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The Minnesota Rural Real Estate Market in

1990

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Including Special Studies Of:

*Economic Development Regions
The Greater Twin Cities Metropolitan Area
The Red River Valley Area
Southwestern Minnesota
Dairy Region*

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Summary

The statewide average **estimated value** per acre of Minnesota rural real estate increased 12 percent from July 1989 to July 1990, to \$651 per acre. Each district showed an appreciation in values of at least 10 percent except the Northwest, which was unchanged.

In contrast, the statewide average **sales price** per acre received in actual sales from January to July 1990 increased only 5 percent over the previous year, to reach \$853 per acre. All districts reported increases, but increases were smallest in the Southeast, Southwest and West Central Districts (7, 2 and 6 percent, respectively).

An adjustment of sales prices per acre to remove the effect of a possible change in the quality of land sold did not affect the statewide 5 percent increase in average sales price. However, in the Northwest a 17 percent increase was converted to a 12 percent decrease and in the East Central District a 21 percent increase was reduced to an 8 percent increase. The Southeast, Southwest and West Central Districts maintained small increases of 9, 6 and 3 percent. The Northeast, with a limited number of sales of farm land, reported an increase after adjustment of 43 percent versus 47 percent before adjustment.¹

The total acreage in reported sales statewide was at its second lowest point since 1980 with 122,142 acres reported sold from January to July 1990, compared to 176,002 acres in reported sales for the first half of 1989.

Retirement remained the primary reason for farm land sales, accounting

¹ The initial report on this survey was published in March 1991 in the Minnesota Agricultural Economist. Since publication, a coding error has been discovered and is corrected here. The adjusted sales price for the Southwest and Northeast Districts increased 6 percent and 43 percent respectively (not 4 and 46 percent as reported in the MAE).

for 29 percent of total sales reported for the first half of 1990. Death (20 percent) rather than financial difficulty (15 percent) was the second most frequent reason for farm land sales. Even if "left farming" (6 percent) and "reduce size" (10 percent) are included as possible indications of financial difficulties, the percentage of sales due to presumed financial deterioration totaled 31 percent in 1990--its lowest point since the peak in 1987.

Expansion buyers continued to dominate the rural real estate market in 1990, purchasing 80 percent of total tracts reported sold. Investors and sole-tract operators accounted for 11 and 9 percent respectively.

Cash was the predominant method of financing statewide, accounting for 37 percent of sales, while financing by contract for deed decreased from 40 percent in 1989 to 33 percent of farm land sales in 1990. Mortgages were used in financing 29 percent of farm land sales, up from 20 percent in 1989.²

Inflation continues to explain much of the nominal increases reported in actual sales price. For example, when adjusted for inflation, the nominal 5 percent increase in statewide reported sales price becomes a real 2 percent decrease. The reported sale price increases in every district were significantly affected by adjustment for inflation, further suggesting a widespread slowdown in real sales prices.

² Correction from the March 1990 MAE article: statewide, 37 rather than 38 percent cash sales.

Introduction

The University of Minnesota has collected and analyzed information on rural farm land markets in the state for 80 years. Data for this report were collected from individuals familiar with the rural real estate market in Minnesota, including real estate brokers, appraisers, farm managers, county officials and agricultural credit and bank officials. Approximately 1,000 questionnaires were mailed in July 1990 and over 43 percent were returned with responses to questions concerning estimates of land value and actual sales prices. In addition, the 435 usable responses included information about acreage, quality of land and buildings, reason for sale, method of finance and buyer characteristics.

In analyzing the data, duplicate reports of sales were eliminated, data for Hennepin and Ramsey Counties were omitted, sales of under 20 acres were deleted and respondents were asked not to report sales between close relatives.

Two types of data were collected for this survey: **estimated values** and **sales prices**. Respondents were requested to provide estimates of value per acre as of July 1990 for farms of average size in their communities. These estimates of value were aggregated by county, district, economic development region, and finally for the state as a whole. The **estimated values** were weighted by the acres of land in farms in each county as reported in the *1987 U.S. Census of Agriculture* in order to derive estimates of the total value of farm land by county, district, or state.

Data on **reported sales prices** refer to farm land sales occurring between January 1 and July 1, 1990. An average sales price per acre was calculated for each county, district, and economic development region by summing the total sales proceeds in an area and dividing this total sales value by the total

number of acres sold in the area. In addition, an adjusted sales price, which compensates for geographical shifts in real estate sales activity from year to year, was calculated by districts.

In recent years in particular, average estimated values per acre, as reported in this series, have been lower than average sales prices per acre. This may reflect a relative concentration of sales activity in counties and districts containing the state's higher priced lands, as well as the fact that respondents are requested to provide estimates for "average" land in their areas and may be overly conservative in their estimates.

In 1990, market activity in the state's higher priced lands experienced a slowdown. Although every district in Minnesota reported a decline in number of acres sold, for a statewide decrease of 53,860 acres sold compared with 1989, this decrease was most severe in areas of higher priced farm land, with the Southwest District alone accounting for 47 percent of the total statewide decline in number of acres sold from January 1 through June 30, 1990.

Part I

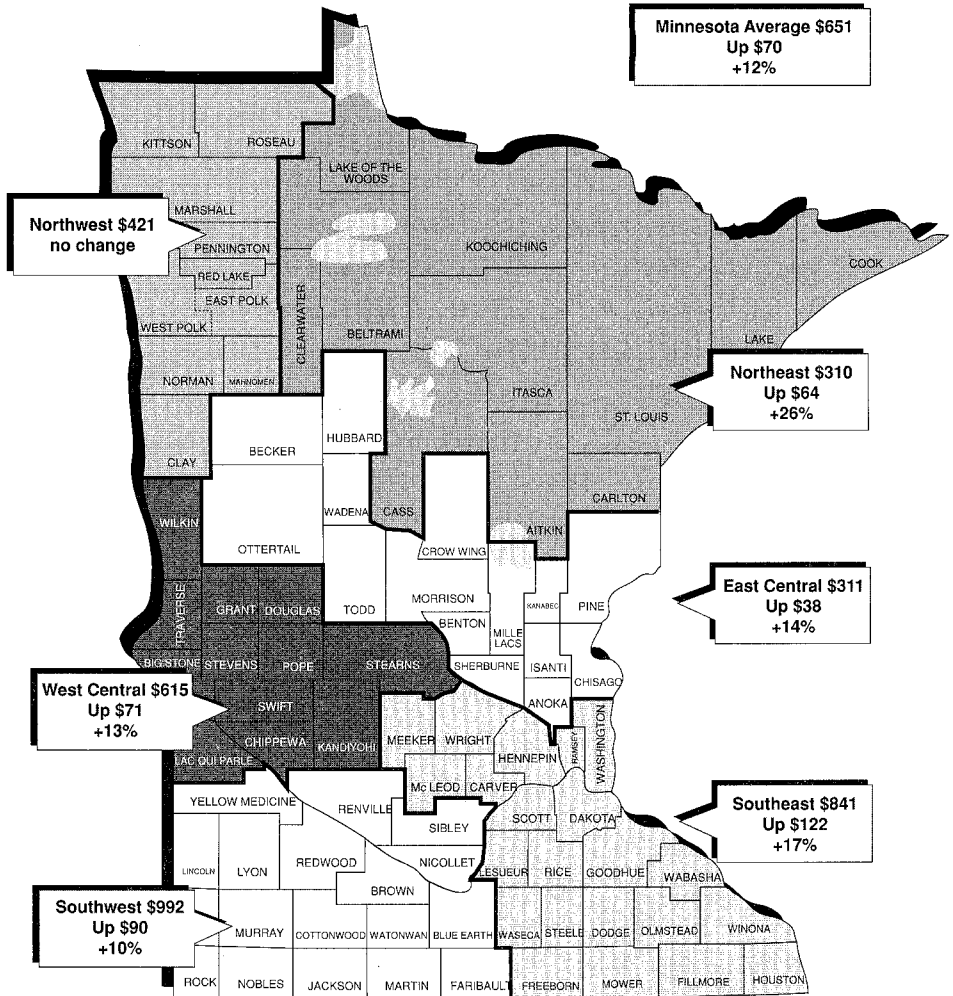
The Minnesota Rural Real Estate Market in 1990

A. Land Market Trends

Reporters' Estimates

The 1990 statewide average estimated value per acre increased for the third consecutive year to reach \$651, an increase of 12 percent from \$581 in 1989 (Figure 1). None of the districts reported a decline in estimated value per acre. In five districts, estimated values increased at least 10 percent or more with the largest increase of 26 percent in the Northeast, followed by 17 percent in the Southeast, 14 percent in the East Central, 13 percent in the

Figure 1. Estimated Land Values Per Acre in 1990 (Excluding Hennepin and Ramsey Counties)



West Central and 10 percent in the Southwest. Estimated values in the Northwest District showed no change. The estimated average values from the beginning of the land boom in 1972 through 1990 are shown in Table 1.

Reported Sales

Information was gathered on 813 reported sales that occurred between January 1 and July 1, 1990. The data are summarized in Tables 2 and 3. Based on reported sales, the unadjusted average sales price per acre of Minnesota farm land in 1990 was \$853, an increase of only 5 percent above the average sales price of \$815 reported for the first six months of 1989.

Although every district reported an increase in average sales price per acre, the smallest increases were registered in the Southeast (7 percent), West Central (6 percent) and Southwest (2 percent), versus increases of 17, 21 and 47 percent in the Northwest, East Central and Northeast Districts, respectively. Since the smallest unadjusted increases were reported in the districts which traditionally report the highest sales prices per acre, the data indicate a slowdown in the increase in sales prices of higher priced farm lands in Minnesota.

The highest average sales price for farmland was reported in the Southwest District, at \$1,098 per acre, followed in descending order by the Southeast at \$1,005, West Central at \$658, Northwest at \$541, East Central at \$492 and Northeast at \$277. Although there are wide differences among the estimated values and reported sales prices (Figure 2), this rank order of actual sales prices by district is the same as that of estimated values.

The difference between the percentage changes in average estimated value (12 percent) and average reported sales prices (5 percent) from 1989 to 1990 may reflect a change in the frequency of sales of higher priced rural real

Table 1: Average Estimated Value Per Acre of Minnesota Farmland, by District, 1972-1990

Year	South-east	South-west	West Central	East Central	North-west	North-east	State Average
1972	370	379	208	163	117	76	248
1973	433	459	247	194	146	115	298
1974	576	675	378	279	199	144	423
1975	674	844	503	296	295	163	525
1976	856	1106	624	349	378	210	667
1977	1027	1316	730	415	427	279	794
1978	1191	1421	803	498	483	304	889
1979	1453	1620	883	573	599	368	1040
1980	1526	1750	962	596	683	390	1120
1981	1709	2083	1135	679	813	460	1310
1982	1504	1875	1044	584	748	483	1179
1983	1354	1669	981	561	658	411	1065
1984	1164	1401	873	505	586	436	927
1985	861	967	690	374	510	362	686
1986	603	696	511	296	418	308	515
1987	558	671	472	259	375	293	480
1988	648	784	499	268	390	251	523
1989	719	902	544	273	421	246	581
1990	841	992	615	311	421	310	651
Percent Change							
1989-1990	17	10	13	14	0	26	12
1987-1990	51	48	30	20	12	6	37
1990 As Percent of Peak in 1981 or 1982							
	49	48	54	46	52	64	50

Table 2: Average Reported Sales Price Per Acre of Farmland by District, Minnesota, 1972-1990 (Unadjusted)

Year	South-east	South-west	West Central	East Central	North-west	North-east	State Average
1972	389	366	222	145	107	76	293
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
Percent Change							
1989-1990	7	2	6	21	17	47	5
1987-1990	62	45	33	25 ^a	60	65	53
1990 As Percent of Peak in 1981 or 1982							
	51	54	56	66	59	57	62

^a Low was in 1988.

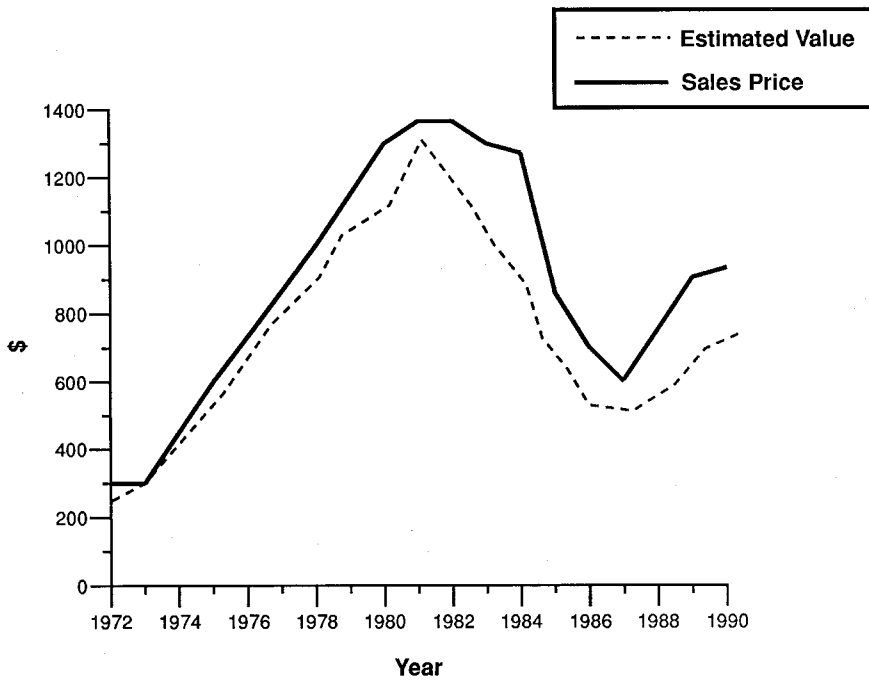
Table 3: Acreage of Land Sold, Average Acres Per Sale, and Percentage of Total Acres Sold, by District, Minnesota, January 1-July 1, 1980-1990

Year	Acres Sold						Minnesota
	South-east	South-west	West Central	East Central	North-west	North-east	
1980	46894	43867	29783	27089	31929	4908	184476
1981	47236	44975	45439	27463	36679	12456	214247
1982	34978	36283	25718	19662	21527	10994	149162
1983	40878	50127	31190	20421	24211	3007	169834
1984	45520	52855	34771	15599	15023	1346	165114
1985	29601	27336	22377	10475	16652	7243	113714
1986	49133	39281	28912	12175	17996	3109	150696
1987	49109	63130	33577	17148	41669	4280	208913
1988	44632	52335	41297	12069	20878	3663	174874
1989	41286	62643	37229	14865	16291	3688	176002
1990	33926	37302	23934	8405	15351	3224	122142
1989-1990 Percent Change	-18	-40	-36	-43	-6	-13	-31
Percent of Total Decline	14	47	25	12	2	1	100

Year	Acres/Sale						
	1980	141	146	181	154	275	133
1981	141	133	196	133	280	356	168
1982	127	126	156	177	234	282	154
1983	122	127	167	129	231	131	141
1984	125	113	167	139	218	168	134
1985	125	124	158	122	183	404	143
1986	153	126	190	134	222	145	154
1987	152	134	173	156	304	214	166
1988	165	141	175	142	220	183	162
1989	131	132	179	152	206	160	147
1990	140	129	184	142	207	179	150

Year	Percentage of Total Acres Sold in State						
	1980	25	24	16	15	17	3
1981	22	21	21	13	17	6	100
1982	23	24	17	13	14	7	100
1983	24	30	18	12	14	2	100
1984	28	32	21	9	9	1	100
1985	26	24	20	9	15	6	100
1986	33	26	19	8	12	2	100
1987	24	30	16	8	20	2	100
1988	26	30	23	7	12	2	100
1989	23	36	22	8	9	2	100
1990	28	31	20	7	13	3	100

Figure 2. Average Estimated Value and Average Sales Prices Per Acre for Minnesota, 1972-1990



estate. Three districts that usually report the highest sales prices per acre, the Southeast, Southwest and West Central, reported greater percentage changes in estimated value than in sales price. Respectively, the percentage change in estimated value compared to the percentage change in reported sales price for those districts is as follows: Southeast, 17 percent increase in estimated values versus a 7 percent increase in sales prices; Southwest, 10 percent versus 2 percent; West Central, 13 percent versus 6 percent.

The remaining three districts reported higher percentage changes in sales price than in estimated value. One reason for the difference between estimated values and sales prices in the Northwest District may be the lower frequency of sales in the eastern parts of that district where entries in the Conservation Reserve Program are concentrated. (See Table 16 for comparison of number of sales in the eastern and western parts of the Northwest District.) This increases the relative frequency of sales in the higher priced portions of the district lying within the Red River Valley, where the production of sugar beets is prominent. The differences in percentage change in estimated value compared to percentage change in sales price are as follows: East Central, a 14 percent increase in estimated values versus a 21 percent increase in sales prices; Northwest, no change versus a 17 percent increase; Northeast, a 26 percent increase versus a 47 percent increase.

The slowdown in sale price increases was accompanied by a slowdown in the number of acres sold. Only 122,142 acres were reported sold between January and July 1990 compared to 176,002 acres sold during the same time period in 1989. Every district experienced a decrease in number of acres sold, with four of the six districts reporting declines of 18 percent or more (Table 3). The Southeast reported an 18 percent decrease, the Southwest 40 percent, the West Central 36 percent and the East Central 43 percent.

Adjusted Sales Prices

Since change in average sales price can be the result of two variables, a change in the price or a change in the mix of properties sold, an effort is made in each survey to remove the effect on reported sales price of a change in the quality of land sold from year to year.

Adjusted sales prices were derived by multiplying each county's 1990 average reported sales price per acre by the number of acres sold in that county in 1989. These total county values based on 1990 prices and 1989 acres sold were then summed by district. This district value was then divided by the total acres sold in the district in 1989 to produce the district average price per acre for 1990 that would have resulted if each county's proportion of acres sold had remained unchanged from 1989. By removing the shift in geographic distribution of sales activity among counties and districts, the effect of the shift in quality difference is reduced. Table 4 compares unadjusted and adjusted sales prices by district.

As expected, the statewide unadjusted sales price for 1990 was \$853, which compares closely to the statewide adjusted sales price of \$855. More interesting are the comparisons of unadjusted to adjusted sales prices by districts. The three districts which reported very small percentage increases in their unadjusted average sales prices maintained similarly small percentage increases in their adjusted sales prices over 1989. The Southeast with an unadjusted 7 percent increase had an adjusted 9 percent increase in sales price, the Southwest with an unadjusted 2 percent increase experienced an adjusted 5 percent increase, and the West Central with an unadjusted 6 percent increase had an adjusted 3 percent increase in sales price per acre.

Of the other three districts which reported large increases in

Table 4: Adjusted Sales Prices Per Acre for 1990, by District, Minnesota

District	1990		1989	Percent Change From	
	Unadjusted Price	Adjusted Price	Unadjusted Price	Unadjusted 1989 to Unadjusted 1990	Unadjusted 1989 to Adjusted 1990
	(1)	(2)	(3)	(1)/(3)	(2)/(3)
Southeast	1005	1022	938	7	9
Southwest	1098	1133 *	1074	2	5 *
West Central	658	637	620	6	3
East Central	492	439	407	21	8
Northwest	541	405	461	17	-12
Northeast	277	271 *	189	47	43 *
Minnesota	853	855	815	5	5

* Corrections made from March 1990 Minnesota Agricultural Economist. See footnote 2, pg. 2.

unadjusted average sales price per acre, increases in two districts were significantly reduced by adjustment. In the East Central District an unadjusted 21 percent increase became an adjusted 8 percent increase, and in the Northwest an unadjusted 17 percent increase turned into an adjusted 12 percent decrease. The only district to maintain a large increase after adjustment was the Northeast District which reported an unadjusted increase of 47 percent and an adjusted increase of 43 percent.

This comparison expands upon the data in Table 3, in that it indicates that the mix of sales in 1990 within the two highest priced districts, the Southeast and the Southwest, included fewer sales of higher priced land than in 1989. In the other four districts in 1990 there were fewer sales of lower priced land than in 1989. The difference was greatest in the Northwest district, which contains a disproportionately large share of lands entered in the Conservation Reserve.

Nominal and Deflated Reported Sales Prices and Estimated Values

Fluctuations in the estimated values and sales prices of farm land are heavily influenced by the rate of inflation in the general economy. One way to remove the effects of inflation is by deflating with the consumer price index (CPI). Using 1967 as a base of 100, the average CPI for the first six months of 1990 was 385.5. The effect of inflation on estimated values and sales prices of Minnesota farm land between 1967 and 1990 can be removed by dividing the 1990 figures by 3.855. Figure 3 compares nominal estimated values per acre and real estimated values per acre deflated by the CPI from 1961 to the present, while Figure 4 makes the same comparison for average sales prices.

After removing the effect of inflation, real average estimated values per acre statewide increased 5 percent over 1989 compared to the increase in

Figure 3. Nominal and Deflated Estimated Values, Minnesota, 1961-1990

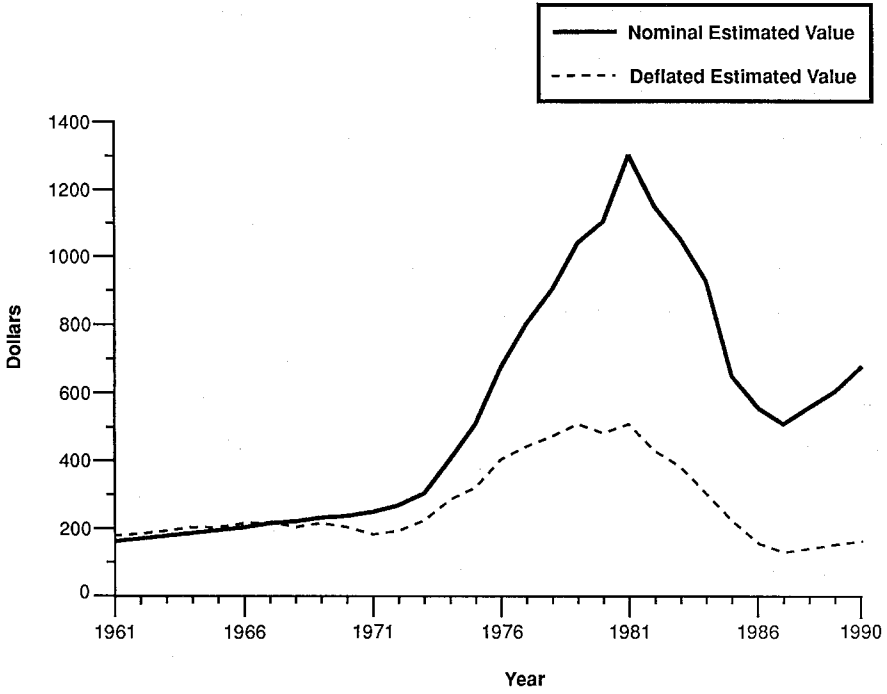
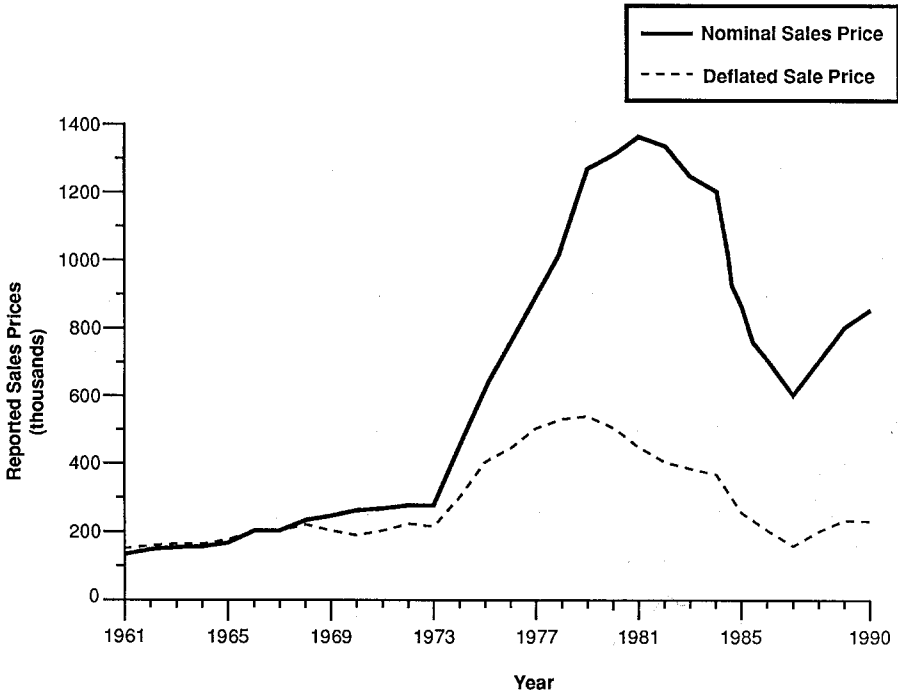


Figure 4. Nominal and Deflated Sales Price, Minnesota, Deflated by CPI, (1967=100)



nominal dollars of 12 percent reflected in Table 1. The deflated average estimated value per acre of \$169 in 1990 is greater than the statewide deflated values for 1986, 1987, 1988 and 1989, but is no higher than the real price of farm land in 1958, when a deflated average of \$170 was recorded. (See Table 28 in Statistical Appendix.) An analysis by district reveals that in 1990 each district reported an increase in real estimated value per acre except the Northwest, which reported a 6 percent decrease in deflated estimated value.

After adjusting for inflation, the average reported sales price per acre statewide actually decreased 2 percent, more than wiping out the 5 percent current dollar increase reported in Table 2. This was due primarily to the fact that the Southwest's deflated sales price of \$285 was 4 percent below 1989's deflated sales price of \$297. (See Table 29 in Statistical Appendix.) The West Central's deflated sales price of \$171 was also slightly less than 1989's deflated price of \$172.

Although the Southeast recorded a small increase in deflated sales price of 1 percent over 1989, and the East Central, Northwest and Northeast recorded increases of 13, 9 and 38 percent respectively, these failed to counterbalance the heavy weight that the higher priced land in the Southwest District exercises in computing a statewide average.

The higher-priced districts of Minnesota experienced very slight increases or actual decreases in deflated average sales price per acre in 1990 whereas lower-priced districts experienced the larger percentage increases in real sales price. There was a slowdown in 1990 in the number of acres sold in the higher-priced regions of Minnesota and an accompanying slowdown in the rate of increase in sales price in those same regions.

B. Analysis of Reported Sales

It is common practice to speak of "the real estate market" or "the farm land market" but these markets differ in important respects from more conventional commodity markets. Turnover is infrequent, the product is not homogeneous, quality standards are not standardized, financing involves long time periods, and decisions to buy or sell typically combine both occupational and residential choices. To permit a closer look at this market, the sections that follow analyze selected characteristics of the sales of Minnesota farm land reported by respondents for the period January to June 1990, with comparative data from previous years.

Reason for Sale

In 1990, 49 percent of sales statewide were the result of death or retirement. This continues a reversal in the trend reported between 1981 and 1987 when financial difficulty was the primary reason for farm land sales. Since 1987, death and retirement have steadily increased from 26 percent in 1987 to 37 percent in 1988, 44 percent in 1989, and 49 percent in 1990 (Table 5).

In 1990, only 15 percent of sales occurred specifically as a result of financial difficulty, whereas 60 percent of sales in 1987 were triggered by financial difficulty. Even if the reasons for sale "to reduce size" (10 percent) and "left farming" (6 percent) are considered a possible result of financial difficulty, a total of only 31 percent of total sales in 1990 could be considered the result of financial difficulty. This is in sharp contrast to 36 percent in 1989, 56 percent in 1988 and 71 percent in 1987. It should be noted that 20 percent of 1990 sales were attributed to "other reasons."

Table 5: Percentage of Sales by Reason for Selling Land, Minnesota, 1985-1990

Reason for Sale	1985	1986	1987	1988	1989	1990
Financial Difficulty	16	35	60	42	20	15
Reduce Size	18	17	6	8	11	10
Left Farming	12	11	5	6	5	6
Subtotal	46	63	71	56	36	31
Death	17	12	12	14	15	20
Retirement	25	18	14	23	29	29
Subtotal	42	30	26	37	44	49
Moved, Still Farming	2	1	0	0	2	0
Other	10	6	3	7	18	20

Type of Buyer

Buyers of Minnesota farm land are classified into three categories for this study. "Sole-tract operator" buyers are those who buy intact farms and are not using the purchases to expand existing land holdings. "Expansion buyers" add land they purchase to existing holdings and "investor" buyers are those who do not plan to operate the land themselves, but presumably expect to rent it out or have a manager operate the farm.

Expansion buyers dominated the market in 1990, accounting for 80 percent of sales statewide, compared to 73 percent in 1989 (Table 6 and Figure 5). Expansion buyers accounted for over 50 percent of the sales in every district, from a low of 56 percent in the Northeast District to a high of 90 percent in the Southwest and Northwest.

Sole-tract operator buyers accounted for 9 percent of sales, a sharp drop from 1989 when they contributed 13 percent of total sales. This is the lowest percentage of sales to sole-tract buyers reported since this classification of buyers was introduced in 1954. The East Central and Northeast reported the strongest activity of sole-tract operator buyers who accounted for 20 and 22 percent of total sales in those districts, respectively. These are districts in which part-time farming and rural residential use of land are prominent.

Investor buyers accounted for only 11 percent of all sales statewide in 1990, compared to 14 percent in 1989. Their strongest activity was in the Northeast, where they accounted for 22 percent of sales.

Method of Finance

Cash financing was the primary method used in 1990 to purchase rural real estate, accounting for 37 percent of farm land purchases, down from 40

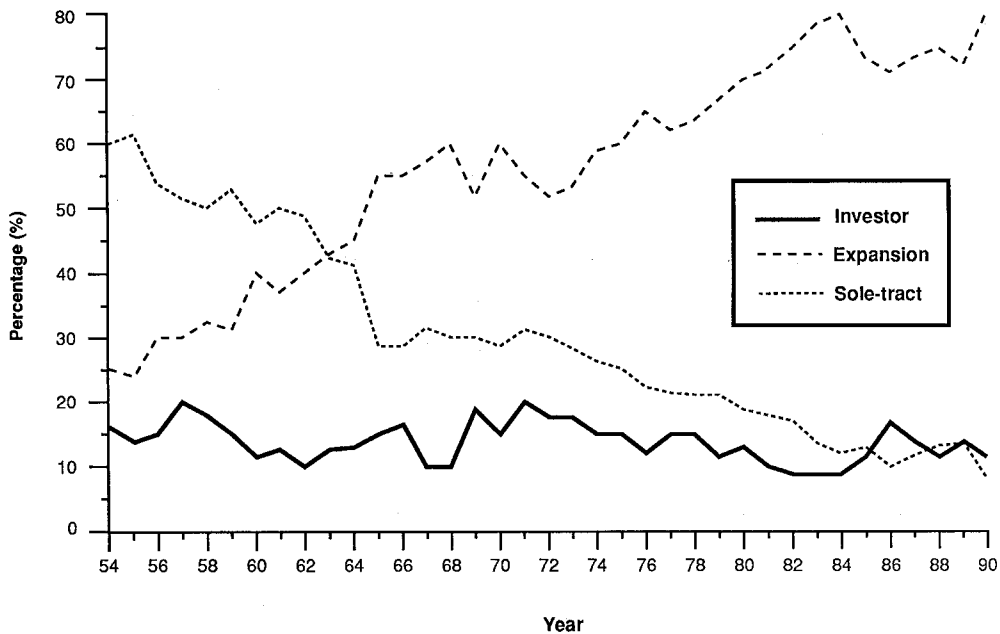
Table 6: Proportion of Farm Land Sales and Average Sales Price Per Acre by Type of Buyer, by District and Minnesota, 1989-1990

<u>District</u>	<u>Sole-Tract Operator Buyer</u>			
	1989 % of sales	1989 \$ per acre	1990 % of sales	1990 \$ per acre
Southeast	17	992	10	1231
Southwest	6	902	5	624
West Central	11	688	13	547
East Central	20	439	20	501
Northwest	4	511	0	0
Northeast	22	231	22	294
Minnesota	13	627	9	680

<u>District</u>	<u>Expansion Buyer</u>			
	1989 % of sales	1989 \$ per acre	1990 % of sales	1990 \$ per acre
Southeast	69	910	76	1003
Southwest	88	1104	90	1150
West Central	79	633	76	696
East Central	63	447	62	502
Northwest	91	467	90	596
Northeast	48	163	56	286
Minnesota	73	621	80	899

<u>District</u>	<u>Investor Buyer</u>			
	1989 % of sales	1989 \$ per acre	1990 % of sales	1990 \$ per acre
Southeast	14	1035	14	886
Southwest	6	1129	5	1113
West Central	9	502	11	615
East Central	17	297	18	440
Northwest	5	307	10	378
Northeast	30	191	22	230
Minnesota	14	577	11	730

Figure 5. Percentage of Farm Sales by Type of Buyer, Minnesota, 1954-1990



percent in 1989. Contracts for deed financed 33 percent of purchases while mortgage financing was used in 29 percent of sales, up from 20 percent in 1989.

Compared with 1989, a smaller percentage of buyers financed their purchases of farm land by contracts for deed or by cash. In 1989, contracts for deed were used to finance 40 percent of the sales, the first increase in the percentage of sales financed by contracts for deed in nine years. In contrast, only 33 percent of sales were financed by contract for deed in 1990 (Table 7).

Cash sales predominated in the Southwest (40 percent), East Central (45 percent) and Northwest (59 percent) while contracts for deed led in the Southeast (37 percent), West Central (50 percent) and Northeast (56 percent). The most frequent use of mortgages was in the Southeast (31 percent) and the Southwest (34 percent).

Distance of Buyer's Residence from Tract Purchased

The distance of buyer's residence to tract purchased reflects the local nature of the Minnesota rural real estate market. Statewide and in each district except the West Central, over half the sales were made to buyers who lived less than 5 miles from the tract purchased.

The proportion of farm land sales at various intervals of distance of buyer from tract purchased shows the localization of rural real estate market activity. Statewide, 59 percent of farm land sales were to buyers residing fewer than 5 miles from the tract purchased, 80 percent fewer than 10 miles, and 94 percent fewer than 50 miles from the tract purchased (Table 8).

Table 7: Proportion of Farm Land Sales by Method of Financing, by Districts, Minnesota, 1989-1990

Districts	Cash		Mortgage		Contract for Deed	
	1989	1990	1989	1990	1989	1990
 PERCENTAGE.....					
Southeast	34	32	30	31	36	37
Southwest	47	40	21	34	33	25
West Central	39	24	21	25	33	50
East Central	27	45	28	20	46	35
Northwest	51	59	13	23	36	18
Northeast	39	33	12	11	52	56
Minnesota	40	37	20	29	40	33

Table 8: Percentage of Sales by Distance of Buyer's Residence from Tract, by District, Minnesota, 1985-1990

Distance of Buyer's Residence from Tract Purchased	South-east	South-west	West Central	East Central	North-west	North-east	MN
-----percent-----							
<u>Less than 2 miles</u>							
1985	25	25	21	29	19	19	24
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
<u>2-4 Miles</u>							
1985	34	41	35	33	43	25	37
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
<u>5-9 Miles</u>							
1985	21	21	21	12	22	6	20
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
<u>10-49 Miles</u>							
1985	16	10	21	14	8	6	14
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
<u>50-299 Miles</u>							
1985	1	2	1	10	3	0	3
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
<u>300 Miles and Over</u>							
1985	1	1	0	1	5	44	2
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

A detailed analysis by district shows that 86 percent of the Southwest farm land sales were to buyers who reside less than 10 miles from the tract purchased. The Northwest District follows with 85 percent, the Southwest and East Central each with 78 percent, and the West Central with 71 percent.

Percentage of acres sold provides a similar reinforcement of the local nature of the market depicted above. Statewide, 54 percent of acres sold were to buyers residing fewer than 5 miles from the tract purchased, 74 percent fewer than 10 miles, and 89 percent of acres sold went to buyers residing fewer than 50 miles from the land purchased (Table 9).

By district, the percentage of acres sold by various intervals of distance from tract is as follows in descending order: sales to buyers living within 10 miles of the tract purchased make up 84 percent of the acres sold in the Southwest District, 74 percent in the Northwest, 71 percent in the East Central, 70 percent in the Southeast, 67 percent in the West Central, and 42 percent in the Northeast.

Quality of Land and Buildings

There has been general stability in the relative proportions of land sales when classified by land quality throughout the 1980's. Statewide, respondents classified the land quality of 39 percent of all sales as 'good', 46 percent as 'average', and 15 percent as 'poor' (Table 10). This is the first time, however, since 1980 that less than 40 percent of all land sold was categorized as good.

In 1990, expansion buyers continued to prefer land without buildings with 69 percent of their purchases involving such tracts. Sole-tract operators continued to prefer average quality land with 55 percent of their purchases involving such land while 30 percent of their purchases involved

Table 9: Percentage of Acres Sold by Distance of Buyer's Residence from Tract Purchased, Minnesota, 1990

Distance of Buyer's Residence from Tract Purchased	South-east	South-west	West Central	East Central	North-west	North-east	MN
	-----PERCENT-----						
Less than 2 miles	24	24	14	35	10	12	21
2-4 miles	27	39	26	23	46	30	33
5-9 miles	<u>19</u>	<u>21</u>	<u>27</u>	<u>13</u>	<u>18</u>	<u>0</u>	<u>20</u>
Total Under 10 miles	70	84	67	71	74	42	74
10-49 miles	15	12	23	17	14	7	15
50-299 miles	13	2	8	9	9	23	8
300 miles and over	1	3	2	3	2	29	3

Table 10: Percent of Sales by Type of Buyer for Land of Varying Quality, Minnesota, 1985-1990

Year	Sole-tract	Expansion	Investor	All Sales
GOOD QUALITY				
----- percent of sales -----				
1985	34	42	38	41
1986	29	44	34	41
1987	35	44	30	41
1988	30	49	34	45
1989	36	45	27	43
1990	30	43	27	39
AVERAGE QUALITY				
----- percent of sales -----				
1985	47	47	40	46
1986	61	44	51	47
1987	47	43	48	44
1988	55	43	44	44
1989	50	44	47	45
1990	55	45	41	46
POOR QUALITY				
----- percent of sales -----				
1985	20	11	22	14
1986	10	12	15	12
1987	18	13	22	15
1988	15	8	22	11
1989	14	11	26	12
1990	15	13	31	15

good quality land. Investor buyers were not very active in 1990 accounting for few sales; not surprisingly, 61 percent of their purchases involved land without buildings.

Improved Versus Unimproved Land

This study defines improved and unimproved land as farm land with and without buildings respectively (Table 11). The association between unimproved land and expansion buyers is clear at the state and district level. Statewide, 62 percent of all sales involved unimproved land and 80 percent of all sales were to expansion buyers; for Minnesota in 1990 over half of all sales were to expansion buyers purchasing unimproved farm land (Table 12).

The average sales price per acre of improved land in Minnesota declined 3 percent from 1989 compared to a 13 percent increase in average sales price for unimproved land (Table 13). On average statewide, unimproved land sold for \$840 per acre while improved land sold only 3 percent higher at \$868.

In the East and West Central Districts the average sales price of unimproved land was higher than that for improved land. The greatest differential between years was in the East Central where unimproved land sold at 107 percent of the price of improved land in 1990, up from 78 percent in 1989.

C. Trends in Sales Prices by Economic Development Regions

Classifying sales data by the state's 13 economic development regions (Figure 6) helps to emphasize the effects of year-to-year shifts in the geographic frequency of sales on average sales prices. A comparison of 1990 adjusted sales prices with 1989 unadjusted sales prices reveals changes that

Table 11: Percent of Unimproved Farm Land Sales by Type of Buyer, Minnesota 1985-1990

Year	Sole-tract	Expansion	Investor	All Sales
NO BUILDINGS				
----- percent of sales -----				
1985	15	67	57	58
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

Table 12: Type of Buyer and Quality of Farm Land Buildings (With and Without Buildings), Minnesota, 1990

Type of Buyer	Building Quality				Total Minnesota	
	Improved		Unimproved		Number of Sales	Percent
	Number of Sales	Percent	Number of Sales	Percent		
Sole Tract	52	8	9	1	61	9
Expansion	173	25	381	55	554	80
Investor	29	4	49	7	78	11
Total	254	37	439	63	693	100

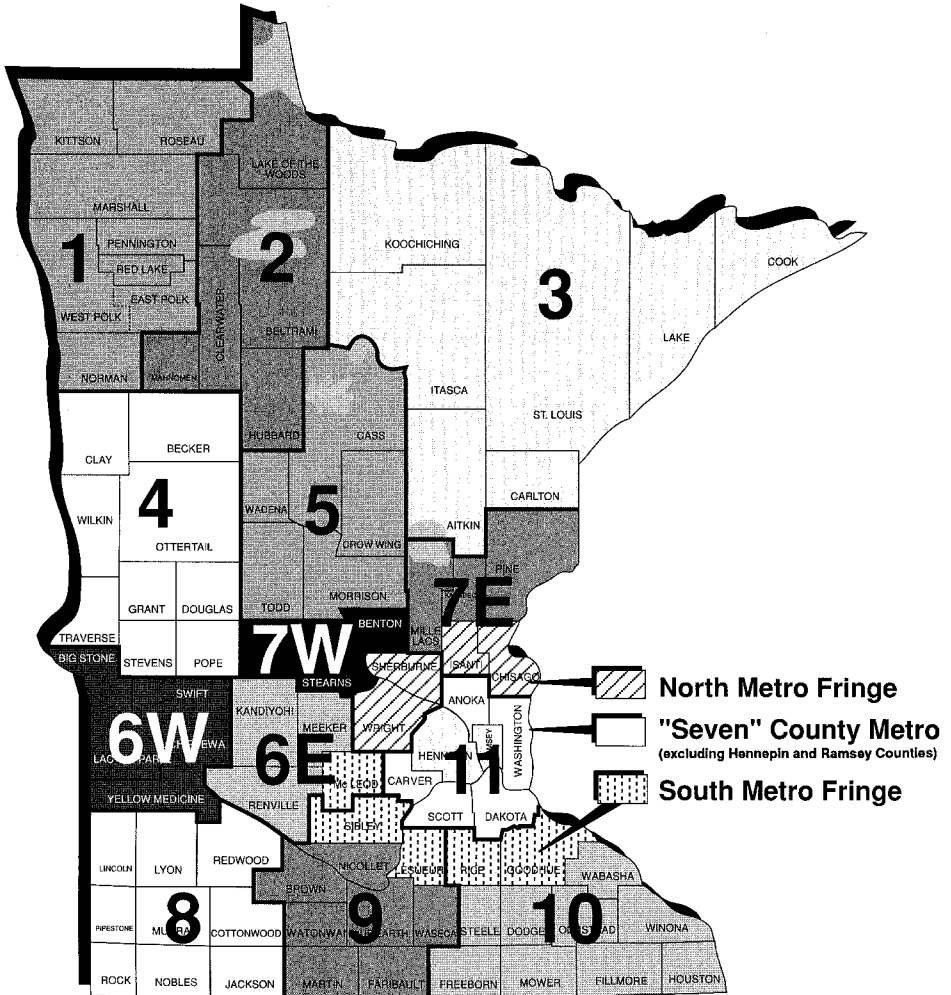
* Slight differences between this Table and Table 12 are due to rounding.

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Table 13: Proportion of Sales and Average Sales Price Per Acre of Improved and Unimproved Farmland, by District, Minnesota, 1989 and 1990

District	Improved				Unimproved				Price of Unimproved Land as a Percent of Price of Improved	
	1989		1990		1989		1990		1989	1990
	%	\$	%	\$	%	\$	%	\$	%	%
Southeast	50	992	45	1079	50	860	55	913	87	85
Southwest	39	1113	28	1116	61	1038	72	1089	93	98
W. Central	39	685	48	654	61	572	52	663	84	101
E. Central	60	455	58	481	40	353	42	517	78	107
Northwest	16	436	19	607	84	465	81	526	107	87
Northeast	43	242	61	322	57	153	39	154	63	48
Minnesota	42	897	38	868	58	742	62	840	83	97

Figure 6. Minnesota Economic Development Regions and the Greater Twin Cities Metropolitan Area



can be attributed to price shifts alone and that are not due to regional variations in the frequency of sales of higher and lower priced land.

Table 14 presents unadjusted average sales prices by economic development region for the seventeen years from 1974 through 1990. It then compares the percentage change in sales prices from 1989 to 1990 for each region, using first the unadjusted sales prices for 1990 and then the adjusted 1990 sales prices. The comparison reveals several striking patterns. When unadjusted, the only price declines from 1989 to 1990 were reported for Regions 7W and 8. When adjusted, these two regions still showed decline, but they were also joined by Regions 1, 5, 7E and 11. Note that in Region 1 a nominal price increase of 21 percent became a substantial price decrease of 22 percent and, when adjusted, a similar reversal occurred in Regions 5, 7E and 11. This indicates that the sales prices entering into the averages contained substantially more sales of lower priced land in 1989 than in 1990, in those regions.

The shift in sales activity in 1990 that reduced the relative role played by lower priced lands, when compared to 1989, was sharpest in Region 1. That region contains 17 percent of the acres of land in farms in Minnesota, but has 43 percent of total statewide entries in the Conservation Reserve Program. Apparently a high concentration of entries in the CRP is associated with a sharp decline in the frequency of sales of lower-priced lands.

Overall, in 1990 Region 11 reported the highest unadjusted sales price of \$1,304 per acre, followed closely by Region 9 at \$1,300. The lowest unadjusted prices per acre were found in Region 3 with \$279 and Region 5 with \$286 per acre.

Regions 6E and 9 maintained strong increases in average sales price even after adjustment, reporting 15 and 11 percent increases respectively from

Table 14: Average Reported Sales Price Per Acre of Farmland by Economic Development Regions, Minnesota, 1974-1990 (Unadjusted) and 1990 Adjusted Sales Price

Year	Economic Development Regions											State		
	1	2	3	4	5	6W	6E	7W	7E	8	9		10	11
Unadjusted														
1974	199	141	148	317	197	341	569	430	254	534	829	565	882	450
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
*Change of Unadjusted Prices 1989-1990														
	21	*26	37	7	6	3	10	-2	21	*-9	14	4	7	5
Adjusted 1990 Prices														
	314	*347	292	579	230	616	1012	757	394	*1005	1267	1031	1193	853
Percentage Change from 1989 Unadjusted to Adjusted 1990 Prices														
	-22	*85	43	5	-15	0	15	-2	-3	*-3	11	8	-2	5

* Affected by correction, see footnote 2, pg. 1.

unadjusted 1989 to adjusted 1990 prices. The contrast is sharp between Region 6E, which includes the sugar processing plant in Renville County, and neighboring Region 8, which reported an adjusted 3 percent decrease in sales price.

Part II

Analysis of Changes in the Minnesota Rural Real Estate Market: 1987-1990

The roller-coaster behavior of farm land prices in the past two decades has been especially pronounced in Minnesota. From 1972 to a peak in 1981 prices in current dollars increased more than five-fold. From 1981 to the bottom of the decline in 1987 nominal prices fell by over 60 percent statewide and by 65 to 70 percent in several of the highest priced counties. The sections that follow disaggregate the statewide data by selected market areas in order to trace the extent of the recovery from the 1987 lows.

Statewide in 1990, estimated values rose by 12 percent and reported sales prices increased on average by 5 percent. However, after adjusting for the effect of inflation, estimated values increased a mere 5 percent while the reported sales prices declined by 2 percent in real purchasing power. Additional analysis reveals that various parts of the state have not fully 'recovered' from the 1987 low and may not be expected to do so in the near future. In terms of strength in average sales price, the only districts reporting steady increases in their deflated average sales prices since 1987 are those possessing most of the state's less expensive farm land, the Northeast, East Central, and Northwest.

The Greater Twin Cities Metropolitan Area

For this study, the Greater Twin Cities Metropolitan Area is defined as the 14 counties surrounding the Twin Cities counties of Hennepin and Ramsey (see Figure 6). To facilitate a detailed study of the area, three sub-areas have been identified according to population levels, productivity of the land and historical trends in land values.

The first sub-area is the Twin Cities Metro area consisting of Anoka, Carver, Dakota, Scott and Washington Counties (Economic Development Region 11, excluding Hennepin and Ramsey Counties). The second sub-area is the South Metro Fringe made up of Goodhue, McLeod, LeSueur, Rice and Sibley Counties and the third is the North Metro Fringe including Chisago, Isanti, Sherburne and Wright Counties.

The South Metro Fringe area experienced no increase in sales price from 1989 to 1990 while the North Metro Fringe recorded a 9 percent increase and the Twin Cities Metro area reported a 7 percent increase (Table 15). Overall, the Greater Twin Cities Metropolitan Area experienced a 9 percent increase in average sales price while statewide a 5 percent increase was recorded for 1990.

The Red River Valley Area

The Red River Valley, a former glacial lake plain, is characterized by high productivity in contrast to the surrounding areas which are generally less productive. Since the analyses of trends for the Northwest District and for Economic Regions 1 and 4 include both Valley and non-Valley land, they may be distorted. In order to reduce the effect of these sharp differences in land quality, two sub-areas are studied: the Red River Valley, and a Comparison Area consisting of non-Valley townships and counties lying within

Table 15: Average Reported Sales Price Per Acre for Farm Land Greater Twin Cities Metropolitan Area and Sub-areas, 1973-1990

Year	"Seven" County Metro ¹	South Metro Fringe ²	North Metro Fringe ³	Greater T.C. Metro (14 counties) ⁴	Minnesota
1973	698	475	353	516	298
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
Percent Change					
1989-1990					
	7	0	9	9	5

¹Anoka, Carver, Dakota, Scott, Washington Counties (Hennepin and Ramsey are excluded for reporting purposes.)

²Goodhue, McLeod, Le Sueur, Rice and Sibley Counties

³Chisago, Isanti, Sherburne, Wright Counties

⁴All fourteen counties named above

the Northwest District but outside of the Valley. The two areas are shown in Figure 7.

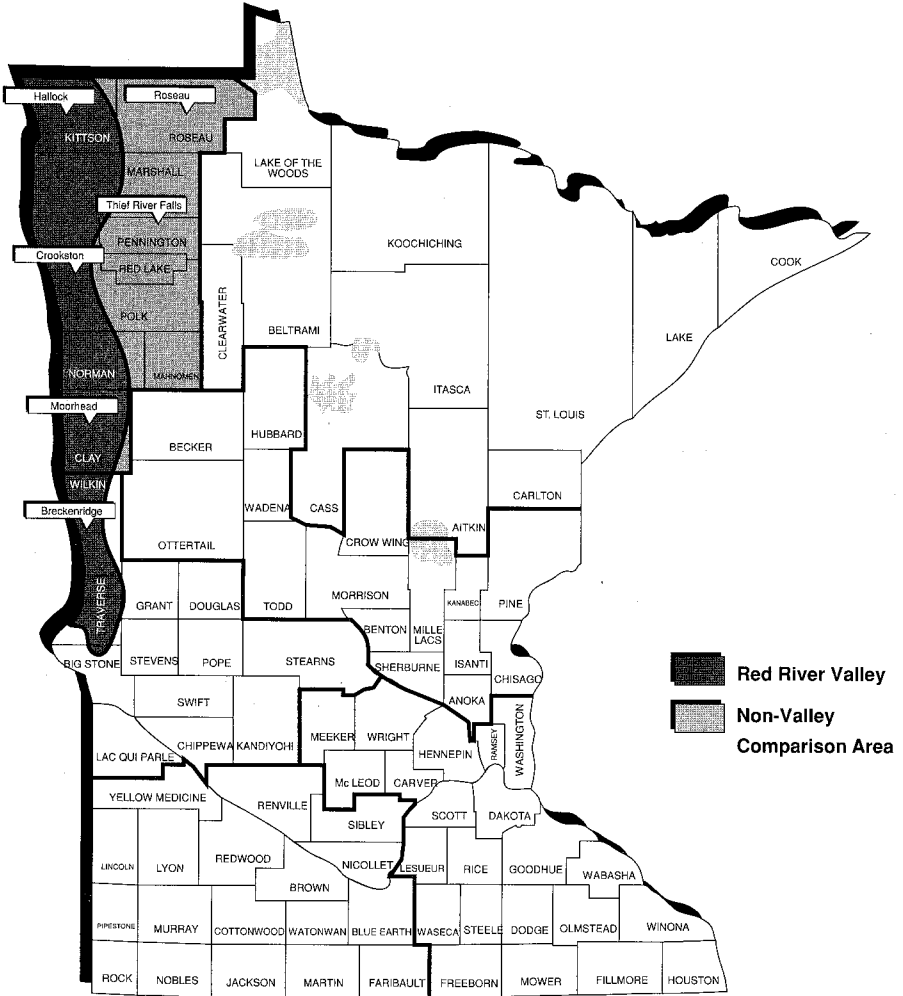
In 1990, the spread between the prices in the two areas widened (Table 16). In the Red River Valley, average sales price increased 10 percent to \$708 in 1990 from \$644 in 1989, while the Comparison Area showed a slight decrease of 3 percent to \$284 in 1990 down from \$294 in 1989.

Expansion buyers continued to dominate the market in both the Valley and Comparison areas, accounting for 94 and 83 percent of sales respectively (Table 17). Interestingly, there were no sole-tract buyers, and investor buyers were scarce, accounting for only 6 percent of sales in the Valley Area and 17 percent of sales in the Comparison Area. In recent years we have noted that the absence of buildings can be a price-enhancing factor in the cash crop areas, but in 1990 improved land in the Red River Valley sold on average for \$801 per acre versus unimproved land in the Valley which sold for \$674 per acre (Table 18). In the Comparison Area, improved land also earned a higher price than unimproved land.

In the Valley area, 74 percent of sales were financed with cash, while only 24 percent of sales in the Comparison area were cash financed (Table 19). Of the credit-financed sales in the Comparison area, financing was split evenly between mortgages and contracts for deed, each accounting for 38 percent of sales.

The Comparison Area included counties or parts of counties in which the percentage of farm land entered in the Conservation Reserve Program (CRP) has been the highest in the state. It also includes areas hard-hit by persistent drought over several years. Heavy CRP entries could be expected to reduce the frequency of sales of lower-priced land, leading to an upward drift in the average sales price of lands that did sell. If this effect was present, it

Figure 7. The Red River Valley and Comparison Areas



**Table 16: Farm Land Sales Prices, Average Tract Size, and Number of Sales
Red River Valley and Comparison Areas, 1970-1990**

Year	Red River Valley			
	Price Per Acre	Change from Previous Year	Sales	Average Size of Tract Sold
	Dollars	Percent	Number	Acres
1970	194	9	70	238
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
	Non-Valley Comparison Area			
1970	69	-34	52	340
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

Table 17: Proportion of Sales by Type of Buyer (top number) and Average Price Per Acre (bottom number), 1983-1990

Type of Buyer	1983	1984	1985	1986	1987	1988	1989	1990
RED RIVER VALLEY								
Sole-Tract Buyer	% 2 \$ 1150	2 1250	0 --	2 513	0 --	4 389	4 681	0 --
Expansion Buyer	% 98 \$ 995	98 1005	92 740	96 626	100 506	94 605	96 644	94 708
Investor Buyer	% 0 \$ --	0 --	8 857	2 897	0 --	2 502	0 --	6 676
COMPARISON AREA								
Sole-Tract Buyer	% 11 \$ 646	17 445	9 578	6 356	13 387	19 243	3 292	0 --
Expansion Buyer	% 81 \$ 561	80 544	68 402	88 258	77 232	81 290	88 291	83 313
Investor Buyer	% 8 \$ 399	3 350	23 289	6 393	10 184	0 --	9 307	17 244

Table 18: Proportion of Sales and Average Sales Price Per Acre of Improved and Unimproved Land, Red River Valley and Comparison Area, 1981-1990

Area and Year	Percentage of Sales		Price Per Acre		Price of Unimproved Land as a % of Price of Improved Land
	Improved %	Unimproved %	Improved \$	Unimproved \$	
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
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

Table 19: Proportion of Sales (top figures) and Price Per Acre (bottom figures) by Method of Finance, Red River Valley and Comparison Area, 1983-1990

Method of Finance		1983	1984	1985	1986	1987	1988	1989	1990
RED RIVER VALLEY									
Cash	%	33	27	52	49	60	39	52	74
	\$	1021	911	675	715	592	651	577	718
Mortgage	%	40	38	37	13	21	15	22	17
	\$	1019	1008	834	601	429	558	792	682
Contract for Deed	%	27	35	11	38	19	45	55	9
	\$	965	1037	801	598	447	616	590	670
COMPARISON AREA									
Cash	%	17	21	23	45	39	35	55	24
	\$	533	550	235	279	291	262	288	301
Mortgage	%	38	38	31	32	36	17	5	38
	\$	627	551	439	303	245	295	192	320
Contract for Deed	%	45	41	46	23	25	48	40	38
	\$	537	485	463	202	175	283	315	268

was apparently outweighed by other effects in 1990.

Southwestern Minnesota

Southwestern Minnesota is characterized by similar land use patterns and a general absence of urban influences, but the area experiences varying degrees of climatic risk. This study isolates this impact of climatic risk by grouping counties into three clusters of counties consisting of a 'lower-risk area' of nine south-central counties with high-crop yields and lower extremes in climate; a 'higher-risk area' of nine west-central counties with greater variability in crop yields and extremes in climate; and a 'transitional area' of nine counties lying between the other two areas, as shown in Figure 8.

In 1990, the Transitional Area experienced a 9 percent decline in reported sales price from 1989 and a 3 percent decline in average transaction amount (Table 20 and 21). The increase in average number of acres sold was not sufficient to off-set the decline in price per acre. The Higher-risk and Lower-risk areas experienced declines in the average number of acres sold, but their increases in average sales price per acre offset the decrease in acres, so that the average transaction amounts increased 10 and 3 percent respectively.

Cash sales in 1990 were more frequent in the lower risk area where average prices per acre were highest, accounting for 56 percent of sales in the category, while cash sales made up only 25 percent of sales in the higher-risk area and contracts for deed comprised 41 percent of sales (Table 22). It is also notable that the dominance of expansion buyers is greatest in lower risk area and declines as risk increases, although this decline is modest from 91 to 80 percent.

Figure 8. Higher Risk, Lower Risk, and Transitional Areas of Minnesota, 1990

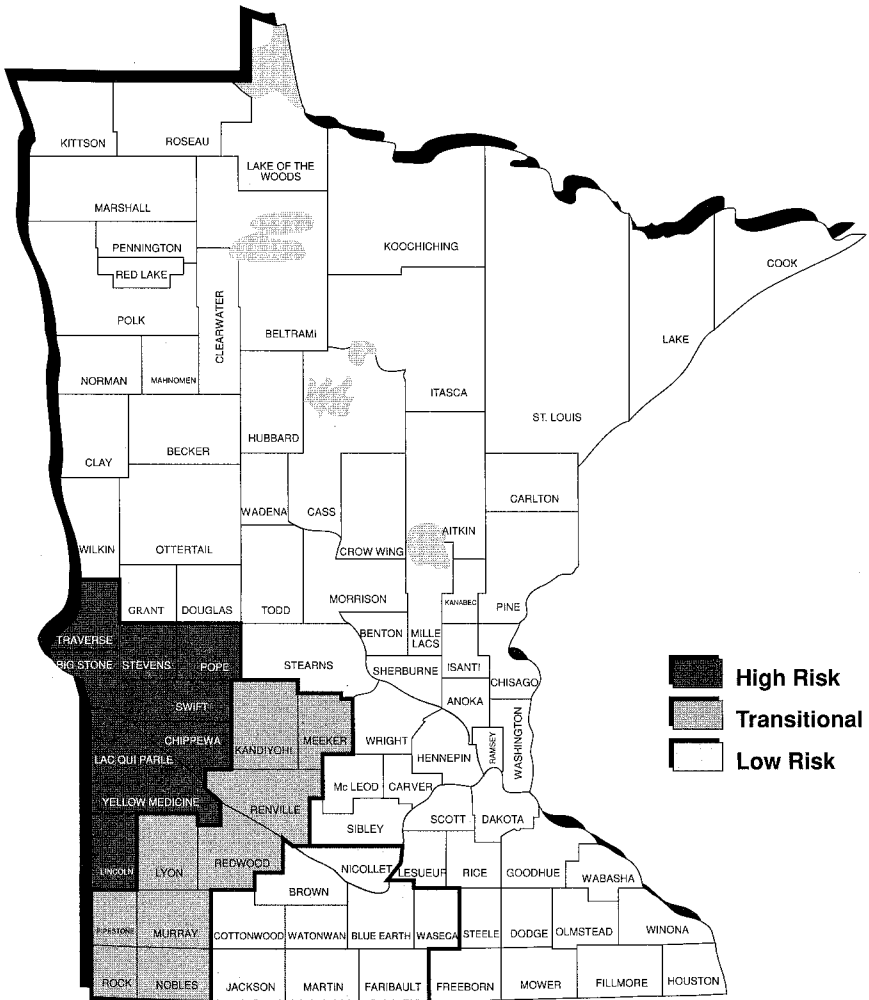


Table 20: Farmland Sales by Risk Category in Southwestern Minnesota, 1981-1990

item		1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
DOLLARS											
average	hi	1159	1140	1016	1001	783	561	479	545	*570	599
sale price	tr	1680	1698	1590	1356	1011	680	651	776	1023	933
per acre (\$)	lo	2760	2529	2145	1954	1354	919	853	1011	1206	1331
PERCENT											
change in	hi	22	- 2	-11	- 1	-22	-28	-15	14	nil	11
sale price	tr	8	1	-6	-15	-25	-33	-4	19	31	-9
from previous	lo	19	- 8	-15	- 9	-31	-32	- 7	18	19	10
year (%)											
average sale	hi	42	45	47	51	58	61	56	54	45	45
price as % of	tr	61	67	74	69	75	74	76	77	85	68
average price											
in low risk area											
ACRES											
average #	hi	191	158	162	167	151	206	169	176	*193	175
acres per	tr	156	136	150	127	140	148	144	146	137	146
sale	lo	111	110	110	101	115	117	125	139	128	120

NOTE: "hi," "tr", and "lo" refer (respectively) to higher-risk area, transitional area, and lower-risk area.

* Correction from 1989--originally reported as 542 and 173.

Table 21: Variation in Average Transaction Amounts, by Risk Category in Southwestern Minnesota, 1983-1990^a

Risk Area	1983	1984	1985	1986	1987	1988	1989	1990
DOLLARS								
Hi	164,592	167,167	118,233	115,566	80,957	95,938	110,048	104,825
Trans.	238,500	172,212	141,540	100,640	93,744	113,311	140,151	136,218
Low	235,950	197,354	155,710	107,523	106,625	140,501	154,368	159,720
PERCENT								
Hi/Lo	69.8	84.7	75.9	107.5	75.9	68.3	60.7	65.6

^a Transaction Amount is price per acre times acres per sale.

**Table 22: Proportion of Sales by Type of Buyer and Method of Payment (top number)
Average Price Per Acre (bottom number), by Risk Areas, Southwestern
Minnesota, 1987-1990**

	1987	1988	1989	1990		1987	1988	1989	1990	1990 Sale Price as 1987 Price	Sale Price % chg 1989-90
HIGHER-RISK AREA											
sole-tract buyer	% 8 \$ 410	5 513	4 450	10 393	cash	% 45 \$ 473	40 551	40 533	25 626	132	17
expansion buyer	% 81 \$ 482	81 549	79 544	80 613	mortgage	% 19 \$ 611	28 554	39 567	34 563	92	0
investor buyer	% 11 \$ 519	14 536	17 472	11 664	contract for deed	% 36 \$ 505	32 539	21 516	41 565	112	9
TRANSITIONAL AREA											
sole-tract buyer	% 10 \$ 631	13 689	8 1085	6 615	cash	% 41 \$ 636	44 775	46 969	47 944	148	-3
expansion buyer	% 77 \$ 689	77 79	84 1028	87 992	mortgage	% 19 \$ 611	31 793	27 1055	26 1101	180	4
investor buyer	% 13 \$ 487	9 854	8 958	7 758	contract for deed	% 40 \$ 666	25 760	27 1064	28 729	109	-3
LOWER-RISK AREA											
sole-tract buyer	% 5 \$ 762	5 746	4 1091	3 1373	cash	% 45 \$ 862	48 1030	36 1193	56 1029	119	-14
expansion buyer	% 89 \$ 859	80 1056	86 1261	91 1385	mortgage	% 21 \$ 864	24 980	21 1288	22 1496	173	16
investor buyer	% 6 \$ 846	14 938	10 1252	6 1412	contract for deed	% 34 \$ 819	28 1021	44 1179	22 1070	131	-9

Dairy Region

In an effort to study the recovery in land sales prices since 1987, potentially sensitive sectors have been identified for study. While dairy prices in Minnesota declined sharply in 1990, effects of the decline are not reflected in the reported sales prices for land in 1990 in the dairy counties (Table 23) since the survey studied the first six months of 1990 and the greater part of the dairy price decline occurred in the latter part of the year.

For this study, the dairy region is identified as those counties containing a cow density per square mile of farm land greater than 30. However, as dairy production areas are often situated near population centers and their prices may be influenced by urban factors, only those counties outside the Greater Metropolitan Area are considered. In addition, Chisago and Pine counties are not included to avoid the effect of highway I-35 on their land prices. The 17 counties included in this study are Benton, Dodge, Douglas, Fillmore, Houston, Kanabec, Meeker, Mille Lacs, Morrison, Olmsted, Otter Tail, Stearns, Steele, Todd, Wabasha, Wadena, and Winona (see Figure 9, map).

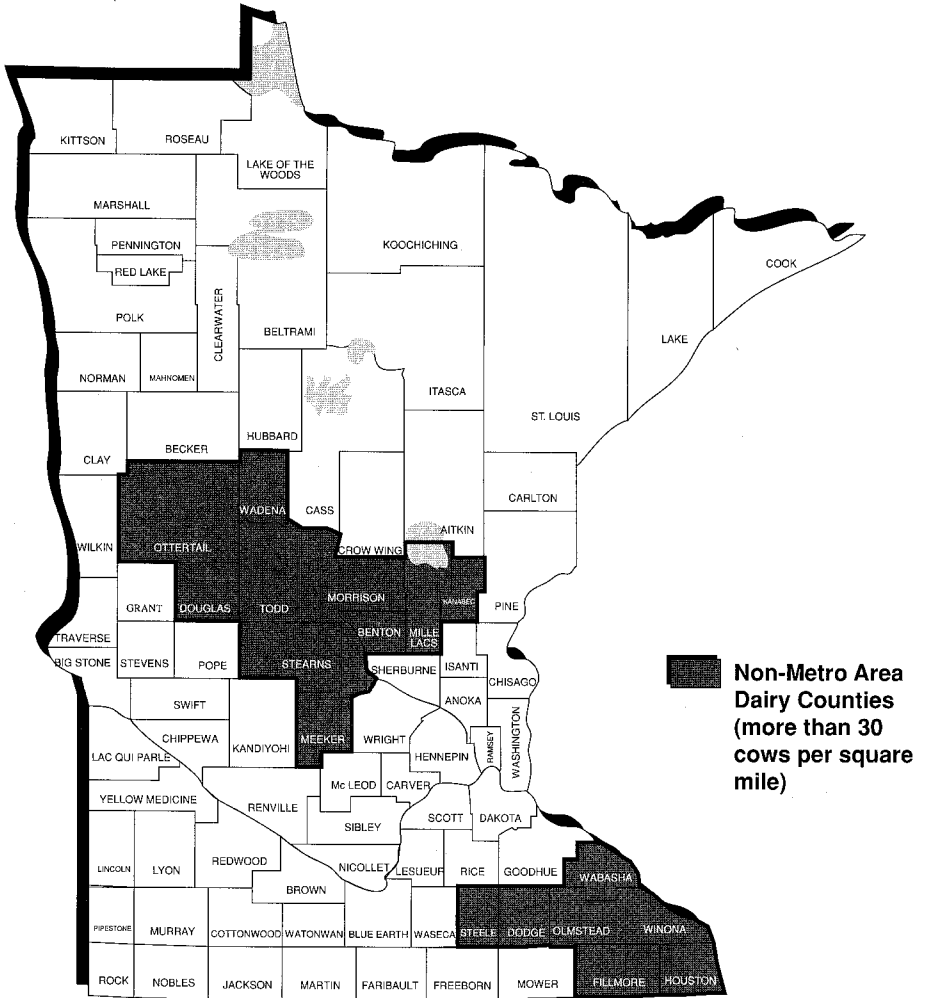
For this group of counties containing more than 30 milk cows per square mile of farm land, the analysis does not reveal a decreasing trend in land prices. Since there is often a lag of one year or more before the effects of dairy price changes are reflected in the land market, a change in reported sales price may emerge in 1991.

Table 23: Minnesota, Reported Sales Price of Farmland in Dairy Region, Compared With Annual Average Statewide Milk Prices, 1987-1990

	1987	1988	1989	1990
Price per acre	\$506	\$607	\$628	\$798
Percent change from previous year		21%	3%	17%
Milk price* (dollars/cwt.)	\$11.86	\$11.67	\$13.08	\$13.22

* USDA, "Milk Production, Disposition and Income", yearly summaries.

Figure 9. Minnesota Dairy Region, by County in Minnesota



Statistical Appendix

When averages are used, the variation about the average is not apparent. This report makes extensive use of averages. A greater degree of variation reduces the reliability of the data and any reduction in variation increases the significance of the average.

Two measures of variability are the standard deviation and the coefficient of variation. The standard deviation reveals the dollar range from the average within which approximately two-thirds of the reported sales fall. For example, in 1990 the Southwest district had an average sale price of \$1098 per acre, with a standard deviation of \$449.60. This means that approximately two-thirds of the sales in that district fell between \$648 and \$1,548 per acre. The coefficient of variation is calculated by dividing the standard deviation by the average sales price, and multiplying by 100 to convert it to a percentage form.

Table 24: Average Price Per Acre of Reported Farm Sales, Standard Deviation and Coefficient of Variation, Minnesota and Districts, 1980-1990*

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Average Price Per Acre (dollars)							
1980	1837.1	1868.2	1095.3	603.0	758.8	394.5	1318.5
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

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Standard Deviation							
1980	639.5	746.7	487.2	298.1	337.2	152.9	780.1
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	412.7	449.6	269.1	230.8	318.0	173.3	450.0

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Coefficient of Variation (percent)							
1980	34.8	40.0	44.5	49.4	44.4	38.8	59.2
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

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

Table 25: Percentage Change of Average Reported Sales Price Per Acre, by Districts and Minnesota, 1980-1990

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

Table 26: 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 1990

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 26: Average Estimated Value Per Acre of Farm Real Estate in Minnesota (cont.'d) by Districts, 1910-11 through 1944-45, by Two-Year Periods, and Annually, 1946 through 1990

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	317	347	198	161	120	62	227
1971	333	351	204	155	119	63	232
1972	370	379	208	163	117	76	248
1973	433	459	247	194	146	115	298
1974	576	675	378	279	199	144	423
1975	674	844	503	296	295	163	525
1976	856	1106	624	349	378	210	667
1977	1027	1316	730	415	427	279	794
1978	1191	1421	803	498	483	304	889
1979	1453	1620	883	573	599	368	1040
1980	1526	1750	962	596	683	390	1120
1981	1709	2083	1135	679	813	460	1310
1982	1504	1875	1044	584	748	483	1179
1983	1354	1669	981	561	658	411	1065
1984	1164	1401	873	505	586	436	927
1985	861	967	690	374	510	362	686
1986	603	696	511	296	418	308	515
1987	558	671	472	259	375	283	480
1988	648	784	499	268	390	251	523
1989	719	902	544	273	421	246	581
1990	841	992	615	311	421	310	651

Table 27: Percentage Change in Estimated Value Per Acre, by District and Minnesota, 1910-1990

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 27: Percentage Change in Estimated Value Per Acre, by District and Minnesota, 1910-1990 (cont.'d)

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	2.9	-0.9	1.0	10.3	0.0	14.8	1.8
1970-71	5.0	1.2	3.0	-3.7	-0.8	1.6	2.2
1971-72	11.1	8.0	2.0	5.2	-1.7	20.6	6.9
1972-73	17.0	21.1	18.8	19.0	24.8	51.3	20.2
1973-74	33.0	47.1	53.0	43.8	36.3	25.2	41.9
1974-75	17.0	25.0	33.1	6.1	48.2	13.2	24.1
1975-76	27.0	31.0	24.1	17.9	28.1	28.8	27.0
1976-77	20.0	19.0	17.0	18.9	13.0	32.9	19.0
1977-78	16.0	8.0	10.0	20.0	13.1	9.0	12.0
1978-79	22.0	14.0	10.0	15.1	24.0	21.1	17.0
1979-80	5.0	8.0	8.9	4.0	14.0	6.0	7.7
1980-81	12.0	19.0	18.0	13.9	19.0	17.9	17.0
1981-82	-12.0	-10.0	-8.0	-14.0	-8.0	5.0	-10.0
1982-83	-10.0	-11.0	-6.0	-3.9	-12.0	-14.9	-9.7
1983-84	-14.0	-16.1	-11.0	-10.0	-10.9	6.1	-13.0
1984-85	-26.0	-31.0	-21.0	-25.9	-13.0	-17.0	-26.0
1985-86	-30.0	-28.0	-25.9	-20.9	-18.0	-14.9	-24.9
1986-87	-7.5	-3.6	-7.6	-12.5	-10.3	-8.1	-6.8
1987-88	16.1	16.8	5.7	3.5	4.0	-11.3	9.0
1988-89	11.0	15.1	9.0	1.9	7.9	-2.0	11.1
1989-90	17.0	10.0	13.1	13.9	0.0	26.0	12.0

Table 28: Average Estimated Value Per Acre, State and Districts, Deflated by the CPI, Minnesota, 1954-1990

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota	CPI ¹ (1967 = 100)
	----- dollars per acre in 1967 dollars -----							
1954	173	232	123	82	89	50	140	80.5
1955	187	256	128	85	91	56	151	80.2
1956	192	263	131	86	93	52	155	81.4
1957	196	273	145	91	102	58	164	84.3
1958	207	279	142	97	104	75	170	86.6
1959	219	292	153	102	118	66	180	87.3
1960	212	280	150	106	112	72	175	88.7
1961	223	292	157	112	118	76	184	89.6
1962	212	276	152	109	115	76	175	90.6
1963	212	268	155	112	124	74	176	91.7
1964	222	271	156	119	124	64	179	92.9
1965	232	276	154	119	120	54	181	94.5
1966	249	285	157	126	115	60	188	97.2
1967	262	303	163	128	108	62	194	100.0
1968	275	320	174	129	117	55	203	104.2
1969	283	321	180	134	110	50	205	109.8
1970	273	299	171	139	103	53	196	116.3
1971	275	290	169	128	98	52	192	121.3
1972	296	303	166	130	94	61	198	125.3
1973	326	345	186	146	110	86	224	133.1
1974	392	459	257	190	135	98	288	147.7
1975	418	524	312	184	183	101	326	161.2
1976	502	649	366	205	222	123	391	170.5
1977	566	725	402	229	225	154	437	181.5
1978	610	727	411	255	247	156	455	195.4
1979	668	745	406	263	275	169	478	217.4
1980	618	709	390	241	277	158	454	246.8
1981	627	765	417	249	298	169	481	272.4
1982	520	649	361	202	259	167	408	289.1
1983	454	559	329	188	221	138	357	298.4
1984	374	450	281	162	188	140	298	308.5
1985	267	300	214	116	158	112	213	322.2
1986	185	213	156	91	128	94	158	326.9
1987	166	199	140	77	111	87	143	336.7
1988	185	224	143	77	111	72	149	346.7
1989	199	250	151	76	116	68	161	361.4
1990	218	257	159	81	109	80	169	385.5
Percent Change 1989-1990	10	3	5	7	-6	18	5	

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

Table 29: Average Price Per Acre of Reported Farm Sales, State and Districts, Deflated by the CPI, Minnesota, 1954-1990

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
	----- dollars per acre in 1967 dollars -----						
1954	182	231	131	71	79	48	153
1955	207	263	126	81	84	57	180
1956	197	254	123	70	95	50	171
1957	208	257	131	80	104	47	171
1958	194	270	133	89	91	60	179
1959	241	278	148	83	97	70	198
1960	213	271	154	78	114	56	181
1961	211	285	145	99	103	42	184
1962	216	252	155	84	82	33	178
1963	233	242	149	94	119	52	183
1964	230	252	162	93	112	56	192
1965	214	246	141	101	112	42	188
1966	261	268	169	116	106	31	209
1967	272	306	179	93	117	51	215
1968	303	316	179	100	86	45	223
1969	310	304	176	118	110	46	217
1970	298	292	177	121	97	39	209
1971	283	283	169	124	83	36	214
1972	311	292	177	116	86	61	234
1973	333	308	168	134	90	91	224
1974	405	427	230	164	138	98	305
1975	491	524	306	185	219	99	377
1976	550	654	389	188	221	123	431
1977	670	739	390	246	238	109	473
1978	692	676	464	284	258	131	501
1979	770	773	284	284	282	189	524
1980	744	757	444	244	307	160	534
1981	721	736	430	250	337	177	502
1982	605	700	404	258	307	140	470
1983	493	627	358	227	238	110	433
1984	446	533	341	207	225	72	406
1985	314	367	271	158	178	69	268
1986	205	253	183	169	125	67	198
1987	182	222	145	126	99	49	164
1988	228	260	163	113	117	53	198
1989	260	297	172	113	128	52	226
1990	261	285	171	128	140	72	221
Percent Change 1989-1990	1	-4	-1	13	9	38	-2

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