delta	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	31,977	11,992	14,966	6,874	3,291	3,963	73,063
Percent of farms	43.76%	16.41%	20.48%	9.40%	4.50%	5.42%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	36,781	52,866	103,369	110,383	123,983	160,425	70,620
Government payments	2,613	2,963	8,347	12,310	15,079	12,607	5,861
Other farm income	-25	997	6,995	13,903	11,133	8,559	3,859
Gross cash farm income	39,369	56,827	118,710	136,597	150,196	181,590	80,341
Nonmoney income	6,302	6,711	8,587	6,117	5,594	2,140	6,562
Value of inventory change	-688	278	1,000	-1,834	-2,441	-560	-364
Gross farm income	44,983	63,816	128,296	140,879	153,350	183,170	86,539
Operating expenses excluding interest	24,180	31,950	76,799	81,816	108,689	95,007	49,305
Cash income before interest is deducted	15,189	24,876	41,911	54,781	41,507	86,584	31,036
Percent of farms with negative cash income	62.79%	67.30%	48.46%	37.91%	32.96%	58.06%	56.66%
Interest expense	638	1,933	8,590	13,071	18,847	10,486	5,004
Cash income after interest is deducted	14,551	22,943	33,320	41,710	22,660	76,098	26,032
Percent of farms with negative cash income	63.68%	72.95%	59.84%	47.46%	53.82%	63.44%	62.43%
Total expenses including depreciation	26,834	38,243	92,673	103,560	137,669	111,717	59,008
Net farm income	18,150	25,573	35,623	37,319	15,681	71,453	27,531
Percent of farms with negative net farm income	26.50%	41.68%	40.45%	46.90%	54.41%	61.54%	36.93%
Estimated principal repayment	0	963	5,635	9,432	13,787	14,829	3,625
Cash income after interest and principal	14,551	21,980	27,685	32,278	8,873	61,268	22,407
Percent of farms with negative cash income	63.68%	74.92%	62.73%	57.28%	58.90%	71.11%	64.92%
Off-farm income	20,339	30,366	29,244	21,803	14,223	8,347	23,020
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	19,390	36,846	41,429	38,581	7,596	54,116	29,927
Percent of farms with negative family income	48.84%	29.18%	48.79%	45.21%	42.48%	73.34%	46.30%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Southern Plains	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	72,730	31,641	38,376	18,294	5,059	4,195	170,295
Percent of farms	42.70%	18.58%	22.53%	10.74%	2.97%	2.46%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	19,693	27,800	44,203	50,132	42,048	89,362	32,373
Government payments	2,048	4,171	6,223	8,106	13,423	20,934	4,837
Other farm income	2,860	3,310	5,707	7,926	8,304	215,118	9,520
Gross cash farm income	24,601	35,280	56,133	66,164	63,775	325,415	46,730
Nonmoney income	6,395	5,448	6,195	6,694	4,885	2,459	6,064
Value of inventory change	-275	-398	-1,117	489	-2,057	349	-443
Gross farm income	30,721	40,331	61,211	73,347	66,603	328,222	52,352
Operating expenses excluding interest	22,561	26,610	41,671	57,989	52,104	326,396	39,788
Cash income before interest is deducted	2,040	8,670	14,462	8,176	11,671	-981	6,942
Percent of farms with negative cash income	65.00%	62.26%	61.95%	45.26%	57.13%	48.03%	61.03%
Interest expense	316	2,071	7,453	18,438	14,665	34,879	5,475
Cash income after interest is deducted	1,724	6,599	7,009	-10,262	-2,994	-35,861	1,467
Percent of farms with negative cash income	65.62%	66.04%	71.58%	71.27%	69.21%	57.80%	67.56%
Total expenses including depreciation	25,956	33,049	55,387	83,204	75,202	374,627	50,108
Net farm income	4,766	7,282	5,823	-9,856	-8,599	-46,405	2,243
Percent of farms with negative net farm income	33.08%	40.35%	58.17%	59.34%	74.66%	62.66%	44.87%
Estimated principal repayment	0	976	4,351	8,670	11,264	33,937	3,264
Cash income after interest and principal	1,724	5,623	2,658	-18,932	-14,257	-69,798	-1,797
Percent of farms with negative cash income	65.62%	73.00%	74.91%	78.42%	77.89%	68.88%	70.90%
Off-farm income	28,940	48,482	38,774	33,177	23,340	29,737	35,095
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	15,164	38,605	25,931	-1,255	-6,418	-55,561	17,799
Percent of farms with negative family income	47.38%	34.64%	36.72%	58.01%	63.42%	47.85%	44.24%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Mountain	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	23,622	14,541	28,828	9,493	3,493	2,916	82,893
Percent of farms	28.49%	17.54%	34.77%	11.45%	4.21%	3.51%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	48,844	55,850	57,232	122,554	204,028	337,775	78,136
Government payments	3,525	5,973	8,306	13,292	20,677	25,403	8,228
Other farm income	1,248	3,671	8,783	16,890	11,513	29,324	7,505
Gross cash farm income	53,617	65,494	74,321	152,735	236,218	392,502	93,869
Nonmoney income	5,391	7,748	7,398	6,965	5,979	4,504	6,676
Value of inventory change	-501	1,590	942	-9,312	-16,141	-4,647	-1,447
Gross farm income	58,507	74,832	82,660	150,388	226,056	392,359	99,099
Operating expenses excluding interest	44,520	51,775	57,991	105,488	134,222	347,225	71,889
Cash income before interest is deducted	9,097	13,720	16,330	47,248	101,996	45,277	21,980
Percent of farms with negative cash income	47.71%	42.05%	52.96%	26.83%	11.65%	25.80%	43.86%
Interest expense	1,261	5,889	12,033	32,560	29,705	25,262	11,446
Cash income after interest is deducted	7,836	7,831	4,297	14,688	72,291	20,015	10,534
Percent of farms with negative cash income	48.79%	47.46%	62.35%	44.53%	37.41%	44.96%	52.17%
Total expenses including depreciation	52,794	66,494	81,422	154,142	180,824	386,168	93,883
Net farm income	5,713	8,338	1,238	-3,754	45,233	6,191	5,215
Percent of farms with negative net farm income	40.80%	28.02%	42.39%	45.06%	38.78%	51.25%	39.88%
Estimated principal repayment	0	1,928	5,722	16,029	20,826	20,812	5,774
Cash income after interest and principal	7,836	5,903	-1,425	-1,341	51,464	-797	4,760
Percent of farms with negative cash income	48.79%	53.87%	67.54%	58.55%	50.33%	57.13%	57.68%
Off-farm income	24,077	22,281	27,154	26,709	18,062	5,783	24,237
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	16,414	12,684	10,229	9,868	54,027	-10,514	13,497
Percent of farms with negative family income	44.50%	30.96%	41.63%	42.85%	42.05%	58.49%	41.33%

Continued--

Appendix table 27--Combined cash flow and net income statement by region,
January 1, 1987--Continued

Pacific	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	44,383	19,916	27,976	11,557	4,720	2,642	111,194
Percent of farms	39.91%	17.91%	25.15%	10.39%	4.24%	2.37%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	59,828	90,086	135,654	177,930	254,561	233,878	109,002
Government payments	1,137	2,833	5,511	6,189	7,876	14,620	3,673
Other farm income	5,218	4,030	5,747	8,385	9,895	15,801	5,917
Gross cash farm income	66,184	96,949	146,911	192,504	272,332	264,298	118,592
Nonmoney income	8,216	10,962	10,846	11,901	8,347	1,149	9,590
Value of inventory change	-782	226	463	-310	237	309	-170
Gross farm income	73,617	108,137	158,220	204,094	280,916	265,757	128,012
Operating expenses excluding interest	44,570	76,063	113,199	144,793	197,247	201,636	88,107
Cash income before interest is deducted	21,614	20,886	33,712	47,711	75,085	62,662	30,485
Percent of farms with negative cash income	56.69%	60.99%	48.08%	47.25%	48.40%	49.38%	53.79%
Interest expense	1,103	5,337	14,770	27,561	35,976	27,961	10,168
Cash income after interest is deducted	20,511	15,549	18,942	20,150	39,109	34,701	20,317
Percent of farms with negative cash income	57.30%	63.47%	58.64%	64.21%	64.78%	62.18%	59.90%
Total expenses including depreciation	48,880	93,813	144,192	189,471	251,580	241,172	108,694
Net farm income	24,737	14,324	14,027	14,624	29,336	24,584	19,318
Percent of farms with negative net farm income	19.90%	41.66%	38.98%	45.13%	50.69%	60.09%	33.48%
Estimated principal repayment	0	1,917	7,212	17,614	27,792	24,365	5,747
Cash income after interest and principal	20,511	13,632	11,730	2,536	11,317	10,336	14,569
Percent of farms with negative cash income	57.30%	65.02%	64.40%	70.74%	67.50%	72.06%	62.65%
Off-farm income	35,612	75,728	37,920	44,947	29,348	22,340	43,767
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	40,623	73,860	34,150	31,983	25,165	17,176	42,836
Percent of farms with negative family income	34.27%	30.99%	30.98%	34.96%	42.27%	48.10%	33.60%

D = data insufficient for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 28--Combined cash flow and net income statement by operator primary occupation, January 1, 1987

Farming	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	349,533	146,524	221,137	130,529	54,198	40,293	942,214
Percent of farms	37.09%	15.55%	23.46%	13.85%	5.75%	4.27%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	41,866	91,603	108,888	118,393	125,002	112,634	83,741
Government payments	2,342	6,878	10,571	12,578	15,807	14,321	7,684
Other farm income	2,356	6,461	11,432	16,926	21,636	23,614	9,161
Gross cash farm income	46,564	104,942	130,891	147,897	162,445	150,569	100,585
Nonmoney income	6,293	7,941	6,732	6,602	5,495	3,717	6,539
Value of inventory change	-991	1,007	-2,082	-2,531	-2,127	-3,141	-1,307
Gross farm income	51,866	113,891	135,541	151,968	165,812	151,145	105,817
Operating expenses excluding interest	32,303	70,580	89,312	101,970	110,166	103,911	68,828
Cash income before interest is deducted	14,262	34,362	41,579	45,927	52,279	46,658	31,758
Percent of farms with negative cash income	37.16%	25.42%	21.04%	17.08%	18.77%	23.82%	27.14%
Interest expense	840	3,758	11,397	21,156	23,850	19,821	8,721
Cash income after interest is deducted	13,421	30,604	30,183	24,771	28,429	26,837	23,037
Percent of farms with negative cash income	37.93%	29.52%	27.66%	33.23%	33.12%	38.19%	33.30%
Total expenses including depreciation	37,596	86,984	115,475	138,670	147,947	134,078	88,030
Net farm income	14,269	26,906	20,066	13,298	17,865	17,067	17,787
Percent of farms with negative net farm income	20.69%	24.51%	30.79%	40.89%	40.88%	45.27%	28.66%
Estimated principal repayment	0	1,348	5,762	12,190	15,475	18,423	4,929
Cash income after interest and principal	13,421	29,256	24,421	12,581	12,954	8,414	18,108
Percent of farms with negative cash income	37.93%	31.67%	33.29%	44.66%	49.95%	57.83%	38.34%
Off-farm income	12,492	14,747	12,949	12,475	11,830	9,064	12,763
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	10,414	28,503	21,869	9,555	9,284	1,978	15,371
Percent of farms with negative family income	56.58%	39.37%	40.82%	52.36%	57.49%	64.68%	50.02%

Continued--

Appendix table 28--Combined cash flow and net income statement by operator primary occupation, January 1, 1987--Continued

Hired manager	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	4,655	1,027	3,402	D	D	D	12,138
Percent of farms	38.35%	8.46%	28.03%	D	D	D	100.00%
<u>Dollars per farm</u>							
Farm income							
Crop and livestock sales	102,416	208,034	209,277	D	D	D	330,909
Government payments	2,328	19,060	5,238	D	D	D	6,933
Other farm income	24,865	14,894	99,242	D	D	D	125,695
Gross cash farm income	129,608	241,988	313,756	D	D	D	463,536
Nonmoney income	8,947	4,885	6,636	D	D	D	6,940
Value of inventory change	5,515	8,196	1,510	D	D	D	-74
Gross farm income	144,071	255,070	321,902	D	D	D	470,402
Operating expenses excluding interest	171,595	210,907	276,697	D	D	D	411,366
Cash income before interest is deducted	-41,987	31,081	37,059	D	D	D	52,171
Percent of farms with negative cash income	61.11%	47.09%	27.00%	D	D	D	44.96%
Interest expense	1,756	9,844	20,224	D	D	D	28,387
Cash income after interest is deducted	-43,743	21,237	16,835	D	D	D	23,784
Percent of farms with negative cash income	61.52%	47.09%	37.40%	D	D	D	52.75%
Total expenses including depreciation	181,253	242,379	322,285	D	D	D	544,445
Net farm income	-37,183	12,691	-383	D	D	D	-74,043
Percent of farms with negative net farm income	44.39%	45.82%	51.80%	D	D	D	46.89%
Estimated principal repayment	0	4,791	9,991	D	D	D	18,953
Cash income after interest and principal	-43,743	16,446	6,844	D	D	D	4,831
Percent of farms with negative cash income	61.52%	47.09%	50.86%	D	D	D	57.74%
Off-farm income	56,080	5,935	12,052	D	D	D	28,734
Estimated family living expenses	15,500	15,500	15,500	D	D	D	15,500
Cash income after adding off-farm income and deducting family living	-3,163	6,881	3,396	D	D	D	18,064
Percent of farms with negative family income	52.62%	47.94%	44.10%	D	D	D	52.65%

Continued--

Appendix table 28--Combined cash flow and net income statement by operator primary occupation, January 1, 1987--Continued

Other	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	231,897	88,856	133,391	64,391	19,532	13,871	551,938
Percent of farms	42.01%	16.09%	24.16%	11.66%	3.53%	2.51%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	10,455	12,464	21,467	26,811	31,687	18,988	16,314
Government payments	317	653	1,449	1,797	2,202	3,390	961
Other farm income	813	1,562	3,126	2,609	4,097	2,274	1,855
Gross cash farm income	11,584	14,679	26,042	31,217	37,985	24,652	19,130
Nonmoney income	6,644	7,279	7,831	6,711	6,053	3,316	6,936
Value of inventory change	-343	26	178	-547	-1,560	-712	-234
Gross farm income	17,885	21,984	34,051	37,380	42,478	27,256	25,832
Operating expenses excluding interest	10,693	15,001	22,738	23,665	26,651	17,447	16,545
Cash income before interest is deducted	891	-322	3,305	7,552	11,334	7,205	2,584
Percent of farms with negative cash income	62.08%	66.39%	65.32%	49.11%	49.39%	55.73%	61.44%
Interest expense	407	1,847	4,671	8,862	11,489	8,363	3,248
Cash income after interest is deducted	484	-2,168	-1,367	-1,310	-155	-1,158	-664
Percent of farms with negative cash income	64.83%	71.24%	76.04%	71.72%	76.39%	72.99%	69.99%
Total expenses including depreciation	12,317	18,911	30,647	36,254	42,353	28,040	22,059
Net farm income	5,568	3,074	3,404	1,127	126	-784	3,773
Percent of farms with negative net farm income	25.98%	33.20%	40.55%	50.61%	66.78%	68.93%	36.06%
Estimated principal repayment	0	776	2,754	5,069	8,240	8,524	1,888
Cash income after interest and principal	484	-2,944	-4,121	-6,379	-8,395	-9,683	-2,551
Percent of farms with negative cash income	64.83%	75.45%	82.22%	82.87%	82.60%	82.03%	73.91%
Off-farm income	36,401	53,504	50,227	48,450	42,064	26,834	43,861
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	21,385	35,060	30,606	26,571	18,169	1,651	25,810
Percent of farms with negative family income	30.25%	21.25%	20.33%	24.73%	35.69%	53.63%	26.54%

D = data insufficient for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 29--Combined cash flow and net income statement by operator age,
January 1, 1987

34 or under	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	50,921	23,872	55,868	49,315	23,195	18,439	221,609
Percent of farms	22.97%	10.77%	25.21%	22.25%	10.46%	8.32%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	51,792	49,193	72,286	71,610	77,334	70,141	65,289
Government payments	1,955	3,996	6,943	7,688	10,548	6,495	5,985
Other farm income	2,125	4,126	6,815	11,952	15,899	8,378	7,672
Gross cash farm income	55,872	57,315	86,044	91,250	103,781	85,014	78,946
Nonmoney income	3,964	5,588	5,166	5,152	4,125	2,640	4,613
Value of inventory change	-647	-883	-40	-1,239	-3,459	-2,826	-1,127
Gross farm income	59,189	62,019	91,170	95,162	104,448	84,828	82,432
Operating expenses excluding interest	38,929	40,412	62,996	65,091	69,809	52,357	55,327
Cash income before interest is deducted	16,943	16,903	23,047	26,159	33,973	32,656	23,618
Percent of farms with negative cash income	49.38%	43.56%	31.39%	28.30%	23.04%	42.75%	36.22%
Interest expense	1,204	2,726	6,438	11,199	13,286	12,140	7,086
Cash income after interest is deducted	15,738	14,176	16,609	14,960	20,686	20,517	16,532
Percent of farms with negative cash income	51.23%	46.82%	37.42%	42.60%	37.13%	55.71%	44.25%
Total expenses including depreciation	44,015	49,143	79,468	84,883	91,955	70,026	69,781
Net farm income	15,174	12,876	11,701	10,280	12,493	14,802	12,650
Percent of farms with negative net farm income	37.86%	31.94%	35.03%	41.89%	47.80%	62.18%	40.47%
Estimated principal repayment	0	755	3,599	6,597	9,287	11,819	4,412
Cash income after interest and principal	15,738	13,422	13,010	8,364	11,400	8,697	12,120
Percent of farms with negative cash income	51.23%	48.02%	44.91%	50.18%	53.82%	70.24%	50.91%
Off-farm income	19,084	26,969	18,049	15,496	12,534	13,855	17,753
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	19,322	24,891	15,559	8,360	8,434	7,052	14,373
Percent of farms with negative family income	39.93%	34.60%	32.59%	43.23%	55.70%	65.79%	42.04%

Continued--

Appendix table 29--Combined cash flow and net income statement by operator age,
January 1, 1987--Continued

35 to 44	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	67,001	44,115	91,350	60,391	27,981	15,985	306,822
Percent of farms	21.83%	14.37%	29.77%	19.68%	9.11%	5.20%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	33,902	66,374	77,532	80,195	94,031	128,349	71,076
Government payments	2,163	3,824	6,568	8,037	9,746	13,656	6,160
Other farm income	4,451	3,560	8,485	12,746	14,317	81,392	12,065
Gross cash farm income	40,516	73,758	92,584	100,977	118,093	223,397	89,301
Nonmoney income	6,352	7,571	7,882	6,798	5,699	4,421	6,910
Value of inventory change	-1,283	663	-131	-1,445	1,069	-1,207	-474
Gross farm income	45,586	81,991	100,335	106,330	124,862	226,611	95,737
Operating expenses excluding interest	32,597	60,691	66,909	69,690	86,761	186,342	67,102
Cash income before interest is deducted	7,919	13,066	25,675	31,287	31,332	37,055	22,198
Percent of farms with negative cash income	48.76%	49.93%	41.72%	31.18%	27.80%	32.84%	40.63%
Interest expense	1,466	3,685	8,359	16,564	17,981	19,711	9,265
Cash income after interest is deducted	6,453	9,381	17,317	14,724	13,351	17,344	12,933
Percent of farms with negative cash income	50.96%	55.02%	49.38%	50.37%	48.21%	48.95%	50.60%
Total expenses including depreciation	38,149	74,876	85,185	97,191	116,035	215,391	85,392
Net farm income	7,436	7,115	15,149	9,139	8,827	11,220	10,346
Percent of farms with negative net farm income	28.57%	29.75%	29.70%	44.67%	42.14%	45.66%	34.37%
Estimated principal repayment	0	1,285	4,644	9,437	12,986	17,946	5,544
Cash income after interest and principal	6,453	8,096	12,673	5,287	365	-602	7,389
Percent of farms with negative cash income	50.96%	58.92%	54.11%	60.43%	58.34%	63.58%	56.24%
Off-farm income	30,438	56,781	28,758	22,519	23,170	14,255	30,661
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	21,391	49,377	25,931	12,306	8,035	-1,847	22,550
Percent of farms with negative family income	30.07%	25.41%	27.02%	41.21%	45.49%	57.36%	33.51%

Continued--

Appendix table 29--Combined cash flow and net income statement by operator age,
January 1, 1987--Continued

45 to 54	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	106,710	58,960	94,489	49,861	13,656	11,099	334,776
Percent of farms	31.87%	17.61%	28.22%	14.89%	4.07%	3.31%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	37,650	63,672	82,278	107,307	224,193	75,685	74,074
Government payments	1,766	4,086	6,846	10,351	19,719	16,419	6,105
Other farm income	1,439	3,992	11,113	11,963	30,949	16,661	7,895
Gross cash farm income	40,854	71,749	100,236	129,620	274,861	108,765	88,073
Nonmoney income	7,411	8,077	8,029	8,013	7,618	4,371	7,700
Value of inventory change	-594	3,746	-1,547	-1,753	-7,769	-2,852	-639
Gross farm income	47,670	83,572	106,718	135,881	274,710	110,283	95,135
Operating expenses excluding interest	32,084	51,403	68,699	89,274	184,355	63,689	61,598
Cash income before interest is deducted	8,770	20,347	31,537	40,347	90,506	45,076	26,476
Percent of farms with negative cash income	49.90%	47.19%	37.08%	28.54%	29.59%	14.91%	40.64%
Interest expense	1,309	3,468	10,439	22,278	33,103	18,286	9,249
Cash income after interest is deducted	7,461	16,878	21,098	18,068	57,403	26,789	17,227
Percent of farms with negative cash income	54.67%	52.41%	46.05%	47.76%	45.93%	31.08%	49.67%
Total expenses including depreciation	37,589	64,037	90,001	126,516	303,021	93,513	82,966
Net farm income	10,081	19,535	16,717	9,365	-28,311	16,770	12,168
Percent of farms with negative net farm income	23.34%	35.32%	33.42%	45.74%	56.52%	36.35%	33.42%
Estimated principal repayment	0	1,402	5,184	12,006	25,715	17,687	5,133
Cash income after interest and principal	7,461	15,476	15,915	6,063	31,688	9,102	12,093
Percent of farms with negative cash income	54.67%	55.36%	53.07%	62.46%	59.14%	51.59%	55.58%
Off-farm income	33,574	28,014	31,130	37,987	23,762	12,495	31,463
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	25,535	27,990	31,545	28,550	39,950	6,097	28,056
Percent of farms with negative family income	32.12%	28.12%	28.64%	37.58%	51.73%	63.28%	33.08%

Continued--

Appendix table 29--Combined cash flow and net income statement by operator age,
January 1, 1987--Continued

55 to 64	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	166,571	68,458	84,102	28,735	8,471	7,999	364,336
Percent of farms	45.71%	18.78%	23.08%	7.88%	2.32%	2.19%	100.00%
	<u>Dollars per farm</u>						
Farm income							
Crop and livestock sales	32,209	77,903	79,351	111,957	155,566	82,883	61,947
Government payments	1,686	5,886	8,011	11,295	8,901	13,085	5,111
Other farm income	1,604	5,793	9,679	13,516	17,248	17,473	5,907
Gross cash farm income	35,498	89,581	97,041	136,768	181,715	113,441	72,964
Nonmoney income	6,718	8,990	7,295	6,510	5,718	3,398	7,165
Value of inventory change	-662	-895	-2,600	-5,256	-2,515	-3,607	-1,623
Gross farm income	41,553	97,677	101,736	138,022	184,917	113,233	78,507
Operating expenses excluding interest	23,777	56,389	66,309	97,599	118,263	99,376	49,402
Cash income before interest is deducted	11,720	33,192	30,732	39,169	63,452	14,065	23,563
Percent of farms with negative cash income	42.77%	32.32%	37.28%	19.19%	25.94%	34.77%	37.11%
Interest expense	413	3,079	9,354	22,378	28,062	23,140	5,852
Cash income after interest is deducted	11,307	30,113	21,378	16,791	35,390	-9,075	17,710
Percent of farms with negative cash income	43.47%	34.72%	45.50%	36.09%	48.54%	52.48%	42.03%
Total expenses including depreciation	27,576	69,923	87,616	132,783	158,000	132,730	63,031
Net farm income	13,977	27,753	14,121	5,238	26,917	-19,497	15,476
Percent of farms with negative net farm income	18.73%	21.93%	38.05%	42.47%	50.88%	57.14%	27.25%
Estimated principal repayment	0	1,169	5,021	12,182	15,362	20,134	3,139
Cash income after interest and principal	11,307	28,943	16,357	4,610	20,028	-29,209	14,572
Percent of farms with negative cash income	43.47%	37.28%	50.66%	51.35%	67.99%	68.21%	45.70%
Off-farm income	21,856	22,199	27,345	21,929	23,917	12,511	23,036
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	17,663	35,642	28,203	11,038	28,445	-32,198	22,108
Percent of farms with negative family income	41.12%	30.58%	37.17%	53.09%	60.72%	60.99%	40.06%

Continued--

Appendix table 29--Combined cash flow and net income statement by operator age,
January 1, 1987--Continued

65 or over	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	194,881	41,003	32,120	7,216	1,930	1,596	278,746
Percent of farms	69.91%	14.70%	11.52%	2.58%	0.69%	0.57%	100.00%
<u>Dollars per farm</u>							
Farm income							
Crop and livestock sales	16,643	37,895	64,935	105,182	205,342	150,520	29,699
Government payments	972	4,328	7,481	8,613	20,799	14,229	2,627
Other farm income	1,541	5,203	8,182	15,463	24,770	30,230	3,531
Gross cash farm income	19,156	47,425	80,599	129,257	250,912	194,979	35,856
Nonmoney income	6,387	6,253	5,448	6,956	6,765	2,217	6,252
Value of inventory change	-552	-232	-1,634	2,176	-488	-3,929	-578
Gross farm income	24,991	53,446	84,413	138,389	257,189	193,267	41,530
Operating expenses excluding interest	15,489	33,124	63,041	84,335	149,778	129,223	26,926
Cash income before interest is deducted	3,667	14,301	17,557	44,922	101,134	65,756	8,930
Percent of farms with negative cash income	48.43%	34.97%	39.00%	20.55%	48.73%	24.70%	44.51%
Interest expense	145	1,996	9,833	21,793	42,380	29,903	2,557
Cash income after interest is deducted	3,522	12,305	7,725	23,129	58,754	35,853	6,373
Percent of farms with negative cash income	48.66%	41.28%	50.06%	58.16%	61.24%	31.98%	47.97%
Total expenses including depreciation	17,648	39,896	81,755	131,494	207,478	170,814	33,446
Net farm income	7,342	13,550	2,658	6,894	49,711	22,453	8,084
Percent of farms with negative net farm income	20.57%	22.70%	42.47%	50.65%	57.20%	42.54%	24.57%
Estimated principal repayment	0	830	4,301	12,786	34,135	28,039	1,346
Cash income after interest and principal	3,522	11,475	3,423	10,342	24,619	7,814	5,028
Percent of farms with negative cash income	48.66%	44.65%	55.26%	67.97%	70.35%	70.60%	49.60%
Off-farm income	14,544	14,658	22,650	14,309	13,702	14,177	15,481
Estimated family living expenses	15,500	15,500	15,500	15,500	15,500	15,500	15,500
Cash income after adding off-farm income and deducting family living	2,566	10,633	10,574	9,151	22,821	6,481	5,009
Percent of farms with negative family income	65.23%	48.98%	55.06%	62.18%	55.26%	65.10%	61.52%

Farm Costs and Returns Survey, USDA

Appendix table 30--Farm operator balance sheet for all farms, January 1, 1987

All farms	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	586,085	236,408	357,930	195,517	75,232	55,118	1,506,290
Percent of farms	38.90%	15.69%	23.76%	12.98%	4.99%	3.65%	100.00%
	Dollars per farm						
Farm assets	233,942	414,015	339,838	325,454	309,066	162,334	300,378
Land and buildings	173,934	292,269	209,694	192,698	172,043	84,769	200,082
Farm equipment	27,718	55,399	54,371	58,352	58,489	38,590	44,307
Livestock inventory	18,566	37,203	34,973	36,645	30,823	17,270	28,301
Crop inventory	3,679	11,359	17,239	21,467	26,707	18,295	12,100
Purchased inputs	444	1,438	1,690	1,827	1,846	899	1,162
Other assets	9,602	11,640	8,608	7,834	19,158	2,511	9,674
Farm operator debt	0	17,845	78,811	171,323	251,483	247,861	65,396
Farm Credit System	0	4,359	28,361	70,416	102,839	137,952	26,748
Commercial bank	0	7,014	26,472	50,026	61,501	60,846	19,183
Other	0	6,473	23,978	50,881	87,144	49,063	19,466
Net worth	233,942	396,170	261,027	154,131	57,583	-85,527	234,982
Debt/asset ratio	0.00	0.04	0.23	0.53	0.81	1.53	0.22
Percent of debt by debt/asset category	0.00%	4.28%	28.63%	34.00%	19.20%	13.86%	100.00%
Percent of assets by debt/asset category	30.30%	21.63%	26.88%	14.06%	5.13%	1.97%	100.00%

Appendix table 31--Farm operator balance sheet by sales class, January 1, 1987

\$500,000 or more	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	3,685	3,740	9,073	6,806	2,828	1,661	27,791
Percent of farms	13.25%	13.45%	32.64%	24.48%	10.17%	5.97%	100.00%
	Dollars per farm						
Farm assets	2,966,884	3,023,772	1,784,472	1,681,900	1,801,567	680,877	2,018,680
Land and buildings	2,144,754	1,732,343	973,767	868,194	841,057	318,068	1,152,559
Farm equipment	233,878	347,073	245,589	195,258	265,347	205,484	244,980
Livestock inventory	443,313	711,093	248,552	256,072	178,153	41,599	318,927
Crop inventory	31,959	129,617	95,653	94,513	96,340	91,510	91,322
Purchased inputs	9,180	29,125	21,709	15,922	21,011	6,097	18,625
Other assets	103,800	74,521	45,125	61,445	399,658	18,119	95,316
Farm operator debt	0	184,712	452,942	884,017	1,460,036	1,319,176	616,593
Farm Credit System	0	32,793	163,463	308,535	348,256	431,579	194,558
Commercial bank	0	81,609	155,612	229,732	304,271	668,122	188,923
Other	0	70,310	133,867	345,750	807,509	219,475	233,113
Net worth	2,966,884	2,839,060	1,331,530	797,883	341,531	-638,300	1,402,087
Debt/asset ratio	0.00	0.06	0.25	0.53	0.81	1.94	0.31
Percent of debt by debt/asset category	0.00%	4.03%	23.98%	35.11%	24.09%	12.78%	100.00%
Percent of assets by debt/asset category	19.48%	20.15%	28.85%	20.40%	9.08%	2.01%	100.00%

Continued--

Appendix table 31--Farm operator balance sheet by sales class, January 1, 1987--Continued

\$250,000 to \$499,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	5,638	7,129	19,299	12,193	5,443	2,672	52,375
Percent of farms	10.76%	13.61%	36.84%	23.28%	10.39%	5.10%	100.00%
	Dollars per farm						
Farm assets	856,428	1,127,934	892,060	749,640	673,833	372,119	837,968
Land and buildings	577,736	754,578	489,717	391,681	366,641	189,690	484,324
Farm equipment	110,188	165,683	154,823	172,210	129,627	75,674	148,887
Livestock inventory	108,016	103,588	101,883	76,457	75,357	35,180	90,696
Crop inventory	24,550	45,148	65,103	80,095	85,711	61,600	63,474
Purchased inputs	2,313	8,529	5,692	6,238	3,260	3,420	5,473
Other assets	33,624	50,407	24,357	22,959	13,237	6,555	26,511
Farm operator debt	0	46,589	216,831	388,011	542,887	545,990	260,846
Farm Credit System	0	14,831	87,814	146,409	240,117	369,631	112,273
Commercial bank	0	10,704	61,894	126,017	123,830	90,732	71,099
Other	0	21,053	67,123	115,585	178,940	85,627	77,473
Net worth	856,428	1,081,345	675,229	361,629	130,945	-173,872	577,122
Debt/asset ratio	0.00	0.04	0.24	0.52	0.81	1.47	0.31
Percent of debt by debt/asset category	0.00%	2.43%	30.62%	34.63%	21.62%	10.67%	100.00%
Percent of assets by debt/asset category	11.00%	18.32%	39.22%	20.82%	8.35%	2.26%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	34,354	32,518	69,630	43,455	21,044	10,973	211,974
Percent of farms	16.20%	15.34%	32.84%	20.50%	9.92%	5.17%	100.00%
	Dollars per farm						
Farm assets	561,176	702,813	516,650	442,081	358,090	251,266	507,659
Land and buildings	364,669	475,557	297,327	252,379	197,079	117,570	307,111
Farm equipment	93,303	120,595	95,648	91,701	76,805	60,180	94,579
Livestock inventory	55,370	60,296	56,923	49,282	36,954	35,401	52,526
Crop inventory	21,911	25,764	35,555	37,518	38,565	32,365	32,378
Purchased inputs	1,652	2,604	2,619	2,428	1,606	1,751	2,275
Other assets	24,271	17,997	16,616	8,774	7,080	4,000	14,861
Farm operator debt	0	30,751	121,535	232,503	294,353	348,012	139,540
Farm Credit System	0	8,422	44,125	108,277	148,413	198,443	62,990
Commercial bank	0	8,242	34,838	60,268	64,557	76,191	35,416
Other	0	14,087	42,572	63,958	81,383	73,378	41,135
Net worth	561,176	672,061	395,115	209,577	63,737	-96,746	368,119
Debt/asset ratio	0.00	0.04	0.24	0.53	0.82	1.39	0.27
Percent of debt by debt/asset category	0.00%	3.38%	28.60%	34.15%	20.94%	12.90%	100.00%
Percent of assets by debt/asset category	17.91%	21.23%	33.43%	17.85%	7.00%	2.56%	100.00%

Continued--

Appendix table 31--Farm operator balance sheet by sales class, January 1, 1987--Continued

\$40,000 to \$99,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	56,014	40,947	75,021	45,299	20,804	17,110	255,196
Percent of farms	21.94%	16.04%	29.39%	17.75%	8.15%	6.70%	100.00%
	Dollars per farm						
Farm assets	384,061	502,124	311,597	253,533	201,825	141,820	327,434
Land and buildings	258,899	354,803	195,222	147,617	113,782	71,489	211,418
Farm equipment	53,523	68,139	54,818	52,038	42,515	34,571	53,817
Livestock inventory	45,413	40,263	30,931	31,511	22,940	17,463	34,156
Crop inventory	9,920	15,408	15,388	16,303	18,869	16,063	14,551
Purchased inputs	1,034	1,229	986	880	998	415	979
Other assets	15,872	19,464	7,032	5,184	2,721	1,818	9,938
Farm operator debt	0	21,167	70,582	133,685	163,732	214,914	75,633
Farm Credit System	0	6,115	27,689	70,685	78,336	137,919	37,301
Commercial bank	0	7,845	20,655	35,379	36,108	32,696	18,747
Other	0	7,207	22,238	27,621	49,288	44,299	19,585
Net worth	384,061	480,957	241,015	119,847	38,093	-73,093	251,802
Debt/asset ratio	0.00	0.04	0.23	0.53	0.81	1.52	0.23
Percent of debt by debt/asset category	0.00%	4.49%	27.43%	31.37%	17.64%	19.05%	100.00%
Percent of assets by debt/asset category	25.74%	24.60%	27.97%	13.74%	5.02%	2.90%	100.00%
	Debt/asset ratio						
\$20,000 to \$39,999	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	61,819	31,671	45,479	23,013	5,638	5,727	173,347
Percent of farms	35.66%	18.27%	26.23%	13.27%	3.25%	3.30%	100.00%
	Dollars per farm						
Farm assets	286,028	252,838	182,799	172,122	155,751	121,308	228,080
Land and buildings	221,818	180,000	118,165	118,124	101,873	79,935	164,629
Farm equipment	33,512	36,135	29,222	27,759	33,919	28,744	31,958
Livestock inventory	16,083	17,171	15,325	17,717	9,206	5,741	15,734
Crop inventory	3,677	9,609	6,248	5,418	9,032	5,850	5,912
Purchased inputs	534	448	549	454	721	205	507
Other assets	10,403	9,475	3,283	2,650	1,001	834	6,714
Farm operator debt	0	10,447	38,729	92,535	129,489	216,476	35,717
Farm Credit System	0	2,138	12,122	41,919	40,482	128,351	14,693
Commercial bank	0	4,903	17,192	20,600	37,662	45,276	10,862
Other	0	3,406	9,414	30,016	51,345	42,848	10,162
Net worth	286,028	242,391	144,070	79,587	26,262	-95,167	192,363
Debt/asset ratio	0.00	0.04	0.21	0.54	0.83	1.78	0.16
Percent of debt by debt/asset category	0.00%	5.34%	28.44%	34.39%	11.79%	20.02%	100.00%
Percent of assets by debt/asset category	44.72%	20.25%	21.02%	10.01%	2.22%	1.75%	100.00%

Continued--

Appendix table 31--Farm operator balance sheet by sales class, January 1, 1987--Continued

\$10,000 to \$19,999	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	90,298	33,690	31,817	17,707	5,889	6,439	185,839
Percent of farms	48.58%	18.12%	17.12%	9.52%	3.16%	3.46%	100.00%
	Dollars per farm						
Farm assets	206,068	247,491	163,379	134,821	121,205	61,067	191,767
Land and buildings	161,415	195,176	117,237	96,826	94,615	36,170	147,361
Farm equipment	20,916	26,052	19,424	25,106	20,010	14,655	21,745
Livestock inventory	11,116	14,339	11,828	8,622	3,976	5,845	11,176
Crop inventory	1,667	1,917	1,911	2,768	1,845	3,836	1,940
Purchased inputs	116	277	179	535	128	80	195
Other assets	10,837	5,002	3,719	965	631	481	6,938
Farm operator debt	0	10,377	34,741	70,603	96,668	85,474	20,581
Farm Credit System	0	2,980	10,630	17,297	41,274	57,948	7,324
Commercial bank	0	4,308	15,069	42,313	44,035	6,898	9,030
Other	0	3,089	9,042	10,993	11,359	20,528	4,227
Net worth	206,068	237,114	128,638	64,218	24,537	-24,407	171,186
Debt/asset ratio	0.00	0.04	0.21	0.52	0.80	1.40	0.11
Percent of debt by debt/asset category	0.00%	9.14%	28.89%	32.68%	14.88%	14.39%	100.00%
Percent of assets by debt/asset category	52.21%	23.39%	14.58%	6.69%	2.00%	1.10%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	334,277	86,714	107,610	47,044	13,587	10,537	599,768
Percent of farms	55.73%	14.45%	17.94%	7.84%	2.26%	1.75%	100.00%
	Dollars per farm						
Farm assets	132,430	216,430	142,827	127,554	85,634	52,299	143,590
Land and buildings	106,086	172,619	114,461	104,246	67,955	41,128	115,059
Farm equipment	13,756	21,727	14,175	11,790	9,904	6,906	14,622
Livestock inventory	6,565	8,779	8,729	7,658	5,499	2,949	7,272
Crop inventory	740	475	659	737	323	344	670
Purchased inputs	166	135	102	159	170	219	150
Other assets	5,118	3,033	2,317	2,963	1,782	751	3,993
Farm operator debt	0	7,480	30,578	68,232	68,903	68,925	14,692
Farm Credit System	0	1,265	8,681	14,972	16,255	24,099	3,706
Commercial bank	0	4,461	15,169	26,272	37,615	28,661	6,783
Other	0	1,754	6,729	26,988	15,033	16,165	4,202
Net worth	132,430	208,950	112,249	59,322	16,731	-16,626	128,899
Debt/asset ratio	0.00	0.03	0.21	0.53	0.80	1.32	0.10
Percent of debt by debt/asset category	0.00%	7.36%	37.34%	36.42%	10.62%	8.24%	100.00%
Percent of assets by debt/asset category	51.40%	21.79%	17.84%	6.96%	1.35%	0.63%	100.00%

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Appendix table 32--Farm operator balance sheet by type of farm, January 1, 1987

Cash grain	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	95,183	51,665	92,542	60,832	29,779	21,705	351,707
Percent of farms	27.06%	14.68%	26.31%	17.29%	8.46%	6.17%	100.00%
	Dollars per farm						
Farm assets	220,783	366,096	388,613	339,217	276,365	185,466	309,301
Land and buildings	149,924	235,355	234,890	190,303	148,234	95,145	188,291
Farm equipment	41,683	72,485	78,352	82,698	64,731	47,381	65,254
Livestock inventory	4,419	10,759	13,538	13,087	10,276	6,346	9,864
Crop inventory	8,379	24,269	35,989	40,991	45,455	32,421	28,242
Purchased inputs	510	1,543	2,311	1,870	1,611	1,120	1,502
Other assets	15,868	21,685	14,035	8,648	6,058	3,054	13,370
Farm operator debt	0	17,346	91,119	179,348	227,622	276,466	93,879
Farm Credit System	0	3,477	28,360	76,156	94,676	161,883	39,152
Commercial bank	0	3,857	22,971	47,300	56,136	58,714	23,169
Other	0	10,013	39,787	55,892	76,810	55,868	31,558
Net worth	220,783	348,749	297,494	159,870	48,743	-90,999	215,422
Debt/asset ratio	0.00	0.05	0.23	0.53	0.82	1.49	0.30
Percent of debt by debt/asset category	0.00%	2.71%	25.53%	33.04%	20.52%	18.17%	100.00%
Percent of assets by debt/asset category	19.31%	17.38%	33.05%	18.96%	7.56%	3.70%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	38,477	8,669	14,163	8,142	3,488	4,205	77,144
Percent of farms	49.87%	11.23%	18.35%	10.55%	4.52%	5.45%	100.00%
	Dollars per farm						
Farm assets	119,627	350,247	270,208	302,957	258,625	92,168	197,326
Land and buildings	89,537	260,782	179,328	211,983	173,317	32,257	138,854
Farm equipment	21,421	57,454	55,861	66,162	63,659	42,142	39,554
Livestock inventory	3,942	6,955	5,812	6,117	5,207	3,974	4,912
Crop inventory	887	4,573	14,988	11,786	10,193	11,116	6,019
Purchased inputs	129	807	793	826	1,666	548	493
Other assets	3,711	17,603	10,686	6,083	4,583	2,132	6,757
Farm operator debt	0	12,754	59,635	159,640	211,429	168,394	47,970
Farm Credit System	0	4,804	31,224	89,289	136,732	87,806	26,665
Commercial bank	0	1,972	15,824	37,883	41,134	55,916	12,033
Other	0	5,978	12,587	32,468	33,563	24,671	9,272
Net worth	119,627	337,493	210,573	143,317	47,195	-76,226	149,356
Debt/asset ratio	0.00	0.04	0.22	0.53	0.82	1.83	0.24
Percent of debt by debt/asset category	0.00%	2.98%	22.82%	35.12%	19.92%	19.13%	100.00%
Percent of assets by debt/asset category	30.23%	19.94%	25.13%	16.20%	5.92%	2.54%	100.00%

Continued--

Appendix table 32--Farm operator balance sheet by type of farm, January 1, 1987--Continued

Vegetable, fruit, nut	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	31,936	12,215	19,935	7,637	2,920	2,158	76,800
Percent of farms	41.58%	15.90%	25.95%	9.94%	3.80%	2.80%	100.00%
	Dollars per farm						
Farm assets	318,118	571,800	383,676	728,660	1,153,060	107,982	442,143
Land and buildings	269,251	481,420	283,718	432,854	568,535	31,635	327,721
Farm equipment	33,196	46,454	40,212	81,236	169,602	63,505	47,940
Livestock inventory	490	2,000	2,126	2,722	39,806	2,093	2,917
Crop inventory	2,565	4,799	6,651	14,077	8,868	6,268	5,469
Purchased inputs	398	448	978	2,469	13,933	1,498	1,308
Other assets	12,218	23,205	5,896	38,434	352,316	2,983	27,601
Farm operator debt	0	26,719	92,800	375,962	920,687	298,061	109,098
Farm Credit System	0	11,224	45,462	95,391	134,251	116,612	31,451
Commercial bank	0	8,129	23,990	74,497	126,775	96,733	22,465
Other	0	7,366	23,348	206,073	659,661	84,716	55,182
Net worth	318,118	545,081	290,876	352,698	232,373	-190,078	333,045
Debt/asset ratio	0.00	0.05	0.24	0.52	0.80	2.76	0.25
Percent of debt by debt/asset category	0.00%	3.89%	22.07%	34.26%	32.08%	7.67%	100.00%
Percent of assets by debt/asset category	29.91%	20.56%	22.52%	16.38%	9.91%	0.68%	100.00%
Nursery, greenhouse	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	12,699	3,206	7,205	3,195	D	D	26,932
Percent of farms	47.15%	11.90%	26.75%	11.86%	D	D	100.00%
	Dollars per farm						
Farm assets	377,998	574,960	227,388	131,410	D	D	328,036
Land and buildings	320,588	350,722	163,151	113,678	D	D	254,815
Farm equipment	31,643	97,544	36,752	14,422	D	D	38,210
Livestock inventory	1,013	277	405	776	D	D	711
Crop inventory	15,900	85,313	16,149	8	D	D	21,981
Purchased inputs	2,877	2,730	1,192	209	D	D	2,053
Other assets	5,977	38,374	5,531	2,317	D	D	9,140
Farm operator debt	0	33,971	46,219	70,800	D	D	29,356
Farm Credit System	0	1,433	5,886	24,866	D	D	5,330
Commercial bank	0	31,065	27,887	33,625	D	D	18,841
Other	0	1,473	12,446	12,309	D	D	5,184
Net worth	377,998	540,990	181,169	60,611	D	D	298,680
Debt/asset ratio	0.00	0.06	0.20	0.54	D	D	0.09
Percent of debt by debt/asset category	0.00%	13.77%	42.12%	28.60%	D	D	100.00%
Percent of assets by debt/asset category	54.33%	20.86%	18.54%	4.75%	D	D	100.00%

Continued--

Appendix table 32--Farm operator balance sheet by type of farm, January 1, 1987--Continued

All other crop	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	30,331	11,373	15,167	6,731	2,805	3,252	69,659
Percent of farms	43.54%	16.32%	21.77%	9.66%	4.02%	4.66%	100.00%
	Dollars per farm						
Farm assets	184,068	631,257	340,539	333,217	384,795	118,571	310,582
Land and buildings	149,046	461,899	196,663	212,707	274,175	68,128	217,902
Farm equipment	26,977	125,019	57,792	73,015	83,328	43,100	57,163
Livestock inventory	2,249	6,441	5,546	6,862	10,375	1,510	4,390
Crop inventory	2,103	16,676	10,843	35,998	10,556	4,957	10,134
Purchased inputs	307	2,903	1,511	989	314	381	1,063
Other assets	3,388	6,286	10,282	3,646	6,046	495	5,359
Farm operator debt	0	25,882	75,334	178,825	304,842	193,490	59,216
Farm Credit System	0	6,327	28,961	79,411	130,036	108,306	25,305
Commercial bank	0	6,051	25,016	51,355	104,914	59,046	18,378
Other	0	13,504	21,357	48,059	69,893	26,137	15,533
Net worth	184,068	605,376	265,205	154,392	79,952	-74,918	251,366
Debt/asset ratio	0.00	0.04	0.22	0.54	0.79	1.63	0.19
Percent of debt by debt/asset category	0.00%	7.13%	27.69%	29.18%	20.72%	15.25%	100.00%
Percent of assets by debt/asset category	25.80%	33.18%	23.87%	10.36%	4.98%	1.78%	100.00%
	Debt/asset ratio						
Beef, hog, sheep	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	305,737	103,698	136,566	64,262	17,161	12,939	640,362
Percent of farms	47.74%	16.19%	21.32%	10.03%	2.67%	2.02%	100.00%
	Dollars per farm						
Farm assets	226,534	353,051	287,497	283,938	257,250	175,336	265,572
Land and buildings	175,697	261,856	184,668	177,140	149,199	100,960	189,487
Farm equipment	19,619	38,487	36,077	37,806	39,562	28,893	28,731
Livestock inventory	20,704	33,680	43,169	51,735	43,065	28,892	31,475
Crop inventory	1,812	4,799	9,447	11,207	19,511	12,460	5,556
Purchased inputs	309	769	1,124	1,654	951	958	723
Other assets	8,394	6,924	5,654	4,397	4,962	3,173	6,973
Farm operator debt	0	13,718	64,997	148,475	205,588	275,604	42,061
Farm Credit System	0	3,366	22,871	57,566	77,533	148,001	16,268
Commercial bank	0	6,634	25,473	48,294	71,118	74,337	14,761
Other	0	3,718	16,653	42,615	56,937	53,266	11,032
Net worth	226,534	339,333	222,500	135,463	51,662	-100,268	223,511
Debt/asset ratio	0.00	0.04	0.23	0.52	0.80	1.57	0.16
Percent of debt by debt/asset category	0.00%	5.28%	32.95%	35.42%	13.09%	13.23%	100.00%
Percent of assets by debt/asset category	40.72%	21.52%	23.08%	10.72%	2.59%	1.33%	100.00%

Continued--

Appendix table 32--Farm operator balance sheet by type of farm, January 1, 1987--Continued

Dairy	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	43,633	27,961	50,380	31,843	14,466	8,586	176,870
Percent of farms	24.66%	15.80%	28.48%	18.00%	8.17%	4.85%	100.00%
	Dollars per farm						
Farm assets	309,111	556,783	444,603	360,661	296,475	174,459	388,569
Land and buildings	178,371	367,025	228,073	190,584	153,495	90,408	218,246
Farm equipment	57,580	76,594	79,753	61,940	50,710	28,539	65,715
Livestock inventory	48,735	88,128	87,127	79,598	69,207	45,723	72,983
Crop inventory	9,255	12,776	17,233	15,724	14,797	7,611	13,622
Purchased inputs	978	3,932	3,238	2,958	1,593	598	2,477
Other assets	14,191	8,327	10,086	9,858	6,673	1,580	10,087
Farm operator debt	0	24,337	105,870	191,706	244,657	222,742	99,341
Farm Credit System	0	6,961	42,545	89,971	135,749	123,345	46,508
Commercial bank	0	9,645	38,763	60,058	43,697	51,875	29,471
Other	0	7,731	24,561	41,677	65,210	47,522	23,362
Net worth	309,111	532,446	338,733	168,955	51,818	-48,283	289,228
Debt/asset ratio	0.00	0.04	0.24	0.53	0.83	1.28	0.26
Percent of debt by debt/asset category	0.00%	3.87%	30.35%	34.74%	20.14%	10.88%	100.00%
Percent of assets by debt/asset category	19.62%	22.65%	32.59%	16.71%	6.24%	2.17%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	7,105	4,374	6,719	5,889	D	D	26,818
Percent of farms	26.49%	16.30%	25.05%	21.95%	D	D	100.00%
	Dollars per farm						
Farm assets	205,858	333,421	339,611	248,943	D	D	268,675
Land and buildings	154,960	268,288	267,428	166,280	D	D	203,992
Farm equipment	16,144	37,426	34,041	34,248	D	D	28,729
Livestock inventory	14,251	18,337	21,616	36,433	D	D	21,881
Crop inventory	1,342	2,036	2,840	5,495	D	D	2,616
Purchased inputs	352	2,208	896	1,612	D	D	1,094
Other assets	18,809	5,126	2,301	4,875	D	D	7,735
Farm operator debt	0	21,356	84,068	131,418	D	D	70,589
Farm Credit System	0	8,593	36,751	73,850	D	D	41,823
Commercial bank	0	8,490	34,942	40,417	D	D	21,082
Other	0	4,272	12,375	17,151	D	D	7,684
Net worth	205,858	312,065	255,543	117,525	D	D	188,086
Debt/asset ratio	0.00	0.06	0.25	0.53	D	D	0.26
Percent of debt by debt/asset category	0.00%	4.93%	29.83%	40.88%	D	D	100.00%
Percent of assets by debt/asset category	20.30%	20.24%	31.66%	20.34%	D	D	100.00%

Continued--

Appendix table 32--Farm operator balance sheet by type of farm, January 1, 1987--Continued

All other livestock	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	20,982	13,248	15,252	6,986	D	D	59,996
Percent of farms	34.97%	22.08%	25.42%	11.64%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm assets	321,203	474,178	226,379	158,208	D	D	300,512
Land and buildings	211,268	288,854	161,145	120,424	D	D	197,075
Farm equipment	26,117	19,288	19,831	11,170	D	D	20,888
Livestock inventory	78,851	154,253	40,854	25,118	D	D	76,369
Crop inventory	450	476	2,397	648	D	D	1,229
Purchased inputs	410	506	400	74	D	D	410
Other assets	4,106	2,096	1,421	775	D	D	2,533
Farm operator debt	0	21,584	54,514	80,980	D	D	34,917
Farm Credit System	0	1,078	11,979	9,471	D	D	6,269
Commercial bank	0	13,531	26,243	45,683	D	D	17,910
Other	0	6,976	16,292	25,826	D	D	10,738
Net worth	321,203	452,594	171,865	77,228	D	D	265,595
Debt/asset ratio	0.00	0.05	0.24	0.51	D	D	0.12
Percent of debt by debt/asset category	0.00%	13.65%	39.68%	27.00%	D	D	100.00%
Percent of assets by debt/asset category	37.38%	34.84%	19.14%	6.12%	D	D	100.00%

D = data insufficient for disclosure. Source: Farm Costs and Return Survey, USDA

Appendix table 33--Farm operator balance sheet by region, January 1, 1987

Northeast	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	50,201	24,245	26,990	12,879	D	D	118,522
Percent of farms	42.35%	20.45%	22.77%	10.86%	D	D	100.00%
	<u>Dollars per farm</u>						
Farm assets	303,319	551,632	298,554	238,760	D	D	342,663
Land and buildings	224,180	422,244	180,189	137,959	D	D	241,679
Farm equipment	34,130	66,021	51,001	41,314	D	D	45,637
Livestock inventory	27,000	34,497	38,228	34,909	D	D	32,174
Crop inventory	7,373	12,295	12,138	11,163	D	D	9,828
Purchased inputs	395	1,123	1,007	1,620	D	D	831
Other assets	10,241	9,206	7,288	4,150	D	D	8,423
Farm operator debt	0	25,718	67,307	126,853	D	D	40,761
Farm Credit System	0	5,955	28,856	79,809	D	D	20,985
Commercial bank	0	10,605	22,772	28,579	D	D	11,838
Other	0	9,158	15,678	18,466	D	D	7,938
Net worth	303,319	525,914	231,247	111,907	D	D	301,902
Debt/asset ratio	0.00	0.05	0.23	0.53	D	D	0.12
Percent of debt by debt/asset category	0.00%	12.90%	37.60%	33.81%	D	D	100.00%
Percent of assets by debt/asset category	37.49%	32.93%	19.84%	7.57%	D	D	100.00%

Continued--

Appendix table 33--Farm operator balance sheet by region, January 1, 1987--Continued

Lake States	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	56,865	25,257	46,062	33,969	15,736	9,487	187,376
Percent of farms	30.34%	13.47%	24.58%	18.12%	8.39%	5.06%	100.00%
	<u>Dollars per farm</u>						
Farm assets	189,506	300,858	306,507	297,429	292,376	195,096	261,765
Land and buildings	119,516	177,017	168,041	165,330	158,576	105,112	150,052
Farm equipment	39,978	75,018	63,446	63,860	54,585	39,222	55,685
Livestock inventory	13,649	22,697	34,608	34,872	39,702	26,547	26,709
Crop inventory	5,874	17,626	24,567	26,710	32,646	26,849	19,141
Purchased inputs	652	849	1,988	1,620	1,488	736	1,257
Other assets	9,837	7,206	6,318	5,036	5,378	2,629	7,008
Farm operator debt	0	10,797	72,201	159,598	243,727	280,915	82,829
Farm Credit System	0	1,691	20,216	71,908	101,239	147,708	34,215
Commercial bank	0	4,641	23,225	44,199	61,060	57,200	22,372
Other	0	4,464	28,760	43,491	81,428	76,006	26,243
Net worth	189,506	290,061	234,306	137,831	48,649	-85,818	178,935
Debt/asset ratio	0.00	0.04	0.24	0.54	0.83	1.44	0.32
Percent of debt by debt/asset category	0.00%	1.75%	21.42%	34.93%	24.71%	17.17%	100.00%
Percent of assets by debt/asset category	21.97%	15.49%	28.78%	20.59%	9.38%	3.77%	100.00%
	<u>Debt/asset ratio</u>						
Corn Belt	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	122,096	49,740	85,432	47,973	22,326	16,506	344,073
Percent of farms	35.48%	14.45%	24.82%	13.94%	6.48%	4.79%	100.00%
	<u>Dollars per farm</u>						
Farm assets	185,305	292,074	307,617	313,663	238,453	176,193	252,018
Land and buildings	124,972	173,684	177,398	174,944	132,360	94,133	150,999
Farm equipment	28,375	54,494	53,951	66,127	45,544	35,455	45,219
Livestock inventory	13,289	24,195	25,964	32,544	20,060	17,328	21,330
Crop inventory	5,961	18,460	24,806	31,103	34,268	25,696	18,736
Purchased inputs	661	1,398	1,950	1,745	1,135	1,176	1,294
Other assets	12,047	14,170	12,346	7,200	5,088	2,405	10,838
Farm operator debt	0	14,220	72,085	163,740	192,947	233,386	66,500
Farm Credit System	0	2,476	23,128	52,898	79,499	141,504	25,423
Commercial bank	0	4,658	24,415	63,807	51,956	35,335	20,699
Other	0	7,086	24,542	47,034	61,492	56,547	20,379
Net worth	185,305	277,854	235,532	149,924	45,506	-57,193	185,518
Debt/asset ratio	0.00	0.05	0.23	0.52	0.81	1.32	0.26
Percent of debt by debt/asset category	0.00%	3.09%	26.91%	34.33%	18.82%	16.83%	100.00%
Percent of assets by debt/asset category	26.09%	16.75%	30.30%	17.35%	6.13%	3.35%	100.00%

Continued--

Appendix table 33--Farm operator balance sheet by region, January 1, 1987--Continued

Northern Plains	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	34,661	24,235	43,850	30,909	12,189	7,172	153,015
Percent of farms	22.65%	15.83%	28.65%	20.19%	7.96%	4.68%	100.00%
	Dollars per farm						
Farm assets	198,005	390,126	364,167	296,062	309,794	167,118	303,316
Land and buildings	110,131	222,993	194,529	152,558	167,317	79,072	163,863
Farm equipment	31,330	71,637	74,350	62,956	65,000	36,899	59,374
Livestock inventory	26,805	45,096	48,738	39,475	34,279	22,341	38,933
Crop inventory	5,941	24,277	27,207	32,697	36,601	23,226	23,597
Purchased inputs	702	2,164	2,224	1,815	1,129	747	1,631
Other assets	23,096	20,882	11,090	6,562	5,468	4,833	13,705
Farm operator debt	0	19,749	85,236	156,302	255,921	261,231	81,757
Farm Credit System	0	5,270	25,770	60,721	111,535	149,262	36,366
Commercial bank	0	4,956	31,100	51,867	61,151	70,275	28,339
Other	0	9,524	28,365	43,715	83,234	41,694	27,052
Net worth	198,005	370,377	278,932	139,760	53,874	-94,113	211,560
Debt/asset ratio	0.00	0.05	0.23	0.53	0.83	1.56	0.30
Percent of debt by debt/asset category	0.00%	3.40%	26.62%	34.40%	22.21%	13.34%	100.00%
Percent of assets by debt/asset category	14.78%	20.37%	34.40%	19.71%	8.13%	2.58%	100.00%
	Debt/asset ratio						
Appalachia	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	105,009	20,227	30,380	14,123	3,601	3,288	176,627
Percent of farms	59.45%	11.45%	17.19%	7.99%	2.03%	1.86%	100.00%
	Dollars per farm						
Farm assets	175,195	472,149	248,163	196,128	199,318	80,211	222,149
Land and buildings	135,000	315,202	173,737	134,396	129,308	49,783	160,548
Farm equipment	20,476	39,571	38,941	33,692	38,889	16,218	27,192
Livestock inventory	14,438	99,410	19,955	18,960	20,787	8,211	25,493
Crop inventory	862	5,009	7,477	6,130	7,380	4,135	3,090
Purchased inputs	173	1,041	816	827	1,152	406	460
Other assets	4,246	6,949	3,551	2,122	1,802	1,459	4,164
Farm operator debt	0	17,005	53,358	101,916	164,556	101,658	24,522
Farm Credit System	0	4,708	25,170	60,610	101,629	72,195	13,131
Commercial bank	0	10,282	18,822	23,869	40,124	11,894	7,363
Other	0	2,015	9,365	17,437	22,804	17,569	4,028
Net worth	175,195	455,144	194,806	94,212	34,762	-21,446	197,628
Debt/asset ratio	0.00	0.04	0.22	0.52	0.83	1.27	0.11
Percent of debt by debt/asset category	0.00%	7.94%	37.42%	33.23%	13.68%	7.71%	100.00%
Percent of assets by debt/asset category	46.88%	24.33%	19.21%	7.05%	1.82%	0.67%	100.00%

Continued--

Appendix table 33--Farm operator balance sheet by region, January 1, 1987--Continued

Southeast	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	44,542	14,614	15,069	9,448	1,412	4,144	89,229
Percent of farms	49.91%	16.37%	16.88%	10.58%	1.58%	4.64%	100.00%
	Dollars per farm						
Farm assets	223,164	330,685	345,947	356,935	1,702,627	79,192	292,405
Land and buildings	184,300	263,028	228,254	254,935	560,099	46,364	211,639
Farm equipment	22,793	36,357	34,530	40,709	255,869	24,868	32,679
Livestock inventory	10,246	14,840	31,922	22,455	124,202	5,127	17,518
Crop inventory	645	2,242	2,327	5,252	10,044	1,999	1,890
Purchased inputs	238	1,240	1,453	1,546	25,692	208	1,147
Other assets	4,942	4,835	5,143	8,875	726,722	625	16,599
Farm operator debt	0	14,570	81,699	182,140	1,366,639	166,806	64,846
Farm Credit System	0	4,787	41,155	61,415	120,428	138,440	22,572
Commercial bank	0	5,729	24,576	40,264	64,043	17,016	11,156
Other	0	4,054	15,967	80,460	1,182,168	11,350	31,118
Net worth	223,164	316,115	264,248	174,795	335,989	-87,614	227,558
Debt/asset ratio	0.00	0.04	0.24	0.51	0.80	2.11	0.22
Percent of debt by debt/asset category	0.00%	3.67%	21.27%	29.74%	33.35%	11.94%	100.00%
Percent of assets by debt/asset category	38.09%	18.52%	19.98%	12.92%	9.21%	1.25%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	31,977	11,992	14,966	6,874	3,291	3,963	73,063
Percent of farms	43.76%	16.41%	20.48%	9.40%	4.50%	5.42%	100.00%
	Dollars per farm						
Farm assets	200,590	237,704	329,091	269,085	257,030	91,876	236,092
Land and buildings	154,387	163,883	225,059	175,956	162,147	24,345	165,747
Farm equipment	28,029	30,195	52,553	60,420	62,854	53,910	39,428
Livestock inventory	15,382	26,902	34,254	16,984	17,713	4,396	20,798
Crop inventory	475	1,158	4,427	10,676	10,674	7,589	3,202
Purchased inputs	159	382	665	673	790	605	400
Other assets	2,157	4,579	2,947	4,376	2,852	1,033	2,896
Farm operator debt	0	12,487	77,118	143,008	208,889	176,195	50,267
Farm Credit System	0	4,421	40,355	82,115	145,575	129,904	30,321
Commercial bank	0	4,796	26,287	36,240	34,760	30,132	12,782
Other	0	3,269	10,475	24,653	28,553	16,159	7,164
Net worth	200,590	225,217	251,973	126,077	48,142	-84,319	185,825
Debt/asset ratio	0.00	0.05	0.23	0.53	0.81	1.92	0.21
Percent of debt by debt/asset category	0.00%	4.07%	31.42%	26.76%	18.71%	19.01%	100.00%
Percent of assets by debt/asset category	37.18%	16.52%	28.55%	10.72%	4.90%	2.11%	100.00%

Continued--

Appendix table 33--Farm operator balance sheet by region, January 1, 1987--Continued

Southern Plains	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	72,730	31,641	38,376	18,294	5,059	4,195	170,295
Percent of farms	42.70%	18.58%	22.53%	10.74%	2.97%	2.46%	100.00%
	Dollars per farm						
Farm assets	369,988	490,270	324,099	322,858	202,933	237,060	368,695
Land and buildings	294,487	391,080	234,650	219,550	132,301	130,900	282,051
Farm equipment	25,183	56,899	36,056	47,776	43,830	68,896	37,584
Livestock inventory	32,985	27,505	86,014	45,459	15,459	21,714	33,191
Crop inventory	1,901	2,660	4,056	3,836	4,728	11,949	3,067
Purchased inputs	390	848	1,073	1,604	1,233	922	798
Other assets	15,042	11,095	7,401	4,633	5,383	2,679	10,877
Farm operator debt	0	15,145	71,574	174,169	162,822	434,079	53,184
Farm Credit System	0	3,912	21,286	67,249	78,391	153,002	18,846
Commercial bank	0	6,848	25,983	42,744	65,230	208,076	18,783
Other	0	4,386	24,305	64,177	19,201	73,001	15,555
Net worth	369,988	475,125	252,524	148,689	40,112	-197,019	315,511
Debt/asset ratio	0.00	0.03	0.22	0.54	0.80	1.83	0.14
Percent of debt by debt/asset category	0.00%	5.29%	30.32%	35.17%	9.09%	20.10%	100.00%
Percent of assets by debt/asset category	42.85%	24.70%	19.80%	9.40%	1.63%	1.58%	100.00%
	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	23,622	14,541	28,828	9,493	3,493	2,916	82,893
Percent of farms	28.49%	17.54%	34.77%	11.45%	4.21%	3.51%	100.00%
	Dollars per farm						
Farm assets	382,207	589,723	429,772	580,140	418,237	207,472	453,188
Land and buildings	290,394	439,229	277,201	398,117	243,210	117,515	316,180
Farm equipment	33,994	59,230	59,655	78,094	75,572	45,376	54,548
Livestock inventory	36,132	62,734	43,856	58,668	49,425	25,107	46,238
Crop inventory	8,011	9,748	18,632	29,964	33,005	14,051	15,789
Purchased inputs	710	1,947	1,121	2,564	2,518	2,715	1,429
Other assets	12,967	11,696	7,831	12,733	14,507	2,708	10,635
Farm operator debt	0	27,698	101,848	303,595	332,001	293,129	99,350
Farm Credit System	0	6,052	42,030	151,465	125,185	170,726	44,306
Commercial bank	0	13,102	28,945	58,049	111,891	61,658	25,897
Other	0	8,544	30,874	94,081	94,925	60,745	29,147
Net worth	382,207	562,024	327,924	276,545	86,236	-85,657	353,839
Debt/asset ratio	0.00	0.05	0.24	0.52	0.79	1.41	0.22
Percent of debt by debt/asset category	0.00%	4.89%	35.65%	34.99%	14.08%	10.38%	100.00%
Percent of assets by debt/asset category	24.03%	22.82%	32.98%	14.66%	3.88%	1.61%	100.00%

Continued--

Appendix table 33--Farm operator balance sheet by region, January 1, 1987--Continued

Pacific	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	44,383	19,916	27,976	11,557	4,720	2,642	111,194
Percent of farms	39.91%	17.91%	25.15%	10.39%	4.24%	2.37%	100.00%
	Dollars per farm						
Farm assets	246,262	582,437	525,735	592,721	494,533	119,584	420,326
Land and buildings	207,608	471,855	346,171	334,279	358,668	56,080	305,776
Farm equipment	22,797	40,132	60,740	60,425	80,856	53,270	42,547
Livestock inventory	10,840	37,982	46,122	66,102	31,404	1,678	30,977
Crop inventory	1,264	3,097	13,491	6,850	10,409	5,549	5,739
Purchased inputs	437	3,535	3,279	4,921	3,187	488	2,291
Other assets	3,316	17,499	11,184	35,419	10,008	2,519	11,438
Farm operator debt	0	27,513	124,446	306,643	393,404	272,619	91,286
Farm Credit System	0	8,158	47,106	105,028	155,326	83,791	32,813
Commercial bank	0	8,813	41,969	82,006	118,785	154,619	29,377
Other	0	10,542	35,371	119,609	119,293	34,209	29,096
Net worth	246,262	554,924	401,289	286,078	101,130	-153,035	329,040
Debt/asset ratio	0.00	0.05	0.24	0.52	0.80	2.28	0.22
Percent of debt by debt/asset category	0.00%	5.39%	34.29%	34.91%	18.29%	7.09%	100.00%
Percent of assets by debt/asset category	23.38%	24.81%	31.46%	14.65%	4.99%	0.67%	100.00%

D = data insufficient for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 34--Farm operator balance sheet by operator primary occupation, January 1, 1987

Farming	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	349,533	146,524	221,137	130,529	54,198	40,293	942,214
Percent of farms	37.09%	15.55%	23.46%	13.85%	5.75%	4.27%	100.00%
	Dollars per farm						
Farm assets	279,194	501,462	421,324	395,548	330,601	186,214	362,217
Land and buildings	200,234	341,905	245,752	217,726	181,196	90,356	229,578
Farm equipment	35,985	72,372	74,361	76,345	69,090	47,147	58,623
Livestock inventory	22,760	49,983	47,339	48,221	37,426	21,576	37,082
Crop inventory	5,362	16,208	25,500	30,736	34,591	22,905	17,722
Purchased inputs	584	2,152	2,474	2,336	1,799	1,074	1,605
Other assets	14,269	16,530	10,798	10,251	6,499	3,156	12,327
Farm operator debt	0	22,078	98,529	208,064	269,707	279,905	82,866
Farm Credit System	0	5,634	35,935	92,701	127,888	167,395	36,667
Commercial bank	0	7,661	30,921	57,933	63,209	59,937	22,673
Other	0	8,783	31,673	57,430	78,611	52,573	23,526
Net worth	279,194	479,384	322,795	187,483	60,893	-93,691	279,351
Debt/asset ratio	0.00	0.04	0.23	0.53	0.82	1.50	0.23
Percent of debt by debt/asset category	0.00%	4.14%	27.90%	34.78%	18.72%	14.44%	100.00%
Percent of assets by debt/asset category	28.59%	21.52%	27.29%	15.12%	5.25%	2.19%	100.00%

Continued--

Appendix table 34--Farm operator balance sheet by operator primary occupation,
January 1, 1987--Continued

Hired manager	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	4,655	1,027	3,402	D	D	D	12,138
Percent of farms	38.35%	8.46%	28.03%	D	D	D	100.00%
	Dollars per farm						
Farm assets	1,073,137	1,022,987	852,460	D	D	D	1,075,389
Land and buildings	788,864	634,351	523,785	D	D	D	692,238
Farm equipment	46,541	81,641	74,344	D	D	D	81,490
Livestock inventory	213,201	186,886	71,066	D	D	D	133,352
Crop inventory	7,285	18,156	17,039	D	D	D	12,757
Purchased inputs	2,236	2,744	2,323	D	D	D	6,364
Other assets	15,011	23,665	15,967	D	D	D	102,175
Farm operator debt	0	57,562	189,951	D	D	D	330,345
Farm Credit System	0	22,620	84,679	D	D	D	50,438
Commercial bank	0	10,772	75,230	D	D	D	71,776
Other	0	24,171	30,041	D	D	D	208,131
Net worth	1,073,137	965,424	662,510	D	D	D	745,044
Debt/asset ratio	0.00	0.06	0.22	D	D	D	0.31
Percent of debt by debt/asset category	0.00%	1.47%	16.11%	D	D	D	100.00%
Percent of assets by debt/asset category	38.27%	8.05%	22.21%	D	D	D	100.00%
Other	Debt/asset ratio						
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	231,897	88,856	133,391	64,391	19,532	13,871	551,938
Percent of farms	42.01%	16.09%	24.16%	11.66%	3.53%	2.51%	100.00%
	Dollars per farm						
Farm assets	148,889	262,774	191,675	163,444	147,490	91,451	177,769
Land and buildings	121,949	206,463	141,906	124,276	110,092	69,335	138,908
Farm equipment	14,879	27,107	20,723	21,009	19,833	10,877	19,050
Livestock inventory	8,336	14,284	13,552	13,064	7,638	5,119	11,000
Crop inventory	1,069	3,284	3,547	2,600	6,142	5,297	2,489
Purchased inputs	197	246	373	517	371	234	292
Other assets	2,458	3,438	4,789	1,979	3,413	589	3,110
Farm operator debt	0	10,406	43,289	87,556	118,160	127,858	29,747
Farm Credit System	0	2,044	14,367	24,557	36,973	52,444	9,293
Commercial bank	0	5,903	17,854	34,057	49,533	42,823	12,068
Other	0	2,459	11,068	28,942	31,655	32,591	8,386
Net worth	148,889	252,368	148,386	75,888	29,329	-36,407	148,022
Debt/asset ratio	0.00	0.04	0.23	0.54	0.80	1.40	0.17
Percent of debt by debt/asset category	0.00%	5.63%	35.17%	34.33%	14.05%	10.80%	100.00%
Percent of assets by debt/asset category	35.18%	23.79%	26.05%	10.72%	2.93%	1.29%	100.00%

D = data insufficient for disclosure. Source: Farm Costs and Returns Survey, USDA

Appendix table 35--Farm operator balance sheet by operator age, January 1, 1987

34 or under	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	50,921	23,872	55,868	49,315	23,195	18,439	221,609
Percent of farms	22.97%	10.77%	25.21%	22.25%	10.46%	8.32%	100.00%
	Dollars per farm						
Farm assets	167,222	356,810	242,211	205,201	194,638	118,301	213,800
Land and buildings	105,233	260,699	125,533	109,062	104,468	55,652	123,744
Farm equipment	31,942	50,619	52,085	44,309	40,172	31,396	42,600
Livestock inventory	22,883	27,315	36,466	27,940	24,507	13,897	27,332
Crop inventory	3,164	11,288	15,014	18,920	21,630	15,017	13,452
Purchased inputs	459	1,410	1,467	1,438	980	774	1,114
Other assets	3,540	5,479	5,525	3,531	2,881	1,565	4,014
Farm operator debt	0	10,745	57,360	110,555	159,683	170,011	71,079
Farm Credit System	0	3,020	15,139	48,904	72,830	76,342	28,999
Commercial bank	0	3,938	21,473	28,706	34,425	56,959	20,568
Other	0	3,788	20,748	32,945	52,428	36,710	21,512
Net worth	167,222	346,065	184,851	94,646	34,955	-51,710	142,721
Debt/asset ratio	0.00	0.03	0.24	0.54	0.82	1.44	0.33
Percent of debt by debt/asset category	0.00%	1.62%	20.34%	34.61%	23.51%	18.90%	100.00%
Percent of assets by debt/asset category	17.97%	17.97%	28.56%	21.35%	9.52%	4.60%	100.00%
	Debt/asset ratio						
35 to 44	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	67,001	44,115	91,350	60,391	27,981	15,985	306,822
Percent of farms	21.83%	14.37%	29.77%	19.68%	9.11%	5.20%	100.00%
	Dollars per farm						
Farm assets	253,007	506,932	314,836	306,257	266,902	159,766	314,815
Land and buildings	184,530	385,255	190,805	185,258	149,893	81,207	206,860
Farm equipment	31,839	64,517	52,532	57,163	53,065	39,586	50,022
Livestock inventory	26,419	41,794	33,743	35,219	30,891	18,929	32,560
Crop inventory	5,196	8,753	16,841	20,927	26,569	15,309	14,747
Purchased inputs	689	1,390	2,124	2,151	1,503	1,286	1,610
Other assets	4,335	5,223	6,570	5,539	4,980	3,448	5,378
Farm operator debt	0	18,820	74,868	163,262	216,781	255,898	90,232
Farm Credit System	0	3,510	23,420	62,635	83,007	155,946	35,500
Commercial bank	0	8,555	25,422	49,371	59,338	64,848	27,306
Other	0	6,755	26,027	51,256	74,436	35,104	27,426
Net worth	253,007	488,112	239,968	142,994	50,121	-96,132	224,583
Debt/asset ratio	0.00	0.04	0.24	0.53	0.81	1.60	0.29
Percent of debt by debt/asset category	0.00%	2.99%	24.70%	35.61%	21.90%	14.77%	100.00%
Percent of assets by debt/asset category	17.54%	23.15%	29.77%	19.14%	7.73%	2.64%	100.00%

Continued--

Appendix table 35--Farm operator balance sheet by operator age, January 1, 1987--Continued

45 to 54	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	106,710	58,960	94,489	49,861	13,656	11,099	334,776
Percent of farms	31.87%	17.61%	28.22%	14.89%	4.07%	3.31%	100.00%
	Dollars per farm						
Farm assets	228,544	402,181	370,029	397,042	534,947	185,534	335,227
Land and buildings	168,396	255,838	234,180	239,773	275,383	101,182	215,130
Farm equipment	28,304	64,143	57,430	66,634	91,739	42,431	51,602
Livestock inventory	21,867	54,446	38,483	43,262	43,006	16,352	36,161
Crop inventory	3,479	11,753	17,750	21,760	38,275	22,256	13,729
Purchased inputs	683	1,448	1,388	2,164	4,141	544	1,374
Other assets	5,814	7,801	7,677	13,172	82,402	2,769	10,809
Farm operator debt	0	20,444	87,493	209,171	437,819	285,945	86,788
Farm Credit System	0	4,774	31,591	85,268	136,033	161,405	33,357
Commercial bank	0	8,546	30,506	62,799	104,284	63,036	25,812
Other	0	7,125	25,395	61,104	197,502	61,505	27,619
Net worth	228,544	381,736	282,537	187,871	97,128	-100,411	248,439
Debt/asset ratio	0.00	0.05	0.24	0.53	0.82	1.54	0.26
Percent of debt by debt/asset category	0.00%	4.14%	28.45%	35.89%	20.57%	10.92%	100.00%
Percent of assets by debt/asset category	21.73%	21.12%	31.15%	17.64%	6.50%	1.83%	100.00%
	Debt/asset ratio						
55 to 64	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	All farms
Number of farms	166,571	68,458	84,102	28,735	8,471	7,999	364,336
Percent of farms	45.71%	18.78%	23.08%	7.88%	2.32%	2.19%	100.00%
	Dollars per farm						
Farm assets	253,493	406,446	379,627	429,553	346,281	216,407	326,578
Land and buildings	188,700	283,457	239,585	258,250	217,774	118,443	222,870
Farm equipment	29,796	53,457	57,739	70,426	70,230	45,434	45,180
Livestock inventory	18,789	31,873	32,302	37,521	27,541	24,762	26,179
Crop inventory	4,800	13,681	19,531	28,258	22,250	24,499	12,557
Purchased inputs	403	1,944	1,933	1,445	1,916	1,057	1,177
Other assets	11,006	18,679	13,121	9,791	6,571	2,212	12,544
Farm operator debt	0	19,401	86,310	218,576	276,001	328,598	54,439
Farm Credit System	0	5,077	33,932	93,618	153,797	177,739	23,648
Commercial bank	0	7,116	28,664	56,838	74,166	67,035	15,633
Other	0	7,208	23,714	68,121	48,038	83,825	15,158
Net worth	253,493	387,046	293,317	210,977	70,279	-112,192	272,139
Debt/asset ratio	0.00	0.05	0.23	0.51	0.80	1.52	0.17
Percent of debt by debt/asset category	0.00%	6.69%	36.59%	31.66%	11.78%	13.25%	100.00%
Percent of assets by debt/asset category	35.48%	23.38%	26.83%	10.37%	2.46%	1.45%	100.00%

Continued--

Appendix table 35--Farm operator balance sheet by operator age, January 1, 1987--Continued

65 or over	Debt/asset ratio						All farms
	No debt	0.01 to 0.10	0.11 to 0.40	0.41 to 0.70	0.71 to 1.0	Over 1.0	
Number of farms	194,881	41,003	32,120	7,216	1,930	1,596	278,746
Percent of farms	69.91%	14.70%	11.52%	2.58%	0.69%	0.57%	100.00%
	Dollars per farm						
Farm assets	231,067	377,002	387,752	398,750	533,986	264,418	277,218
Land and buildings	178,654	277,702	259,503	240,236	373,368	173,908	205,455
Farm equipment	23,101	39,042	45,758	58,976	70,475	50,717	29,471
Livestock inventory	12,739	22,126	32,541	58,845	33,951	8,466	17,717
Crop inventory	2,443	9,760	14,735	14,321	27,437	27,409	5,559
Purchased inputs	261	646	1,093	961	666	158	434
Other assets	13,869	15,901	10,683	11,766	28,089	3,759	13,787
Farm operator debt	0	14,594	82,165	204,379	431,790	397,250	22,170
Farm Credit System	0	4,255	41,317	87,537	292,476	306,996	11,436
Commercial bank	0	4,772	20,552	85,822	59,951	19,425	5,818
Other	0	5,567	20,296	31,020	79,362	70,828	4,916
Net worth	231,067	362,408	305,587	194,371	102,196	-132,831	255,048
Debt/asset ratio	0.00	0.04	0.21	0.51	0.81	1.50	0.08
Percent of debt by debt/asset category	0.00%	9.68%	42.70%	23.86%	13.48%	10.26%	100.00%
Percent of assets by debt/asset category	58.27%	20.00%	16.11%	3.72%	1.33%	0.54%	100.00%

Farm Costs and Returns Survey, USDA