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**The Minnesota Rural Real
Estate Market in 1992**

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Including Special Studies Of:

Formation of the "Price Valley" in Southwest Minnesota
Economic Development Regions
The Greater Twin Cities Metropolitan Area
The Red River Valley Area
The Minnesota Dairy Region

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SUMMARY

The statewide estimated value of rural real estate in Minnesota increased 7% between July 1991 and July 1992. Nominally, the value reached \$912 per acre, its highest level since 1984. All districts in the state showed increases in 1992, with the highest percentage changes occurring in the West Central and Northwest districts (+12% and +11%, respectively). The district gaining the least in estimated values was the East Central (+4%), while the Southwest, Southeast and Northeast districts gained 7%, 7% and 8% respectively.

The average reported sales price of Minnesota farmland and buildings rose 5% from 1991 to 1992. This value reached \$937 per acre, which is also the highest level since 1984 in nominal terms. The largest changes in sales prices were seen in the Northeast and Northwest districts, with increases of 66% and 36% respectively. The sales prices for the Northeast district must be interpreted with care due to high volatility from year to year and a low number of reported sales. The West Central district also showed a strong gain, with reported sales prices 11% higher than 1991. The Southeast, Southwest, and East Central districts increased 2%, 4% and 1% respectively.

Adjusting the reported sales prices to remove some of the effects of changes in land quality sold resulted in a statewide increase of 10%, which suggests that the mix of land sold in 1992 included a larger proportion of lower priced land than the mix of land sold in 1991. These adjusted prices are calculated by multiplying the 1992 average sales price for a given county by the number of acres sold in that county in 1991. The sum of the resulting values for an area is then divided by the total number of acres sold in that area in 1991, resulting in an adjusted 1992 average price for a district based upon 1992 prices and the 1991 distribution of land sales. The Northeast, Northwest, and West Central districts again showed the largest increases of 70%, 23% and 15% respectively, while the Southeast and Southwest districts had more moderate adjusted increases of 3% and 4%. The adjusted sales price for the East Central district declined 1% from its unadjusted 1991 level.

Buyers who purchased land to increase the size of existing land holding continued to dominate the market in 1992. They accounted for 79% of the reported acres sold and were involved in 81% of the statewide number of sales. Only 9% of the sales went to buyers who plan to use the land as their sole tracts of operation. This has hovered around 9% over the last three years, and continues to be the lowest percentage on record of sales to sole-tract buyers. Investor buyers made up the remaining 10% of statewide sales.

As a reason for selling land, retirement accounted for 29% of 1992 sales, a level that has changed very little over the last four years. Death account for 18% of sales, and financial difficulty was the reason for 15% of sales. Reducing the size of an existing operation has continued to increase its role as a reason for selling land. It accounted for 14% of 1992 sales, up from 6% in 1987.

Mortgages were used to finance 40% of 1992 sales, up from 32% in 1991 and overtaking cash to become the predominant method of financing purchases of reported sales of Minnesota farmland in 1992. Financing by contract for deed decreased, being employed in only 24% of sales in 1992 versus 33% in 1990 and 28% in 1991.

Some of the year to year volatility in market activity and sales prices throughout the state may be attributable to the unusual pattern of interest rate changes during the survey period. Near-term interest rates declined sharply, while long-term rates declined very little. By the end of the summer of 1992, the ratio of long-term to near-term rates was approximately 2 to 1, the highest ratio on record. By ignoring the risk of a future rise in short-term rates, buyers in 1992 who chose to finance their purchases with adjustable rate mortgages could have cut their current annual financing costs by more than one third when compared to annual carrying costs of conventional mortgages in 1990-91. This situation is highly unstable, but it could explain some of the increase in sales prices in 1992.

BACKGROUND

Since 1910, the University of Minnesota has gathered and analyzed survey data on Minnesota rural real estate markets. Survey respondents include bankers, appraisers, brokers, county officials, loan officers and other individuals with knowledge of rural real estate market activities and trends. This year's response rate was 40% with 428 usable responses.

The questionnaires also sought information on profiles of actual sales, including county and township of sales, acres sold, price per acre, subjective estimates of building and land quality, reason for selling, characteristics of buyer and seller, method of finance and buyer's proximity to the tract purchase.

The questionnaires asked for estimates of the value of farmland and buildings and trends within the respondents' communities, for three classes of land: Good, average, and poor. Duplicate reported sales were eliminated from the data, and respondents were asked not to report sales of farmland between close relatives.

Estimates of land value make up the first portion of the survey. Respondents provided estimates of land value per acre for their particular area as of July, 1992. These estimates were averaged by county, and weighted by the amount of land in farms in each county as reported in 1987 U.S. Census of Agriculture. Summing this total value for the state and dividing by the total land in farms in Minnesota provided the statewide average estimated value per acre of Minnesota farmland. The same procedure was used to calculate estimated values for the individual districts.

Actual sales data make up the major portion of the survey. The respondents were asked to report on sales made between January and July of 1992. Summing the total sales proceeds for a given area and dividing by the total acres sold yielded the average reported sales price for that area.

Total reported acres sold increased in 1992, reaching its highest level since 1989 for most districts and the state as a whole. All districts reported some increase in market activity with the exception of the Northwest.

PART I. The Minnesota Rural Real Estate Market in 1992

A. Land Market Trends

ANALYSIS OF ESTIMATED VALUES

The 1992 statewide average estimated value per acre of Minnesota farmland increased to \$912, up 7% from 1991. This continues the upward trend which began in 1987, after the land market collapse of the mid 1980's. The 1992 value was the highest nominal value since 1984. Table 1 shows the estimated values for the six districts and the state as a whole for 1973-1992. Figure 1 displays a map of the six districts with their respective average estimates. Deflated prices are examined in a later section.

The strong increase in estimated value in the Northwest district (+11%) may be attributable in part to volatility in wheat market prices in 1991-92. This district contains two-thirds of the wheat acreage in the state. Wheat prices had fallen sharply in 1990-91, just before the 1991 survey. The winter of 1991-92 brought higher wheat prices which could have contributed to reversing the pessimism of the previous year. Sugar beets are also a major cash crop in the Northwest district and a good harvest and favorable prices for beets in 1991-92 undoubtedly added to an optimistic outlook.

A similar explanation may account in part for the 12% increase in the West Central district. Estimated values in this district had decreased slightly in terms of estimated values in 1991, while the neighboring Southwest district increased 4%. In 1992, as the Southwest district again increased by 7%, spillover effects may have contributed to a market price correction in the West Central district.

Sale prices in all other districts in the state also increased at levels higher than inflation. The Southwest district (+7%) continued to have the highest estimated value of farmland in the state at \$1,319 per acre, while the Southeast (+7%) was second highest at \$1,172 per acre. The East Central and northeast districts rebounded from 1991 to post increases in estimated values of 4% and 8% respectively.

ANALYSIS OF REPORTED SALES PRICES

The average reported statewide sales price of farmland continued the upward trend that began in 1988, reaching \$937 for the first six months of 1992, up 5% from \$891 per acre in 1991 (Table 2).

The highest percentage gain was posted in the Northeast (+66%), which may be an anomaly due to a limited area of agriculturally used land and low number of reported sales in the district. The second highest increase was in the Northwest district (\$621 per acre in 1992, up 36% from \$458 in 1991). More moderate gains were reported in the West Central, Southwest, Southeast, and East Central Districts.

As with the estimated values, some of the gain in the Northwest district may be due to favorable trends in the wheat and sugar beet markets. The average land price for this district had dropped 15% in the 1991 survey, only to rebound sharply in 1992. Another possible reason for the strengthening of land prices in this area is the reduced

amount of 1992 sales activity in counties with lower priced land as compared to previous years. The reported acres sold in 1992 for this district was 27% lower than in 1991. We attempt to adjust for this slowdown with a sales price adjustment method later in this report.

REVERSAL OF HISTORY

From 1973 to 1981, estimated values were generally higher than corresponding average sales prices for the state as a whole (Figure 2). As the land market collapsed from 1982 to 1987, estimated values generally were lower than sales prices. The current trend, which is obviously upward, indicates that estimated values are lagging behind sales prices. This is a reversal of the relationship during the boom years of 1973-1981.

Why this reversal? The estimated value is a generally subjective measure of land values which respondents estimate based on their knowledge of local land markets. One possibility is that these estimates have become more conservative as respondents reflect on the land market collapse of the mid 1980's.

Another possibility is that this is an indication of more short term land price volatility in either direction. This study collects information on sales that took place between January and July of each year, while estimated values of land are collected as of July. The result is a time-lag between sales prices and estimated values that may cause discrepancies between sales prices and estimated values in response to shifts in crop conditions or commodity prices.

Still another possibility is that a reduction in the number of reported sales that has occurred since 1989 has involved a proportionately greater decline in the transfer of lower priced lands. The estimated values encompass all of the land in the communities of the various respondents. Sale prices involve only lands that were sold. For the state as a whole, over 7% of all land in farms has been entered in the Conservation Reserve Program (CRP). These lands can be sold, but in recent years sales have been infrequent. In general terms, the CRP involves the lower priced farm lands of the state. If they appear with reduced frequency in the volume of lands sold, the effect is an under-representation of the lower portion of the land quality scale in the compilation of land sales prices. This could lead to sales prices that trend above estimated values, as has been the case in four of the last five years.

ADJUSTED SALES PRICES

Changes in sales prices may be attributed to more than just changes in the value of homogeneous areas of land. One source of variability is change in the mix of higher and lower priced land sold over time. We attempt to adjust for these land quality changes by asking the question, "What would land prices have been in 1992 if the spatial distribution of sales had been the same as for land that was sold in 1991?" Obviously, this question cannot be answered precisely, but one method of adjusting the 1992 prices is to multiply each county's 1992 average price by the number of acres sold in that county in 1991. We then sum these values for each district and divide by the total number of acres sold in 1991 in that district. This results in a 1992 adjusted sales price based upon 1992 county average prices and 1991 distribution of acres sold.

The results of these calculations are summarized in Table 3. Adjusting the sales prices resulted in higher prices for the Southeast, West Central, and Northeast districts. This suggests that a larger percentage of land sold in 1991 was in counties with higher priced land than was the case in 1992, in these districts. The reverse is true for the East Central and Northwest districts. Again, reduced market activity in lower priced land in the Northwest may be a cause. Adjusted values in the Southwest district showed no change from their unadjusted values, suggesting that the mix of higher and lower priced land sold in the Southwest generally did not change from 1991 to 1992.

This adjustment supports the conclusion that sales prices in the West Central district may have increased by as much as 15% from 1991 to 1992. The East Central district may have declined slightly in terms of sales prices for comparable land.

Adjusted sales prices for the state as a whole suggest that land prices increased by as much as 10% from 1991 to 1992, although unadjusted prices increased only 5%. Some of this difference is apparently due to reduced market activity in areas of the state with lower values relative to areas with higher land values.

NORTHWEST DISTRICT ADJUSTMENT

The above adjustment may be suspect for the Northwest district because there were no reported acres sold in the survey period (January-June) in 1992 in two key counties of the district: Kittson and Roseau. The 1991 district average sales price contained data from these counties, but the 1992 average did not. This makes comparison difficult because the location of sales activity was not the same between the two years. This is a continuing problem in reporting sales price trends over time. Its effect increases when sales volume declines.

One method of dealing with this discrepancy is to remove Kittson and Roseau counties from the 1991 data by calculating a reverse of the above price adjustment. This tells us what the average price of land sold in 1991 in the Northwest district would have been if the proportion of land sold in each county in 1991 was the same as in 1992. The result of this calculation is a "reverse adjusted" 1991 sales price of \$509 per acre, which puts the percentage change from 1991 to 1992 at 22%. This indicates that, although prices did increase for the Northwest district in 1992, they did not increase as much as the unadjusted levels indicate.

NOMINAL AND DEFLATED ESTIMATED VALUES AND REPORTED SALES PRICE

A strong influence on the sales prices of farm land is the rate of inflation in the overall economy. One method of removing the effects of inflation is to deflate reported sales prices with the corresponding consumer price index (CPI) for the relevant time period. Using the year 1982-1984 as a base of 100, the average CPI for the first six months of 1992 was 139. Therefore, the effect of inflation on estimated values and sales prices of 1992 can be removed by dividing the 1992 prices by the inflation rate of 1992, 1.39. Figure 3 compares nominal and real estimated values per acre from 1973 to the present, while Figure 4 make the same comparison for average reported sales price.

After removing the effect of inflation, the deflated estimated value per acre statewide increased 4 percent over the level of 1991, in contrast to the nominal increase shown in Table 1 of 7 percent. The real estimated value per acre of \$656 in 1992 is close to the level of \$659 in 1971 (Table 27 in the Statistical Appendix).

An analysis by districts reveals that in 1992 each district reported an increase in real estimated value per acre ranging from a modest increase of 1 percent in the East Central district to an increase of 9 percent in the West Central.

The real average reported sales price per acre of farm land statewide was \$674, an increase of 2 percent (Table 28), while in Table 2 the current dollar increase in sales price was 5 percent. As usual, the highest, the second highest, and the third highest real average sales prices were in the Southwest, the Southeast, and the West Central districts. The real average price in the Northwest district increased 32 percent, which might be due to the increase of the wheat price in 1991, from a yearly average of \$2.53 per bushel in 1990 to \$3.21 per bushel in 1991.

The real average reported sales price in 1992 was almost the same as the real price in 1968 for the state as a whole. This implies that real (deflated) farm land prices are back to the level that prevailed before the boom and the bust of two decades began.

PARTICIPATION OF BROKERS

An estimate of the proportion of farm land sales in which brokers or real estate dealers participate is provided each year by respondents. Statewide, 60 percent of the sales involved brokers in 1992. This estimate has been quite stable statewide, never falling below 50 percent and never exceeding 60 percent since 1972 (Table 4).

The highest estimated participation rate for brokers was, as usual, in the Southeast district, where it was 68 percent in 1992. On the contrary, the lowest estimated participation of brokers has always been in the Northwest district since 1972; it was 53 percent in 1992. It is noteworthy that there have been no sharp changes in these estimations in spite of the dramatic changes in the rural land market since 1972. It is also noteworthy that these estimations made by respondents are highly subjective.

B. Analysis of Reported Sales

REASONS FOR SALE

In 1992, retirement and death remained the most frequent reasons cited for the sales of farm land, covering 29 percent and 18 percent of the sales, respectively. Together, retirement and death accounted for almost half of the state's farm land sales. Table 5 summarizes the percentage of sales by reason for selling farm land from 1987 to 1992.

Financial difficulty remained low in frequency compared to levels prior to 1989. Only 15 percent of the sales in 1992 were reported as a result of financial difficulty, in contrast to 60 percent in 1987. One feature of the land market since 1987-88 has been the small but significant percent of sales occasioned by the seller's desire to reduce the size of an existing operation. This was only 6 percent of the sales in 1987, but 14 percent in 1992.

Instead of the number of sales, Table 6 shows the percentage of acres sold by reason for selling land from 1989 to 1992, to permit comparison with Table 5. For the years since 1988, both calculation bases (percentage of acres sold and percentage of number of sales) yield roughly the same results. This implies that there is no systematic relationship between the size of tract sold and the seller's motivation for the sale. The predominant reasons (death and retirement) are apparently independent of tract size.

TYPE OF BUYER

This study classifies buyers of Minnesota farm land into three categories. "Sole-tract operators" are those buyers who purchase intact farms and are not using the purchases to extend current land holdings. "Expansion buyers" add land they purchase to existing holdings. "Investors" do not plan to farm the land themselves, but presumably expect to rent the land, hire a manager to operate the farm or collect CRP income.

The trend has remained the same with regard to type of buyer in Minnesota regardless of whether land values are booming or busting. Expansion buyers have dominated the market for farm land since the 1960's and the 1992 data give no indication that this will reverse. Expansion buyers were involved in 81% of 1992 sales and purchased 79% of the statewide farm land sold. Farm land sales by type of buyer for 1991 and 1992 are summarized in Table 7.

Investor buyers purchased 11% of the acres sold and were involved in 10% of the sales. Sole-tract buyers once again were involved in only 9% of statewide sales and purchased 10% of the land sold. Expansion buyers continue to pay higher price per acre for land than other buyers. This has much to do with the areas in which expansion buying is most prevalent. These buyers were most active in the Northwest district (96% of sales) and the Southwest district (88% of sales). These two districts have consistently shown higher sales prices than their neighboring districts. Conversely, sole-tract buyers were most likely to be active in the East Central, West Central and Southeast districts. Although the proportions of total sales to investor buyers remain small, it is noteworthy that these are the same three districts in which investor buying showed the greatest increases in 1992.

METHODS OF FINANCING

The proportional use of mortgages to finance land purchases has doubled in the last four years, surpassing cash as the most prevalent method of financing land transactions in 1992. This is the first year since 1960 that mortgages were used more frequently than either cash or contracts for deed in financing farm land sales. Large increases were observed for mortgages in every district except the Southeast, where the relative use of mortgages decreased from 1991 to 1992 (Figure 5, Table 8).

Usage of contracts for deed has been replaced to some extent by mortgages over the last four years. Forty percent of all 1987 sales were financed by contract for deed. As of 1992, this had fallen to 24%. The frequency of cash sales has been generally stable over the last four years, although the relative usage of cash did fall by 4 percentage points from 1991 to 1992.

These trends can be interpreted as a reflection of the sharp reduction in mortgage interest rates in the last two years. The rates prevailing in 1992, for example, were approximately two percentage points below rates on comparable mortgages in 1990-91. The persistence of lower interest rates over time will exert a powerful upward force on land values and sales prices.

Table 9 shows the proportion of acres sold, rather than the number of sales by method of financing land purchases. Statewide, the results of both calculation methods (proportion of numbers of sales and proportion of acres sold) are very close, the difference being no more than 3 percentage points in each year and in each financing method. By district, the close correspondence of the two measures is apparent, except in the Northeast district, but this may be due to the limited number of reported sales in that district. However, the sharp increase of farmland price in the Northwest district in 1992 might cause the distinction between both calculation methods. In the Northwest district 38 percent of the sales were financed by cash in 1992 but this involved only 30 percent of the acreage. Cash sales involved the smaller sized tracts. In contrast, mortgage financing involved 42 percent of the number of sales in the Northwest district in 1992, but covered 48 percent of the acres sold. In the remaining districts, there was no pronounced tendency for the size of tract sold to be associated with the method of financing.

DISTANCE OF BUYER FROM TRACT PURCHASED

The distance of a buyer's residence from the tract purchased reflects the local nature of the Minnesota rural real estate market. In 1992, it still remained highly localized. In each district except the West Central (with 49 percent), over half of the sales were made to buyers who lived less than 5 miles from the tract purchased. Statewide, 58 percent of all sales were made to buyers living less than 5 miles from the tract purchased, 79 percent within 10 miles, and 95 percent within 50 miles (Table 10).

By district, the Northwest had the most local market, with 87 percent of sales made to buyers living within 10 miles. The Southwest district was next, with 84 percent of sales within 10 miles. For the West Central, Southeast, East Central, and Northeast districts, 73 percent, 72 percent, 71 percent, and 69 percent of the buyers lived within 10 miles of their purchases.

Table 11 shows the percentage of acres sold when classified by the distance of the buyer's residence from the tract purchased. In each district, over 60 percent of the acres sold in 1992 were to buyers residing within 10 miles of the tract purchased. Statewide, 52 percent of farm land acres were sold to buyers living within 5 miles, 73 percent of acres were sold to buyers living within 10 miles, and 93 percent of acres were sold to buyers living within 50 miles.

Measured by acres sold, the market in the Southwest district was most strongly local, with 80 percent of acres sold to buyers living less than 10 miles from the purchased tracts. The Northwest district is next, with 79 percent. The lowest percentage of acres sold to buyers residing within 10 miles was in the West Central, at 66 percent.

QUALITY OF LAND

The relative proportions of land sales classified by land quality was generally stable throughout the 1980's. In the early 1990's, the stability has been continuing. Statewide, in 1992, respondents classified the land quality of 40 percent of all sales as "good", 47 percent as "average", and 13 percent as "poor" (Table 14). The highest and the lowest proportions of farm land transferred, as usual, were average quality and poor quality, respectively. It is noteworthy that these classifications were subjectively made by the respondents with reference to the average quality of farmland in their respective parts of Minnesota. It is possible that land of "good" quality in one area may be regarded as "average" or "poor" in another area. These differences should be kept in mind in interpreting the aggregated statistics.

In 1992, all sole-tract, expansion and investor buyers preferred land of average quality, accounting for 58 percent, 46 percent and 52 percent of the sales, respectively. Land of good quality was next in order, accounting for 32 percent, 43 percent and 25 percent of the sales to sole-tract, expansion and investor buyer, respectively.

Insights into the characteristics of land purchases by different types of buyers in the past two decades is obtained by dividing the period 1972 to 1992 into three subperiods, based on trends of farmland prices (Table 12, Table 13, and Table 14). We identify a boom period (1972-1981), a bust period (1981-1987), and a recovery period (1987-1992). The land purchase behavior of sole-tract and expansion buyers were quite consistent throughout these three subperiods. For example, the averages of percentages of good quality land purchased by sole-tract buyers were 36 percent in the boom period, 34 percent in the bust period, and 33 percent in the recovery period. As shown in the tables, the differences among the three periods for the percentages purchased by sole-tract or expansion buyers were never beyond 4 percentage points. This consistency, however, was less apparent in purchases by investor buyers. For investor buyers, the annual average percentage purchases of good quality land varied from 18 to 28 percent in the boom period, from 22 to 40 percent in the bust period, and 25 to 34 percent in the recovery period. Similar variation was reported in the percentage of purchases of average quality land by investor buyers.

The most consistent characteristic of purchases by investor buyers was their greater preferences for lower quality land. In all three periods -- boom, bust, and recovery -- the proportion of sales of poor quality land to investor buyers was higher than to sole-tract or expansion buyers. This greater willingness to acquire land of lower quality would be consistent with a stronger focus on the potential for land value appreciation than on inherent productivity.

LAND WITH AND WITHOUT BUILDINGS

This survey defines improved land and unimproved land on the basis of the presence or absence of buildings. In 1992, as in earlier years, expansion buyers favored land without buildings, accounting for 73 percent of their purchases. Sole-tract operators continued to prefer land with buildings, with only 29 percent of sales to sole-tract operators involving land without buildings. In recent years there has been no significant

preference by investor buyers for land with or without buildings. In 1992, 53 percent of their purchases were of land without buildings. Statewide, 67 percent of 1992 farm land sales were of land without buildings. This is the highest reported percentage since 1980 (Table 15 and Table 16).

The average reported sales price per acre of land with buildings increased to \$923 in 1992 for the state as a whole, slightly below the average price of \$948 for land without buildings. An average price of land without buildings that is higher than the price of land with buildings is a reflection of the dominance of expansion buyers in the areas of higher priced land. They do not need buildings, and apparently will pay a higher price for bare land (Table 17).

Historically, the phenomenon of land without buildings selling for more than land with buildings has been most pronounced in the Northwest district. This reflects the history of large-scale farms in the Red River Valley and the sparse distribution of farmsteads.

Table 18 shows the proportion of sales, the average sales prices per acre of improved land and unimproved land, and the percentage changes from the previous year for the period 1987 to 1992. The price of improved land was lower than the price of unimproved land in 1987, at the beginning of price recovery in the farmland market. In the recovery years of 1988 and 1989, the prices of improved land rose above the prices of unimproved land with annual price increases of 31 percent and 26 percent, respectively. In 1990, the decline of the price of improved land and the increase of the price of unimproved land reduced the gap in prices. For 1991 and 1992, the prices of unimproved land were again the higher prices.

FORMATION OF THE "PRICE VALLEY" IN SOUTHWEST MINNESOTA

In the Southwest District, strength was shown particularly in the counties bordering Iowa. Sales prices in Jackson and Martin counties together averaged \$1,613 per acre. The two counties bordering them on the north, Watonwan and Cottonwood, together averaged \$1,058 per acre, or only 66% of the average of Jackson and Martin. In contrast, the average of Brown and Redwood counties, just to the north of Cottonwood and Watonwan, was \$1,331 per acre, or 83% of the Jackson-Martin average. The result was a sales price "dip" as one moves north through the Southwest District. This relationship is shown in Figure 6.

The configuration of this valley in sales prices in the Southwest District in 1992 is given additional emphasis by reference to Renville county, in the next tier north. Here the average sales price in 1992 reached \$1,454 per acre. This continues a pattern noted in recent years and is undoubtedly a reflection in land prices of the vigorous expansion of the Southern Minnesota Sugar Cooperative in that county.

However, the question is how long the "valley" will last. Based on Table 19, the price valley occurred in 1983, 1985, and 1988, but was never repeated in a consecutive year in the 1980s. Two possible factors promote the formation of the southwest price valley: one is the decline of farm land price in the middle tier counties (Cottonwood and Watonwan); and the other is the increase of farm land prices in counties in the first tier (Jackson and Martin) and third tier (Redwood and Brown). In 1991, the farm land price in the third tier rose 22 percent, from \$1002 per acre to \$1219 per acre, while it only

rose 7 percent in the second tier, from \$1049 per acre to \$1125 per acre. In 1992, the farm land price in the third tier rose 9 percent, from \$1219 per acre to \$1331 per acre, while it decreased 6 percent in the second tier, from \$1125 per acre to \$1058 per acre. In 1991, the large increase in the third tier formed the price valley, and it is not surprising to note that the price of sugar beets rose \$8.20 per ton in 1990, from \$40.80 per ton to \$49.00 per ton. In 1992, the decline of farm land prices in the second tier increased the magnitude of the price valley. Whether the price valley in Southwest Minnesota will appear in the future depends on the two factors mentioned, i.e., the relative increase in the northern tier, or the decrease in the central tier. If neither of the factors is present in the coming year, then the price valley might not appear.

TRENDS IN SALES PRICES BY ECONOMIC DEVELOPMENT REGION

To obtain a clearer picture of changes in farm sales prices around the state, this study has compiled average sales prices by the state's 13 economic development regions for the years 1975 to 1992. Figure 7 shows the boundaries of the state's economic development regions, and the data from this compilation are shown in Table 20.

Both the adjusted and unadjusted sales prices for 1992 are calculated as discussed previously in the district breakdown. The adjusted prices are an attempt to remove the effects of geographical shifts in land sold.

In 1991, this study reported that decreases in sales prices were observed in the northern and northwestern regions 1 through 4. This year the opposite is true. Sales prices in regions 2, 3 and 4 increased more significantly than in any other area of the state.

The largest decreases occurred in Region 5 and the Twin Cities Metro Region 11. The decline in the seven county metro area was largely due to the fact that there were no reported farm land sales in the first six months of 1992 for Dakota county, which had previously shown high sales prices relative to Scott and Carver counties.

The southwestern section of the state showed a significant increase, while increases in the southeastern and south-central areas were more moderate. This lends further credence to the sales price "valley" phenomenon of 1992 discussed previously.

PART II. Analysis of Changes in the Minnesota Rural Real Estate Market

FARM LAND PRICES IN THE GREATER TWIN CITIES METROPOLITAN AREA

This study defines the Greater Twin Cities Metropolitan area as the 14 counties which surrounding the counties of Hennepin and Ramsey. A detailed analysis of the region is enhanced by the creation of three sub-areas. The first sub-area contains Anoka, Carver, Dakota, Scott and Washington counties and is called the Twin Cities Metro Area. The next sub-area is the South Metro Fringe and is made up of Goodhue, Le Sueur, McLeod, Rice and Sibley counties. Finally, the North Metro Fringe consists of Chisago, Isanti, Sherburne and Wright counties. These areas are shown in Figure 7.

The results of the analysis are summarized in Table 21. The 1992 decline in the North Metro Fringe was due primarily to the lack of 1991 sales from Sherburne, Isanti and Chisago counties, artificially inflating the 1991 sales price for the sub-area. Sales prices were reported from these counties in 1992, and this dropped the average sales price to approximately the level prevailing in 1989 and 1990.

A similar situation occurred in the Seven County Metro sub-area. There were no sales of farm land reported for Dakota County in 1992, which artificially deflated the 1992 metro area value relative to 1991. The absence of reported farm land sales in Dakota County in 1992 could be related to the well-publicized designation of a Dakota County "search area" for possible relocation of the Minneapolis - St. Paul airport. This may have inhibited land market activity in 1992.

THE RED RIVER VALLEY AREA

The Red River Valley, defined as the former glacial lake plain, is characterized by high productivity in contrast to the surrounding areas which are generally less productive. Since our analysis for the Northwest District includes Valley and Non-Valley land as well, it may mislead the readers. To reduce the possible distortion, two sub-areas are studied separately: the Red River Valley, and a Comparison Area consisting of Non-Valley counties and townships lying within the Northwest District but outside of the Valley, as shown in Figure 8.

In 1992, the spread between the prices in these two areas widened (Table 22). The average price per acre paid in reported sales in the Valley increased by 16 percent, from \$699 to \$814, while in the Comparison Area it increased by 28 percent, from \$349 to \$447.

Expansion buyers continued to dominate the markets in both the Valley and Non-Valley areas, accounting for 100 and 93 percent of the sales, respectively (Table 23). In the Red River Valley, there were no sole-tract buyers in 1992 and no investor buyers. In the Comparison Area, there were no sole-tract buyers and only 7 percent of the sales were to investor buyers. In 1992, the average reported sales price of improved land (land including buildings) was \$1005 per acre in the Valley versus \$784 per acre for unimproved land. However, in the Comparison Area, the average reported sales price of improved land was \$338 per acre which was below the price of unimproved land, of \$691 per acre (Table 24).

In the Valley area, sales financed by cash and by mortgage were both 39 percent of the total, while sales financed by contract for deed were 22 percent. In the Comparison Area, mortgages were used in 46 percent of the sales, the highest peak since 1984 (Table 25).

The Comparison Area includes counties or part of counties in which the Conservation Reserve Program (CRP) has involved a high percentage of farm land. Heavy CRP entries may reduce the frequency of sales of lower-priced land, leading to an upward bias in the average reported sales price in the Comparison Area.

THE MINNESOTA DAIRY REGION

To study the trends of the farm land market more specifically, it is useful to reclassify the farm land according to its characteristics, which generally can be caught by similar land use patterns. The dairy region is not only an important agricultural production sector in Minnesota, but also reflects similar land use patterns. Theoretically, the value of farm land is formed by the return generated from the land, but, practically, the uncertainty of return in the future makes it difficult to connect the relation between the price of farm land and the return to farm land in the past. This is why the relation between the milk price and the value of farm land in the dairy region is obscure in recent years.

In this study, the dairy region is defined as those counties in which the cow density per square mile of farm land is greater than 30. Two dairy regions, a central region and a southern dairy region, are identified as shown in Figure 9. To avoid the influence of urbanization on the value of farm land, the counties near the Greater Twin Cities Metropolitan area are excluded. Moreover, Chisago and Pine Counties are not included, to reduce any effect of highway I-35 on farm land prices. The Central Dairy Region contains 10 counties, that is, Ottertail, Wadena, Douglas, Todd, Morrison, Stearns, Meeker, Benton, Mille Lacs, and Kanabec; the Southern Dairy Region contains 7 counties, that is, Wabasha, Steele, Dodge, Olmsted, Winona, Fillmore, and Houston (Figure 9).

In 1992, the average reported price per acre of farm land in the Central Dairy Region was \$1067, an increase of 4 percent over the 1991 price. In the Southern Dairy Region, the reported average sales price per acre of farm land was \$583, a decrease of 6 percent (Table 26). The percent changes in both regions were below the statewide average increase of 5 percent. It is reasonable to infer that the slow growth or decrease in land prices in both Dairy Regions in 1992 is related to the decline of milk prices in 1991, that is, from a statewide average of \$13.22 per cwt. in 1990 to \$11.91 per cwt. in 1991. In 1992, the statewide average milk price increased to \$12.85 per cwt.. This raises the prospect that land values of the two Dairy Regions may increase in 1993. However, the final result will depend on other factors in these dairy regions, in addition to the milk price.

STATISTICAL APPENDIX

When average prices are used to portray the farmland market, the reliability of the data is not apparent due to the unknown variation. A wide variation will reduce the reliability of the results, and any reduction in variation will increase the significance of the averages.

Two measures of variability are the standard deviation and the coefficient of variation. The standard deviation reveals the dollar range which approximately includes two-thirds of the sales. For the state in 1992, two-thirds of the sales would be bound within \$452.8 ($936.6 - 483.8$) and \$1420.4 ($936.6 + 483.8$). The coefficient of variation is an alternative, calculated by dividing the standard deviation by the average sales price, and multiplying by 100 to convert it to a percentage form. For instance, in 1992 the coefficient of variation for the state as a whole is 51.7, which is obtained by dividing the standard deviation (483.8) by the average sales price (936.6), and multiplying by 100.

Figure 1. Estimated Land Values per Acre, by District, Minnesota, 1992

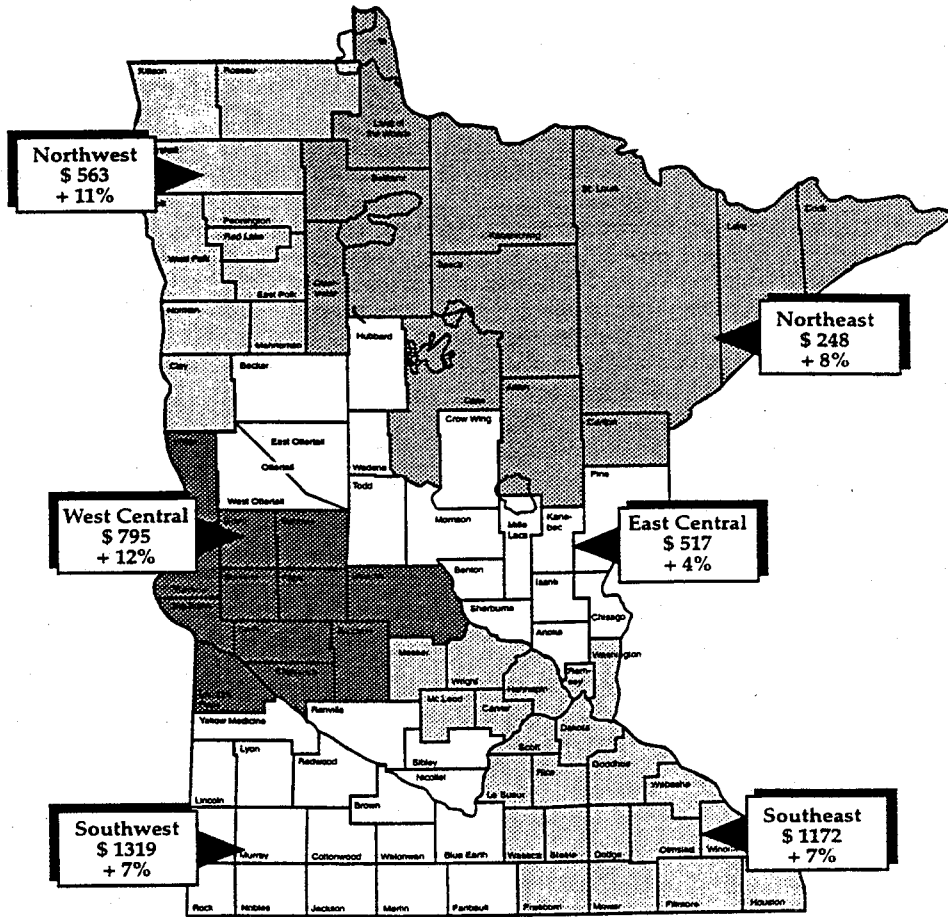


Figure 2.

Average Estimated Value and Sales Price of Minnesota Farm Land, 1973-1992

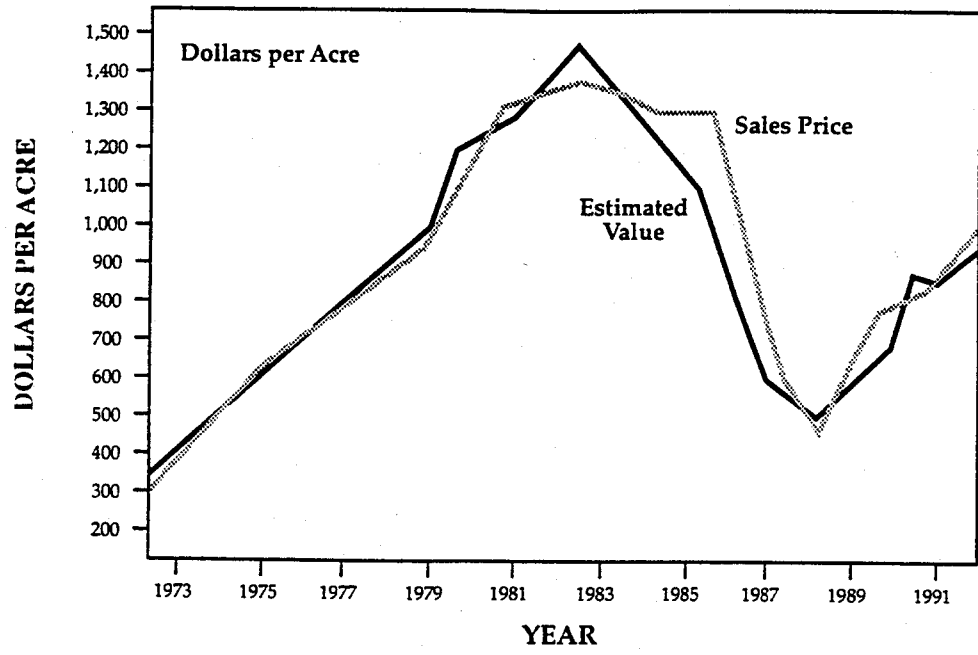


Figure 3. Estimated Value Per Acre, Nominal and Real (1973-1992)

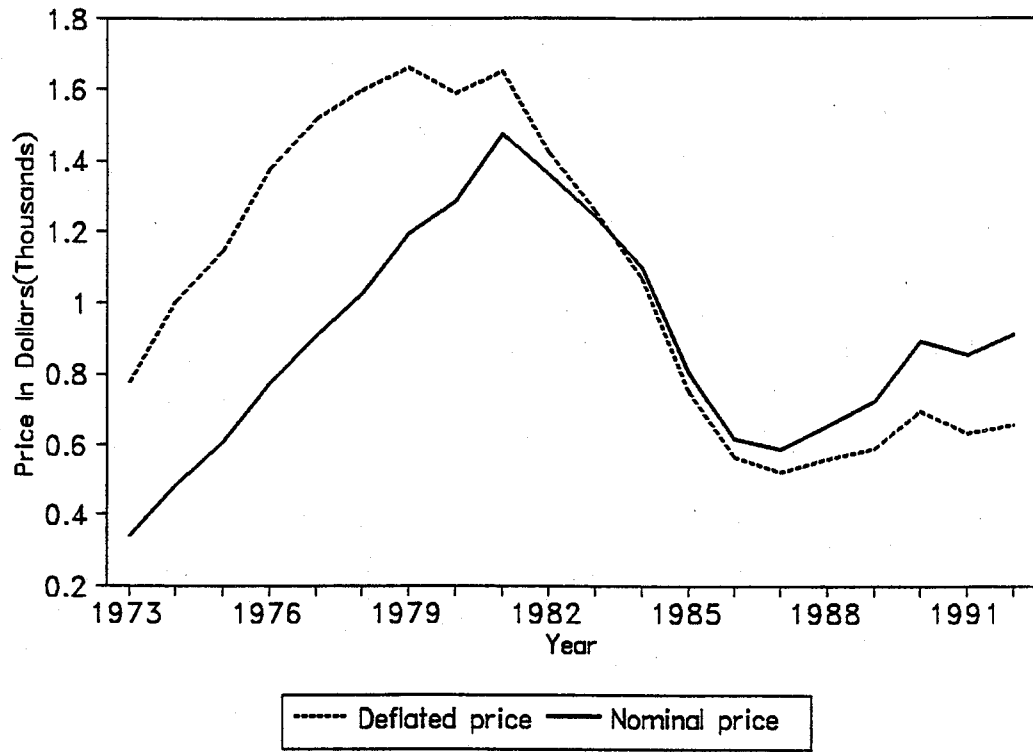


Figure 4. Real and Nominal Sales Prices, Minnesota, 1973-1992

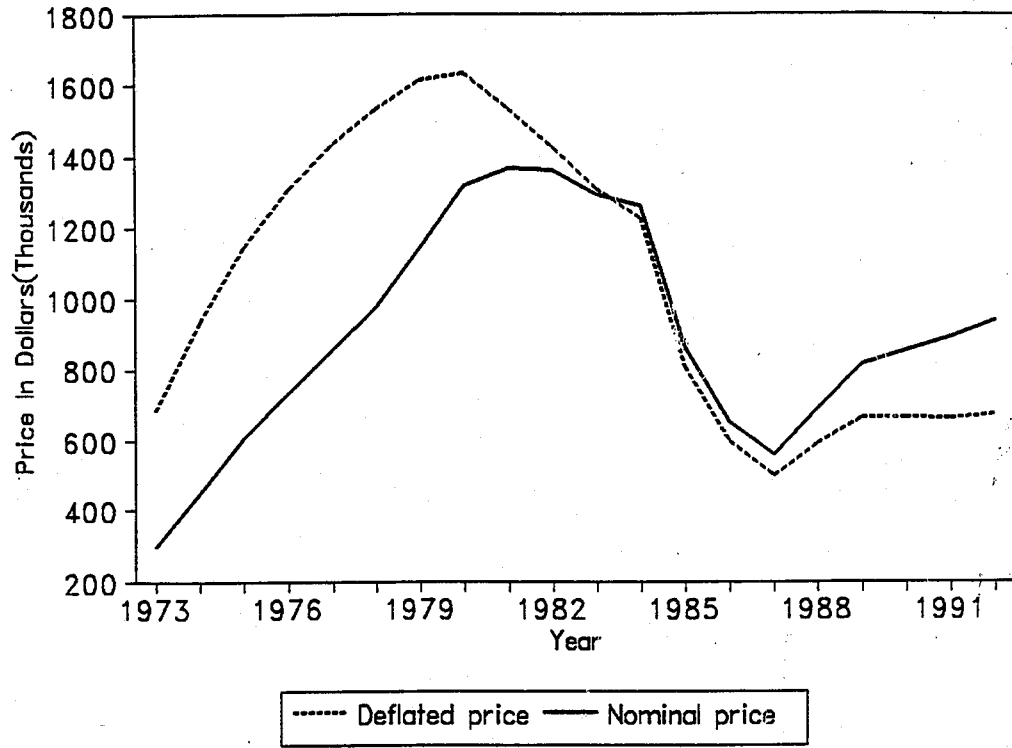


Figure 5.

Percentage of Reported Sales by Method of Financing,
Minnesota, 1992

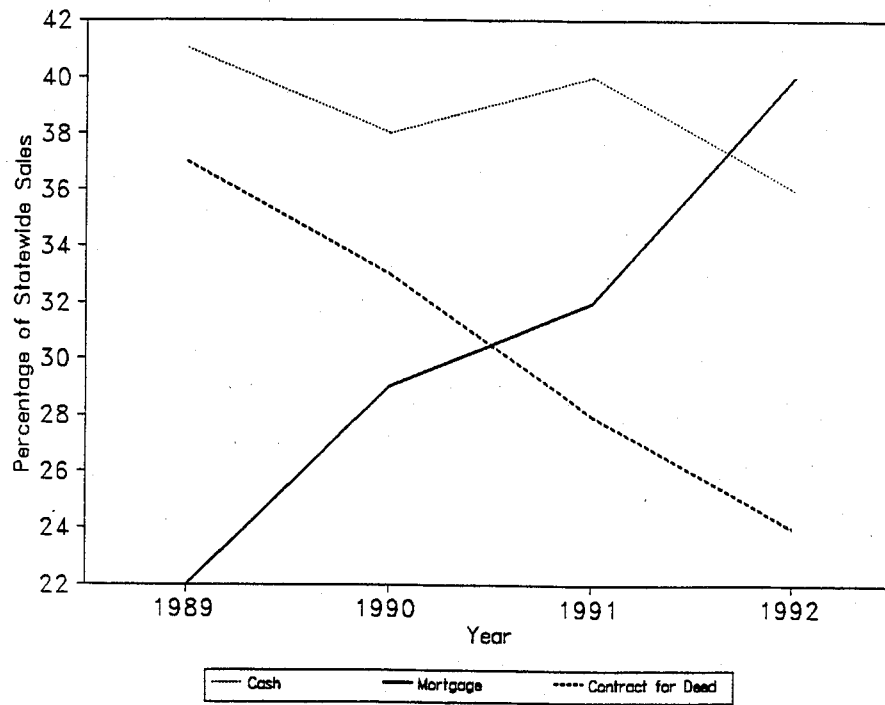


Figure 6.

Average Reported per Acre Sales Price,
Selected Counties, Southwest District, 1992

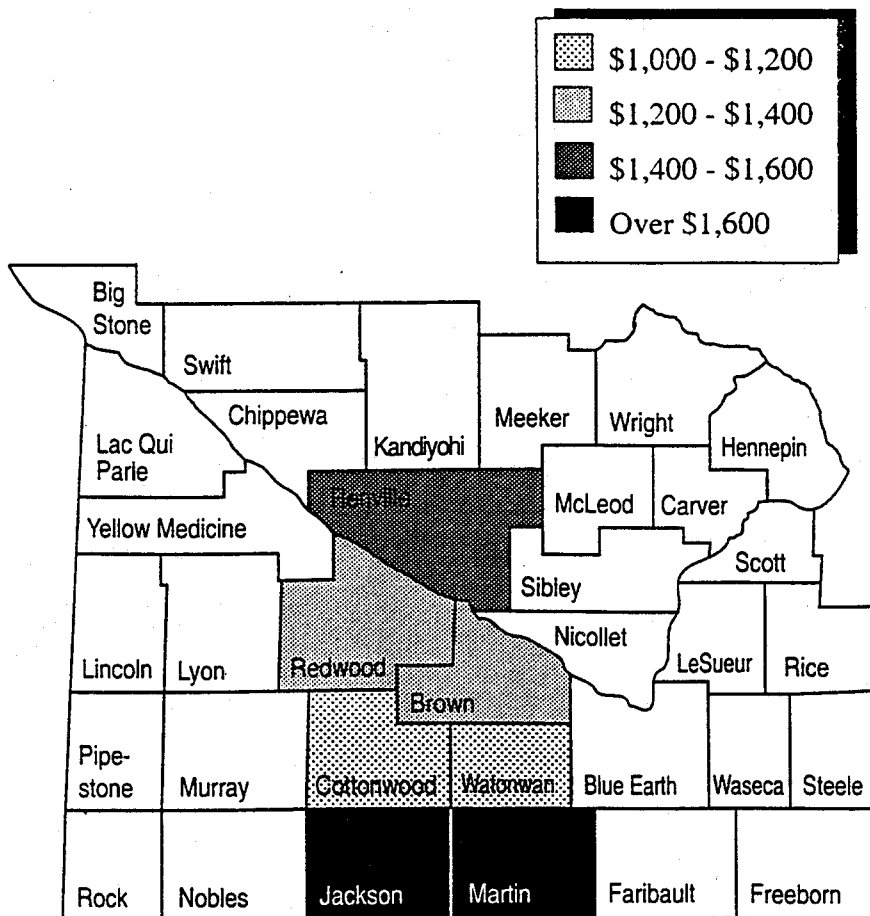


Figure 7.

Minnesota Economic Development Regions and Greater Twin Cities Metropolitan Area

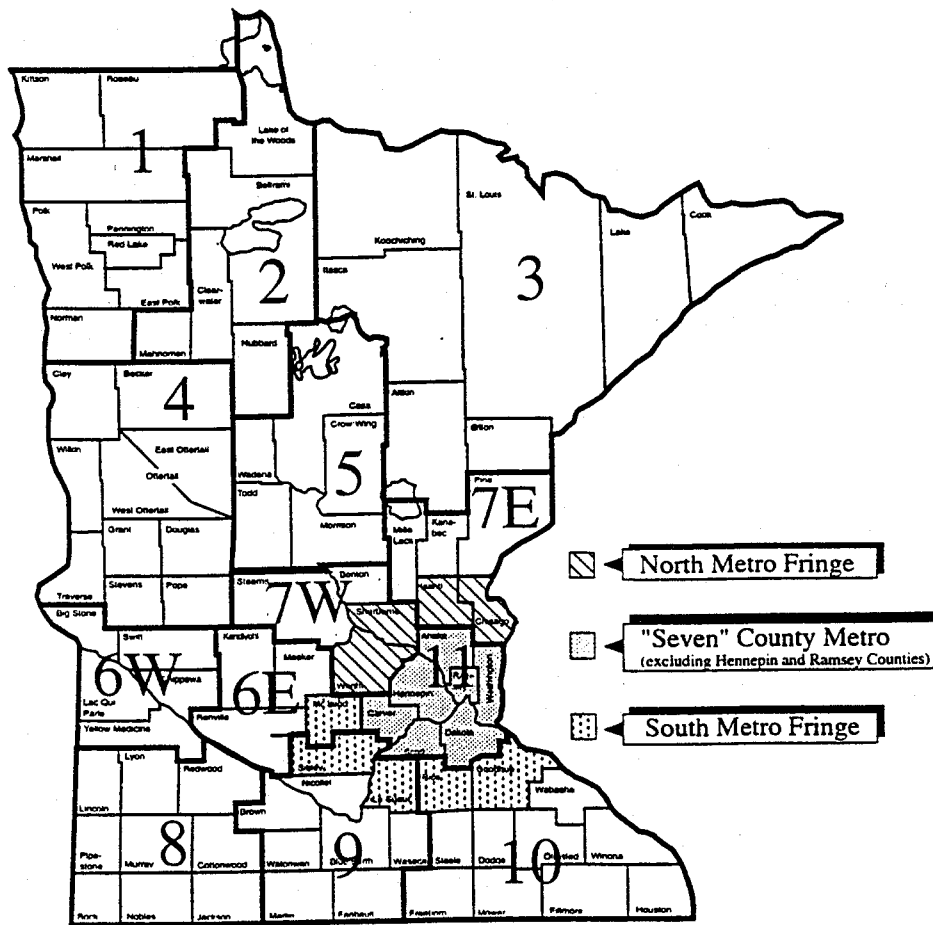


Figure 8. The Red River Valley and Comparison Areas

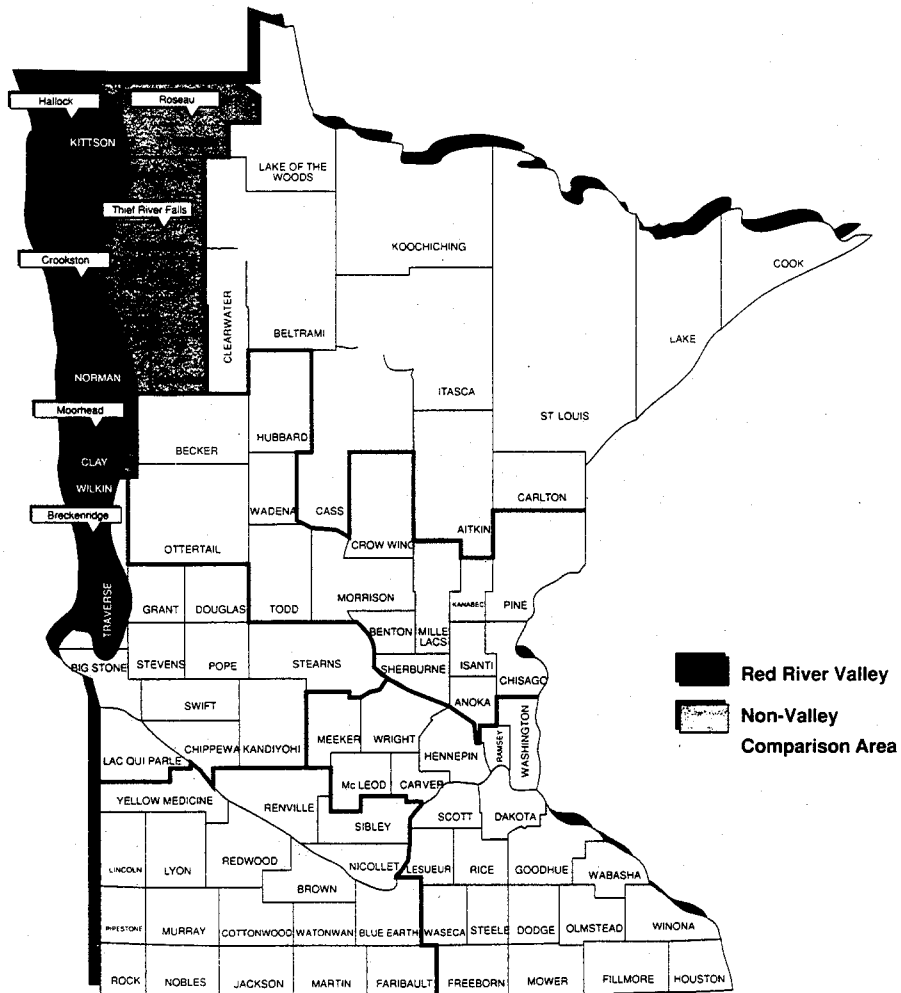


Figure 9.

Minnesota Dairy Region, by County in Minnesota

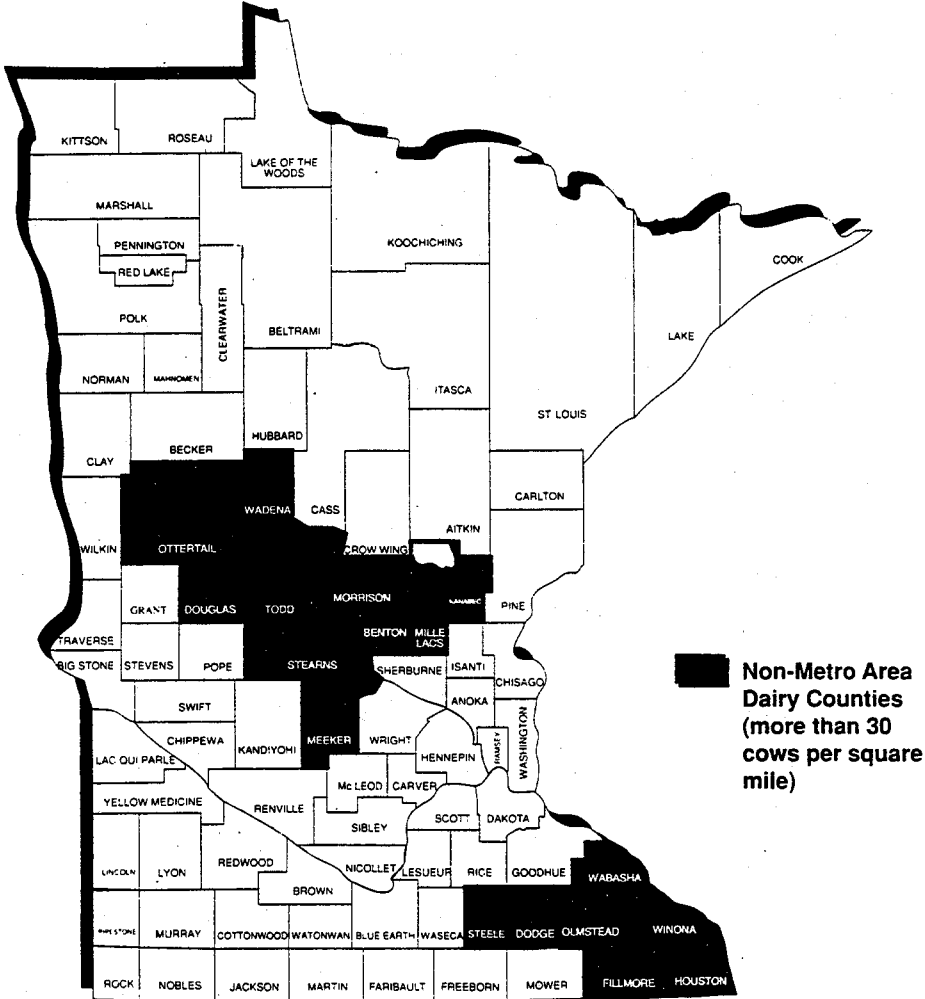


Table 1: Average Estimated Value Per Acre of Minnesota Farmland, by District, 1973-1992

Year	South-east	South-west	West Central	East Central	North-west	North-east	State Average
1973	498	470	261	230	187	112	338
1974	667	713	400	301	267	143	482
1975	782	890	532	341	426	166	607
1976	1000	1168	672	409	510	221	774
1977	1204	1413	788	475	535	294	908
1978	1380	1523	893	574	615	353	1023
1979	1678	1703	983	676	757	360	1191
1980	1737	1907	1074	721	803	438	1280
1981	1941	2226	1262	841	937	453	1472
1982	1727	2053	1149	740	925	410	1358
1983	1578	1766	1141	781	816	425	1240
1984	1323	1563	988	792	750	398	1100
1985	1016	1081	766	539	562	296	802
1986	708	809	589	473	468	288	616
1987	688	775	532	422	472	254	584
1988	782	920	570	442	505	218	653
1989	944	1073	643	410	450	249	721
1990	1137	1189	721	542	643	258	892
1991	1099	1233	712	497	509	230	853
1992	1172	1319	795	517	563	248	912
Percent Change							
1991-1992	7	7	12	4	11	8	7
1987-1992	70	70	49	23	19	-2	56
1992 As Percent of Peak in 1981							
	60	59	63	61	60	55	62

Table 2: Average Reported Sales Price per Acre of Farmland by District, Minnesota, 1973-1992 (Unadjusted)

Year	South-east	South-west	West Central	East Central	North-west	North-east	State Average
1973	444	410	223	178	120	122	298
1974	598	630	340	243	204	144	450
1975	792	844	493	299	353	159	607
1976	937	1116	644	321	377	210	735
1977	1216	1340	709	446	432	198	859
1978	1352	1321	908	554	504	256	980
1979	1675	1680	949	618	612	411	1140
1980	1837	1868	1095	603	759	394	1318
1981	1965	2005	1171	680	919	483	1367
1982	1749	2022	1168	746	887	406	1360
1983	1470	1872	1068	679	711	328	1291
1984	1386	1665	1062	644	700	223	1263
1985	1013	1181	872	510	575	222	864
1986	673	830	602	556	411	220	650
1987	621	755	493	429	337	168	559
1988	797	911	571	395	411	184	691
1989	938	1074	620	407	461	189	815
1990	1005	1098	658	492	541	277	853
1991	1098	1215	724	484	458	180	891
1992	1138	1269	795	495	621	260	937
<hr/>							
Percent Change							
1991-1992	4	4	10	2	36	44	5
1987-1992	83	68	61	15	84	55	68
<hr/>							
1992 As Percent of Peak in 1981 or 1982							
	58	63	68	66	68	54	69

Table 3: Adjusted Sales Prices per Acre for 1992, by District, Minnesota

District	1992		1991	Percent Change From	
	Unadjusted Price	Adjusted Price	Unadjusted Price	Unadjusted 1991 to Unadjusted 1992	Unadjusted 1991 to Adjusted 1992
	(1)	(2)	(3)	(1-3)/(3)	(2-3)/(3)
Southeast	1138	1143	1098	4	4
Southwest	1269	1268	1215	4	4
West Central	795	827	724	10	14
East Central	495	486	484	2	1
Northwest	621	564	458	36	23
Northeast	260	267	180	44	48
Minnesota	937	983	891	5	10

Table 4: Estimated Proportion of Farm Land Sales in which Brokers or Dealers Participate, Minnesota, by District, 1972-1992.

Year	<u>Sales with Brokers' Services</u>						MINNESOTA
	SOUTH-EAST	SOUTH-WEST	WEST CENTRAL	EAST CENTRAL	NORTH-WEST	NORTH-EAST	
1972	59	52	56	54	40	50	52
1973	58	51	54	58	40	46	51
1974	61	54	53	55	40	58	54
1975	58	47	52	60	34	54	51
1976	58	48	50	56	37	57	51
1977	57	48	50	59	42	57	52
1978	60	48	51	60	43	61	54
1979	55	44	52	59	40	55	51
1980	57	48	50	60	41	56	52
1981	60	51	56	63	44	58	55
1982	61	55	59	65	45	64	58
1983	64	58	63	60	43	67	59
1984	61	54	58	57	37	52	53
1985	61	57	60	54	48	64	58
1986	64	54	61	57	45	49	55
1987	66	55	55	57	35	55	55
1988	62	56	58	60	39	51	56
1989	66	55	49	58	44	57	56
1990	64	49	55	48	41	51	53
1991	65	57	56	64	48	53	58
1992	68	59	57	62	53	55	60

Table 5: Percentage of Sales by Reason for Selling Land, Minnesota, 1987-1992

Reason for Sale	1987	1988	1989	1990	1991	1992
Death	12	14	15	20	21	18
Retirement	14	23	29	29	28	29
Subtotal	26	37	44	49	49	47
Financial						
Difficulty	60	42	20	15	12	15
Reduce size	6	8	11	10	10	14
Left farming	5	6	5	6	6	7
Subtotal	71	56	36	31	28	36
Moved, still farming	0	0	2	0	2	1
Other	3	7	18	20	21	16

Table 6. Percentage of Acres Sold by Reason for Selling Land, Minnesota, 1989-1992.

Reason for Sale	1989	1990	1991	1992
Death	15	19	20	18
Retirement	28	29	26	28
Subtotal	43	48	46	46
Financial				
Difficulty	23	15	15	16
Reduce size	9	9	9	14
Left farming	5	6	6	7
Subtotal	37	30	30	37
Moved, still farming	1	1	2	2
Other	19	21	22	15

Table 7: Proportion of Farm Land Sales and Average Sales Price per Acre by Type of Buyer, by District and Minnesota, 1991-1992

-----Sole-Tract Operator Buyer-----				
District	1991	1991	1992	1992
	% of sales	\$ per acre	% of sales	\$ per acre
Southeast	10	1071	11	1067
Southwest	4	1148	3	1217
West Central	9	853	13	816
East Central	30	462	23	465
Northwest	8	296	0	N/A
Northeast	26	258	6	205
Minnesota	9	757	9	832
-----Expansion Buyer-----				
Southeast	81	1118	74	1158
Southwest	88	1239	88	1287
West Central	85	729	74	804
East Central	67	485	71	540
Northwest	88	488	96	639
Northeast	70	162	81	268
Minnesota	84	915	81	981
-----Investor Buyer-----				
Southeast	9	1063	15	1233
Southwest	7	1039	9	1094
West Central	6	601	12	764
East Central	3	630	7	557
Northwest	4	431	4	515
Northeast	4	208	13	347
Minnesota	7	820	10	932

Table 8: Proportion of Farm Land Sales by Method of Financing, by Districts, Minnesota, 1989-1992

	South- east	South- west	West Central	East Central	North- west	North- east	State Average
Cash							
1989	34	47	39	27	51	39	41
1990	32	40	24	45	59	33	38
1991	30	48	34	44	42	43	40
1992	31	41	30	36	38	44	36
Mortgage							
1989	30	21	17	28	13	9	22
1990	31	34	25	20	23	11	29
1991	36	30	32	32	37	17	32
1992	30	41	46	50	42	31	40
Contract for Deed							
1989	36	33	45	46	36	52	37
1990	37	25	50	35	18	56	33
1991	34	22	34	24	22	39	28
1992	39	18	24	14	21	25	24

Table 9. Proportion of Acres Sold by Method of Financing, by District, Minnesota, 1989-1992.

	South- east	South- west	West Central	East Central	North- west	North- east	State Average
Cash							
1989	38	41	37	29	54	32	40
1990	35	39	22	46	58	27	37
1991	31	46	35	50	40	57	40
1992	29	42	24	36	30	35	33
Mortgage							
1989	30	24	14	20	13	12	21
1990	29	32	29	15	20	10	27
1991	35	30	34	30	36	13	32
1992	30	38	48	53	48	49	42
Contract for Deed							
1989	32	35	49	52	33	57	39
1990	36	28	48	39	22	62	35
1991	34	25	31	20	24	30	28
1992	40	20	28	11	22	17	25

Table 10: Percentage of Sales by Distance of Buyer's Residence from Tract, by District, Minnesota, 1986-1992

Distance of Buyer's Residence from Tract Purchased	South- east	South- west	West Central	East Central	North- west	North- east	MN
<u>Less than 2 miles</u>							
1986	21	18	12	16	14	20	17
1987	23	29	15	21	26	28	23
1988	22	26	23	23	18	30	24
1989	20	22	26	22	17	14	22
1990	25	24	16	38	13	25	23
1991	25	24	29	18	17	26	24
1992	19	22	20	35	24	23	23
<u>2-4 Miles</u>							
1986	31	38	41	24	43	15	36
1987	30	37	42	13	33	0	33
1988	30	38	25	23	40	21	31
1989	34	37	21	13	49	9	31
1990	34	40	28	24	53	25	36
1991	25	41	25	18	40	22	32
1992	32	40	29	26	39	31	35
<u>5-9 Miles</u>							
1986	21	24	24	15	29	15	22
1987	20	20	22	15	24	24	20
1988	11	23	30	18	18	14	19
1989	22	24	25	20	17	41	23
1990	19	22	27	16	19	0	21
1991	23	21	25	25	22	9	22
1992	21	22	24	10	24	15	21
<u>10-49 Miles</u>							
1986	17	10	16	31	9	15	7
1987	20	10	15	37	15	18	16
1988	21	9	15	18	20	0	15
1989	18	14	17	29	13	18	17
1990	16	10	21	11	9	13	14
1991	17	13	15	25	17	9	15
1992	18	12	20	19	9	15	16
<u>50-299 Miles</u>							
1986	8	7	7	11	1	15	7
1987	6	2	4	13	0	24	4
1988	14	8	4	16	2	14	9
1989	5	3	8	10	3	14	5
1990	4	2	5	9	5	19	4
1991	7	1	5	4	1	17	4
1992	8	2	7	6	4	8	5
<u>300 Miles and Over</u>							
1986	2	3	1	4	4	15	2
1987	1	2	2	1	2	6	2
1988	2	0	3	2	2	21	2
1989	2	2	3	4	3	5	2
1990	1	2	3	2	2	19	2
1991	2	0	0	11	3	17	2
1992	1	1	0	3	0	8	1

Table 11: Percentage of Acres Sold by Distance of Buyer's Residence from Tract Purchased, Minnesota, 1992.

Distance of Buyer's Residence from Tract Purchased	South-east	South-west	West-Central	East-Central	North-west	North-east	MN
Less than 2 miles	18	20	16	28	19	19	19
2-4 miles	33	39	26	30	34	35	33
5-9 miles	20	21	24	14	26	13	21
Total Under 10 miles	71	80	66	72	79	67	73
10-49 miles	20	14	25	19	17	18	19
50-299 miles	9	3	10	4	4	13	6
300 miles and over	1	2	0	5	0	2	1

Table 12. Percent of Sales by Type of Buyer for Land of Varying Quality, Minnesota, 1972-1981 (The Boom Period).

Year	Sole-tract	Expansion	Investor	All Sales
Good Quality				
-----percent of sales-----				
1972	43	41	28	38
1973	37	39	27	35
1974	37	39	24	36
1975	31	41	28	37
1976	32	44	24	39
1977	40	40	24	38
1978	32	41	22	36
1979	36	43	18	39
1980	34	41	20	37
1981	36	43	27	40
Average	36	41	24	38
Average Quality				
-----percent of sales-----				
1972	42	48	52	47
1973	51	46	50	48
1974	52	44	45	46
1975	53	47	47	49
1976	54	42	52	46
1977	47	46	58	48
1978	56	44	50	47
1979	48	45	55	47
1980	56	47	57	50
1981	53	45	53	47
Average	51	45	52	48
Average Quality				
-----percent of sales-----				
1972	15	11	20	15
1973	12	15	22	17
1974	11	17	31	18
1975	16	11	25	15
1976	14	14	24	15
1977	13	14	18	14
1978	12	15	29	16
1979	15	12	27	15
1980	11	12	23	13
1981	11	12	20	13
Average	13	13	24	15

Table 13. Percent of Sales by Type of Buyer for Land of Varying Quality, Minnesota, 1981-1987 (The Bust Period).

Year	Sole-tract	Expansion	Investor	All Sales
Good Quality				
-----percent of sales-----				
1981	36	43	27	40
1982	33	46	31	42
1983	39	42	22	40
1984	32	43	40	42
1985	34	42	38	41
1986	29	44	34	41
1987	35	44	30	41
Average	34	43	32	41
Average Quality				
-----percent of sales-----				
1981	53	45	53	47
1982	56	43	49	45
1983	47	47	47	47
1984	53	47	35	47
1985	47	47	40	46
1986	61	44	51	47
1987	47	43	48	44
Average	52	45	46	46
Average Quality				
-----percent of sales-----				
1981	11	12	20	13
1982	10	12	20	12
1983	14	11	31	13
1984	15	9	25	11
1985	20	11	22	14
1986	10	12	15	12
1987	18	13	22	15
Average	14	11	22	13

Table 14: Percent of Sales by Type of Buyer for Land of Varying Quality,
 Minnesota, 1987-1992
 (The Recovery Period)

Year	Sole-tract	Expansion	Investor	All Sales
Good Quality				
-----percent of sales-----				
1987	35	44	30	41
1988	30	49	34	45
1989	36	45	27	43
1990	30	43	27	39
1991	31	48	30	45
1992	32	43	25	40
Average	33	45	29	42
Average Quality				
-----percent of sales-----				
1987	47	43	48	44
1988	55	43	44	44
1989	50	44	47	45
1990	55	45	41	46
1991	47	41	55	43
1992	58	46	52	47
Average	52	44	48	45
Average Quality				
-----percent of sales-----				
1987	18	13	22	15
1988	15	8	22	11
1989	14	11	26	12
1990	15	13	31	15
1991	18	11	15	12
1992	10	11	23	13
Average	15	11	23	13

Table 15: Percent of Farm Land Sales Without Buildings by Type of Buyer,
 Minnesota 1986-1992

Year	Sole-tract	Expansion No Buildings	Investor	All Sales
-----percent of sales-----				
1986	21	65	52	58
1987	23	68	62	62
1988	28	69	63	63
1989	21	67	54	61
1990	15	69	61	63
1991	24	70	69	66
1992	29	73	53	67

Table 16: Type of Buyer (With and Without Buildings), Minnesota, 1992.

Type of Buyer	<u>With Buildings</u>		<u>Without Buildings</u>		<u>Total Minnesota</u>	
	# of Sales	Percent	# of Sales	Percent	# of Sales	Percent
Sole Tract	47	6	19	3	66	9
Expansion	161	22	440	59	601	81
Investor	36	5	41	5	77	10
TOTAL	244	33	500	67	744	100

Table 17. Proportion of Sales and Average Sales Price Per Acre of Farm Land With and Without Buildings, by District, Minnesota, 1991 and 1992.

District	<u>With Buildings</u>				<u>Without Buildings</u>				<u>Price of Land Without Bldgs as a % of Price of Land With Bldgs</u>	
	1991		1992		1991		1992		1991	1992
	%	\$	%	\$	%	\$	%	\$	%	%
Southeast	40	1149	49	1194	60	1045	51	1073	91	90
Southwest	32	1213	35	1323	68	1216	65	1233	100	93
W. Central	34	786	35	794	66	684	65	796	87	100
E. Central	57	468	63	465	43	510	37	555	109	119
Northwest	32	397	14	508	68	499	86	652	126	128
Northeast	71	214	76	251	29	119	24	288	56	115
Minnesota	37	888	42	923	63	894	58	948	101	103

Table 18. Average Sales Price Per Acre of Improved Land and Unimproved Land and Proportion of Sales, Minnesota, 1987-1992.

Year	Improved Land	Proportion of Sales	% Change from Prev. Year	Unimproved Land	Proportion of Sales	% Change from Prev. Year
1987	544	41	-17	573	59	-11
1988	713	39	31	674	61	18
1989	897	42	26	742	58	10
1990	868	38	-3	840	62	13
1991	888	37	2	894	63	6
1992	923	42	4	948	58	6

% change in price of improved land 1987-92 -- 70%.

% change in price of unimproved land 1987-92 -- 65%.

Table 19. Average Reported Sales Price Per Acre of Farmland by Selective Tiers in the Southwest Minnesota, 1981-1992.

Year	Tier 1	Tier 2	Tier 3
	Jackson & Martin	Cottonwood & Watonwan	Redwood & Brown
1981	3229	2457	2184
1982	2548	2456	2215
1983*	2203	2124	2141
1984	1802	1803	1919
1985*	1266	1112	1573
1986	877	887	893
1987	874	846	791
1988*	1175	888	974
1989	1332	1123	1059
1990	1492	1049	1002
1991*	1474	1125	1219
1992*	1613	1058	1331

*: price valley appeared.

Table 20: Average Reported Sales Price per Acre of Farmland by Economic Development Regions, Minnesota, 1975-1992 (Unadjusted) and 1992 Adjusted Sales Price

Year	Economic Development Regions											State		
	1	2	3	4	5	6W	6E	7W	7E	8	9		10	11
Unadjusted														
1975	344	206	157	446	259	537	691	472	316	710	1115	753	1035	607
1976	300	250	162	542	235	696	923	596	455	906	1464	915	1150	735
1977	367	277	179	558	297	746	1027	778	473	1058	1835	1197	1437	859
1978	433	321	280	853	478	906	1171	927	575	1199	1682	1373	1396	980
1979	560	520	310	828	483	960	1528	1112	768	1574	2111	1645	1799	1140
1980	132	452	271	868	506	1051	1735	1056	741	1674	2320	1864	1778	1318
1981	888	645	386	973	695	1303	1949	1300	790	1646	2865	1941	1830	1367
1982	806	459	325	987	556	1259	1876	1240	873	1701	2484	1713	1711	1360
1983	671	515	141	874	605	1090	1569	1187	780	1743	2139	1395	1878	1291
1984	636	460	256	955	502	1098	1391	1123	828	1405	1964	1337	1642	1263
1985	533	390	192	691	467	872	1163	869	604	986	1392	929	1423	864
1986	342	231	268	622	499	552	746	738	889	701	953	629	1127	650
1987	325	198	---	458	360	506	635	592	687	703	878	577	827	559
1988	375	269	191	504	381	582	831	804	670	795	1061	749	1070	691
1989	404	188	204	553	270	618	880	770	406	1034	1143	951	1215	815
1990	487	237	279	591	286	634	964	758	492	944	1300	985	1304	853
1991	428	198	204	569	425	829	1028	897	497	1114	1343	1092	1766	891
1992	514	341	267	699	245	817	1065	857	463	1210	1380	1141	1531	937
*Change of Unadjusted Prices 1991-1992														
	20	72	31	23	-42	-1	4	-4	-7	9	3	4	-13	5
Adjusted 1992 Prices														
	472	403	285	709	238	852	1123	856	625	1243	1350	1142	1534	983
Percentage Change from 1991 Unadjusted to Adjusted 1992 Prices														
	11	104	40	25	-44	3	9	-5	26	12	1	5	-13	10

Table 21: Average Reported Sales Price per Acre For Farm Land,
Greater Twin Cities Metropolitan Area and Sub-areas, 1974-
1992

Year	"Seven" County Metro	South Metro Fringe	North Metro Fringe	Greater T.C. Metro (14 counties)	Minnesota
1974	882	647	556	689	450
1975	1035	808	599	839	607
1976	1150	1086	718	1045	735
1977	1437	1285	752	1198	859
1978	1396	1313	892	1185	980
1979	1799	1799	1309	1694	1140
1980	1778	2097	1170	1781	1318
1981	1830	1955	1334	1791	1367
1982	1711	1867	1446	1759	1360
1983	1878	1614	1325	1581	1291
1984	1642	1464	1280	1458	1263
1985	1423	1069	1051	1152	864
1986	1127	846	721	855	650
1987	827	752	764	772	559
1988	1070	848	1159	928	691
1989	1215	991	864	958	815
1990	1304	994	943	1044	853
1991	1766	1144	1239	1222	891
1992	1531	1210	864	1204	937
Percent of Change 1991-1992					
	-13	6	-30	-1	5

Table 22: Farm Land Sales Prices, Average Tract Size, and Number of Sales Red River Valley and Comparison Area, 1971-1992

Year	Red River Valley			Average
	Price Per Acre	Change from Previous Year	Sales	Size of Tract Sold
	Dollars	Percent	Number	Acres
1971	166	-14	50	255
1972	151	-9	53	316
1973	201	33	76	252
1974	359	79	47	231
1975	535	49	63	219
1976	733	37	54	216
1977	780	6	37	284
1978	849	9	65	270
1979	993	17	56	257
1980	1,112	12	56	204
1981	1,195	7	55	281
1982	1,239	4	56	164
1983	998	-19	55	190
1984	939	-6	52	186
1985	755	-20	64	180
1986	625	-17	47	187
1987	493	-21	70	231
1988	612	23	87	186
1989	644	5	44	193
1990	708	10	54	198
1991	699	-1	39	169
1992	814	16	29	172
Non-Valley Comparison Area				
1971	66	-4	67	255
1972	78	18	53	260
1973	90	15	77	358
1974	152	69	86	337
1975	227	49	76	270
1976	279	23	88	325
1977	306	10	75	287
1978	385	26	77	290
1979	461	20	84	321
1980	638	38	64	317
1981	788	24	82	284
1982	629	-20	40	287
1983	561	-11	57	249
1984	524	-7	30	248
1985	387	-26	36	203
1986	266	-31	33	265
1987	244	-8	71	369
1988	281	16	48	256
1989	294	5	36	220
1990	284	-3	25	223
1991	349	23	48	232
1992	447	28	28	248

Table 23: Proportion of Sales by Type of Buyer (top number) and Average Price per Acre (bottom number), 1985-1992

Type of Buyer		1985	1986	1987	1988	1989	1990	1991	1992
RED RIVER VALLEY									
Sole-Tract Buyer	%	0	2	0	4	4	0	5	0
	\$	--	513	--	389	681	--	1043	--
Expansion Buyer	%	92	96	100	94	96	94	95	100
	\$	740	626	506	605	644	708	692	814
Investor Buyer	%	8	2	0	2	0	6	0	0
	\$	857	897	--	502	--	676	--	--
COMPARISON AREA									
Sole-Tract Buyer	%	9	6	13	19	3	0	11	0
	\$	578	356	387	243	292	--	273	--
Expansion Buyer	%	68	88	77	81	88	83	82	93
	\$	402	258	232	290	291	313	369	440
Investor Buyer	%	23	6	10	0	9	17	7	7
	\$	289	393	184	--	307	244	431	515

Table 24: Proportion of Sales and Average Sales Price Per Acre of Land With and Without Buildings, Red River Valley and Comparison Area, 1981-1992

Area and Year	Percentage of Sales		Price Per Acre		Price of Land With- out Bldg. as a % of Price of Land With %
	With %	Without %	With \$	Without \$	
Red River Valley			(1)	(2)	(2)/(1)
1981	25	75	1,083	1,293	119
1982	29	71	1,358	1,187	87
1983	25	75	959	1,027	107
1984	15	85	1,051	918	87
1985	8	92	755	755	106
1986	30	70	581	648	112
1987	20	80	423	527	125
1988	6	94	610	612	100
1989	14	86	548	660	120
1990	24	76	801	674	84
1991	18	82	630	724	115
1992	10	90	1005	784	78
Non-Valley Comparison Area					
1981	39	61	886	677	76
1982	42	57	663	596	90
1983	28	72	618	523	85
1984	40	60	485	561	116
1985	28	72	387	388	100
1986	24	76	238	276	116
1987	41	59	237	254	107
1988	31	69	274	287	105
1989	16	84	348	283	81
1990	20	80	297	281	95
1991	40	60	328	366	112
1992	21	79	338	491	145

Table 25: Proportion of Sales (Top Figures) and Price Paid Per Acre (Bottom Figures) by Method of Finance, Red River Valley and Comparison Area, 1985-1992

Method of Finance		1985	1986	1987	1988	1989	1990	1991	1992
RED RIVER VALLEY									
Cash	%	52	49	60	39	52	74	38	39
	\$	675	715	592	651	577	718	768	842
Mortgage	%	37	13	21	15	22	17	49	39
	\$	834	601	429	558	792	682	664	815
Contract for Deed	%	11	38	19	45	55	9	13	22
	\$	801	598	447	616	590	670	648	849
COMPARISON AREA									
Cash	%	23	45	39	35	55	24	38	35
	\$	235	279	291	262	288	301	335	491
Mortgage	%	31	32	36	17	5	38	33	46
	\$	439	303	245	295	192	320	369	519
Contract for Deed	%	46	23	25	48	40	38	29	19
	\$	463	202	175	283	315	268	346	272

Table 26. The Minnesota Dairy Region. Price per Acre of Farm land in the South and Central Dairy Regions. 1971-1992.

Year	SOUTH DAIRY REGION		CENTRAL DAIRY REGION	
	Price Per Acre	% Change Prev. Year	Price Per Acre	% Change Prev. Year
1971	294	---	154	---
1972	336	14%	195	27%
1973	398	28%	198	2%
1974	510	28%	281	42%
1975	707	39%	366	30%
1976	831	18%	415	13%
1977	1188	43%	525	27%
1978	1357	14%	732	39%
1979	1470	8%	695	- 5%
1980	1814	23%	740	6%
1981	1922	6%	979	32%
1982	1678	-13%	818	-16%
1983	1317	-22%	824	1%
1984	1220	- 7%	859	4%
1985	855	-30%	626	-27%
1986	575	-33%	623	0%
1987	539	- 6%	464	-26%
1988	717	33%	509	10%
1989	842	17%	519	2%
1990	955	13%	595	15%
1991	1023	7%	621	4%
1992	1067	4%	583	- 6%

Table 27: Average Estimated Value Per Acre, State and Districts, Deflated by the CPI, Minnesota, 1961-1992

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minn	CPI ¹ (82-84=100)
	----- dollars per acre (1982-84=100) -----							
1961	634	829	446	319	336	215	523	29.8
1962	636	828	457	328	344	228	526	30.2
1963	636	807	466	338	374	223	528	30.5
1964	667	816	469	359	372	191	537	30.9
1965	697	831	465	357	360	162	545	31.4
1966	752	860	475	379	348	180	568	32.2
1967	792	915	492	387	326	187	586	33.1
1968	831	968	526	390	355	166	613	34.4
1969	851	967	541	403	331	149	616	36.2
1970	906	938	555	378	352	164	646	38.4
1971	965	908	535	430	361	194	659	40.2
1972	1060	949	537	431	345	186	682	41.5
1973	1145	1080	600	529	430	257	777	43.5
1974	1387	1482	832	626	555	297	1002	48.1
1975	1475	1679	1004	643	804	313	1145	53.0
1976	1776	2075	1194	726	906	393	1375	56.3
1977	2010	2359	1316	793	893	491	1516	59.9
1978	2156	2380	1395	897	961	552	1598	64.0
1979	2373	2409	1390	956	1071	509	1685	70.7
1980	2152	2363	1331	893	995	543	1586	80.7
1981	2177	2496	1415	943	1050	508	1650	89.2
1982	1808	2150	1203	775	969	429	1422	95.5
1983	1599	1789	1156	791	827	431	1256	98.7
1984	1284	1517	959	769	728	386	1068	103.0
1985	951	1012	717	505	526	277	751	106.8
1986	648	741	539	433	429	264	564	109.2
1987	611	687	472	375	419	226	519	112.6
1988	668	786	487	378	432	186	558	117.0
1989	768	873	523	334	366	203	587	122.9
1990	882	922	559	420	499	200	692	128.9
1991	812	911	526	367	376	170	630	135.3
1992	843	949	572	372	405	178	656	139.0
Percent Change 1991-1992	4	4	9	1	8	5	4	3

¹ U.S. Dept. of Labor Handbook of Labor Statistics

Table 28: Average Price Per Acre of Reported Farm Sales, State and Districts, Deflated by the GPI, Minnesota, 1961-1992

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
	----- dollars per acre (1982-84=100) -----						
1961	634	859	436	299	309	128	554
1962	649	758	467	252	245	99	533
1963	702	728	446	282	357	157	551
1964	689	757	485	278	337	168	576
1965	643	742	424	306	338	127	567
1966	786	807	509	351	320	96	630
1967	822	924	541	281	353	154	650
1968	919	956	541	302	262	137	674
1969	942	923	536	359	334	141	657
1970	901	885	536	367	294	117	633
1971	856	853	510	373	249	109	644
1972	937	882	535	349	258	183	706
1973	1021	943	513	409	276	280	685
1974	1243	1310	707	505	424	299	936
1975	1494	1592	930	564	666	300	1145
1976	1664	1982	1179	570	670	373	1306
1977	2030	2237	1184	745	721	331	1434
1978	2113	2064	1419	866	788	400	1533
1979	2369	2376	847	874	866	581	1612
1980	2276	2315	1374	747	941	489	1634
1981	2203	2248	1313	762	1030	541	1533
1982	1831	2117	1223	781	929	425	1424
1983	1489	1897	1082	688	720	332	1308
1984	1346	1610	1031	625	680	217	1226
1985	949	1106	816	478	538	208	807
1986	616	760	551	509	376	201	595
1987	552	671	438	381	299	149	496
1988	681	779	488	338	351	157	591
1989	763	874	504	331	375	154	663
1990	780	852	510	382	420	215	662
1991	812	898	535	358	339	133	659
1992	819	913	572	356	447	187	674
Percent Change 1991-1992	1	2	7	-1	32	41	2

Table 29: Average Price Per Acre of Reported Farm Sales, Standard Deviation and Coefficient of Variation, Minnesota and districts, 1981-1992*

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Average Price Per Acre (dollars)							
1981	1965.3	2004.6	1170.6	680.1	918.7	482.8	1367.1
1982	1748.5	2022.3	1167.9	745.7	886.8	405.7	1359.5
1983	1470.0	1872.0	1068.4	678.5	711.1	327.6	1291.0
1984	1386.1	1658.1	1062.2	644.4	700.0	223.2	1263.0
1985	1012.5	1181.0	872.3	509.6	575.0	222.0	862.4
1986	672.5	829.6	602.3	556.0	411.3	219.8	649.8
1987	620.8	754.6	493.4	428.7	337.4	168.0	558.7
1988	797.4	910.9	570.9	395.4	411.1	184.3	691.2
1989	938.3	1074.4	620.6	407.1	460.9	189.4	814.8
1990	1005.7	1098.1	658.4	492.1	541.9	277.0	853.0
1991	1098.1	1214.7	724.4	484.4	458.2	180.2	891.1
1992	1137.9	1269.4	795.4	494.8	621.4	260.1	936.6

Standard Deviation							
1981	675.8	891.3	426.9	624.5	332.2	157.0	826.6
1982	615.9	758.5	423.5	360.8	405.0	127.4	774.3
1983	501.2	593.0	355.4	369.9	293.1	160.5	665.7
1984	452.8	585.6	311.1	334.0	328.4	105.5	586.1
1985	383.8	450.9	350.8	298.6	294.9	122.8	464.9
1986	264.3	266.9	213.6	317.3	241.2	106.5	293.0
1987	251.6	268.6	171.8	248.0	208.4	65.3	287.2
1988	342.6	330.8	165.9	236.1	234.5	81.3	348.3
1989	371.3	365.0	181.6	286.3	263.0	128.5	412.0
1990	421.7	449.6	269.1	230.8	318.0	173.3	450.0
1991	412.0	363.7	284.6	220.9	223.0	134.8	461.5
1992	457.3	387.3	319.6	280.0	306.6	128.5	483.8

Coefficient of Variation (percent)							
1981	34.4	44.5	36.5	91.8	36.2	32.5	60.5
1982	35.2	37.5	36.3	48.4	45.7	31.4	57.0
1983	34.1	31.7	33.3	54.5	41.2	48.9	51.6
1984	32.6	35.3	29.3	51.8	46.9	47.3	46.4
1985	37.9	38.2	40.2	58.6	51.3	64.8	53.9
1986	39.3	32.2	35.5	57.1	58.6	48.5	45.1
1987	40.5	35.6	34.8	57.9	61.8	38.9	51.4
1988	43.0	36.3	29.1	59.7	57.0	41.1	50.4
1989	39.6	34.0	29.3	70.3	57.1	67.8	50.6
1990	41.0	40.9	40.9	46.9	58.7	62.6	52.8
1991	37.5	29.9	39.3	45.6	48.7	74.8	51.8
1992	40.2	30.5	40.2	56.6	49.3	49.4	51.7

*Each acre is treated as a unit in calculating standard deviations and coefficients of variation.

Table 30: Percentage Change of Average Reported Sales Price per Acre, by District and Minnesota, 1980-92

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
1980-81	7.0	7.3	6.9	12.8	21.1	22.4	3.7
1981-82	-11.0	0.9	-0.2	9.6	-3.5	-16.0	-0.6
1982-83	-15.9	-7.4	-8.5	-9.0	-19.8	-19.3	-5.0
1983-84	-5.7	-11.4	-0.6	-5.0	-1.6	-31.9	-2.2
1984-85	-27.0	-28.8	-17.9	-20.9	-17.9	-0.5	-31.7
1985-86	-33.6	-29.8	-31.0	9.1	-28.5	-1.0	-24.7
1986-87	-7.7	-9.0	-18.1	-22.9	-18.0	-23.6	-14.0
1987-88	28.4	20.7	15.7	-7.8	21.8	9.7	23.7
1988-89	17.6	17.9	8.7	3.0	12.1	2.8	17.9
1989-90	7.1	2.2	6.1	20.9	17.4	46.6	4.7
1990-91	9.2	10.6	10.0	-1.6	-15.4	-34.9	4.5
1991-92	3.6	4.5	9.8	2.1	35.6	44.3	5.1

Table 31: Average Estimated Value Per acre of Farm Real Estate in Minnesota by Districts, 1910-11 through 1944-45, by Two-Year Periods, and Annually, 1946 through 1992

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
1910-11	58	54	39	24	24	11	41
1912-13	69	69	46	29	29	13	49
1914-15	82	84	56	34	32	14	58
1916-17	92	100	67	41	37	15	68
1918-19	117	118	78	50	40	18	82
1920-21	141	152	98	68	57	24	104
1922-23	114	119	82	56	44	23	85
1924-25	104	110	74	49	44	22	78
1926-27	106	109	72	49	36	22	76
1928-29	100	102	67	44	33	21	71
1930-31	88	88	51	36	22	18	60
1932-33	64	65	42	27	20	14	45
1934-35	52	58	38	26	22	15	40
1936-37	59	64	38	29	22	24	44
1938-39	60	68	37	28	22	25	45
1940-41	59	68	36	26	22	24	43
1942-43	65	76	40	29	24	25	48
1944-45	78	90	48	35	29	28	56
1946	88	104	56	39	33	32	65
1947	96	116	62	43	37	35	72
1948	104	129	69	47	41	38	79
1949	107	136	73	49	44	39	83
1950	109	141	76	50	46	40	85
1951	125	166	89	59	54	46	99
1952	131	175	96	65	68	42	107
1953	130	175	95	62	64	40	105
1954	139	187	99	66	72	40	113
1955	150	205	103	68	73	45	121
1956	156	214	107	70	76	42	126
1957	165	230	122	77	86	49	138
1958	179	242	123	84	90	65	147
1959	191	255	134	89	103	58	157

Table 31: Average Estimated Value Per acre of Farm Real Estate in Minnesota (con't)
by Districts, 1910-11 through 1944-45, by Two-Year Periods, and Annually,
1946 through 1992

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
1960	188	248	133	94	99	64	155
1961	189	247	133	95	100	64	156
1962	192	250	138	99	104	69	159
1963	194	246	142	103	114	68	161
1964	206	252	145	111	115	59	166
1965	219	261	146	112	113	51	171
1966	242	277	153	122	112	58	183
1967	262	303	163	128	108	62	194
1968	286	333	181	134	122	57	211
1969	308	350	196	146	120	54	223
1970	348	360	213	145	135	63	248
1971	388	365	215	173	145	78	265
1972	440	394	223	179	143	77	283
1973	498	470	261	230	187	112	338
1974	667	713	400	301	267	143	482
1975	782	890	532	341	426	166	607
1976	1000	1168	672	409	510	221	774
1977	1204	1413	788	475	535	294	908
1978	1380	1523	893	574	615	353	1023
1979	1678	1703	983	676	757	360	1191
1980	1737	1907	1074	721	803	438	1280
1981	1941	2226	1262	841	937	453	1472
1982	1727	2053	1149	740	925	410	1358
1983	1578	1766	1141	781	816	425	1240
1984	1323	1563	988	792	750	398	1100
1985	1016	1081	766	539	562	296	802
1986	708	809	589	473	468	288	616
1987	688	775	532	422	472	254	584
1988	782	920	570	442	505	218	653
1989	944	1073	643	410	450	249	721
1990	1137	1189	721	542	643	258	892
1991	1099	1233	712	497	509	230	853
1992	1172	1319	795	517	563	248	912

Table 32: Percentage Change in Estimated Value per Acre, by District and Minnesota, 1910-1992

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
1910-13	19.0	27.8	17.9	20.8	20.8	18.2	19.5
1912-15	18.8	21.7	21.7	17.2	10.3	7.7	18.4
1914-17	12.2	19.0	19.6	20.6	15.6	7.1	17.2
1916-19	27.2	18.0	16.4	22.0	8.1	20.0	20.6
1918-21	20.5	28.8	25.6	36.0	42.5	33.3	26.8
1920-23	-19.1	-21.7	-16.3	-17.6	-22.8	-4.2	-18.3
1922-25	-8.8	-7.6	-9.8	-12.5	0.0	-4.3	-8.2
1924-27	1.9	-0.9	-2.7	0.0	-18.2	0.0	-2.6
1926-29	-5.7	-6.4	-6.9	-10.2	-8.3	-4.5	-6.6
1928-31	-12.0	-13.7	-23.9	-18.2	-33.3	-14.3	-15.5
1930-33	-27.3	-26.1	-17.6	-25.0	-9.1	-22.2	-25.0
1932-35	-18.8	-10.8	-9.5	-3.7	10.0	7.1	-11.1
1934-37	13.5	10.3	0.0	11.5	0.0	60.0	10.0
1936-39	1.7	6.3	-2.6	-3.4	0.0	4.2	2.3
1938-41	-1.7	0.0	-2.7	-7.1	0.0	-4.0	-4.4
1940-43	10.2	11.8	11.1	11.5	9.1	4.2	11.6
1942-45	20.0	18.4	20.0	20.7	20.8	12.0	16.7
1944-46	12.8	15.6	16.7	11.4	13.8	14.3	16.1
1946-47	9.1	11.5	10.7	10.3	12.1	9.4	10.8
1947-48	8.3	11.2	11.3	9.3	10.8	8.6	9.7
1948-49	2.9	5.4	5.8	4.3	7.3	2.6	5.1
1949-50	1.9	3.7	4.1	2.0	4.5	2.6	2.4
1950-51	14.7	17.7	17.1	18.0	17.4	15.0	16.5
1951-52	4.8	5.4	7.9	10.2	25.9	-8.7	8.1
1952-53	-0.8	0.0	-1.0	-4.6	-5.9	-4.8	-1.9
1953-54	6.9	6.9	4.2	6.5	12.5	0.0	7.6
1954-55	7.9	9.6	4.0	3.0	1.4	12.5	7.1
1955-56	4.0	4.4	3.9	2.9	4.1	-6.7	4.1
1956-57	5.8	7.5	14.0	10.0	13.2	16.7	9.5
1957-58	8.5	5.2	0.8	9.1	4.7	32.7	6.5
1958-59	6.7	5.4	8.9	6.0	14.4	-10.8	6.8
1959-60	-1.6	-2.7	-0.7	5.6	-3.9	10.3	-1.3

Table 32: Percentage Change in Estimated Value per Acre, by District (cont.'d) and Minnesota, 1910-1991

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
1960-61	0.5	-0.4	0.0	1.1	1.0	0.0	0.6
1961-62	1.6	1.2	3.8	4.2	4.0	7.8	1.9
1962-63	1.0	-1.6	2.9	4.0	9.6	-1.4	1.3
1963-64	6.2	2.4	2.1	7.8	0.9	-13.2	3.1
1964-65	6.3	3.6	0.7	0.9	-1.7	-13.6	3.0
1965-66	10.5	6.1	4.8	8.9	-0.9	13.7	7.0
1966-67	8.3	9.4	6.5	4.9	-3.6	6.9	6.0
1967-68	9.2	9.9	11.0	4.7	13.0	-8.1	8.8
1968-69	7.7	5.1	8.3	9.0	-1.6	-5.3	5.7
1969-70	13.0	2.9	8.7	-0.7	12.5	16.7	11.2
1970-71	11.5	1.4	0.9	19.3	7.4	23.8	6.9
1971-72	13.4	7.9	3.7	3.5	-1.4	-1.3	6.8
1972-73	13.2	19.3	17.0	28.5	30.8	45.5	19.4
1973-74	33.9	51.7	53.3	30.9	42.8	27.7	42.6
1974-75	17.2	24.8	33.0	13.3	59.6	16.1	25.9
1975-76	27.9	31.2	26.3	19.9	19.7	33.1	27.5
1976-77	20.4	21.0	17.3	16.1	4.9	33.0	17.3
1977-78	14.6	7.8	13.3	20.8	15.0	20.1	12.7
1978-79	21.6	11.8	10.1	17.8	23.1	2.0	16.4
1979-80	3.5	12.0	9.3	6.7	6.1	21.7	7.5
1980-81	11.8	16.7	17.5	16.6	15.0	3.4	15.0
1981-82	-11.1	-7.8	-9.0	-12.0	-8.0	-9.5	-7.7
1982-83	-8.6	-14.0	-0.7	5.5	-11.8	3.7	-8.7
1983-84	-16.2	-11.5	-13.4	1.4	-8.9	-6.4	-11.3
1984-85	-23.2	-30.8	-22.5	-31.9	-25.1	-25.6	-27.1
1985-86	-30.3	-25.2	-23.1	-12.2	-16.7	-2.7	-23.2
1986-87	-2.8	-4.3	-9.7	-10.8	0.9	-11.8	-5.2
1987-88	13.7	18.9	7.1	4.7	7.0	-14.3	11.8
1988-89	20.7	16.6	12.8	-7.2	-10.9	14.2	10.4
1989-90	20.4	10.8	12.1	32.2	42.9	3.6	23.7
1990-91	-3.3	3.7	-1.2	-8.3	-20.8	-10.9	-4.4
1991-92	6.6	7.0	11.7	4.0	10.6	7.8	6.9