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March 1987

FARM FINANCIAL TRENDS IN SOUTHERN MINNESOTA:
A REVIEW OF THE SOUTHEASTERN AND SOUTHWESTERN MINNESOTA
FARM BUSINESS MANAGEMENT ASSOCIATIONS, 1970-1985

by

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Farm Financial Trends in Southern Minnesota:
A Review of the Southeastern and Southwestern Minnesota
Farm Business Management Associations, 1970-1985

by

Kent D. Olson*

Many events and changes have taken place in the world and in agriculture since 1970. In the early 1970s, U.S. farmers were encouraged to plant "fence row to fence row"; land set aside programs were not used. In the 1970s, the U.S. dollar weakened against foreign currencies which made our products cheaper to foreign customers. However, in the 1980s, the U.S. dollar strengthened and our products became more expensive in foreign markets. Grain embargoes have occurred under two federal administrations. In the late 1970s and 1980s, the price supports and targets of U.S. agricultural policy encouraged domestic production and also helped encourage production in other countries. Now there exist surpluses in almost all commodities and lower prices. The inflation rate rose rapidly in the 1970s; now that pace has decreased. Energy prices, which quadrupled between 1970 and 1981, have fallen now and face an uncertain future (U.S. Department of Agriculture, 1985 and 1986). Interest payments per acre for farm real estate mortgages have increased more than sixfold over the 1970 level and have just started to decrease (U.S. Department of Agriculture, 1985 and 1986). Land prices also rose in the 1970s, but have fallen considerably in recent years.

These events have had considerable impact on the farm economy. In the late 1970s, farm income was rising and the outlook was optimistic. But in the

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1980s, commodity prices, input costs, exports and other market conditions became less favorable. Also, changes in the general economy had a negative impact on the farm economy. Thus, financial disaster and hard times are being felt throughout agriculture and our rural communities. Minnesota farmers have enjoyed the good times and have suffered in the bad. In this report, the financial history of two groups of Minnesota farmers is examined and analyzed.

For several decades, the farmer-members of the Southeastern and Southwestern Minnesota Farm Business Management Associations have been providing their financial records to the University of Minnesota for individual analysis and summarization. Each year, there are more than 250 farmers who are members of these two associations. They keep detailed records of their farm incomes, expenses, assets and liabilities. Some keep records of their household expenditures and nonfarm income. The fieldmen of each association assist the farmers in maintaining accurate records and perform the year-end financial analyses. The fieldmen decide which records are complete, accurate, and should be included in the annual summaries. These annual summaries date back to 1929 in the Southeast and 1940 in the Southwest.

This set of data is valuable for monitoring and analyzing farm financial trends. The farm-level impacts of changes in prices, exports, and other factors can be studied. The major purpose of this report is to examine the financial conditions of the farmers who have been members of the Southeast and Southwest Associations from 1970 through 1985.¹ These years are chosen to provide a better understanding of recent changes and the current financial situation. The

¹ For easier reading, the two associations are referred to as the Southeast and Southwest Associations rather than by their full titles of Southeastern and Southwestern Minnesota Farm Business Management Associations.

information can also be used as financial benchmarks for credit institutions, farmers, and others who may be analyzing farms in the future. The data is taken from the annual summaries of each association prepared by Nodland, et. al. (1971 through 1973); Otis and Nodland (1973); Otis, Miller and Nodland (1974, 1975 and 1976); Miller, Otis and Nodland (1975, 1976); Borys and Welsch (1977); Welsch, et. al. (1978 through 1985); and Olson, et. al., (1986). In the first two sections, the trends in farm income, expenses, assets, liabilities, and net worth are studied. Further analysis of these trends is accomplished by examining financial ratios and other measures. Changes in asset purchases and sales are presented along with the trends in the size of farms. In the final section, farm family living expenditures and nonfarm income are examined.

FARM INCOME AND EXPENSES

Before the financial trends are examined, several definitions and procedures need to be explained. All monetary comparisons are made in terms of constant 1985 dollars using the Consumer Price Index (CPI-U, U.S. Department of Commerce, 1985 and 1986a). Profit is defined as the return to the operator's unpaid labor, management, and capital. It is calculated as gross cash farm income minus cash expenses and depreciation and adjusted for inventory changes. Gross cash farm income is defined as all cash sales including cull livestock sales, but not other capital asset sales. Cash expenses include both operating and overhead expenses such as hired labor, seed, fertilizer, all farm interest, land rent, feeder livestock purchases, real estate taxes, and any other cash expenses, but not capital asset purchases. Since inventory change is used to calculate profit, the profit for each year is attributable to the production activities of only that year; tax management strategies such as prepayment of

expenses or delay of sales are netted out by including inventory changes. Only the operator's share of income and expenses is reported; the landlord's share is excluded.

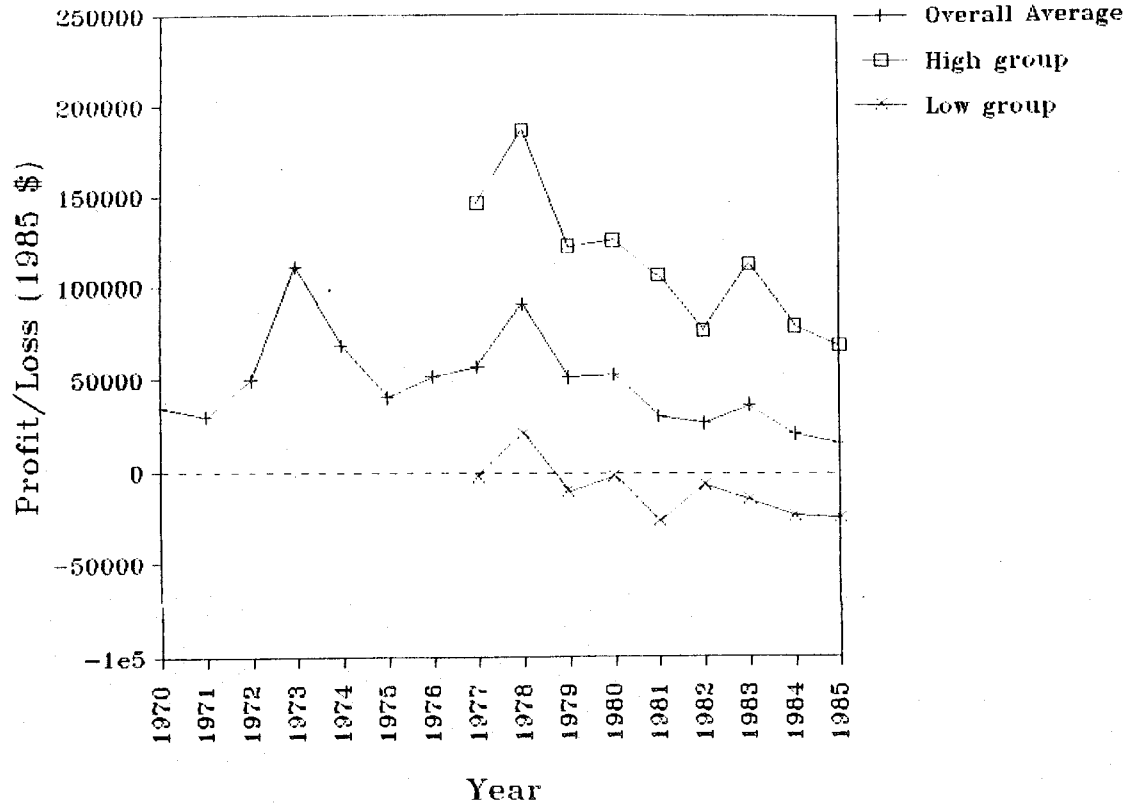
Farmers in both the Southeast and Southwest Associations had a large increase and then an extreme drop in average profit per farm between 1970 and 1985 (Figure 1). The average farm in the Southeast more than tripled its profit per farm in 1973 compared to 1970; however, 1985 profit was less than half the 1970 level (Appendix Table 1). The changes in the Southwest were even more dramatic; the 1973 profit was more than four times the 1970 level, while the 1985 average profit was less than 20 percent of the 1970 level.

In the Southeast Association, the average profit per farm in 1970 was \$34,835 (measured in 1985 dollars). The highest level was \$111,349 in 1973. The second highest profit was \$91,397 in 1978. In the five years since 1980, the average farm had profits greater than the 1970 level in only one year--1983. In 1985, the average profit dropped to \$16,709--which is 48 percent of the 1970 level!

In the Southwest Association, average farm profit has followed a pattern similar to that of the Southeast Association. In 1970, the average profit per farm was \$33,486 (measured in 1985 dollars). The highest average profit was \$139,359 in 1973. The second highest average profit was \$103,013 in 1978. The average profits during the last four years were the lowest profits between 1970 and 1985! In 1985, the average profit per farm in the Southwest Association was \$5,487--which is 16 percent of the 1970 level!

These overall averages tell only part of the story. In both associations, the average profit for the high-profit farms was much higher than the overall average profit, but the high-profit farms still suffered a profit decline in the

Southeast Association



Southwest Association

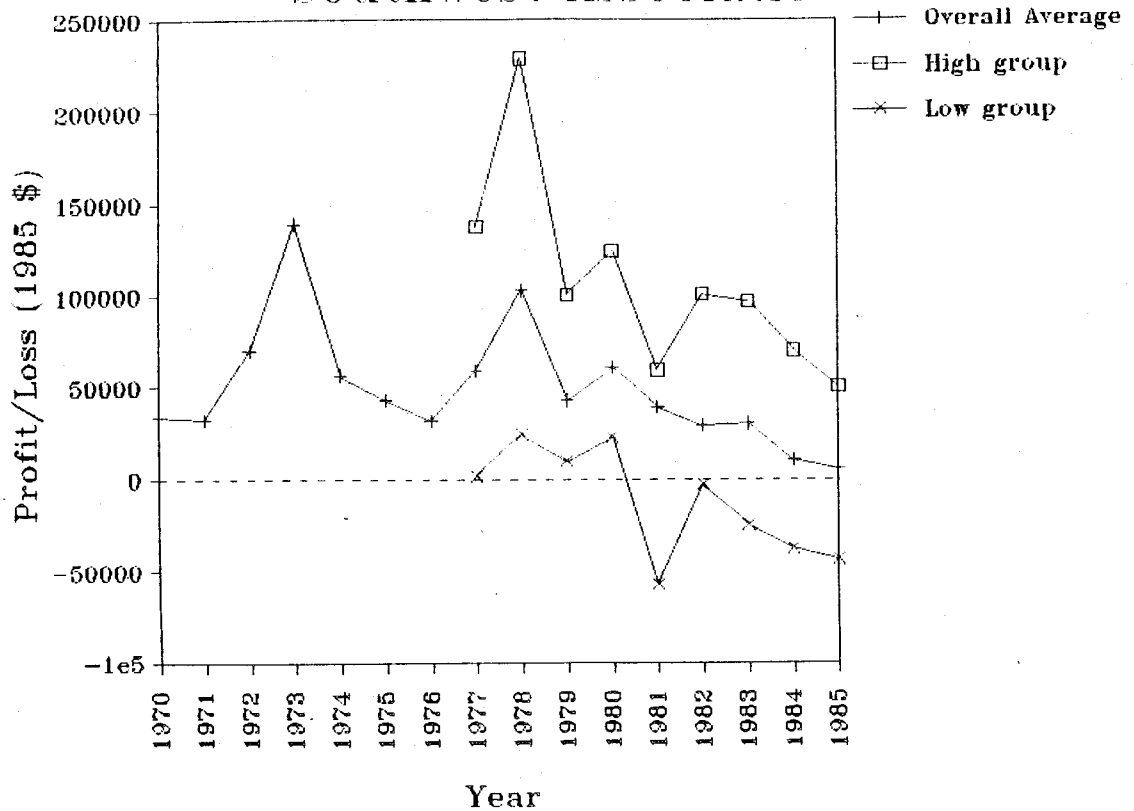


Figure 1. Profit per farm for the overall average farm and the high-profit and low-profit groups.

last few years (Figure 1). The low-profit farms have been much lower than the overall average. In fact during the last five years, the low-profit farms have had negative profits in both associations. (The high and low profit levels for the operator's share only are not available in the reports before 1977.)

Gross cash farm income is defined as all cash sales including cull livestock sales, but excluding other capital asset sales. Since 1970, gross cash farm income had been on an upward trend, but it has declined since its high levels in the early 1980s (Figure 2). In the Southeast, gross cash farm income was \$225,334 in 1982--which is almost double the 1970 level of \$116,978. By 1985, it had decreased to \$197,842--69 percent higher than the 1970 level. In the Southwest, gross cash farm income hit a high of \$309,622 per farm in 1981--which is 57 percent higher than the 1970 level. In 1985, it had decreased to \$237,875--21 percent above the 1970 level.

Cash expenses are defined to include all cash operating and overhead expenses, except capital asset purchases. Since 1970, average cash expenses per farm have increased in both associations. In the Southeast Association, average cash expenses rose 234% from 1970 to 1982; the average cash expense in 1985 was lower than 1982, but was still 210% of the 1970 level. In the Southwest Association, average cash expenses rose 172% between 1970 and 1980; since 1980, they have decreased to \$185,864 which is 127% of the 1970 level.

Gross cash farm income and cash expenses appear to move together, but they do not have identical patterns (Figure 2). In general, expenses increase in years that gross income increases and decrease as gross income decreases. This is especially evident in the Southwest Association. This common movement may be due to several reasons: (1) the tax management strategy of prepaying some of next year's expenses in order to decrease this year's tax liability; (2) "catch-

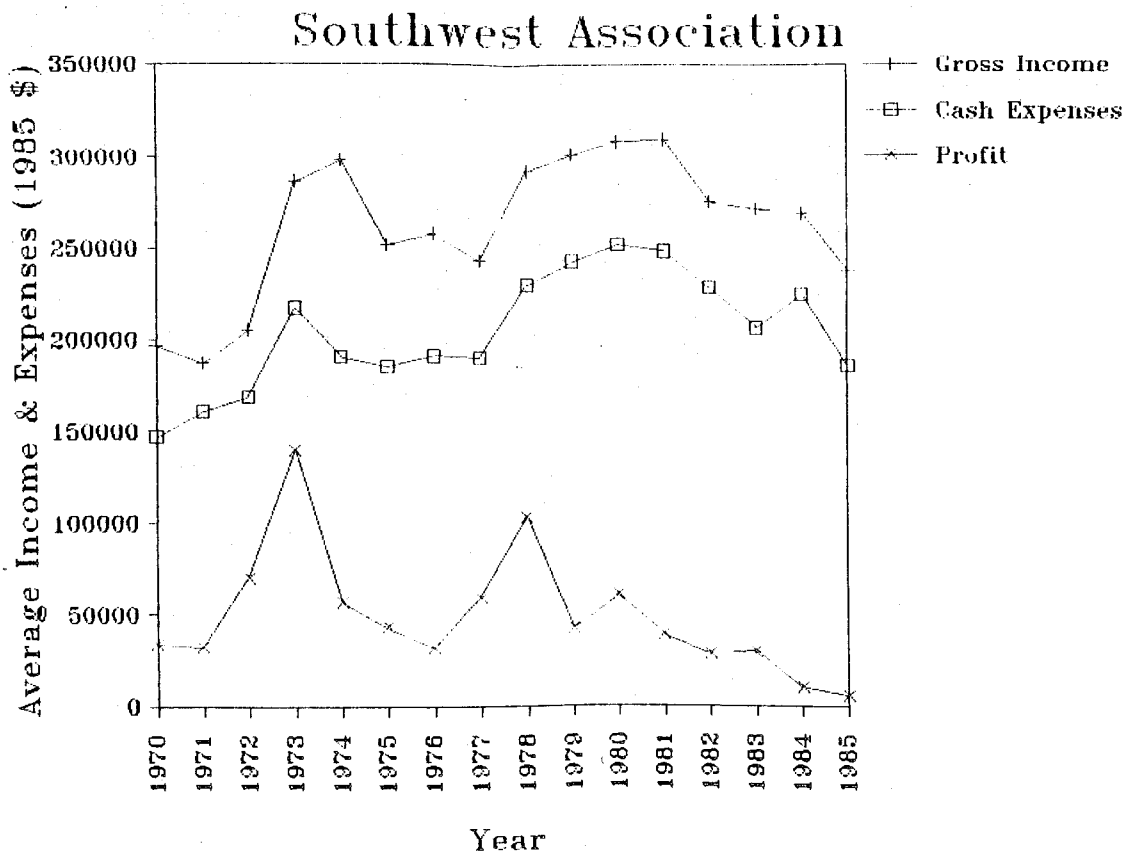
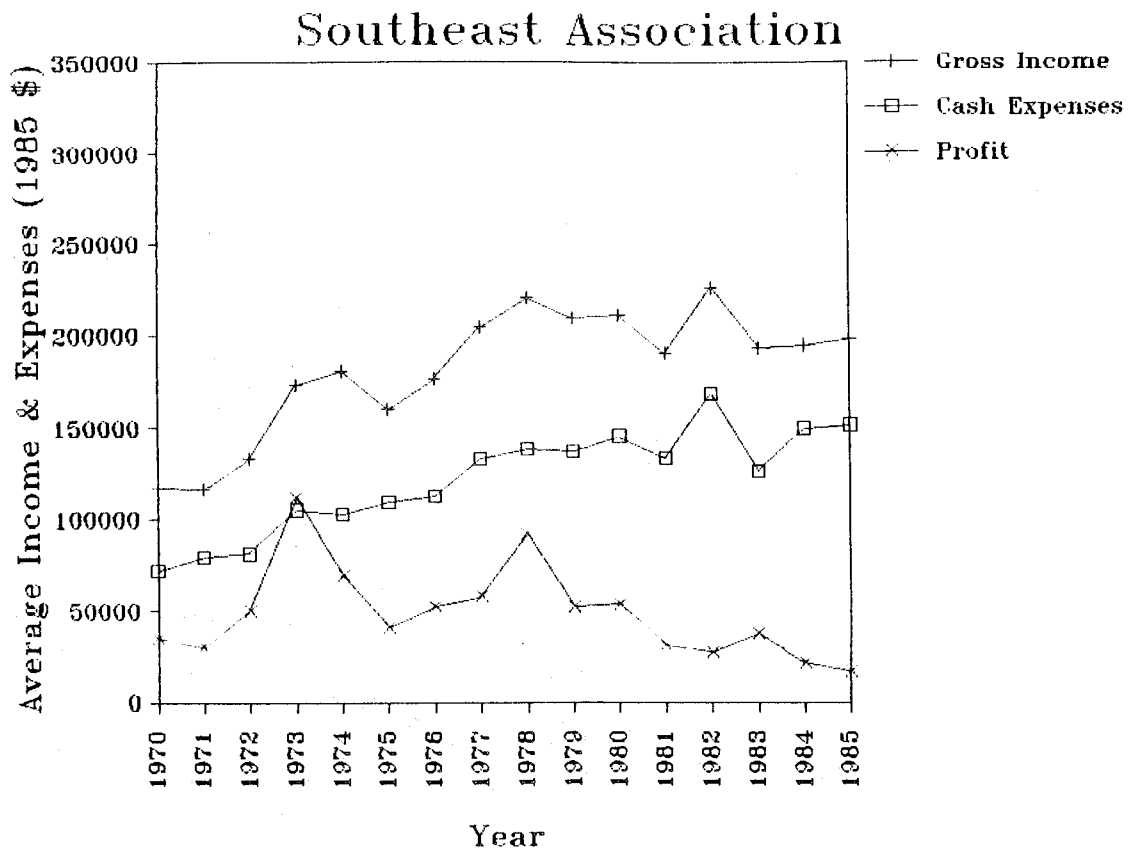


Figure 2. Gross cash farm income, cash expenses, and profit for the average farm.

ing up" on necessary expenses (such as some fertilizations) that were skipped in previous, low-income years; (3) less stringent cost control methods; (4) using more inputs because more money is available, and (5) if income is up due to higher prices, it may be profitable to apply more inputs. Some reasons for the movement of gross income and cash expenses not having identical patterns are: (1) input decisions are usually made before product prices are known with certainty; (2) some expenses (such as interest payments) are fixed and do not change as often as product prices or yields change; and (3) expenses are not raised in proportion to increases in gross income because farmers enjoy the higher profit level (i.e., profit was considered to be too low before).

The high-profit and low-profit groups show some interesting characteristics with regard to gross cash farm income and cash expenses. In the Southeast Association, the high-profit group had the highest gross income in all the years for which operator-only information is available. However, in the Southwest Association, the low-profit group had a gross cash farm income greater than the overall average in 6 of the last 9 years and greater than the high-profit group in 4 of the last 9 years! The differences are not minor; in 1981, the Southwest low-profit group had an average gross cash farm income of \$489,788, the high-profit group had an average of \$341,754, and the overall average was \$309,622! If these farms were so far ahead in gross income, but still were classified in the low-profit group, this means that their expenses and other adjustments had to be larger also. In 1981, the Southwest low-profit farms had an average cash expense of \$417,177 compared to the high-profit group average of \$249,706 and the overall average of \$248,774. In the Southwest Association, the low-profit group had average cash expenses greater than the overall average in 7 of the last 9 years and greater than the high-profit average in 4 of those years. In 1985, the

average cash expense for the Southwest high-profit farms (\$181,695) was less than the overall average (\$185,864). The Southeast low-profit group had average cash expenses greater than the overall average in 4 of the last 9 years; the Southeast low-profit average did not exceed the high-profit average in any year. These high gross income, high cash expense and low-profit farms are often farms which have expanded by debt financing and, thus, have a large interest expense which decreases profit. They may also be involved in enterprises such as cattle feeding.

Depreciation and inventory changes are the last items to be subtracted from gross cash farm income to obtain profit. They are not reported due to differences in reporting over time and the inability to separate these two items in the earlier reports. The aggregate amount is not useful information. In summary, average profit (measured in 1985 dollars) increased from 1970 to an overall high in 1973 for both associations. Another high occurred in 1978, although this was lower than the 1973 level. Profit in 1985 is lower than in 1970 for both associations. Gross cash farm income and cash expenses generally increased between 1970 and the early 1980s, but both have decreased in recent years. The variation between farms is shown by the differences between the high-profit and low-profit farms.

Profit, income, and expenses are values that "flow" during the year. In the next section, the trends in assets, liabilities, and net worth (that is, the "stocks") are examined.

ASSETS, LIABILITIES, AND NET WORTH

Knowing the methods to value assets are very critical to the use and interpretation of financial statements. Before 1979, both the Southeast and Southwest Associations used the modified cost basis method. Current assets (such

as stored grain) were valued on a fair market value; depreciable assets (such as machinery) were valued at the original cost less depreciation; land was valued at its original cost. Starting in 1979, the Southwest Association switched to the market value method for land by using an annual conservative land market value for each county. The Southeast Association has remained with the cost basis method for valuing land. These differences need to be kept in mind as we look at the trends in assets, liabilities, and net worth. There is insufficient data to calculate asset values with both methods for all years in both associations.

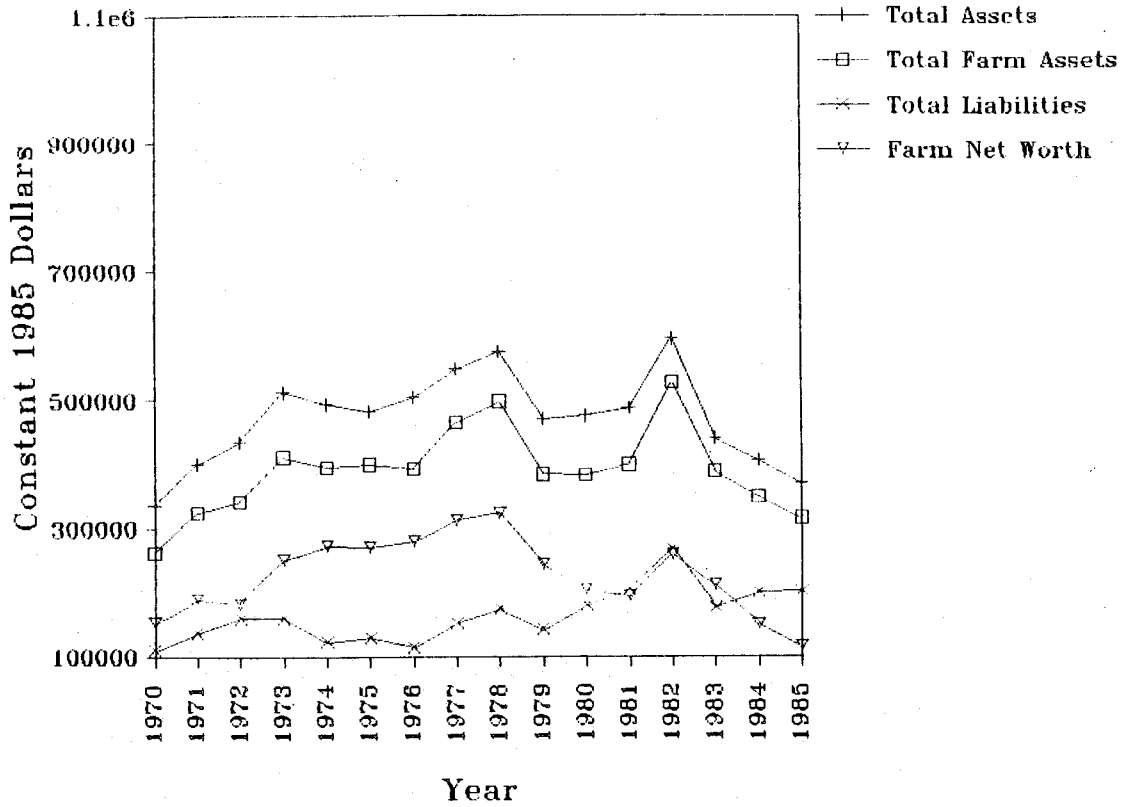
The general trend for assets, liabilities, and net worth was upward throughout the 1970s (Figure 3). In recent years, asset values have declined while liabilities continued to increase in most years. Thus, net worth has decreased rapidly. In the remainder of this section, the trends in net worth, assets, and liabilities will be examined individually.

Net Worth

The net worth of the average farm in the Southeast Association was \$152,683 in 1970 (Appendix Table 2). The farm net worth increased to a high of \$324,172 in 1978 and has fallen to \$114,684 in 1985. Thus, over 16 years, the average farm net worth has gained \$171,489 and then lost \$209,488 for a net loss of \$37,999 (in 1985 dollars). The average value of nonfarm assets has dropped by \$19,897. Thus, the average farmer lost \$57,896 in equity between 1970 and 1985.

The trends in the Southwest Association cannot be followed as well because of the change from the cost basis to market value method of asset valuation. This change started in 1979 and can be seen by the jump in the value of long-term assets: \$195,856 in 1978 and \$665,610 in 1979. Even with the change in asset valuation methods, we can see a tremendous loss. Starting from \$190,032 in 1970, the average farm in the Southwest Association increased its net worth to \$289,382

Southeast Association



Southwest Association

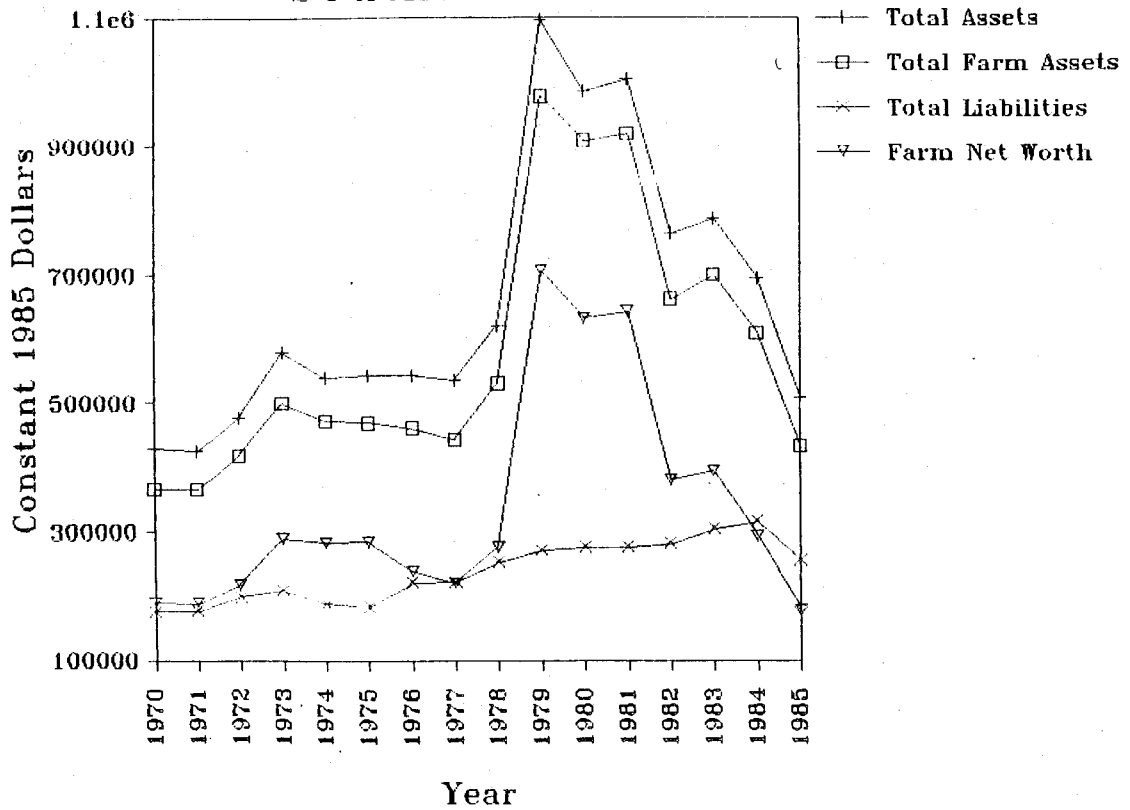


Figure 3. Total assets, total liabilities, and net worth for the average farm.

in 1973 and was at \$276,709 in 1978--using the cost basis method. In 1979, the market value method put the average farm's net worth at \$705,870. Since 1979, the farm net worth has declined precipitously: between 1979 and 1980, between 1981 and 1982, between 1983 and 1984, and again between 1984 and 1985. In 1985, the average farm net worth had fallen to \$177,641--which is \$12,391 less than the 1970 level and after the change in land valuation methods! Nonfarm assets have increased in value by \$13,268 between 1970 and 1985; so the average farmer's combined business and personal net worth had increased by \$877.

An interesting note is the value of farm net worth in the high- and low-profit groups (Figure 4). In the Southeast Association, the high-profit group always has a larger farm net worth than the low-profit group--valued on a cost basis method; this is what we could expect to see. In the Southwest Association, the low-profit group has a higher farm net worth than the high-profit group and the overall average from 1979 to 1982 (directly after the switch to the market value approach). Then in 1983, the high-profit group has a larger farm net worth. One possible reason for this flip/flop from expectations is the increased interest cost as farms expand by land purchase which decreases their profit (which is used to classify them as low or high profit). By 1983, the farmers have adjusted to the higher interest costs.

Farm Assets

Total farm asset values in the Southeast Association have followed a similar pattern to farm net worth. In 1970, the average farm had total assets of \$261,495 valued by the cost basis method. This increased to \$497,888 in 1978 and then up to \$527,421 in 1982. By 1985, the total asset value had decreased to \$316,021. Since the cost basis valuation method is used, this decrease in total

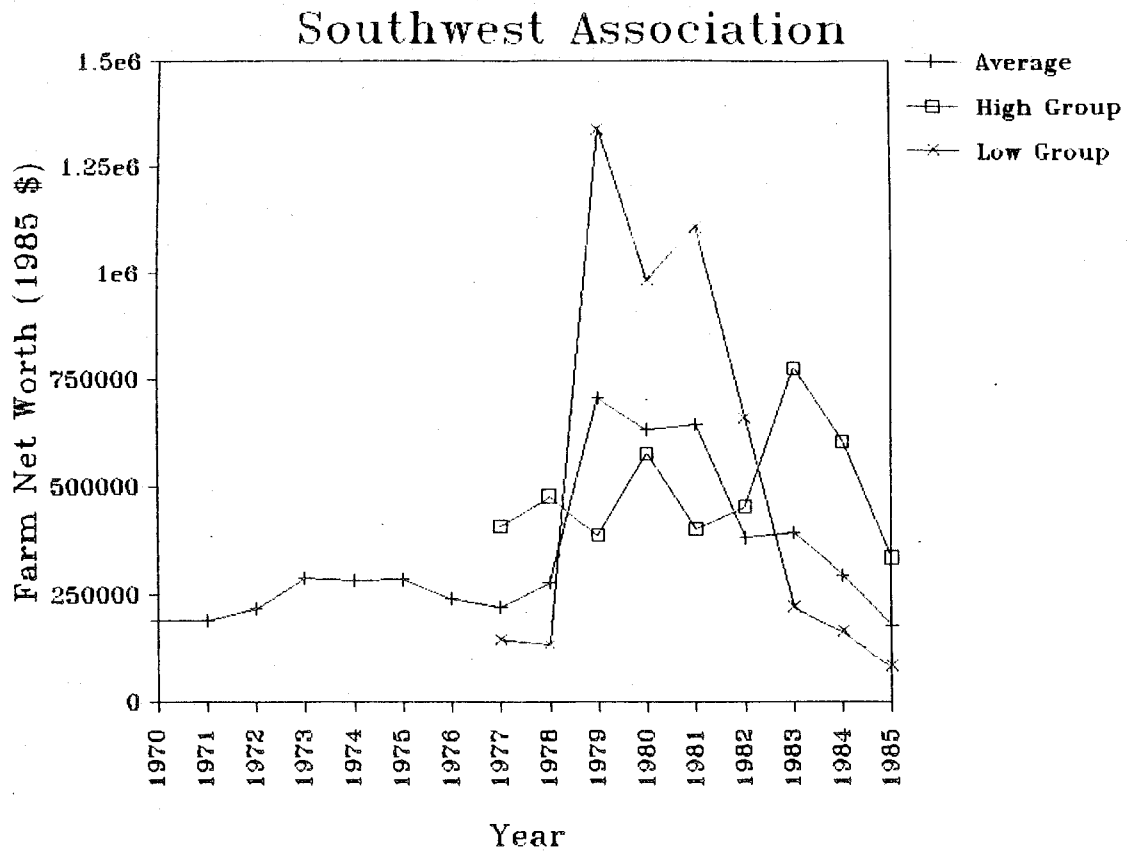
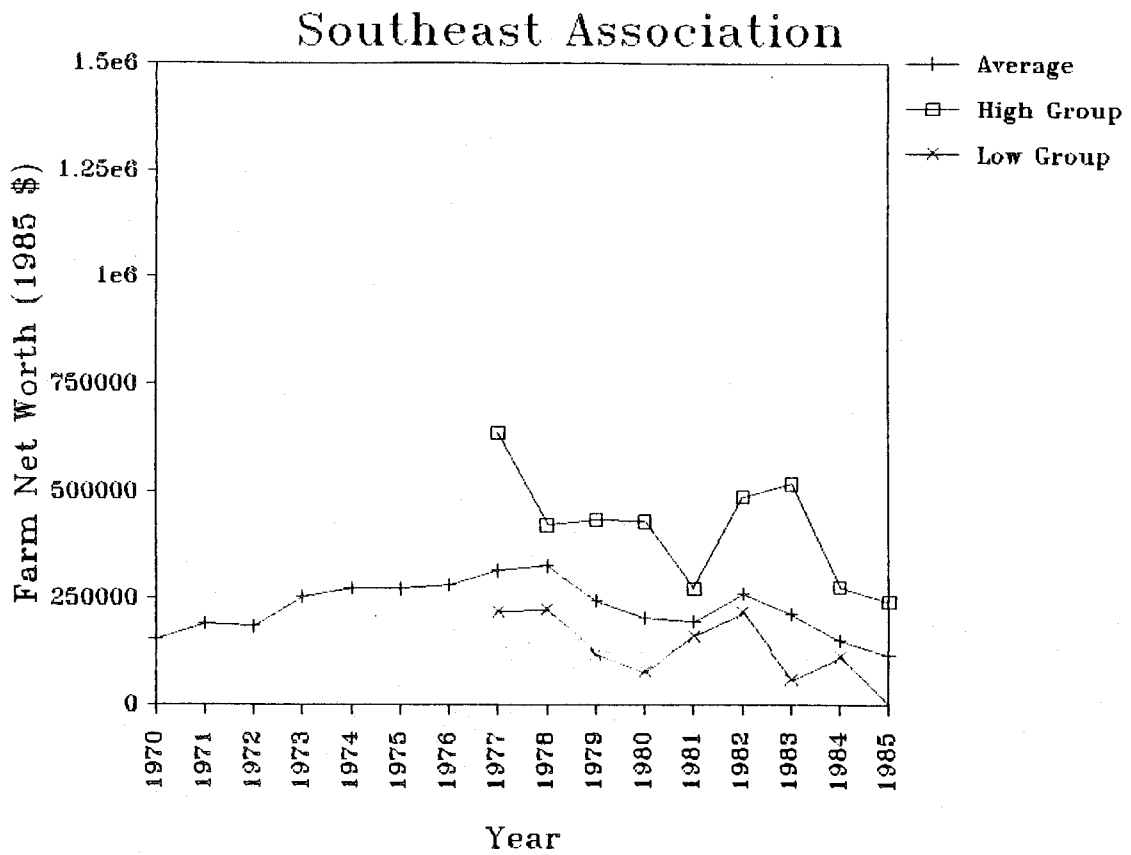


Figure 4. Farm net worth for the overall average farm and the high-profit and low-profit groups.

asset value must be from the selling or deeding back of assets--not from the devaluation of land.

Total farm asset values in the Southwest increased from an average of \$366,086 in 1970 to \$530,050 in 1978 using the cost basis method. In 1979, the average total asset value was \$977,456 after the change to the market value method. Since 1979, total asset values have dropped more than half to \$432,672 in 1985. Tremendous decreases occurred between 1979 and 1980 (down 7 percent); between 1981 and 1982 (down 28 percent); between 1983 and 1984 (down 13 percent); and between 1984 and 1985 (down 29 percent)! Since the market value method was used in 1979 and thereafter, this decrease in total asset value can be seen as a decrease in the market value for farm assets--mainly land and machinery--and the selling or deeding back of property.

Changes in the asset structure can shed some light on how farmers react to the economic environment. In the farm records, the assets are classified into three types: current and intermediate; long-term; and nonfarm assets. Current and intermediate assets are those assets with an expected life of ten years or less; they include such assets as checking accounts, grain inventories, livestock, and machinery. Current and intermediate assets are usually separate categories, but they are consolidated in the annual reports and, thus, not separated in this report. Long-term assets have a very long expected life such as land, buildings, tiling and other capital improvements. Nonfarm assets include all assets not used in the farm business; they include current, intermediate and long-term assets for personal and nonfarm business use.

Trends in the asset structure show slight changes, but no dramatic changes except when the valuation method changed in the Southwest Association between 1978 and 1979 (Figure 5). In the Southeast Association, there is a slight

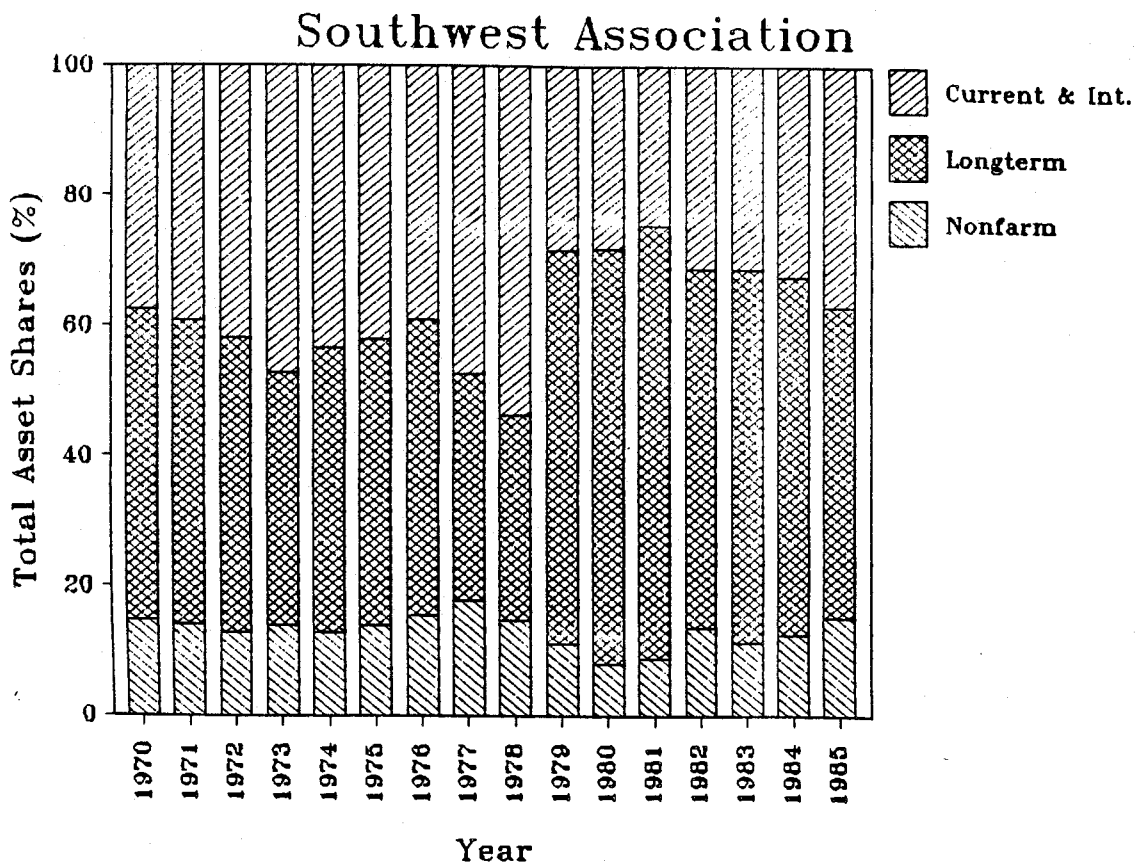
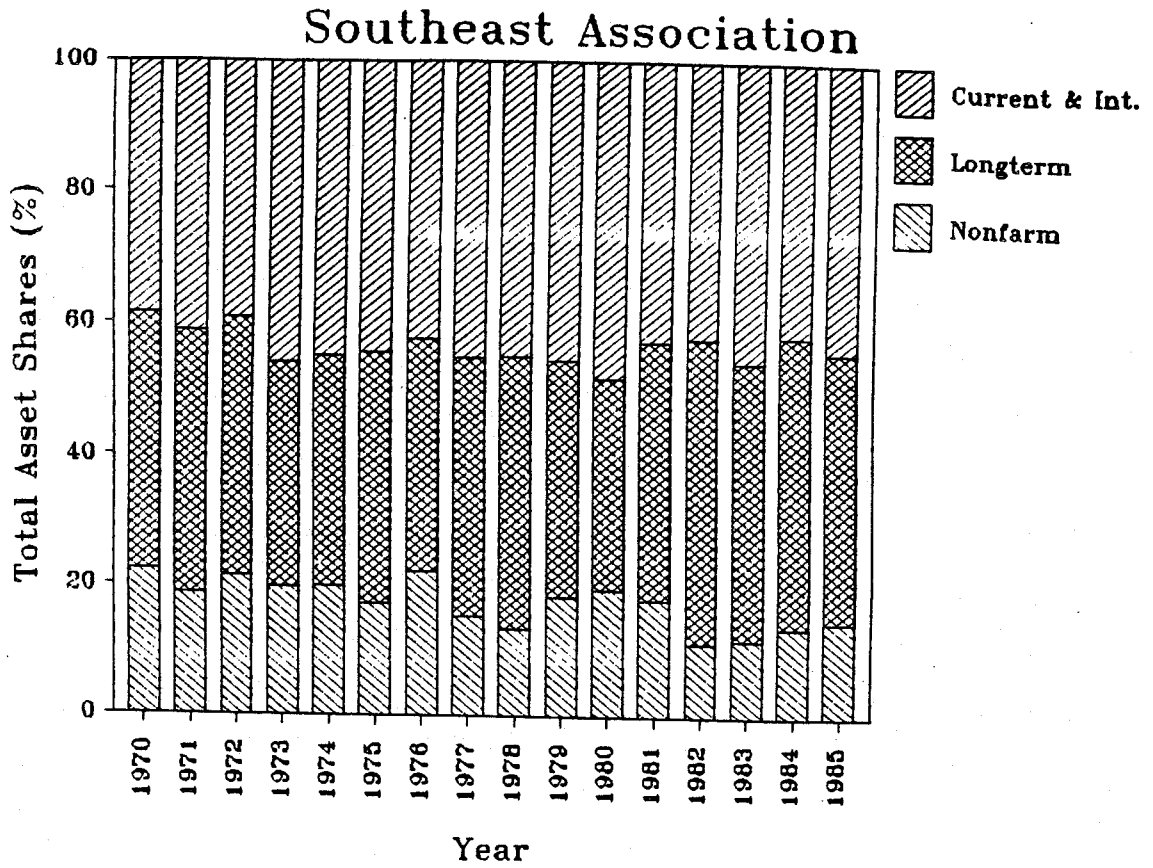


Figure 5. Asset structure for the average farm.

increase in the percentage of current and intermediate assets and a compensating decrease in the percentage of nonfarm assets from 1970 to 1985; the long-term percentage fluctuates, but has no discernable trend. In the Southwest Association, if we look around the change in valuation method, there appears to be a steady decrease in the percentage of total assets held as long-term assets; the proportion held as current and intermediate assets (and to a lesser extent, the proportion held as nonfarm assets) increases from 1970 to 1985. Thus, in both associations, we see some trends toward the increasing importance of current and intermediate assets.

Liabilities

Total liabilities include farm and nonfarm liabilities. Prior to 1983, nonfarm liabilities were not listed separately from farm liabilities in the annual reports. In the last three years, nonfarm liabilities do not amount to over 1% of total liabilities in the Southeast and 3% in the Southwest. To be consistent, nonfarm liabilities are included in the total amount--even when known separately.

Total liabilities have increased in both associations and then decreased in recent years. In the Southeast Association, the average total liabilities per farm was \$108,811 in 1970 and rose to \$267,709 in 1982. In 1985, the average liability was \$201,337 in the Southeast. In the Southwest, total liabilities for the average farm increased from \$176,055 in 1970 to \$275,965 in 1980 and then up to \$315,820 in 1984. The Southwest average total liability dropped by more than \$60,000 to \$255,031 in 1985 due to debt forgiveness, asset sales, and principal payments.

In both associations, total debt load is not the deciding factor between the high and low profit farms. Since 1977 when we had the first records on

operator's share, the high and low profit groups switch rank as to which has the highest debt per farm. In the next major section, we will see that the debt-to-asset ratio is a fairly consistent indicator of high and low profit farms, but we see here that total debt is not a good indicator.

Trends in the debt structure show a slight increase in long-term liabilities relative to current and intermediate liabilities (Figure 6). In the Southwest Association, there has been an upward trend from 49% in 1970 to 60% in 1985 in the proportion of total debt held as long-term debt; the Southeast Association has fluctuated somewhat more, but has increased slightly from 56% in 1970 to 60% in 1985.

FINANCIAL RATIO ANALYSIS

To obtain a complete picture of how well (or poorly) a farm business is performing, we need to look at more than profit and net worth. They do not provide a good measure for choosing a good farmer; just as total corn production does not show who the best corn producer is. By increasing farm size, a farmer possibly could increase total profit. By increasing corn acreage, a farmer possibly could increase total corn production. But neither increasing total profit nor increasing total corn production means that the farmer has become a "better farmer." To evaluate corn producers, regardless of their size, we use their corn yield per acre. To evaluate the financial performance of the farm, we can use the rate of return to total investment, the rate of return to equity, and other measures. In this section, we will be analyzing the trends in these measures.

Rates of Return to Investment and Equity

The rate of return to total investment shows how well a farmer is doing in relation to other businesses; it answers the question of how well the farmer is

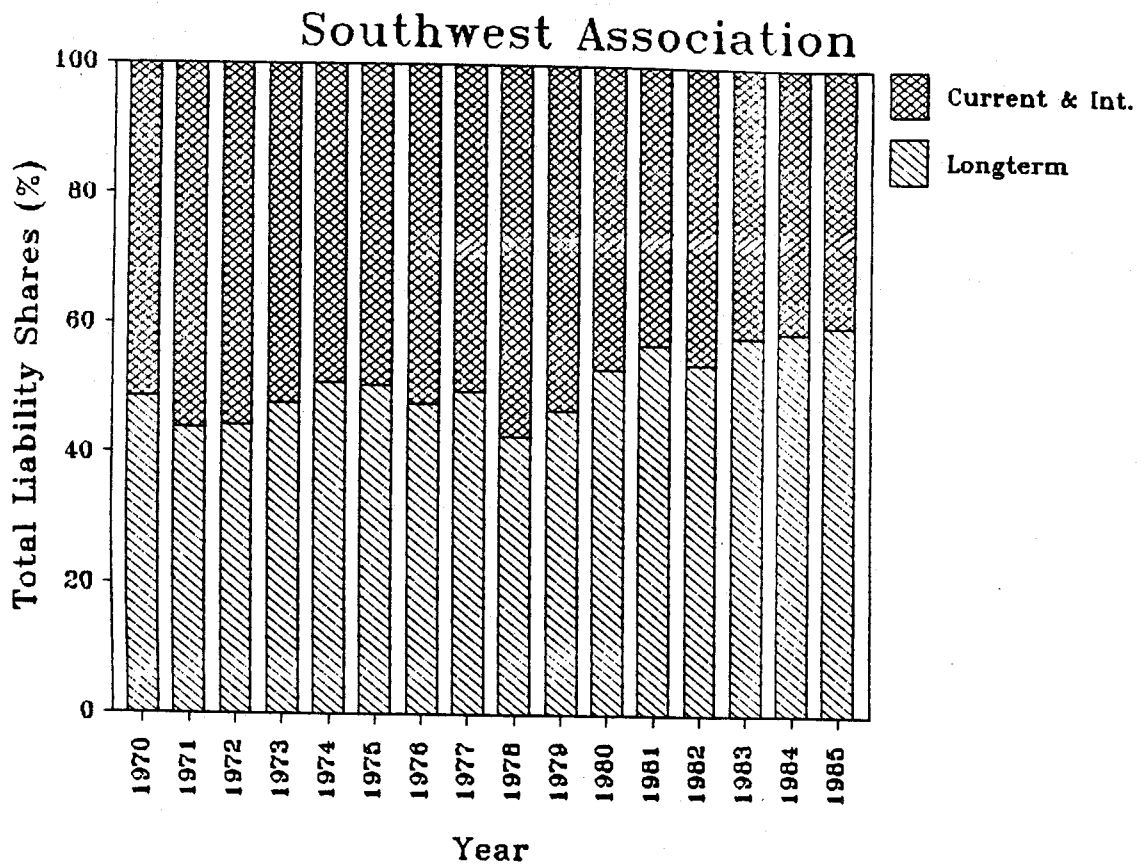
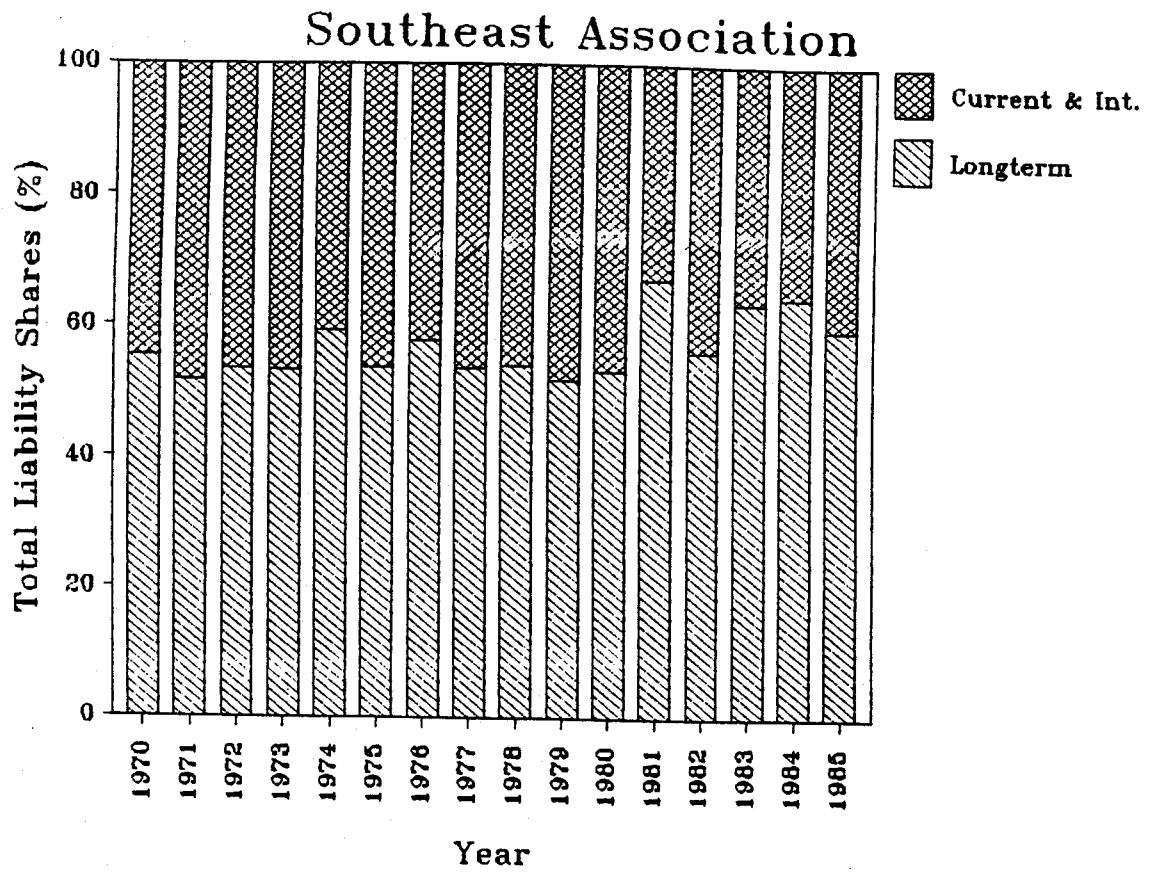


Figure 6. Liability structure for the average farm.

managing the entire assets of the business. The rate of return to owner's equity shows how well a farm is doing in relation to the farmer's alternative investments; it answers the question of how well the farmer is managing his or her own equity investment. The average values of beginning and ending total investment and equity are used to calculate these two rates:

$$\text{Rate of return on total investment} = \frac{\text{profit} + \text{interest paid} - \text{average wage}}{\text{average total investment}} * 100$$

$$\text{Rate of return on equity} = \frac{\text{profit} - \text{average wage}}{\text{average equity}} * 100$$

The "average wage" is the average non-farm wage in Southeast or Southwest Minnesota calculated from data gathered by the Minnesota Department of Jobs and Training (Appendix B). It is used as an estimate of the wage a farmer could be earning in a non-farm job. By subtracting the average wage from profit, the return to equity is estimated. "Interest paid" is the money paid to creditors for the use of money. In the equation for the return to average total investment, "interest paid" is added to profit because it is the return to debt and, therefore, part of the return to the total investment.

By using the average wage, a farmer's managerial skills may not be valued correctly. That estimate may be too low to value both labor and managerial skills. If it is too low, then the rates of return to investment and equity will be overstated. However, we do not have a good measure of the opportunity cost of a farmer's management so we need to interpret the resulting rates of return with the knowledge that they may be inaccurate.

The average rates of return to average investment (ROI) and average equity (ROE) follow a pattern similar to profit (Figure 7 and Appendix Table 3). The highest rates were in 1973 for both associations. In that year, ROI was 28 percent in the Southeast and 31 percent in the Southwest, and ROE was 44 percent

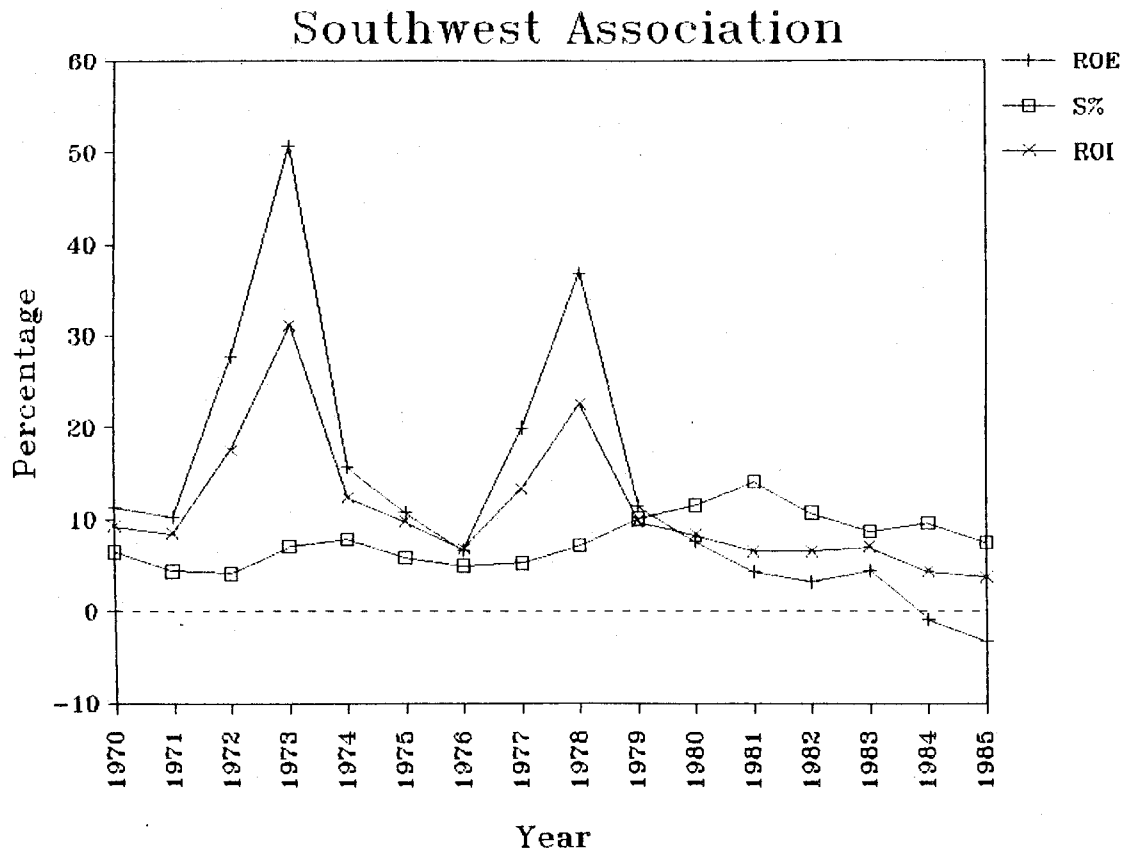
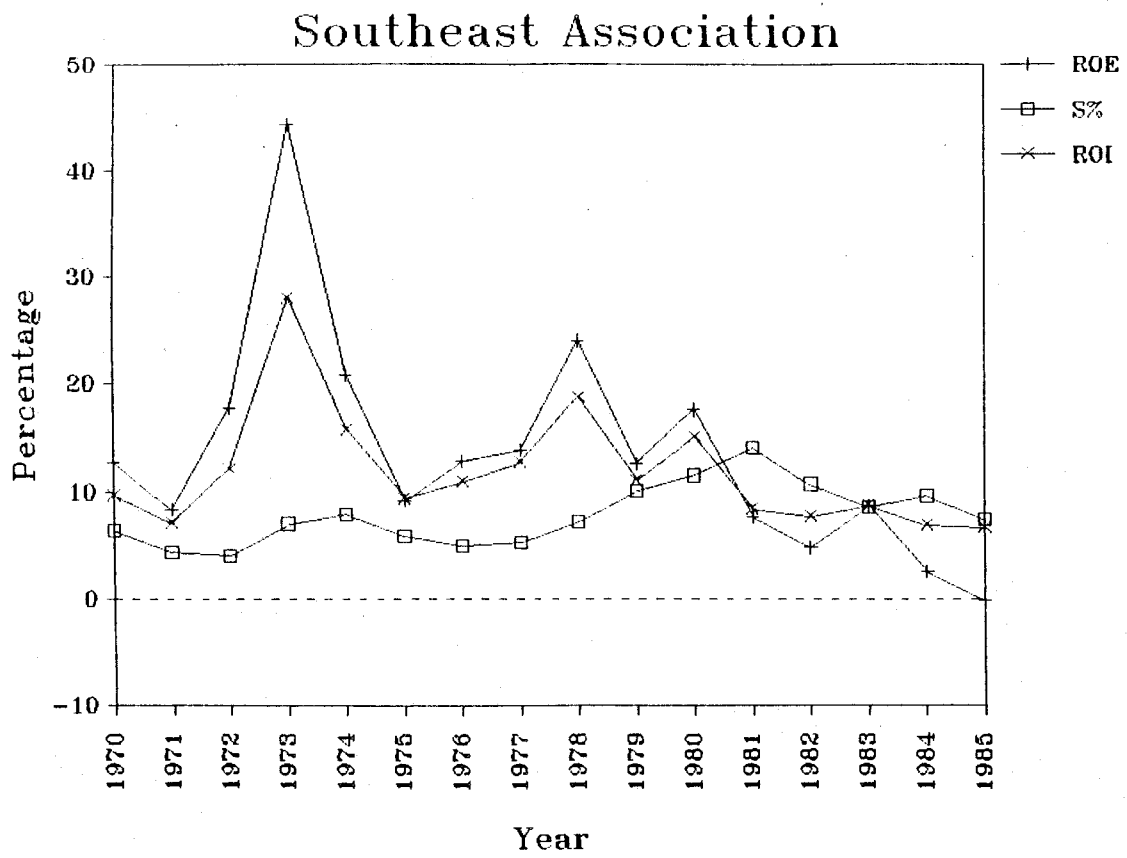


Figure 7. The average rate of return on total investment (ROI), average rate of return on equity (ROE), and the average yield on U.S. government securities (5%).

and 51 percent, respectively. Both rates decline in recent years to below the yield on U.S. government securities (U.S. Department of Commerce, 1985 and 1986b). In 1985, ROE was zero in the Southeast Association and -3 percent in the Southwest Association!

There were large differences in the rates of return between the high- and low-profit groups. Since 1977, the high-profit group never had less than a 10 percent return on investment, except in 1984 and 1985 in the Southwest. The low-profit group has not had a return on investment greater than 4 percent in the Southeast and 9 percent in the Southwest, and they have had several years of negative returns!

In the 1970s, the rate of return to equity is often greater than the rate of return to investment. Thus, we can say that the farmers were making more money on borrowed capital than it was costing in terms of interest. But since 1980, the return to equity has been less than the return to investment so borrowed capital cost more than it was earning.

The differences between the high- and low-profit rates of return on equity show that not all farms are in financial trouble, but some farms are having severe problems. The severity of the current financial situation can be seen in how the rate of return on equity has become so negative in recent years for the low-profit groups (Figure 8). In 1985, the Southeast low-profit group had a -82% return on their equity investment in the farm! This tremendous loss is countered by their nonfarm asset value which increased in 1985 compared to 1984. Also, not all farms are in such dire straits. The high-profit groups, while receiving a lower rate than in previous years, did have a positive rate of return on equity in 1985--21% in the Southeast and 8% in the Southwest Association.

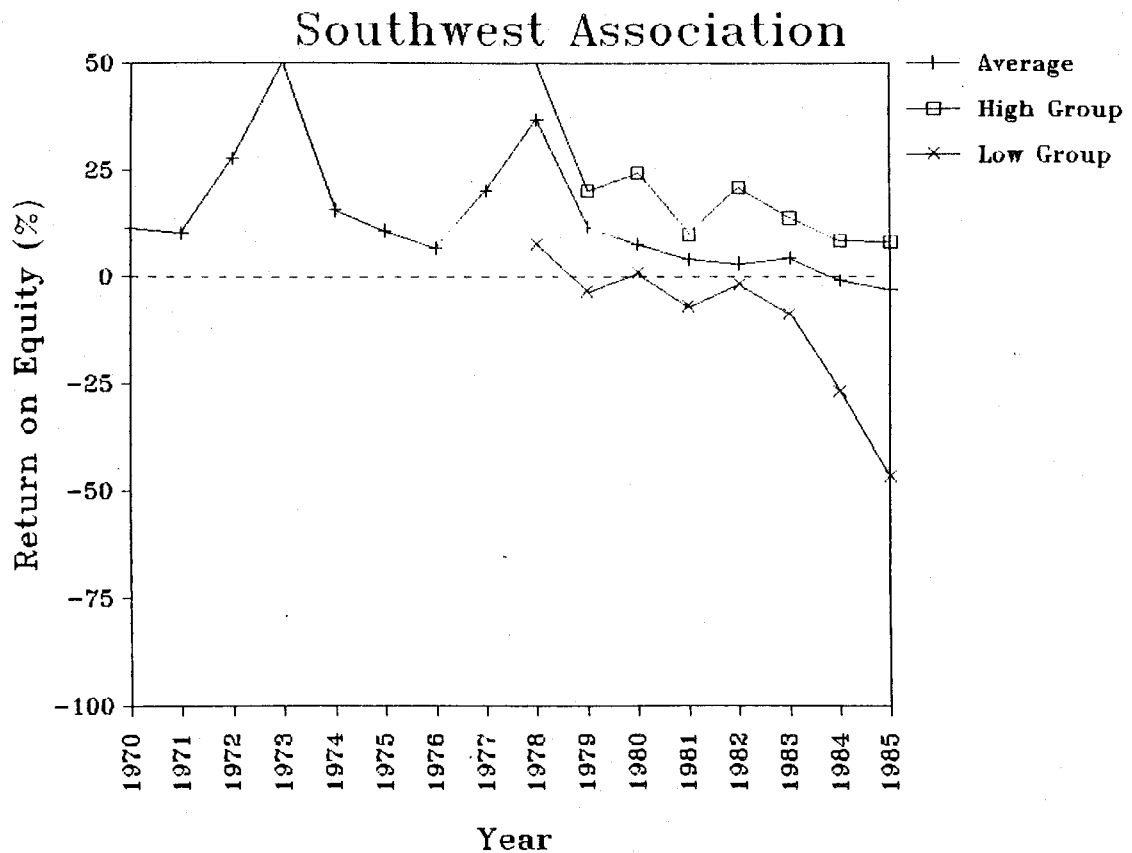
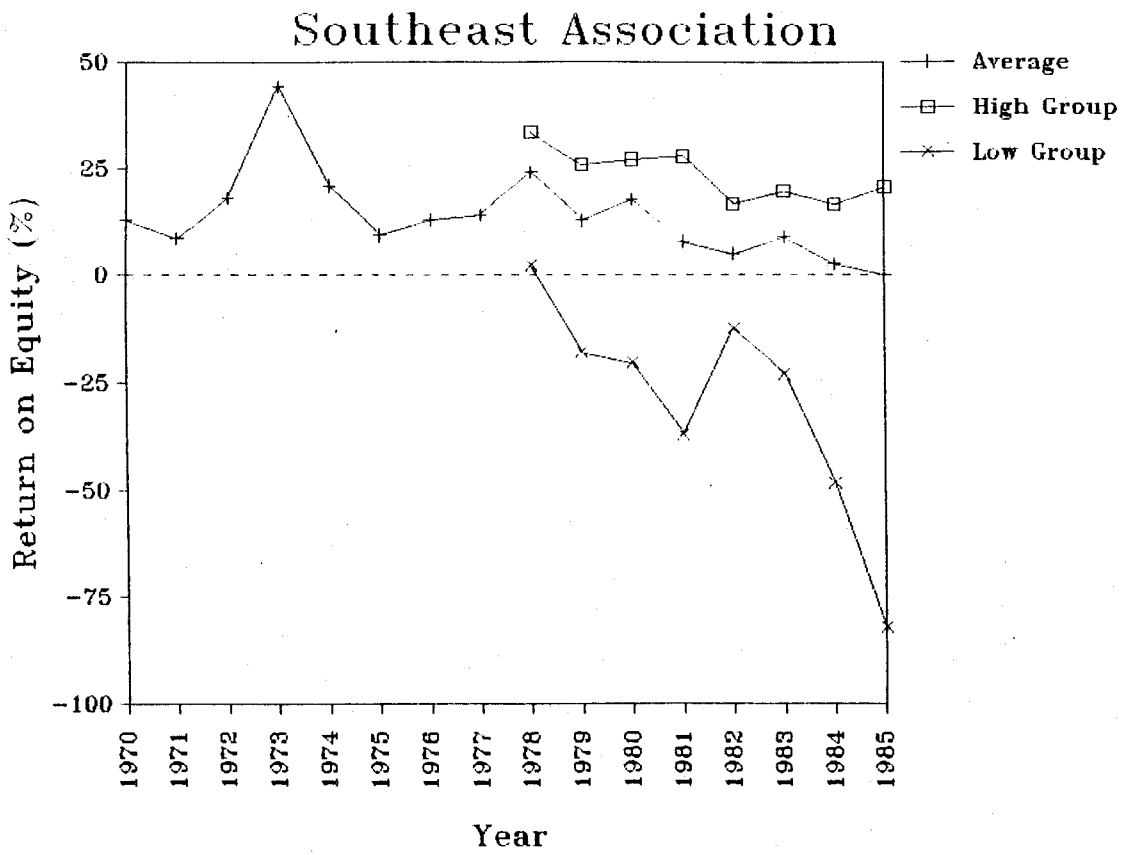


Figure 8. The rate of return on equity (ROE) for the overall average farm and the high-profit and low-profit groups.

Debt-to-Asset Ratio

The "debt-to-asset ratio" measures the degree to which assets are financed by external sources. This ratio measures the solvency of the business. If it is greater than 1, the business has debts greater than assets and is technically insolvent; that is, if the business was liquidated, it could not discharge all its debts. Often, the ratio is multiplied by 100 and the relationship is discussed as a percentage. In this report, the year-end debt-to-asset percentage is presented. Nonfarm assets are not included in this percentage unless mentioned explicitly.

The average farm in the Southeast Association had an ending debt-to-asset percentage of 42 percent in 1970 (Figure 9 and Appendix Table 3). In other words, the average farm had debts which amounted to 42 percent of the total farm assets with assets valued on a cost basis. This percentage drops during the high income years to a low of 29 percent in 1976. It rises to a high of 64 percent in 1985. In the Southwest Association, the debt-to-asset percentage also declined from 1970 to the mid-1970s, but not as great a decline in the Southeast. In the 1970s, the average Southwest farm had a higher debt-to-asset percentage than the Southeast average farm.

Between 1978 and 1979, the asset valuation method was changed from cost to market-value basis in the Southwest. Since that increased the asset values and left debts unchanged, the debt-to-asset percentage dropped. After the change, we see a significant increase in the debt-to-asset percentage from 28 percent in 1979 to 59 percent in 1985--a doubling of the debt relative to asset value!

In seven out of the last nine years, the low-profit group of the Southeast has a higher debt-to-asset percentage than the high-profit group. In 1985, the

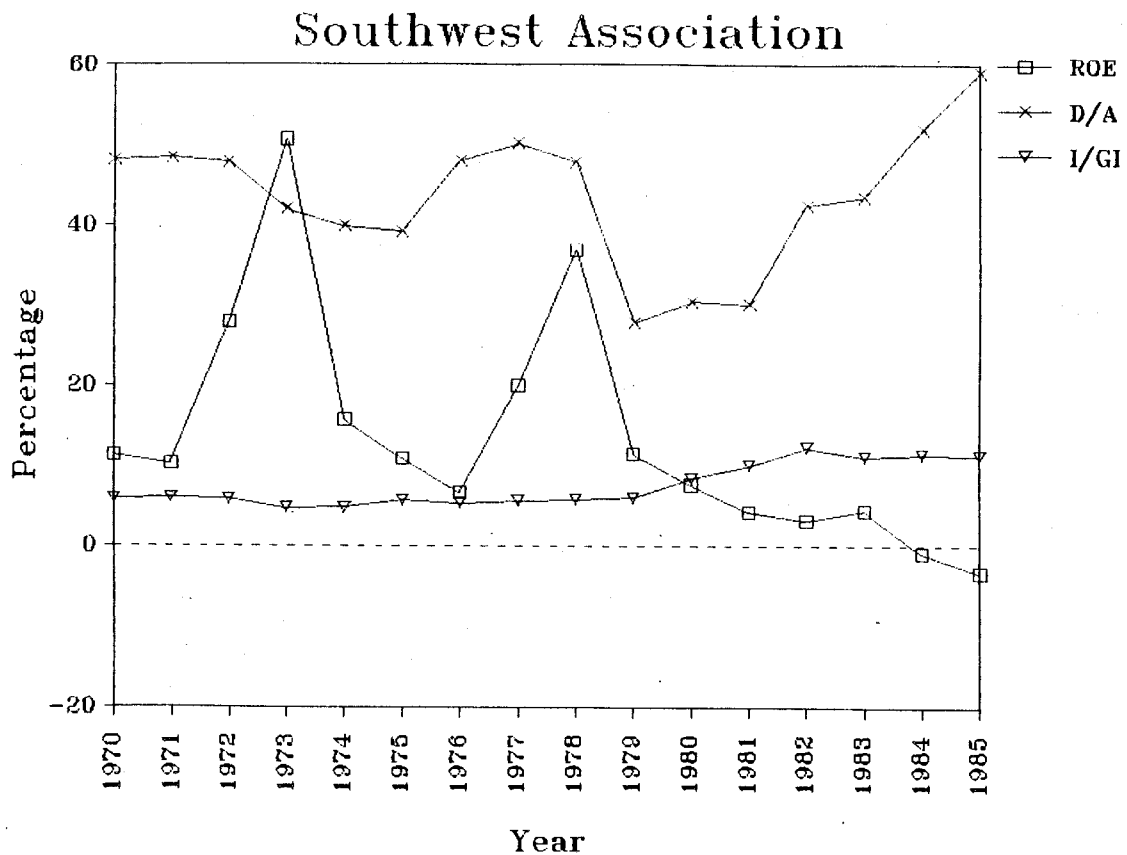
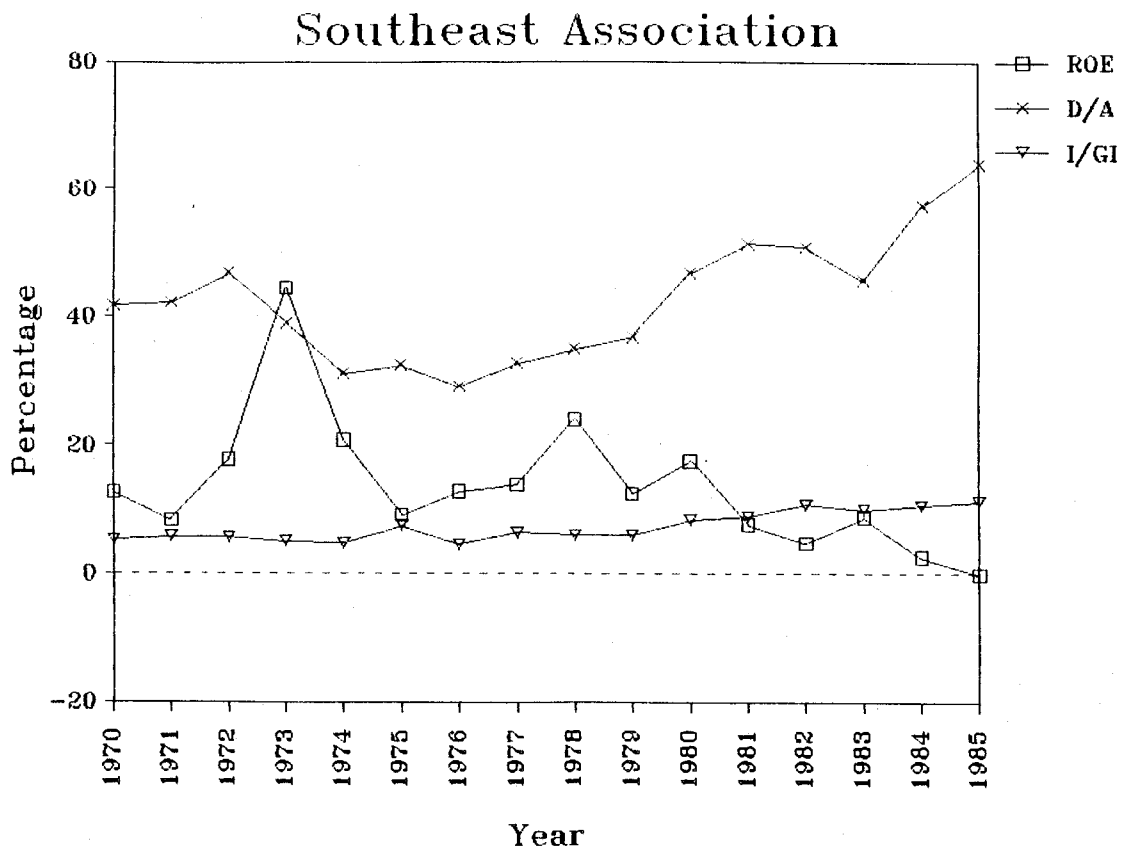


Figure 9. The overall average rate of return to equity (ROE), debt-to-asset percentage (D/A), and interest paid as a percentage of gross cash farm income (I/GI).

low-profit group in the Southeast had a 103 debt-to-asset percentage using total farm assets; including nonfarm assets, the debt-to-asset percentage is 84. The Southwest groups switched rank more often; in recent years, the low-profit group had the higher debt percentage. In 1985, the low-profit group in the Southwest had a debt-to-asset percentage of 83 percent compared to the high profit group's 39 percent.

Even though financial stress is a cash flow concept, the debt-to-asset percentage has been used in recent years as a crude measure of how much financial stress a farm is experiencing. If a farm has debts which are less than 40 percent of the asset value (market-value basis), the farm is said to not be in financial trouble. A farm with a debt-to-asset percentage greater than 40 percent but less than 70 percent is described as having trouble. Farms with a debt-to-asset percentage greater than 70 percent are described as having severe financial trouble.

By this classification, the low-profit groups in both associations are presumed to be in severe financial trouble. The average farm in both associations is classified as having trouble. The high-profit group in the Southeast falls into the troubled group, but the high-profit group in the Southwest is classified as not having trouble. However, to accurately measure financial stress, the cash flow, solvency, and profitability situations need to be considered together.

Interest paid as a percentage of gross cash farm income

"Interest paid as a percentage of gross cash farm income" is an indicator of the flexibility of a business to spend its income. The higher this percentage, the less flexible is the business and, thus, less free to make management changes.

In both associations, the average farm has become less flexible since 1970. In the Southeast, interest paid as a percentage of gross cash farm income has increased from 5 percent in 1970 to 11 percent in 1985 (Appendix Table 3 and Figure 9). In the Southwest, it has increased from 6 percent in 1970 to 11 percent in 1985. Both associations remained steady in the 1970s and then jumped in the 1980s. The low profit groups consistently had a higher percentage than the high profit groups.

Interest paid as a percentage of cash expenses

"Interest paid as a percentage of cash expenses" is another indicator of business flexibility. It measures the ability to adjust expenses in response to changes in the economic environment. A high percentage indicates that more of the total expenses are fixed as interest payments and are not easily adjusted.

Since 1970, the interest paid as a percentage of total expenses has increased in both associations (Appendix Table 3). In 1970, the average Southeast farm had interest payments which were 9 percent of total expenses; the Southwest's average was 8 percent. This percentage rose to 14 or 15 percent in the 1980s in both associations. In the Southwest, the low profit group always had a higher interest percentage than the high profit group from 1977 through 1985, except in 1980 when they were equal. The low profit group in the Southeast had a higher percentage than the high profit group, except for three years.

Net Profit Margin

The net profit margin is profit plus interest paid minus the average nonfarm wage, all divided by the value of farm production. It is expressed as a percentage. The value of farm production is an accrual measure so it values only the production of that year--not sales of stored commodities. The net profit

margin indicates the proportion of sales that is returned to total investment after "paying" the farmer a wage.

This measure tells a story similar to what previous measures have told. The net profit margin reached a high in 1973 for both associations and another high in 1978 (Appendix Table 3). It is included in this report to serve as a benchmark in analyzing other farms.

Asset Turnover Ratio

The asset turnover ratio indicates how efficiently assets are generating gross business earnings. It is an indicator of potential overcapitalization or underutilization. It is calculated as the value of production divided by the average farm asset value. The value of production is the total sales minus feeder livestock purchases and adjusted for changes in feed and grain, market livestock, and breeding livestock inventories. A higher asset turnover ratio indicates more efficient use of resources.

The asset turnover ratio has a familiar pattern at first: highs in 1973 and 1978, but then the pattern changes (Appendix Table 3). After first dropping in the early 1980s, the asset turnover ratio rises in the last few years. Asset values have dropped and so have cash sales. But the sales and, thus, the value of production must have declined less than the asset values; that is, the value of production has been increasing relative to the value of the assets.

CAPITAL ASSET PURCHASES AND SALES

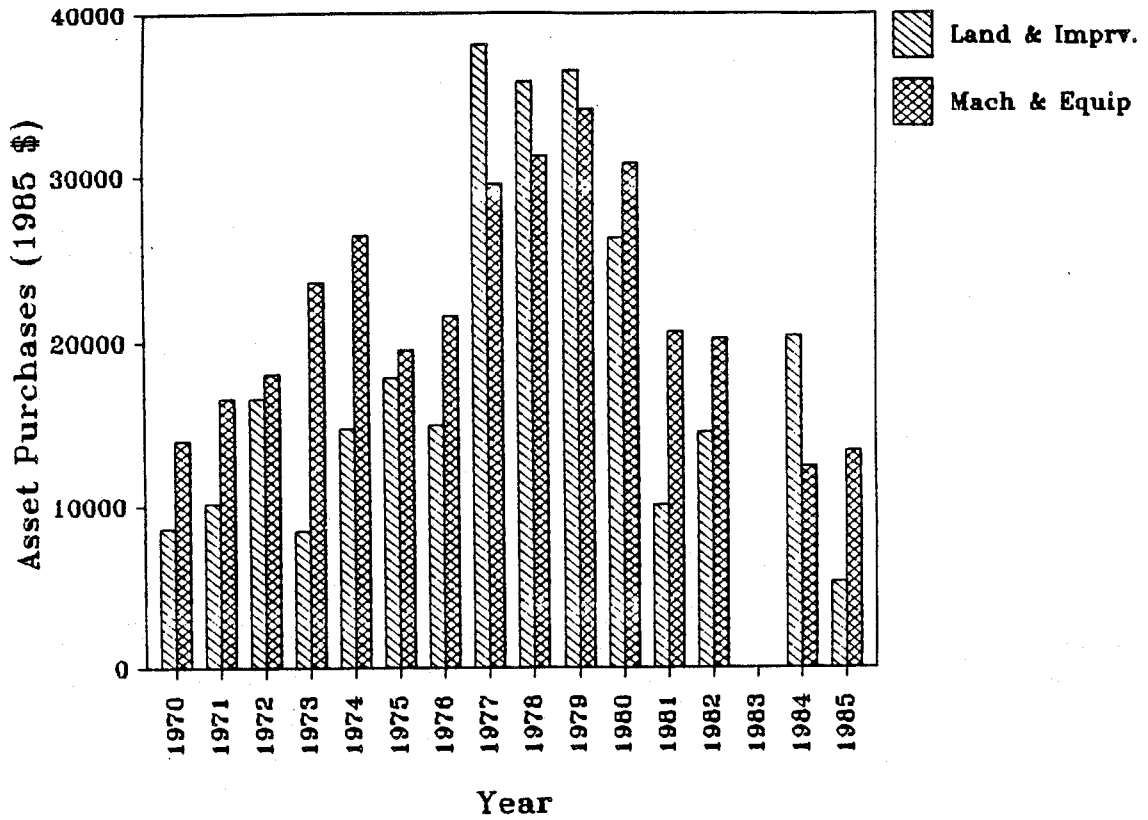
Purchases of land, buildings, machinery, and other capital assets depend on their price relative to their income potential, credit terms available, alternative investments, the cash flow of the entire firm, and the farmer's view of the future. These factors are interrelated and sometimes conflicting.

In terms of 1985 dollars, the 1985 total capital asset purchases are the lowest in all years from 1970 to 1985 in both the Southeast and Southwest Associations (Appendix Table 4). The breakdown between land, buildings, and improvements and machinery and equipment changed over time (Figure 10). In the early 1970s, machinery and equipment purchases increased more rapidly than land, buildings, and improvements. Later in the 1970s, after farmers had experienced higher incomes for several years, the purchases of land, buildings, and improvements increased and surpassed purchases of machinery and equipment. In the 1980s, capital asset purchases decreased as incomes fell.

Since the early 1980s, farmers have had to lower their long-run income expectations, so we would expect capital asset sales to increase, but we do not see a strong trend. There is a slight increase in recent years (Appendix Table 4). However, there is also enough variation in the 1970s that there is no obvious trend in sales. Part of this lack of a trend may be due to changes in asset prices. Asset prices were higher when purchased and are now being sold at lower prices. Also, some assets are being repossessed; these are not counted as sales.

Throughout all these changes in economic conditions, the average farm crop acreage in both associations has steadily increased (Figure 11 and Appendix Table 4). In 1970, the average farm in the Southeast Association owned and rented 258 acres for crops; in the Southwest Association, 390 acres. In 1985, the owned and rented crop acreage had increased to 423 acres in the Southeast Association and 552 in the Southwest Association.

Southeast Association



Southwest Association

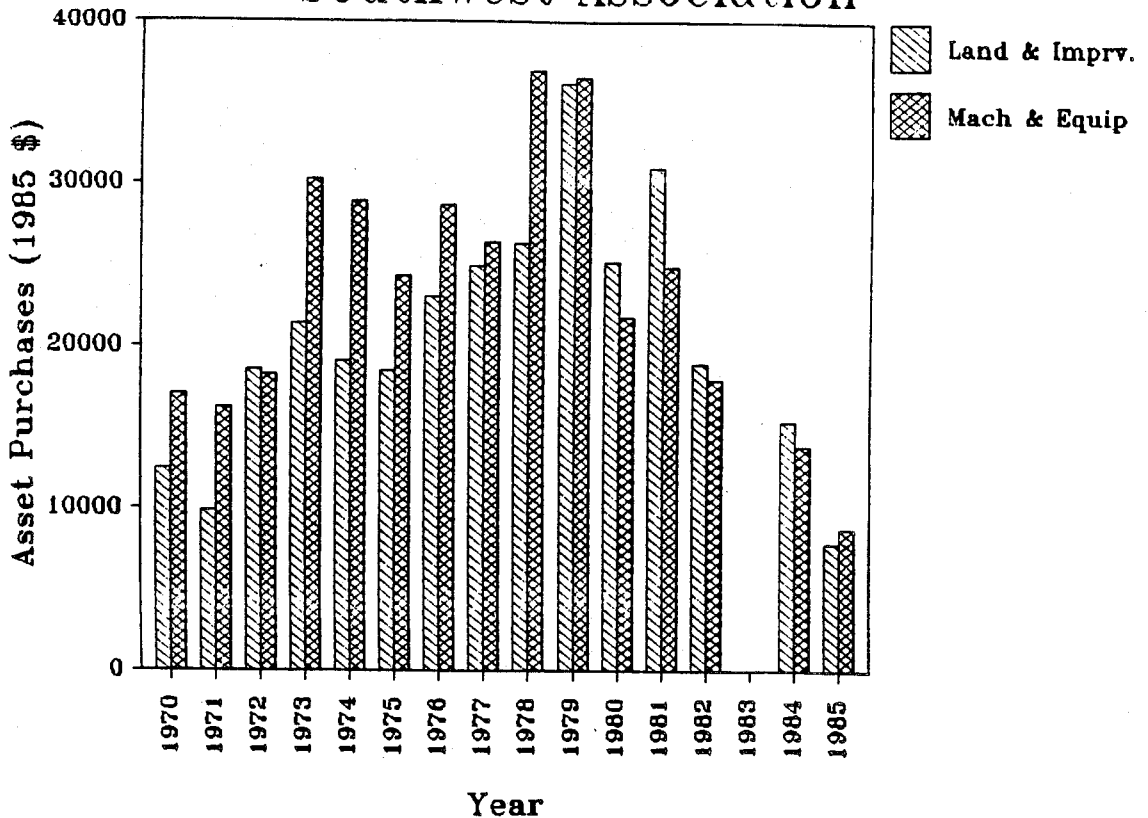


Figure 10. Purchases of land, buildings, and improvements, and of machinery and equipment for the average farm.

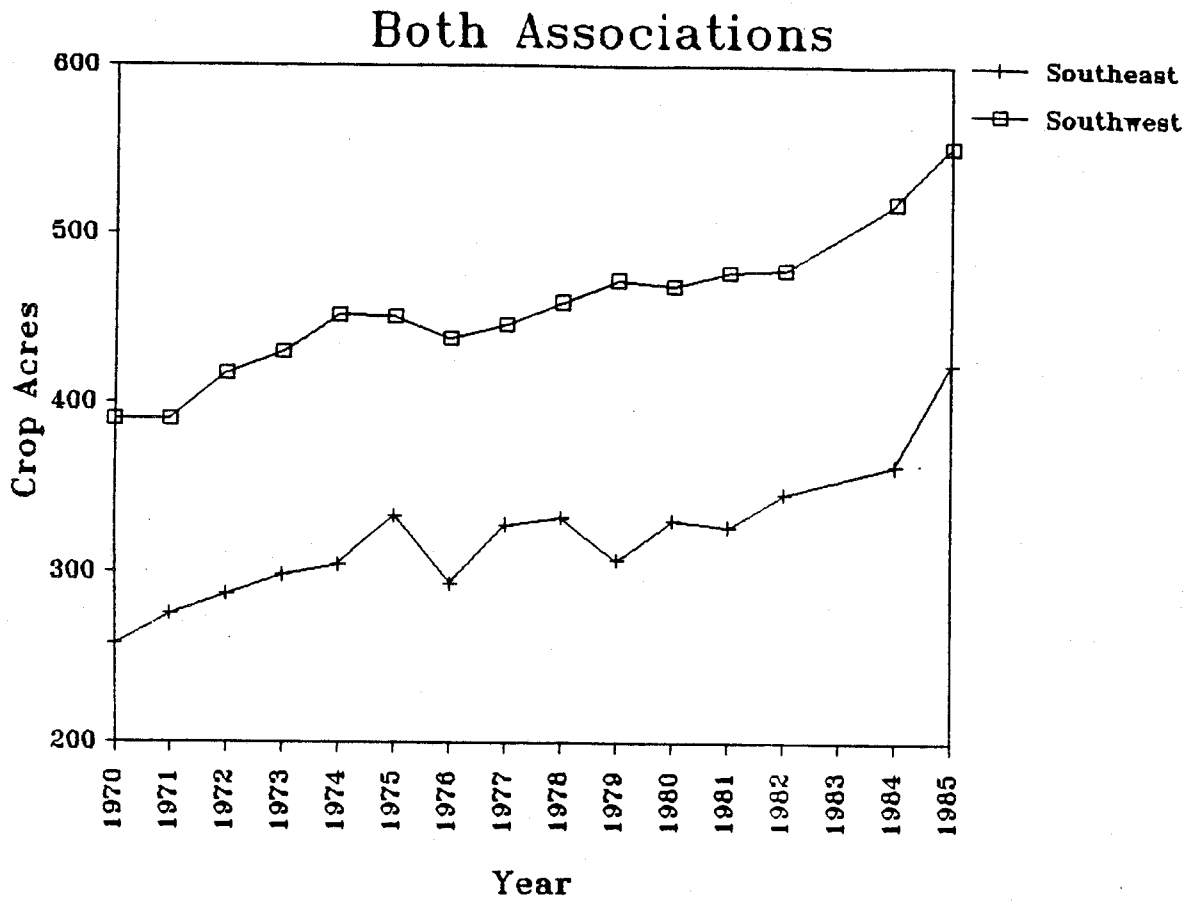


Figure 11. Average owned and rented crop acres per farm.

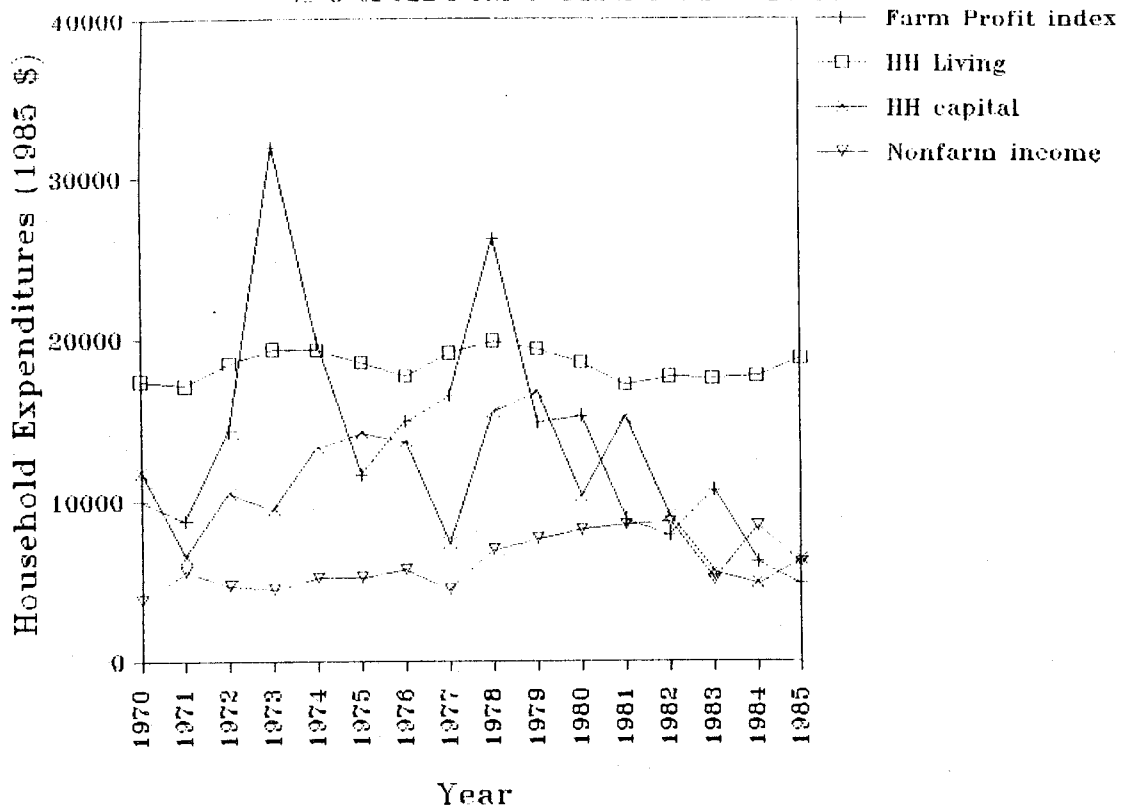
FAMILY FINANCES

As members of the Southeast and Southwest Associations, farm families are encouraged to keep records of their nonfarm income and family expenditures. The expenditures are grouped into two major categories in this report: family living expenses and capital expenditures. Living expenses include food and meals, medical care and health insurance, donations, supplies, clothing and materials, gifts and special events, personal share of auto and truck, personal care and spending, education, recreation, telephone and electricity, miscellaneous expenses and purchases, and the noncash expense of family living from the farm. Capital expenditures include upkeep on dwelling; furnishings and equipment; personal vehicles and other nonfarm purchases; nonfarm real estate purchases; and savings, life insurance, and other investments. Income taxes paid are added to cash living expenses and capital expenditures to calculate "Total Family Use of Cash."

Since not all families keep these records or do not keep accurate or only aggregated records, the number of farms reporting family expenditures is less than the number reporting farm income and expenditures. In 1985, 93 Southwest Association farms had disaggregated, accurate family expenditure records compared to 180 farms with accurate farm income and expense records. The Southeast had 15 farm expenditure records and 59 farm income expense records.

Measured in 1985 dollars, nonfarm income has increased in both associations (Figure 12 and Appendix Table 5). In 1970, the average nonfarm income, for those which kept records, was \$2,676 in the Southwest. It increased to \$11,664 in 1984 and was at \$8,445 in 1985. The Southeast Association had a similar pattern of increasing nonfarm income from 1970 to 1982 and then a decrease to 1985. In most instances, the pattern of nonfarm income and farm

Southeast Association



Southwest Association

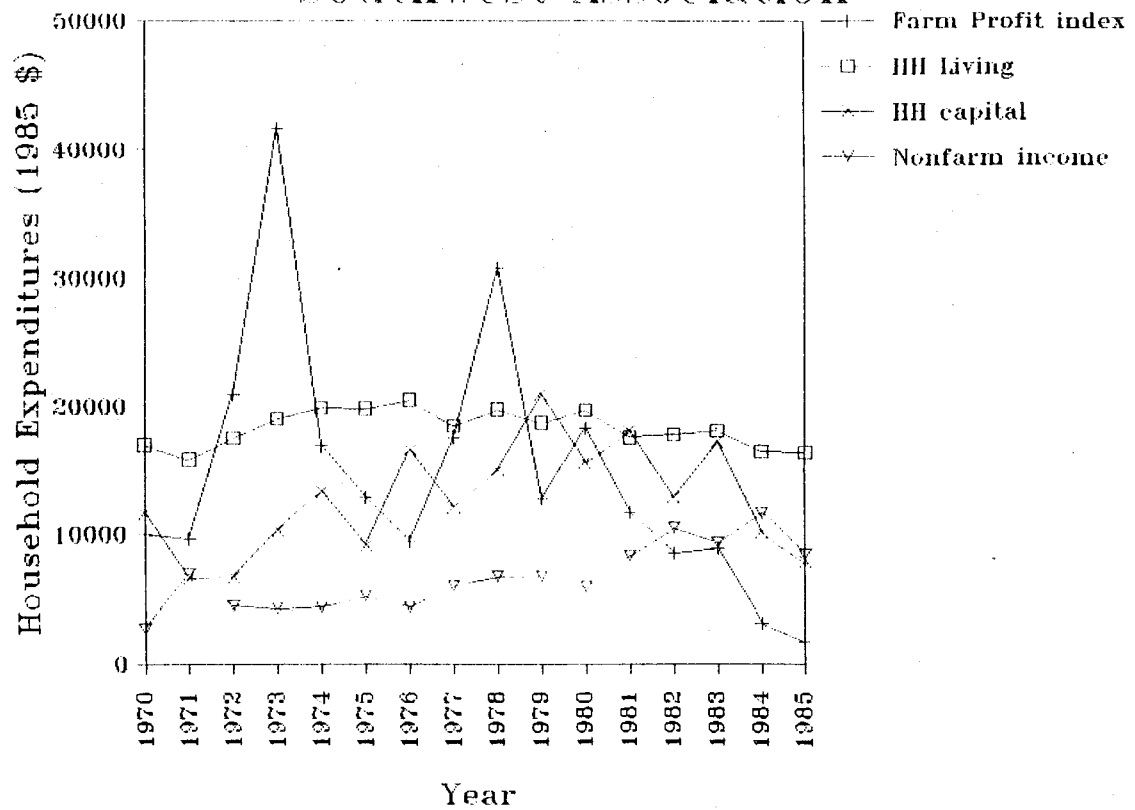


Figure 12. Household living expenses, household capital expenditures, and an index of average profit per farm.

profit supports the hypothesis that farm families strive to maintain a steady income stream from both farm and nonfarm sources. Compared to the previous year, nonfarm income usually increases when farm profit decreases and nonfarm income usually decreases when farm profit increases. There are a few exceptions to this pattern, most notably between 1984 and 1985 when both nonfarm income and farm profits decreased in both associations.

The average family size has decreased from 4.6 members in 1970 to 3.4 members in 1985 for the Southeast Association. The average Southwest family had 5.1 members in 1970 and 3.9 in 1985. This fits the trends seen in the rest of the nation.

Family expenditures can be used to trace how families have adjusted their spending habits as the economy has prospered and suffered. When expressed in 1985 dollars, total family living expenses do not change radically compared to average farm profit (Figure 12).² In the Southwest Association, the average family living expenses were \$16,961 in 1970; they reached a high of \$20,457 in 1976 and are \$16,320 in 1985 (Appendix Table 5). So, measured in 1985 dollars, average Southwest family living expenses in 1985 were only \$341 less than the 1970 level. Average Southeast family living expenses increased by \$1,436 from \$17,422 in 1970 to \$18,858 in 1985. Per family member, living expenses have increased dramatically (Appendix Table 6). In the Southwest, living expenses per family member were \$3,108 in 1970 and \$4,099 in 1985--an increase of 32%! The average Southeast family increased their living expenses per family member by 52% between 1970 and 1985!

² Since the absolute levels of profit and expenses are different, an index of farm profit with the 1970 level set at 10,000 is used to put these items closer to the same scale.

Individual living expense items have different patterns of growth and decline (Figures 13 and 14). For the average family in the Southwest Association, food and meal expenses were \$4,255 in 1970. They increased to highs of \$4,666 in 1974 and \$4,627 in 1979 and were \$4,022 in 1975. For the total family, food and meal expenses were down; however, the trend is up from \$834 per family member in 1970 to \$1,157 in 1979 and \$1,031 in 1985. That is a 24% increase in food and meal expenses per family member between 1970 and 1985! The Southeast Association records show a very similar pattern for food and meal expenses for the whole family and per member. Expenses for medical care and health insurance fit the expected trend of upward. The average family in the Southwest spent \$2,661 for medical care and health insurance in 1985--26% more than in 1970. Per family member, they spent 65% more in 1985 than in 1970! Church and charity donations for the family increased from 1970 to the late 1970s and then declined in both associations, except for increases in 1984 and 1985 in the Southeast Association. Per family member donations increased in both associations. Family expenses for clothing and materials increased slightly in the early 1970s, but by 1985, they had declined to 69% of the 1970 level for both associations. A similar pattern can be seen in education expenses; even though they have increased in the last few years, 1985 education expenses were only 52% of the 1970 level in the Southwest and 67% in the Southeast. Recreation expenses and gifts and special events expenses had a different pattern with an upward trend in the 1970s and a decrease in recent years to a level that is still higher than the 1970 level. Recreation expenses per family member in 1985 are 34% higher than the 1970 level in the Southwest Association and 171% higher in the Southeast Association! Expenditures per family member for gifts and special events almost tripled between 1970 and 1975 in the Southwest Association; they

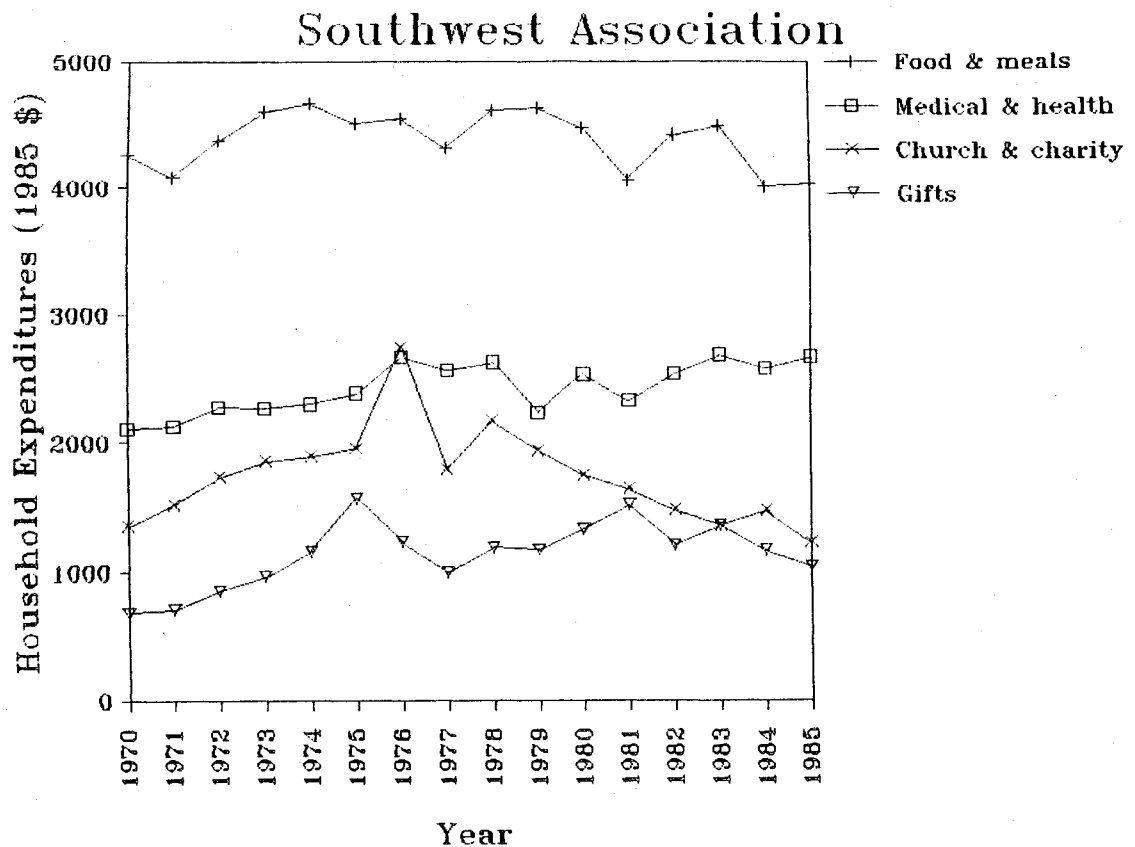
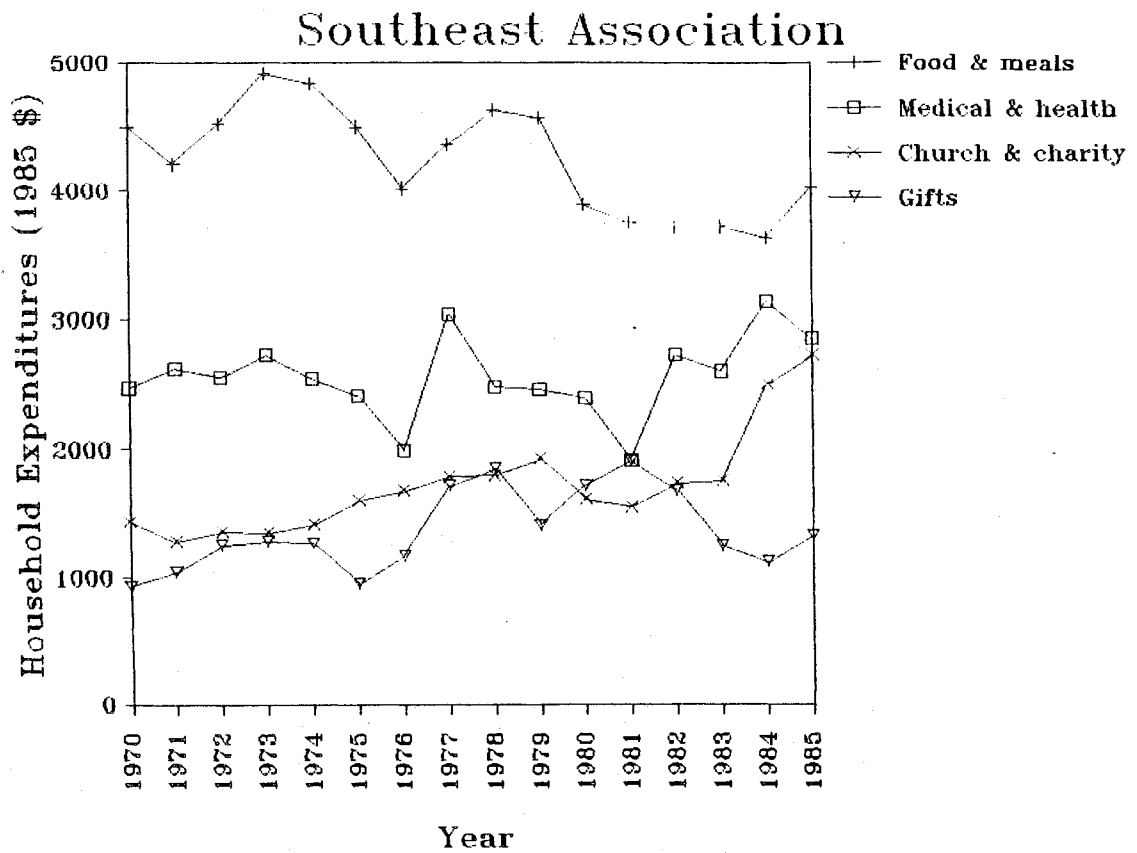


Figure 13. Household living expenditures for food and meals; medical and health insurance; church and charity donations; and gifts and special events.

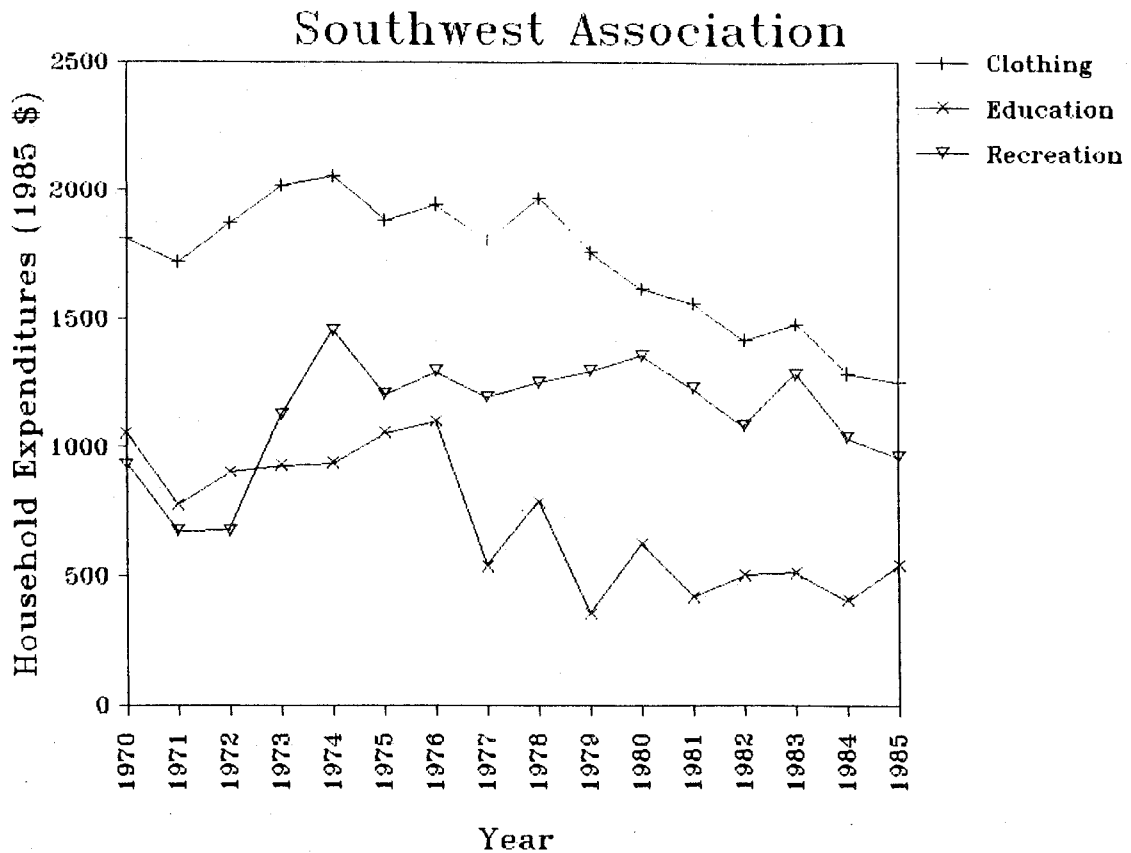
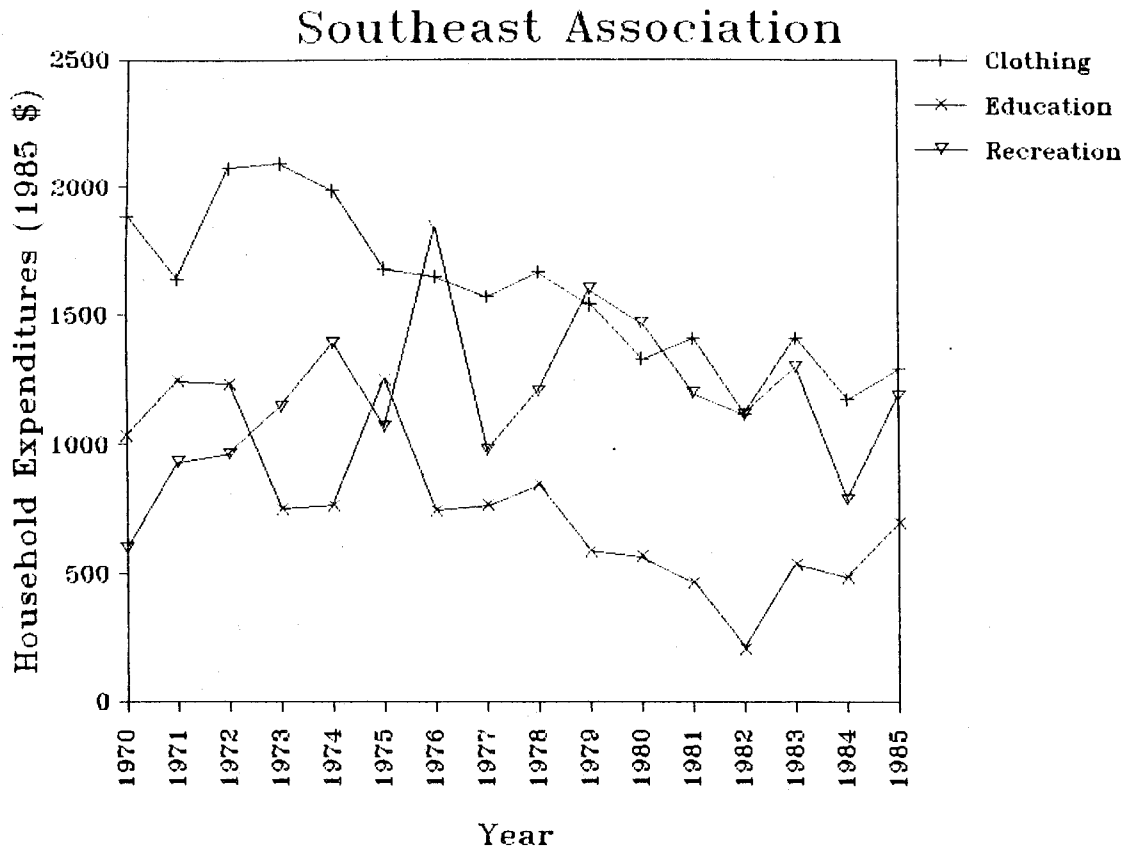


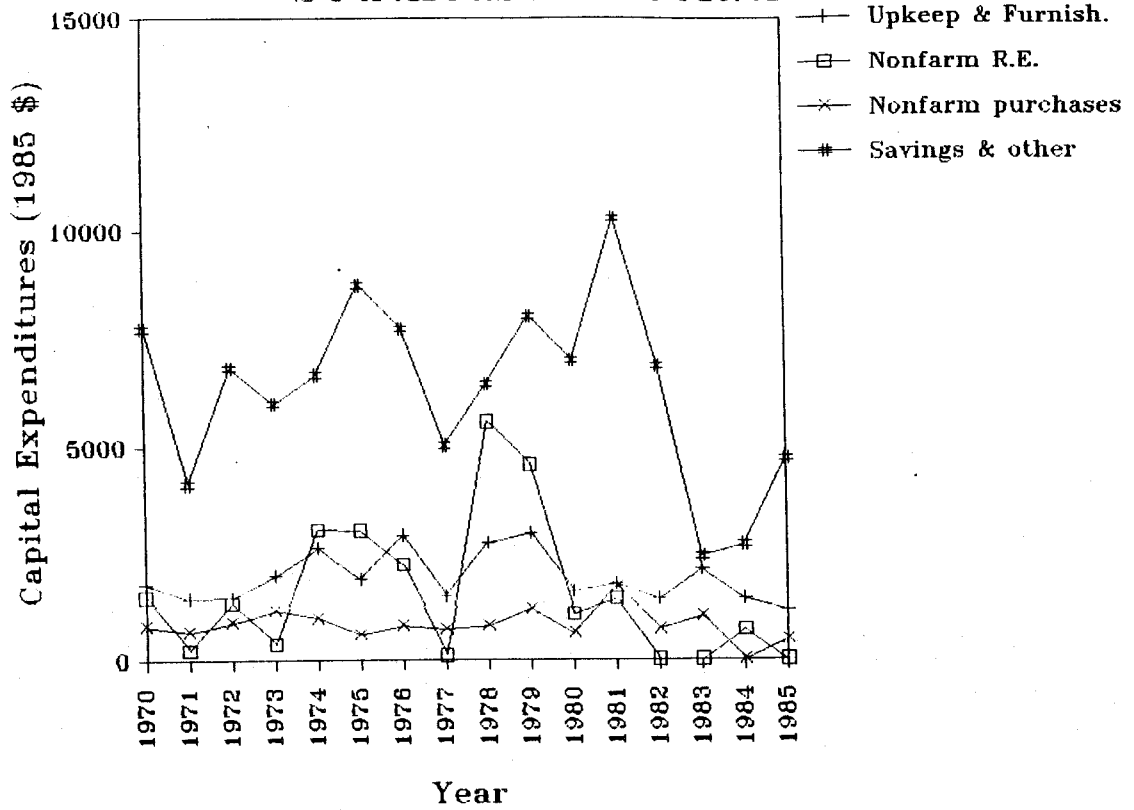
Figure 14. Household living expenditures for clothing and clothing materials; education; and recreation.

more than doubled between 1970 and 1978 in the Southeast Association; in 1985, they were just less than double the 1970 level in both associations.

Family capital expenditures have been more sensitive to changes in farm profit and nonfarm income (Figure 12). These are the items that increase as income increases and are the first to be curtailed as income decreases. This is very evident in the increases in the mid- and late-1970s, and the decreases in the 1980s. Upkeep on the dwelling and purchases of furnishings and equipment are the first to increase and also the first to decrease (Figure 15). Personal vehicles and other nonfarm purchases and nonfarm real estate purchases increase and decrease with income, but the changes are more dramatic than with other capital expenditures. Savings, life insurance, and other investments increase rapidly with increases in income, but are more stable and remain at the higher levels for longer periods after income decreases.

In summary, nonfarm income and family expenditures in the Southeast and Southwest Associations follow the trends and expectations from the general population. Nonfarm income generally rises between 1970 and 1985 and does usually increase in years when farm profit decreases and vice versa. Expenditures for some items, such as food, meals, medical care and health insurance, were fairly steady and even increased on a per family member basis. Expenditures for other items such as gifts, special events and recreation were higher in high income years and also increased dramatically on a per family member basis. Family capital expenditures were the most responsive to changes in the family income level.

Southeast Association



Southwest Association

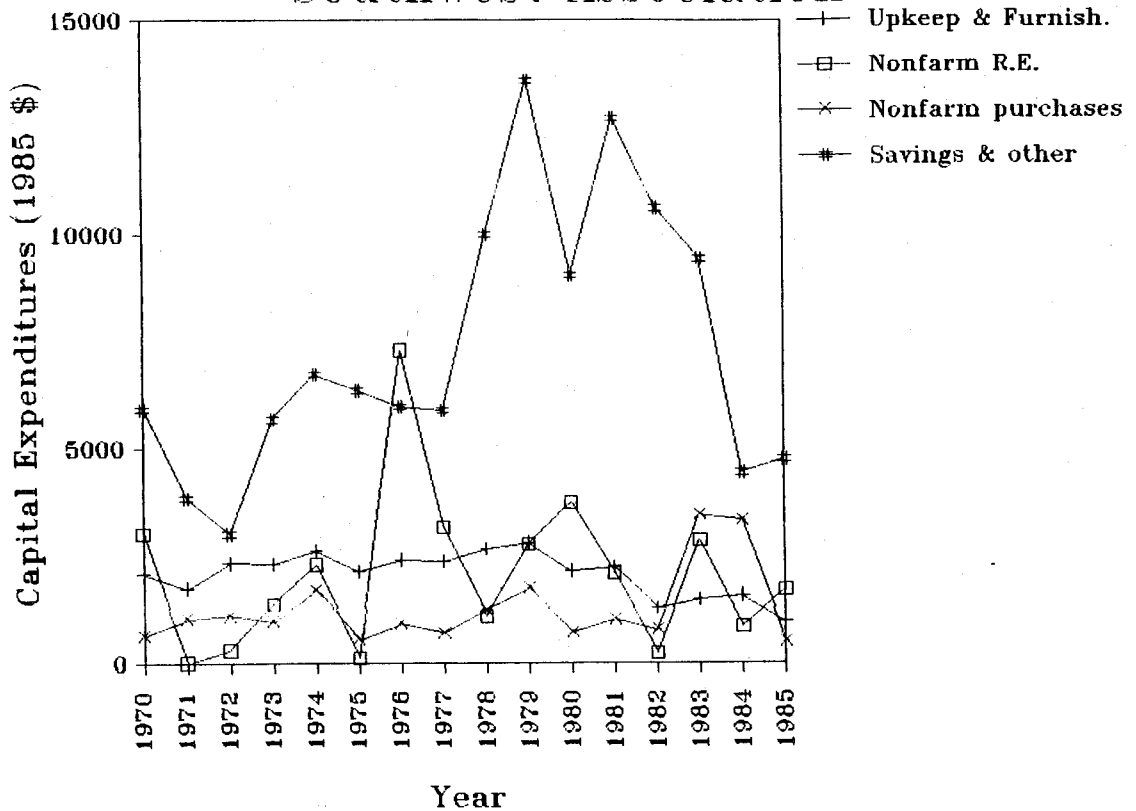


Figure 15. Household capital expenditures for furnishings, equipment, and dwelling upkeep; personal vehicles and other nonfarm purchases; nonfarm real estate purchases; and savings, life insurance, and other investments.

SUMMARY AND CONCLUSIONS

Before the final summary, let us look again at the associations, how the data is collected and prepared, and how it has been and could be used.

The Southeast and Southwest Associations

At the University of Minnesota, the Department of Agricultural and Applied Economic and the Minnesota Extension Service have a long tradition of cooperating with the Southeastern and Southwestern Minnesota Farm Business Management Associations and their predecessors. The predecessor of the Southeast Association was organized in the fall of 1927 by farmers in that part of the state for the purpose of studying the farm business through farm records. The predecessor of the Southwest Association was organized in the fall of 1939. The purposes of these associations are (1) to encourage farmers to maintain an accurate and useful system of farm accounts, (2) to provide assistance to members in understanding their records and financial analysis, and (3) to provide the Department and the Extension Service with a detailed and accurate set of actual farm records for educational and research uses. Departmental and Extension personnel use the data for monitoring the financial conditions of Minnesota farmers, preparing educational materials based on actual farm data, and for research projects concerning production costs, financial trends, crop yields, household finances, and other topics.

Each farmer-member is responsible for keeping the records during the year with the association fieldmen available for guidance. A year-end analysis is performed on each farm's records if they are complete. These year-end analyses are summarized and compiled into an annual report for each association. Since 1983, the Center for Farm Financial Management's microcomputer program, FINANX,

has been used for year-end analysis. The summarization of the data has been done in the St. Paul Campus Computer Center since 1983. Starting with 1986 records, the summarization and compilation will be done on an advanced microcomputer also. In previous years, programs on larger computers in St. Paul and Madison, Wisconsin, were used for year-end analysis and summarization. Prior to 1966, all analysis, summarization and report preparation was done by hand.

The annual reports include whole-farm information as well as enterprise costs and returns. To provide more information, the farms are classified as high-profit or low-profit by whether their whole-farm profit puts them in the high 20% or low 20% of the farms in the report. Member farmers can compare their operation to this information to find areas that need management attention and areas which have above-average performance. Nonmember farmers can also use the report for comparison if they prepare their records and year-end analysis in the same way. Credit institutions, policy makers, and others can use the reports as benchmarks for analyzing how the farm trends may affect their business and policies.

In addition to the year-end analysis and the annual report, members receive on-farm instructional visits; end-of-year income tax planning and preparation; periodic meetings, tours and seminars; a monthly newsletter; and other managerial and educational assistance. Each farmer pays an annual fee which covers a large part of the cost, with the balance defrayed by the Minnesota Extension Service and research programs of the University of Minnesota. While the membership of each association changes slightly each year, most members have belonged for many years. Major changes in membership occur when there is a change in the association fieldmen. For example, between 1975 and 1976 and between 1980 and 1981, membership dropped in the Southeast Association when new

fieldmen started. The makeup of the high- and low-profit groups change from year to year; however, the membership of the high-profit group is more stable than the low-profit group's membership.

The Current Financial Crisis

The data from the associations has been very useful during the current financial crisis in agriculture. The fieldmen of the associations were the among the first to spot trouble in 1980 and 1981. They enlisted the help of departmental faculty and were able to start giving advice at an early date. The data has been a very good source for measuring the severity of the financial problem in Minnesota. Since the fieldmen are also Extension employees, members and nonmembers alike have benefited from their experience and ability to produce real-life examples for educational meetings. Departmental faculty have also been able to use the farm records data to build real-life examples for on-campus teaching and other educational efforts. Without this affiliation with the associations and the resulting set of data, Department and Extension personnel would have had to rely on inconsistent and piecemeal data sources. Their response would have been much slower due to having to search for and develop examples rather than have them already available in the data.

Summary

The major purpose of this report is to examine the financial conditions of the farmers who have been members of the Southeastern and Southwestern Minnesota Farm Business Management Associations from 1970 through 1985. Farmers in both associations had a large increase and then an extreme drop in average profit per farm between 1970 and 1985. In 1985, the average profit in the Southwest Association was \$5,487--only 16 percent of the 1970 level when expressed in constant 1985 dollars. The overall averages tell only part of the profit story.

The high-profit group of farmers have done well even in recent years, but the low-profit group has had negative income for 1979 through 1985 in the Southeast and 1981 through 1985 in the Southwest. The range between these groups is stunning. In 1985, the overall average income in the Southwest was \$5,487; the 20% of the farmers with the highest profits averaged \$50,121; the lowest, \$-43,474!

Changes in other financial measures have been just as dramatic as the changes in farm profit. The average net worth of the farm business is less in 1985 than in 1970 even after the tremendous increases in the late 1970s. The low-profit group of the Southeast Association has a negative net worth in 1985; however, if the nonfarm assets are included, the low-profit average family would still have a positive net worth. The rate of return to equity invested in the farm have been very good: in the 20s, 30s, and even up to 44 and 51% during the 1970s. The rate of return has not been as good in the 1980s. The overall average rate of return to equity in the Southwest Association was -3% in 1985! The low-profit group in the Southeast Association has had a negative rate of return to equity since 1979; in 1985, it was -82%! Using the USDA's financial trouble classification using the debt-to-asset percentage, only the high-profit group in the Southwest has an average that classifies them as having no financial trouble in 1985. The average farm in both associations is classified as having trouble; the low-profit groups are classified as having severe trouble. The average acreage per farm has increased--even in the last few years of financial hard times.

Farm family finances generally follow the trends of the general population. Compared with the previous year, nonfarm income increases as farm profit decreases and it decreases as farm profit increase--except in a few years,

most notably from 1984 to 1985 when both farm profit and nonfarm income decrease. Family living expenses are quite stable even when farm profit fluctuates. Individual items have different items. On a per family member basis, expenditures for food and meals; medical care and health insurance; gifts and special events; and recreation have increased--even in recent years. Other items such as clothing and clothing materials have decreased over this time period. Family capital expenditures were the most responsive to changes in farm profit and nonfarm income.

Since 1970, the farmer-members of the Southeast and Southwest Associations have experienced very high and very low profit levels. They have seen asset values increase and then fall precipitously. Through all of this, there has been a wide range in the high-profit and low-profit groups. One of the next steps in the analysis of this data is to search for reasons why some farms have done so well and others have not. Some reasons are obvious, such as untimely capital purchases, but other reasons are not so obvious and, if found, could help more farmers.

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APPENDIX A

Financial Data Tables

Appendix Table 1. Farm Income and Expenses per farm, 1970-1985.

Items	Group	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
----- (1985 dollars) -----																	
SOUTHEAST																	
Number of Farms:		113	113	114	118	112	101	78	80	74	83	86	63	54	53	57	59
Gross Cash Farm Income:	Average:	116,978	116,289	133,048	173,223	180,840	159,931	176,611	204,534	220,631	209,018	210,380	189,792	225,334	192,591	194,254	197,842
	High:	*	*	*	*	*	*	*	363,319	339,308	319,766	321,686	290,402	369,134	334,573	345,589	284,638
	Low:	*	*	*	*	*	*	*	147,568	124,680	159,379	171,267	179,675	184,795	149,196	180,451	181,206
Total Cash Expense:	Average:	71,818	79,464	81,021	104,767	102,360	109,198	112,299	133,055	138,440	136,870	145,168	133,001	168,213	125,650	149,188	151,162
	High:	*	*	*	*	*	*	*	214,607	207,707	177,841	211,575	159,120	263,575	191,546	247,477	211,917
	Low:	*	*	*	*	*	*	*	134,770	87,724	132,699	135,836	170,904	149,428	113,728	164,944	163,382
Profit or Loss	Average:	34,835	30,451	49,927	111,349	68,881	40,603	52,115	57,653	91,397	51,963	53,334	30,892	27,364	37,223	21,463	16,709
	High:	*	*	*	*	*	*	*	146,666	186,736	122,728	126,158	107,462	77,481	113,300	79,785	69,411
	Low:	*	*	*	*	*	*	*	-2,265	21,711	-10,051	-1,697	-25,987	-6,286	-13,866	-22,840	-23,984
SOUTHWEST																	
Number of Farms:		140	146	156	144	145	140	124	169	183	179	170	172	180	182	168	180
Gross Cash Farm Income:	Average:	196,952	187,312	205,537	286,392	297,999	251,774	257,898	243,115	292,463	301,555	308,402	309,622	275,740	271,329	268,591	237,875
	High:	*	*	*	*	*	*	*	347,300	560,173	375,785	353,654	341,754	432,267	396,278	375,928	268,053
	Low:	*	*	*	*	*	*	*	250,027	151,662	396,656	377,470	489,788	254,979	299,820	314,117	368,441
Total Cash Expense:	Average:	146,885	160,858	168,768	217,428	190,427	185,403	191,079	190,128	230,541	243,298	252,212	248,774	228,974	206,918	225,223	185,864
	High:	*	*	*	*	*	*	*	263,677	464,044	281,916	264,789	249,706	340,133	282,811	300,998	181,695
	Low:	*	*	*	*	*	*	*	228,929	112,328	348,587	320,676	417,177	209,524	251,773	297,797	321,469
Profit or Loss	Average:	33,486	32,239	69,873	139,359	56,510	42,967	31,477	58,694	103,013	42,603	60,984	39,108	28,796	30,065	10,224	5,487
	High:	*	*	*	*	*	*	*	137,669	228,981	100,528	124,537	59,225	100,565	96,495	69,856	50,151
	Low:	*	*	*	*	*	*	*	1,601	24,216	9,759	22,942	-57,160	-3,193	-24,964	-37,424	-43,474
Consumer Price Index (CPI-U, 1985=100)		36	38	39	41	46	50	53	56	61	67	77	85	90	93	97	100

* The operator values for the high and low profit groups are not available prior to 1977.

Appendix Table 2. Assets, Liabilities, and Net Worth per farm, 1970-1985.

Items	Group	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
----- (1985 dollars) -----																	
SOUTHEAST																	
Current and Intermediate Assets		129,387	164,625	170,131	234,975	221,480	213,461	213,875	247,629	258,688	214,496	228,722	208,280	250,521	201,205	169,127	164,167
Longterm Assets		132,107	160,606	171,430	175,633	173,162	185,737	179,474	216,952	239,200	170,056	154,287	191,210	276,899	187,174	180,692	151,854
Total Farm Assets:	Average:	261,495	325,231	341,560	410,608	394,642	399,198	393,349	464,580	497,888	384,552	383,008	399,490	527,421	388,379	349,818	316,021
	High:	*	*	*	*	*	*	*	819,906	720,412	565,740	628,760	481,217	1,112,222	829,260	555,604	566,056
	Low:	*	*	*	*	*	*	*	427,821	334,191	332,483	389,651	510,422	500,779	311,766	314,766	258,034
Non-farm Assets:	Average:	74,729	75,086	92,839	100,712	97,696	82,437	111,468	83,621	76,416	85,879	92,320	87,684	67,400	52,157	55,779	54,832
Total Assets:	Average:	336,224	400,317	434,399	511,320	492,338	481,635	504,817	548,202	574,304	470,431	475,329	487,174	594,821	440,536	405,597	370,853
Current and Intermediate Liabilities		48,690	66,097	74,247	74,508	49,833	59,739	48,177	70,536	80,187	67,926	83,793	67,123	117,693	64,485	71,007	81,306
Longterm Liabilities		60,121	70,719	85,137	84,631	72,350	69,133	65,861	81,065	93,529	73,221	95,234	137,816	150,016	112,351	128,602	120,031
Total Liabilities:	Average:	108,811	136,817	159,385	159,139	122,183	128,872	114,038	151,601	173,716	141,147	179,027	204,939	267,709	176,836	199,610	201,337
	High:	*	*	*	*	*	*	*	184,996	299,666	132,936	199,081	210,657	625,666	311,714	281,399	324,953
	Low:	*	*	*	*	*	*	*	210,966	112,946	215,354	313,706	351,000	284,737	255,300	204,817	264,724
Farm Net Worth (Equity)	Average:	152,683	188,414	182,175	251,469	272,459	270,326	279,311	312,980	324,172	243,405	203,981	194,551	259,711	211,543	150,209	114,684
	High:	*	*	*	*	*	*	*	634,910	420,746	432,803	429,679	270,560	486,555	517,546	274,205	241,103
	Low:	*	*	*	*	*	*	*	216,856	221,245	117,129	75,944	159,422	216,041	56,466	109,949	-6,690
SOUTHWEST																	
Current and Intermediate Assets		161,275	167,079	199,604	273,490	234,026	228,897	212,376	253,840	334,194	311,846	279,381	247,681	239,166	246,769	224,426	189,560
Longterm Assets		204,811	198,890	217,356	225,051	236,499	238,784	247,604	187,874	195,856	665,610	629,606	671,472	423,405	452,326	384,956	243,112
Total Farm Assets:	Average:	366,086	365,969	416,960	498,541	470,525	467,682	459,981	441,714	530,050	977,456	908,987	919,154	662,571	699,095	609,382	432,672
	High:	*	*	*	*	*	*	*	656,754	821,590	616,694	840,578	713,228	863,994	1,122,588	1,016,104	549,184
	Low:	*	*	*	*	*	*	*	409,496	307,970	1,786,303	1,350,962	1,498,499	964,352	625,859	605,002	495,665
Non-farm Assets:	Average:	62,612	59,672	59,791	79,879	68,358	74,676	82,440	93,667	89,870	118,553	77,136	86,224	102,192	87,295	84,289	75,880
Total Assets:	Average:	428,698	425,641	476,751	578,420	538,883	542,357	542,420	535,381	619,920	1,096,009	986,123	1,005,378	764,763	786,390	693,670	508,552
Current and Intermediate Liabilities		90,388	99,571	111,135	109,371	92,317	90,644	115,408	111,600	144,917	144,911	129,058	118,808	129,875	127,565	129,798	102,071
Longterm Liabilities		85,667	77,639	88,097	99,788	95,290	92,529	105,192	109,862	108,423	126,675	146,908	156,869	151,617	176,926	186,023	152,960
Total Liabilities:	Average:	176,055	177,210	199,232	209,159	187,607	183,172	220,600	221,462	253,341	271,586	275,965	275,677	281,492	304,491	315,820	255,031
	High:	*	*	*	*	*	*	*	248,124	344,177	228,975	265,389	310,038	411,174	348,041	411,973	213,325
	Low:	*	*	*	*	*	*	*	265,624	175,495	449,608	368,808	392,656	306,341	404,466	440,312	413,152
Farm Net Worth (Equity)	Average:	190,032	188,759	217,728	289,382	282,919	284,509	239,380	220,252	276,709	705,870	633,021	643,476	381,079	394,604	293,561	177,641
	High:	*	*	*	*	*	*	*	408,629	477,413	387,719	575,188	403,190	452,820	774,548	604,132	335,859
	Low:	*	*	*	*	*	*	*	143,872	132,475	1,336,694	982,154	1,105,843	658,011	221,394	164,690	82,513

* The operator values for the high and low profit groups are not available prior to 1977.

Appendix Table 3. Financial Analysis, 1970-1985.

Items	Group	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
SOUTHEAST																	
Rate of Return on:																	
Average Investment:	Average:	10	7	12	28	16	9	11	13	19	11	15	8	8	9	7	7
	High:	*	*	*	*	*	*	*	*	25	20	24	20	13	13	13	15
	Low:	*	*	*	*	*	*	*	*	4	-4	0	-3	0	0	-3	-6
Average Equity:	Average:	13	8	18	44	21	9	13	14	24	13	18	8	5	9	3	0
	High:	*	*	*	*	*	*	*	*	33	26	27	28	16	19	16	21
	Low:	*	*	*	*	*	*	*	*	2	-18	-21	-37	-13	-23	-49	-82
Debt to Asset Percent:	Average:	42	42	47	39	31	32	29	33	35	37	47	51	51	46	57	64
	High:	*	*	*	*	*	*	*	*	23	42	23	44	56	38	51	57
	Low:	*	*	*	*	*	*	*	*	49	34	65	81	69	57	82	103
Interest Paid as a % of:																	
Gross Cash Income:	Average:	5	6	6	5	5	7	4	6	6	6	8	9	11	10	11	11
	High:	*	*	*	*	*	*	*	5	5	5	8	5	12	9	7	10
	Low:	*	*	*	*	*	*	*	10	9	10	10	17	12	19	18	14
Total Cash Expenses:	Average:	9	8	9	8	8	11	7	10	10	9	12	13	14	15	14	15
	High:	*	*	*	*	*	*	*	8	8	9	13	10	17	16	10	13
	Low:	*	*	*	*	*	*	*	10	13	12	13	18	15	25	19	15
Net Profit Margin:	Average:	26	22	33	50	38	26	31	33	46	31	33	23	23	21	13	11
Asset Turnover Ratio:	Average:	37	32	36	56	42	36	35	38	41	36	45	36	34	41	52	58
SOUTHWEST																	
Rate of Return on:																	
Average Investment:	Average:	9	8	18	31	12	10	7	13	22	**	8	7	6	7	4	4
	High:	*	*	*	*	*	*	*	*	34	14	20	10	17	12	8	7
	Low:	*	*	*	*	*	*	*	*	6	9	3	-1	1	1	0	-1
Average Equity:	Average:	11	10	28	51	16	11	7	20	37	**	8	4	3	4	0	-3
	High:	*	*	*	*	*	*	*	*	50	20	24	10	21	14	8	8
	Low:	*	*	*	*	*	*	*	*	7	-4	0	-7	-2	-9	-27	-47
Debt to Asset Percent:	Average:	48	48	48	42	40	39	48	50	48	28	30	30	42	44	52	59
	High:	*	*	*	*	*	*	*	*	38	42	37	43	48	31	41	39
	Low:	*	*	*	*	*	*	*	*	65	57	25	27	26	32	65	83
Interest Paid as a % of:																	
Gross Cash Income:	Average:	6	6	6	5	5	6	5	6	6	6	8	10	12	11	11	11
	High:	*	*	*	*	*	*	*	5	5	4	7	8	11	8	8	7
	Low:	*	*	*	*	*	*	*	7	8	7	8	10	13	16	16	14
Total Cash Expenses:	Average:	8	7	7	6	7	8	7	7	7	7	10	12	15	14	14	14
	High:	*	*	*	*	*	*	*	6	6	5	9	11	13	11	10	11
	Low:	*	*	*	*	*	*	*	8	10	8	9	12	16	19	17	16
Net Profit Margin:	Average:	28	27	42	54	32	27	23	36	46	28	38	42	30	22	13	10
Asset Turnover Ratio:	Average:	32	31	41	58	39	36	29	37	49	23	22	16	22	32	33	36

* The values for the high and low profit groups are not available prior to 1977.

** In the Southwest, the 1979 rates of return are calculated using the ending asset and liabilities of 1978 because the asset valuation method changed between 1978 and 1979.

Appendix Table 4. Capital Asset Purchases & Sales, 1970-1985.

Items	Group	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
----- (1985 dollars) -----																	
SOUTHEAST																	
Capital Asset Purchases:																	
Land, Buildings, & Improvements:		8,633	10,152	16,555	8,475	14,755	17,835	14,940	37,979	35,747	36,385	26,269	10,069	14,484	**	20,370	5,298
Machinery & Equipment:		13,988	16,551	18,064	23,622	26,500	19,552	21,560	29,594	31,265	34,086	30,819	20,607	20,220	**	12,385	13,394
Capital Asset Sales:																	
		1,283	1,158	867	966	1,453	971	831	1,030	895	1,427	971	3,398	271	**	708	147
Total Crop Acres:	Average:	258	276	287	298	304	333	293	328	333	307	331	327	347	**	363	423
	High:	*	*	*	*	*	*	*	430	443	443	519	461	339	**	644	564
	Low:	*	*	*	*	*	*	*	295	270	278	333	348	442	**	338	415
Number of Farms:																	
		113	113	114	118	112	101	78	80	74	83	86	63	54	53	57	59
SOUTHWEST																	
Capital Asset Purchases																	
Land, Buildings, & Improvements		12,392	9,804	18,555	21,404	19,083	18,431	23,074	24,952	26,351	36,211	25,173	30,993	18,887	**	15,320	7,871
Machinery & Equipment		17,005	16,208	18,257	30,242	28,906	24,391	28,711	26,429	36,936	36,562	21,752	24,883	17,888	**	13,845	8,771
Capital Asset Sales																	
		2,809	996	1,538	1,956	2,123	1,317	2,228	1,294	739	501	2,447	1,475	1,331	**	3,793	2,297
Total Crop Acres:	Average:	390	390	417	430	452	451	438	447	460	473	469	478	480	**	519	552
	High:	*	*	*	*	*	*	*	666	731	433	554	409	559	**	644	594
	Low:	*	*	*	*	*	*	*	398	289	669	521	728	568	**	566	644
Number of Farms:																	
		140	146	156	144	145	140	124	169	183	179	170	172	180	182	168	180

* Values for the high and low profit groups are not available prior to 1977.

** Values for 1983 are not available.

Appendix Table 5. Family Finances, 1970-1985.

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
***** (1985 dollars) *****																
=====SOUTHEAST=====																
Average Farm Profit:	34,835	30,451	49,927	111,349	68,881	40,603	52,115	57,653	91,397	51,963	53,334	30,892	27,364	37,223	21,463	16,709
Number of farms reporting:	48	43	47	38	42	36	30	38	30	35	38	22	23	13	14	15
Average Family Size:	4.6	4.5	4.6	4.5	4.3	4.0	3.7	4.0	4.0	4.0	4.0	4.0	4.0	*	3.5	3.4
Average Nonfarm Income	3,823	5,591	4,675	4,469	5,192	5,221	5,726	4,463	6,952	7,647	8,214	8,528	8,650	5,048	8,397	6,065
HOUSEHOLD EXPENSES:																
Food and meals expenses	4,491	4,207	4,526	4,912	4,834	4,499	4,016	4,362	4,630	4,569	3,892	3,746	3,709	3,714	3,626	4,017
Medical care and health insurance paid	2,474	2,616	2,551	2,723	2,541	2,409	1,982	3,034	2,480	2,457	2,393	1,910	2,720	2,597	3,132	2,848
Church and charity donations	1,435	1,278	1,353	1,344	1,409	1,601	1,674	1,784	1,792	1,922	1,610	1,547	1,732	1,752	2,497	2,718
Operating and supplies	1,358	1,193	1,219	1,334	1,518	1,583	1,285	1,184	1,459	1,602	1,648	1,318	1,863	1,538	1,597	1,235
Clothing and clothing materials	1,881	1,636	2,070	2,089	1,985	1,681	1,652	1,575	1,670	1,544	1,336	1,412	1,121	1,412	1,179	1,295
Gifts and special events	931	1,041	1,247	1,278	1,265	947	1,166	1,711	1,845	1,404	1,715	1,907	1,677	1,245	1,117	1,319
Personal share of auto and truck	970	930	1,052	1,118	1,075	1,219	1,259	1,253	1,181	1,024	1,362	1,298	1,116	1,344	1,161	1,326
Personal care and spending	767	637	825	990	1,023	885	701	778	971	708	792	700	623	761	830	766
Education	1,033	1,246	1,232	750	764	1,251	745	767	848	588	568	466	205	537	484	695
Recreation	596	932	964	1,147	1,392	1,069	1,846	980	1,210	1,605	1,475	1,203	1,119	1,302	789	1,191
Telephone and electricity	537	499	555	542	500	512	571	701	747	820	843	726	1,026	869	763	893
Misc. expenses and purchases	0	0	0	0	0	0	0	12	45	10	17	27	202	164	65	178
Family living from the farm	950	916	939	1,174	1,078	961	879	1,042	1,050	1,193	939	991	615	377	555	377
TOTAL FAMILY LIVING EXPENSES	17,423	17,133	18,532	19,402	19,384	18,618	17,775	19,183	19,929	19,448	18,589	17,251	17,729	17,613	17,795	18,858
CAPITAL EXPENDITURES:																
Upkeep on dwelling	283	159	332	143	556	306	1,259	105	467	1,547	206	635	627	590	526	187
Furnishings and equipment	1,488	1,291	1,124	1,835	2,072	1,587	1,669	1,394	2,280	1,424	1,394	1,133	807	1,519	916	953
Personal vehicles, other nonfarm purch.	787	651	882	1,162	971	586	796	710	790	1,205	619	1,720	723	1,018	0	472
Nonfarm real estate purchases	1,482	220	1,317	351	3,056	3,040	2,239	87	5,575	4,578	1,069	1,428	0	0	690	0
Savings, life ins. & other investments	7,707	4,125	6,814	5,977	6,653	8,729	7,720	5,029	6,436	8,008	6,982	10,272	6,841	2,422	2,699	4,712
TOTAL CAPITAL EXPENDITURES	11,747	6,447	10,468	9,467	13,309	14,247	13,682	7,325	15,548	16,762	10,270	15,187	8,998	5,549	4,830	6,324
Income taxes paid	3,563	4,462	1,761	3,520	4,978	9,008	4,282	7,806	7,194	9,087	5,209	5,940	3,610	5,292	3,336	2,503
TOTAL FAMILY USE OF CASH	31,782	27,125	29,823	31,215	36,594	40,913	34,860	33,271	41,621	44,103	33,130	37,388	29,722	28,077	25,406	27,308

* The family size information is not available for 1983.

Appendix Table 5 (continued).

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
***** (1985 dollars) *****																
=====SOUTHWEST=====																
Average Farm Profit:	33,486	32,239	69,873	139,359	56,510	42,967	31,477	58,694	103,013	42,603	60,984	39,108	28,796	30,065	10,224	5,487
Number of farms reporting:	62	64	67	55	60	58	58	75	83	79	71	84	96	96	89	93
Average Family Size:	5.1	4.8	4.8	4.5	4.3	4.1	4.3	4.0	4.0	4.0	4.0	4.0	4.0	*	3.7	3.9
Average Nonfarm Income:	2,676	6,914	4,469	4,265	4,380	5,187	4,380	6,016	6,709	6,714	5,964	8,383	10,497	9,421	11,664	8,445
HOUSEHOLD EXPENSES:																
Food and meals expenses	4,255	4,077	4,374	4,602	4,666	4,507	4,543	4,305	4,609	4,627	4,467	4,051	4,415	4,486	4,003	4,022
Medical care and health insurance paid	2,106	2,128	2,281	2,271	2,304	2,387	2,670	2,560	2,623	2,233	2,530	2,327	2,532	2,680	2,571	2,661
Church and charity donations	1,355	1,519	1,731	1,854	1,891	1,957	2,738	1,788	2,167	1,936	1,744	1,636	1,476	1,356	1,468	1,220
Operating and supplies	1,385	1,320	1,494	1,544	1,710	1,677	1,631	1,599	1,510	1,586	1,761	1,314	1,519	1,485	1,276	1,151
Clothing and clothing materials	1,812	1,721	1,872	2,021	2,059	1,883	1,946	1,805	1,967	1,758	1,619	1,560	1,420	1,479	1,288	1,254
Gifts and special events	684	709	854	963	1,158	1,567	1,230	996	1,186	1,171	1,328	1,515	1,204	1,355	1,165	1,035
Personal share of auto and truck	1,116	1,081	1,106	1,130	1,226	1,213	1,143	1,317	1,271	1,335	1,697	1,382	1,400	1,119	1,206	1,293
Personal care and spending	706	568	684	673	772	718	779	898	806	744	819	694	749	725	733	914
Education	1,050	773	903	927	938	1,055	1,102	536	783	353	619	418	503	512	407	541
Recreation	931	672	674	1,126	1,453	1,207	1,296	1,196	1,252	1,297	1,355	1,230	1,083	1,285	1,036	961
Telephone and electricity	446	438	507	467	486	496	576	602	651	689	837	718	834	851	901	861
Misc. expenses and purchases	0	0	0	0	0	0	0	18	59	61	22	57	47	140	58	76
Family living from the farm	1,114	807	995	1,423	1,167	1,131	801	802	811	864	836	640	581	557	361	331
TOTAL FAMILY LIVING EXPENSES	16,961	15,815	17,473	19,003	19,832	19,798	20,456	18,423	19,696	18,653	19,634	17,541	17,761	18,030	16,472	16,320
CAPITAL EXPENDITURES:																
Upkeep on dwelling	465	369	383	387	528	354	491	502	404	817	163	635	162	261	449	89
Furnishings and equipment	1,593	1,363	1,923	1,903	2,066	1,767	1,895	1,844	2,236	1,967	1,969	1,565	1,108	1,210	1,114	869
Personal vehicles, other nonfarm purch.	634	1,020	1,090	959	1,680	532	911	689	1,230	1,724	698	1,007	768	3,428	3,302	488
Nonfarm real estate purchases	3,006	0	288	1,351	2,271	106	7,275	3,149	1,073	2,748	3,704	2,077	207	2,834	843	1,685
Savings, life ins. & other investments	5,901	3,825	2,985	5,662	6,730	6,342	5,955	5,874	9,997	13,574	9,020	12,694	10,597	9,412	4,407	4,720
TOTAL CAPITAL EXPENDITURES:	11,600	6,577	6,670	10,262	13,274	9,100	16,528	12,059	14,941	20,829	15,554	17,978	12,841	17,147	10,115	7,851
Income taxes paid	3,629	3,076	2,016	4,938	6,651	6,934	6,909	6,236	6,264	8,064	4,915	3,757	3,393	3,885	4,367	3,538
TOTAL FAMILY USE OF CASH	31,076	24,660	25,164	32,779	38,590	34,700	43,092	35,916	40,090	46,682	39,267	38,636	33,414	38,504	30,594	27,378

* The family size information is not available for 1983.

Appendix Table 6. Farm Family Income and Expenditures per Family Member, 1970-1985.

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
***** (1985 dollars) *****																
=====SOUTHEAST=====																
Average Farm Profit per Family Member:	7,573	6,767	10,854	24,744	16,019	10,151	14,085	14,413	22,849	12,991	13,334	7,723	6,841	*	6,132	4,914
Number of farms reporting:	48	43	47	38	42	36	30	38	30	35	38	22	23	*	14	15
Average Family Size:	4.6	4.5	4.6	4.5	4.3	4.0	3.7	4.0	4.0	4.0	4.0	4.0	4.0	*	3.5	3.4
Average Nonfarm Income per Family Member	831	1,243	1,016	993	1,207	1,305	1,548	1,116	1,738	1,912	2,054	2,132	2,162	*	2,399	1,784
HOUSEHOLD EXPENSES per Family Member:																
Food and meals expenses	976	935	984	1,091	1,124	1,125	1,085	1,090	1,158	1,142	973	936	927	*	1,036	1,181
Medical care and health insurance paid	538	581	555	605	591	602	536	758	620	614	598	478	680	*	895	838
Church and charity donations	312	284	294	299	328	400	453	446	448	481	402	387	433	*	713	799
Operating and supplies	295	265	265	296	353	396	347	296	365	401	412	329	466	*	456	363
Clothing and clothing materials	409	364	450	464	462	420	446	394	418	386	334	353	280	*	337	381
Gifts and special events	202	231	271	284	294	237	315	428	461	351	429	477	419	*	319	388
Personal share of auto and truck	211	207	229	249	250	305	340	313	295	256	340	324	279	*	332	390
Personal care and spending	167	142	179	220	238	221	189	194	243	177	198	175	156	*	237	225
Education	225	277	268	167	178	313	201	192	212	147	142	117	51	*	138	204
Recreation	129	207	210	255	324	267	499	245	303	401	369	301	280	*	225	350
Telephone and electricity	117	111	121	120	116	128	154	175	187	205	211	182	257	*	218	263
Misc. expenses and purchases	0	0	0	0	0	0	0	3	11	3	4	7	50	*	19	52
Family living from the farm	207	204	204	261	251	240	237	261	263	298	235	248	154	*	159	111
FAMILY LIVING EXPENSES per member:	3,788	3,807	4,029	4,312	4,508	4,655	4,804	4,796	4,982	4,862	4,647	4,313	4,432	*	5,084	5,546
CAPITAL EXPENDITURES per family member:																
Upkeep on dwelling	61	35	72	32	129	76	340	26	117	387	52	159	157	*	150	55
Furnishings and equipment	323	287	244	408	482	397	451	348	570	356	349	283	202	*	262	280
Personal vehicles, other nonfarm purch.	171	145	192	258	226	146	215	178	197	301	155	430	181	*	0	139
Nonfarm real estate purchases	322	49	286	78	711	760	605	22	1,394	1,145	267	357	0	*	197	0
Savings, life ins. & other investments	1,676	917	1,481	1,328	1,547	2,182	2,086	1,257	1,609	2,002	1,745	2,568	1,710	*	771	1,386
TOTAL CAPITAL EXPENDITURES:	2,554	1,433	2,276	2,104	3,095	3,562	3,698	1,831	3,887	4,191	2,568	3,797	2,250	*	1,380	1,860
Income taxes paid	775	992	383	782	1,158	2,252	1,157	1,951	1,799	2,272	1,302	1,485	902	*	953	736
FAMILY USE OF CASH per member:	6,909	6,028	6,483	6,937	8,510	10,228	9,422	8,318	10,405	11,026	8,282	9,347	7,431	*	7,259	8,032

* The family size information is not available for 1983.

Appendix Table 6 (continued).

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
***** (1985 dollars) *****																
====SOUTHWEST====																
Average Farm Profit per Family Member:	6,566	6,716	14,557	30,969	13,142	10,480	7,320	14,673	25,753	10,651	15,246	9,777	7,199	*	2,763	1,407
Number of farms reporting:	62	64	67	55	60	58	58	75	83	79	71	84	96	*	89	96
Average Family Size:	5.1	4.8	4.8	4.5	4.3	4.1	4.3	4.0	4.0	4.0	4.0	4.0	4.0	*	3.7	3.9
Average Nonfarm Income per Family Member	525	1,440	931	948	1,019	1,265	1,019	1,504	1,677	1,678	1,491	2,096	2,624	*	3,152	2,165
HOUSEHOLD EXPENSES per Family Member:																
Food and meals expenses	834	849	911	1,023	1,085	1,099	1,056	1,076	1,152	1,157	1,117	1,013	1,104	*	1,082	1,031
Medical care and health insurance paid	413	443	475	505	506	566	621	640	656	558	633	582	633	*	695	682
Church and charity donations	266	317	361	412	440	477	637	447	542	484	436	409	369	*	397	313
Operating and supplies	272	275	311	343	398	409	379	400	378	396	440	329	380	*	345	295
Clothing and clothing materials	355	359	390	449	479	459	453	451	492	439	405	390	355	*	348	322
Gifts and special events	134	148	178	214	269	382	286	249	296	293	332	379	301	*	315	265
Personal share of auto and truck	219	225	230	251	285	296	266	329	318	334	424	345	350	*	326	332
Personal care and spending	139	118	143	150	180	175	181	225	202	186	205	174	187	*	198	234
Education	206	161	188	206	218	257	256	134	196	88	155	104	126	*	110	139
Recreation	183	140	140	250	338	294	301	299	313	324	339	308	271	*	280	246
Telephone and electricity	87	91	106	104	113	121	134	150	163	172	209	179	208	*	244	221
Misc. expenses and purchases	0	0	0	0	0	0	0	4	15	15	6	14	12	*	16	19
Family living from the farm	218	168	207	316	271	276	186	201	203	216	209	160	145	*	98	85
FAMILY LIVING EXPENSES per member:	3,326	3,295	3,640	4,223	4,612	4,829	4,757	4,606	4,924	4,663	4,908	4,385	4,440	*	4,452	4,185
CAPITAL EXPENDITURES per member:																
Upkeep on dwelling	91	77	80	86	123	86	114	126	101	204	41	159	40	*	121	23
Furnishings and equipment	312	284	401	423	480	431	441	461	559	492	492	391	277	*	301	223
Personal vehicles, other nonfarm purch.	124	212	227	213	391	130	212	172	308	431	175	252	192	*	892	125
Nonfarm real estate purchases	589	0	60	300	528	26	1,692	787	268	687	926	519	52	*	228	432
Savings, life ins. & other investments	1,157	797	622	1,258	1,565	1,547	1,385	1,469	2,499	3,394	2,255	3,174	2,649	*	1,191	1,210
TOTAL CAPITAL EXPENDITURES per member	2,274	1,370	1,390	2,280	3,087	2,220	3,844	3,015	3,735	5,207	3,888	4,494	3,210	*	2,734	2,013
Income taxes paid	712	641	420	1,097	1,547	1,691	1,607	1,559	1,566	2,016	1,229	939	848	*	1,180	907
FAMILY USE OF CASH per member:	6,093	5,138	5,243	7,284	8,974	8,464	10,021	8,979	10,023	11,670	9,817	9,659	8,353	*	8,269	7,020

* The family size information is not available for 1983.

APPENDIX B

Calculation of Nonfarm Wage

The average nonfarm wage is used as an estimate of the value of a farmer's labor and management (i.e., his/her opportunity cost of working on the farm) (Appendix Table 7). The average nonfarm wage is used in the calculation of the return to investment (ROI) and the return to equity (ROE) in the section on "Financial Ratio Analysis."

The nonfarm wage estimate is calculated from data reported by the Minnesota Department of Jobs and Training (and its predecessors). The data are total employment and total wages reported by separate industries for 1976 through 1985. The average nonfarm annual wage is calculated by subtracting agricultural employment and wages from total employment and wages and then dividing the total nonfarm wage by the total nonfarm employment. This is done for the Southeast and Southwest regions. The Southeast region includes the counties of Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, and Winona. The Southwest region includes the counties of Cottonwood, Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, and Rock. The statewide figures are calculated for comparison.

The average nonfarm wage for 1970 to 1975 is estimated by extrapolation from the 1976-1978 average nonfarm annual wage. The wages for years 1972 through 1975 were extrapolated using average weekly manufacturing earnings for statewide Minnesota (U.S. Department of Labor, 1984). The wages for 1970 and 1971 were extrapolated using the average weekly earnings for U.S. production workers on

durable manufacturing payrolls (U.S. Department of Labor, 1985). The U.S. data was used for 1970 and 1971 because the Minnesota data was not reported for these two years.

Appendix Table 7. Average Nonfarm Wages, 1970-1985.

Items	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
							--- (1985 dollars) ---									
Minnesota (statewide)	17,621	18,084	19,328	19,338	18,767	18,450	19,563	19,423	19,535	19,088	18,195	17,987	18,308	18,641	18,735	18,873
Southeast Minnesota (Region 10)	16,089	16,511	17,648	17,656	17,135	16,845	17,949	17,827	17,674	18,380	16,671	16,350	16,754	16,983	16,976	16,972
Southwest Minnesota (Region 8)	12,980	13,321	14,237	14,244	13,824	13,590	14,574	14,248	14,300	14,124	13,408	13,410	13,271	13,338	13,321	13,233

Region 8: Cottonwood, Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, and Rock Counties

Region 10: Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, and Winona Counties

Sources:

1976-1985: "Average Covered Employment & Wages by Economic Region for the Calendar Year 19__ by Two Digits of Industry"

Minnesota Department of Jobs & Training, various years.

This does not include self-employed people and others (see report).

1972-1975: indexed backwards from average of 1976-1978 using data from:

"Establishment Survey Data", Bulletin 1370-17, Jan. 1984

Bureau of Labor Statistics, U.S. Dept. of Labor

1970-1971: indexed backwards from average of 1976-1978 using data from:

"Handbook of Labor Statistics", Bulletin 2217, June 1985, Table 80, p. 202,203

Bureau of Labor Statistics, U.S. Dept. of Labor