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The Minnesota Rural Real Estate Market in 1988

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Summary

The statewide average estimated value of Minnesota rural real estate increased by 9 percent to $523 per acre from July 1987 to July 1988. This was a reversal in the trend of continuously declining values in every year since 1981. Each district except the Northeast showed an appreciation in value, with the southern and the western districts showing greater increases than the eastern districts.

In contrast to the estimates of value, the average price per acre paid in sales reported during January–June 1988 increased to $691 or 24 percent above the January–June 1987 period with the largest increases in the Southeast, Southwest, and Northwest Districts.

An adjustment to remove the effect of a higher proportion of good quality land sold in 1988 than in 1987 reduced the statewide increase in average sales price from 24 percent to 20 percent. All districts reported increases after adjusting, although the price increase in the Northwest District was reduced from 22 percent to 10 percent. In the Northeast District an increase of 10 percent unadjusted became a 19 percent increase after adjustment, and in the East Central District an 8 percent decline was converted into an 11 percent increase.

When deflated with the Consumer Price Index (1967 = 100), the average estimated value was $149 per acre in 1988, slightly below the deflated estimated value of $151 per acre in 1955. The deflated average sales price per acre in 1988 was $199, slightly below the deflated 1966 price of $209.

In 1988, financial difficulty was the most frequent reason given for selling, accounting for 42 percent of all sales. Assuming that "leaving farming" and "reducing size of operation" were also the result of financial deterioration, then 56 percent of sales were caused by financial difficulty, a reduction from 70 percent in 1987. Retirement and death accounted for 23 percent and 14 percent of the sales, respectively.

Expansion buyers continued to dominate the market by purchasing 75 percent of the properties sold. Investors and sole-tract buyers purchased 13 and 12 percent of the tracts, respectively. Expansion buyers were most prominent in the cash grain areas, accounting for over 80 percent of all sales in the three western districts.

Cash financing was the method of finance used in 41 percent of all sales, with a concentration in the Southwest and the Northwest Districts. Contracts for deed continued to decline in use to 34 percent of the sales, the lowest since 1956. Mortgage financing was used in only 25 percent of the sales.

Introduction

Data for this report were gathered from 664 usable responses to approximately 1,400 questionnaires mailed in July to those familiar with the rural real estate market in Minnesota, including real estate brokers, appraisers, farm managers, county officials, agricultural credit and bank officials, and others. Respondents to the survey provided two types of information: estimates of land value and data from actual farm sales.

The estimates of value per acre refer to farms of average size and value in the respondents' communities, as of July, 1988. The estimates of value are aggregated by counties, then by districts, and finally for the whole state.

District and state estimated values are computed by weighting the estimated value for a given county by the acres of land in farms in that county as reported in the 1982 U.S. Census of Agriculture. Percentage changes in the value from year to year are computed by averaging estimates by counties from respondents from whom estimates were also received in the previous year. This percentage change is then applied to the estimated value of the preceding year for the districts, and at the state level.

Data on reported sales refer to sales of farmland occurring between January 1 and July 1, 1988. For each sale the respondents supplied information regarding acreage, price per acre, location, method of financing, quality of land and buildings, reason for sale, and buyer and seller characteristics.

The data for sales prices are subject to greater year-to-year variability than are the data on estimated values. This is the result of wide differences in land and building quality, location characteristics of a particular tract, and the impact that unusually high or low prices in individual sales can have on the average sales prices.

In analyzing the data, duplicate reports of sale were eliminated, data for Hennepin and Ramsey Counties (Minneapolis and St. Paul) were omitted, and respondents were asked not to report sales between close relatives (father-son, etc).

Reporter's Estimates

In 1988 the statewide *average estimated value per acre* was $523, an increase of 9 percent from $480 in 1987

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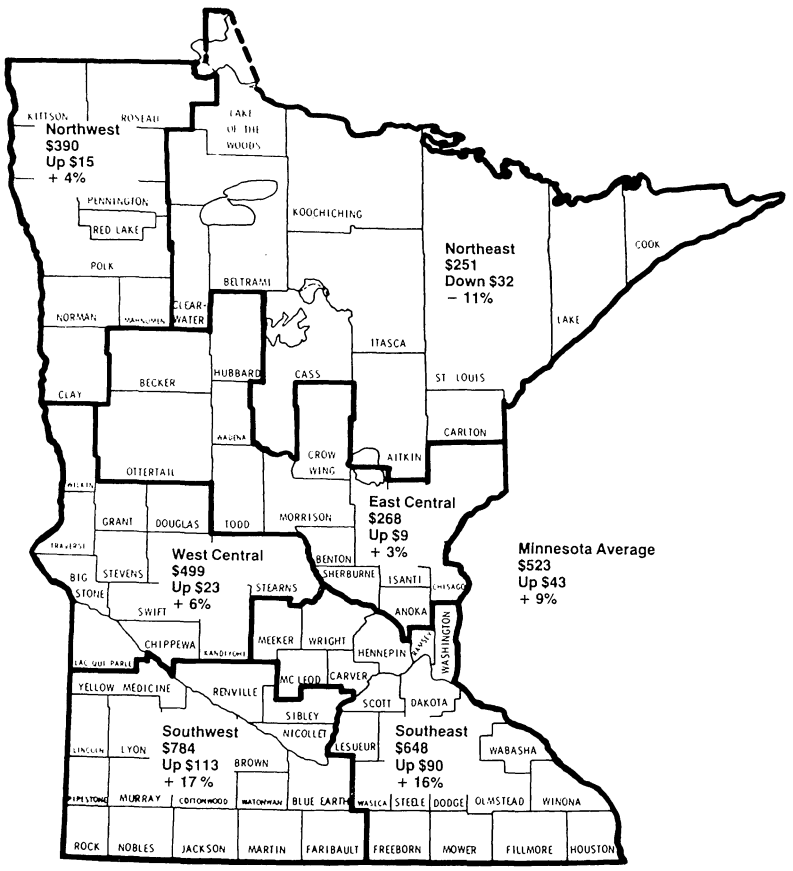
Figure 1. Estimated Land Values per Acre in 1988 (Excluding Hennepin and Ramsey Counties)



[1]Based on reported estimates of average value per acre of farmland as of July 1988.

Table 1. Estimated Average Value per Acre of Minnesota Farmland by District, 1972-1988

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
Percent Change 1987-88	16	17	6	3	4	−11	9

(table 1 and figure 1). This was the first statewide increase in average value since 1981 (figure 2).

Five of the six districts increased in value. The greatest gain of 17 percent was in the Southwest District, while the Northeast District was the only district in which estimated values continued to decline. Remaining districts increased in value as follows, in descending order: Southeast, 16 percent; West Central, 6 percent; Northwest, 4 percent; and East Central, 3 percent.

The regional pattern of changes in estimated value has been similar for the past two years. In 1987, the southern and western districts declined less than the northern and eastern districts. In 1988, the southern and the western districts increased more than the northern and eastern districts. Although other causes may also be involved, this two-year pattern demonstrates the stabilizing and positive effects of government support measures in the 1985 Agricultural Act and the rise in grain exports, which benefited primarily those areas most dependent on cash crops.

Reported Sales

Information was gathered by the 1988 survey on 1,077 sales of farmland and buildings occurring between January 1 and July 1, 1988. For the state as a whole, the *average reported sales price per acre* was $691 (unadjusted). This was a considerable increase of 24 percent over the 1987 statewide average price of $559 (table 2 and figure 2). Paralleling the trend in estimated value, this was the first increase in average sales price since the peak in 1981.

Regionally, five of the six districts reported increases in price. The largest increase was in the Southeast District at 28 percent. The only district with a reduction in price was the East Central District at 8 percent. In descending order of increase, the remaining districts are listed as follows: Northwest, 22 percent; Southwest, 21 percent; West Central, 16 percent; and Northeast, 10 percent.

There are wide differences between the percentage changes in the average estimated value and average reported sales price in all districts except the Southwest. In the Southeast, West Central, Northwest, and the Northeast Districts, the percentage change in reported sales prices exceeded the change in estimated values. The greatest difference occurred in the Northeast District where the estimated value declined by 11 percent and the sales price increased 10 percent for a difference of 21 percentage points. Conversely, in the East Central District the estimated value

Figure 2. Average Estimated Values and Average Sales Prices per Acre for Minnesota, 1972-1988

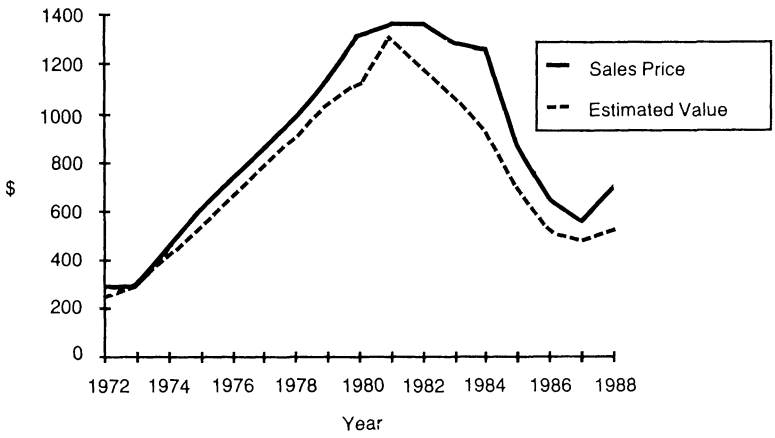


Table 2. Average Reported Sales Price per Acre of Farmland by District, Minnesota, 1972-1988 (Unadjusted)

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
Percent Change							
1987-88	28	21	16	−8	22	10	24

Table 3. Adjusted Sales Prices per Acre for 1988, by Region

Region	1987 Unadjusted Price	1988 Adjusted Price	Percent Change 1987 to 1988 Unadjusted	Adjusted
Southeast	621	785	28	26
Southwest	755	892	21	18
West Central	493	560	16	14
East Central	429	476	−8	11
Northwest	337	371	22	10
Northeast	168	200	10	19
Minnesota	559	669	24	20

increased 3 percent while the sales price decreased by 8 percent.

A possible reason for the wide difference between the 22 percent increase in sales price and the 4 percent gain in estimated value for the Northwest District could be the price-enhancing effects of the Conservation Reserve Program (CRP). Entries in that program in the Northwest District involve the highest percentage of land in farms in the state.

The highest average sales price for farmland in 1988 was reported in the Southwest District, at $911 per acre. This district has consistently reported the highest sales price, since 1974, with the single exception of 1978. The ranking of the district average sales prices in descending order is as follows: Southwest, $911; Southeast, $797; West Central, $571; Northwest, $411; East Central, $395; and Northeast, $184. This rank order of the districts based on prices received in actual sales is the same as their rank order based on estimated values.

Adjusted Sales Prices

Change in average sales price can be a result of the movement of two variables: a change in the price and a change in the mix of properties sold. Respondents frequently commented in the survey questionnaires in 1988 that "good land was selling." A change in the quality of land sold between 1988 and 1987 would affect the prices. If the mix of properties sold included more good quality land in 1988 than in 1987, then the increase in the sales prices has been exaggerated. As explained below, adjusted sales prices for the districts and the state as a whole are computed in an attempt to reduce this distortion.

Adjusted sales prices were derived by multiplying the 1988 average reported sales price per acre for each county by the number of acres sold in that county in 1987. These total county values based on 1988 prices and 1987 acres sold were then summed within their respective district and the product was divided by the total acres sold in the district in 1987.

In effect, this attempts to answer the question: What would have been the district average sales price per acre in 1988 if each county's proportion of acres sold had remained unchanged from 1987? A similar calculation was made at the state level by aggregating district average prices in 1988 weighted by acres sold in each district in 1987. This reduces the effect of the shift in quality difference, by removing the shift in the geographic distribution of sales activity among counties and districts (table 3).

When the statewide reported sales

prices were adjusted, the increase of 24 percent was reduced to 20 percent. Within the state, and after adjustment, all districts experienced increases in prices over 1987.

The greatest adjusted price increase was reported in the Southeast District at 26 percent. In descending order the rates of increase in the remaining districts were: Northeast, 19 percent; Southwest, 18 percent; West Central, 14 percent; East Central, 11 percent; and Northwest, 10 percent.

It is noteworthy that adjusting to remove the effects of differences in sales frequencies on a county-by-county basis changed an 8 percent decline (unadjusted) to an 11 percent increase in the East Central District, and reduced the increase in the Northwest District from 22 percent to 10 percent.

Figure 3. Reason for Sale, Minnesota, 1988

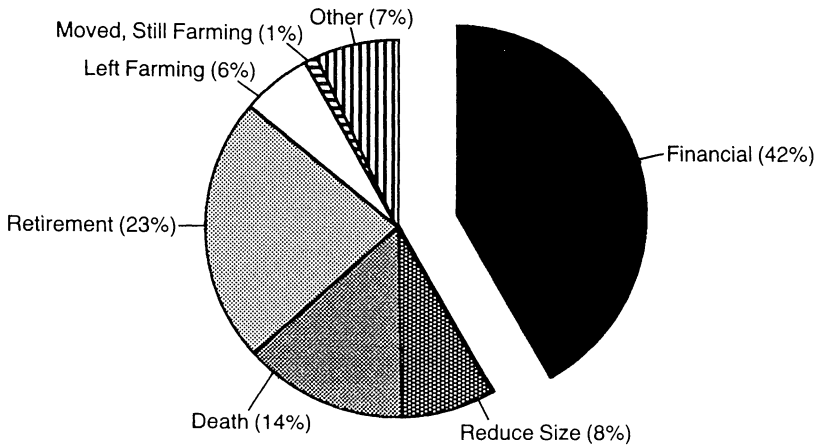


Figure 4. Percentage of Farm Sales by Type of Buyer, Minnesota, 1954-88

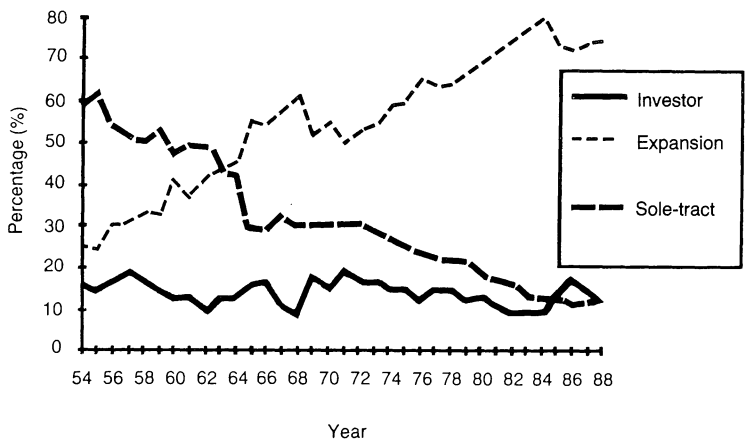


Table 4. Proportion of Farmland Sales and Average Sales Price per Acre by Type of Buyer, by District, 1987-1988

District	Sole-tract buyer				Expansion buyer				Investor buyer			
	1987		1988		1987		1988		1987		1988	
	%	$	%	$	%	$	%	$	%	$	%	$
Southeast	17	687	16	715	63	598	66	804	21	636	18	887
Southwest	5	620	7	719	86	780	80	939	9	631	13	884
West Central	14	564	8	699	72	504	83	562	14	419	9	554
East Central	28	536	30	394	53	376	46	328	19	498	25	504
Northwest	6	387	14	267	89	350	85	406	5	184	5	405
Northeast	32	161	11	273	32	173	56	167	37	168	33	196
Minnesota	12	572	12	598	74	581	75	695	14	515	13	772

Reason for Sale

The single most frequently reported reason for the sale of farmland in 1988 was financial difficulty, accounting for 42 percent of all sales (figure 3). Assuming that two other reasons, "reduce size of operation" (8 percent of the sales) and "left farming" (6 percent), were a result of financial difficulty, then a total of 56 percent of the sales could be attributed to deteriorating financial positions. While high by historical standards, this is a substantial drop from the 70 percent of all sales reported as due to financial difficulties in 1987.

Between 1972 and 1981, retirement and death consistently accounted for 53 to 61 percent of all reasons for sale. This dropped to an all-time low of 26 percent in 1987, but recovered to 37 percent in 1988 (retirement, 23 percent, and death, 14 percent). Sales by farmers who moved but remained in farming were one percent of all sales in 1988.

Type of Buyer

Three types of buyers are identified in this study: *Sole-tract Buyers* are operating farmers who are planning to manage the farms they buy and are not using the purchase to expand existing land holdings. *Expansion Buyers* are adding the purchased land to existing holdings. *Investor Buyers* are non-expansion buyers who do not plan to operate the land themselves but presumably expect to rent it out, or have it operated by a manager.

For the state as a whole, expansion buyers in 1988 purchased 75 percent of all sales reported (table 4 and figure 4), up from 74 percent in 1987. Sole-tract buyers remained unchanged at 12 percent and investor buyers accounted for 13 percent of the sales, down from 14 percent in 1987.

The greatest frequency of purchases by expansion buyers was in districts where cash grains predominate. In the Southwest, West Central, and Northwest Districts, expansion buyers accounted for over 80 percent of all sales. Sole-tract buyers were a significant part of the market only in the East Central District (30 percent) and investor buyer activity was greatest in the East Central District (25 percent) and the Northeast (33 percent).

Method of Finance

In spite of the upturn in land prices in 1988, farmland buyers continued the trends in methods of financing their purchases that have prevailed since prices tumbled after 1981. As they have in each of the last three years, cash sales predomi-

nated in 1988, accounting for 41 percent of the total. Contracts for deed were used in 34 percent of the sales, and mortgages in 25 percent (figure 5). This is the lowest percentage of sales using contracts for deed since data were first collected on this method of financing in 1956, and continues the uninterrupted downward trend from the all-time high of 61 percent in 1980 and 1981.

By districts, cash financing in 1988 was especially strong in the Southwest (48 percent) and Northwest (46 percent). The most frequent use of mortgages was in the Southeast and East Central Districts (28 and 27 percent, respectively), while in the Northwest District they were used in only 16 percent of the sales. Contracts for deed had their strongest showing in the central districts of the state, accounting for 42 percent of sales in the West Central, and 58 percent in the East Central. These two districts also had the lowest percentage of cash sales, at 33 and 16 percent respectively. (These data indicate that the increased frequency of cash sales has been associated with declines in the use of contracts for deed.)

Figure 4. Percentage of Farm Sales by Type of Buyer, Minnesota, 1956-88

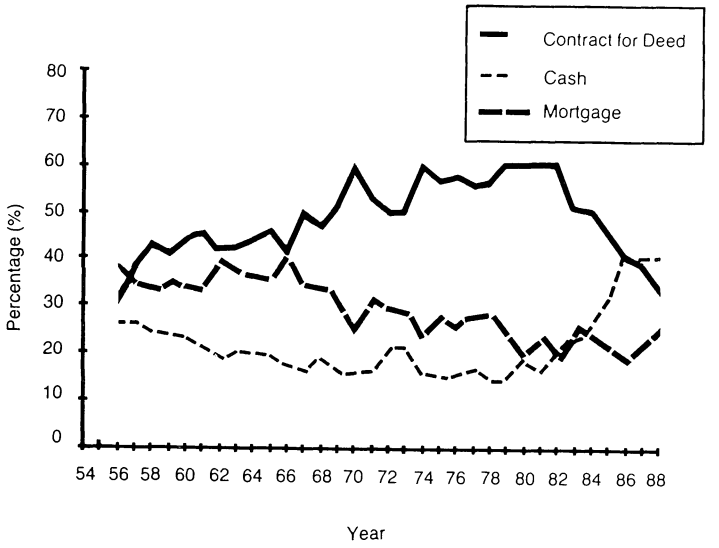
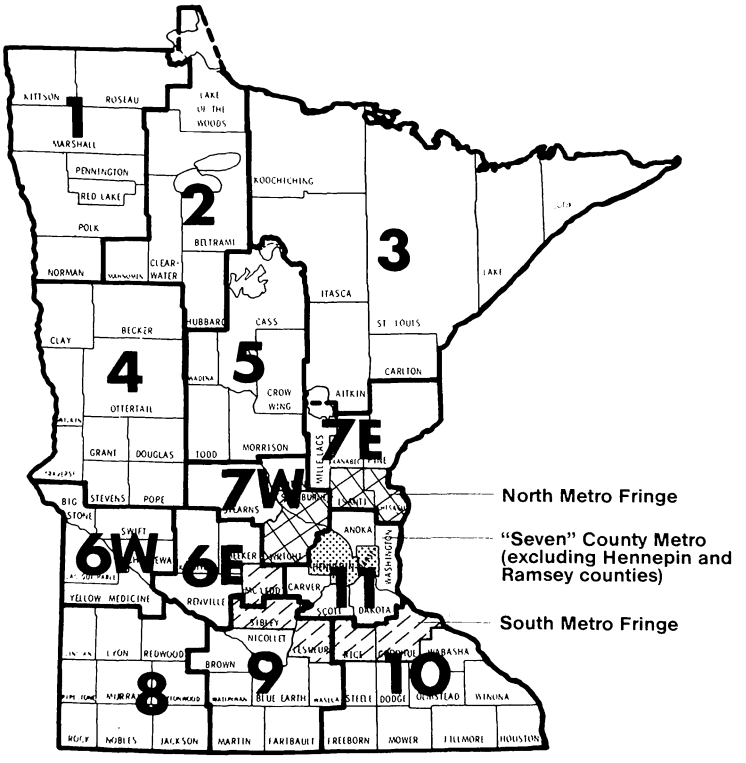


Figure 6. Minnesota Economic Development Regions and the Greater Twin Cities Metropolitan Area



Trends in Sales Prices by Economic Development Regions

Classifying sales data by the state's 13 Economic Development Regions (figure 6) emphasizes the effects on average sales prices of year-to-year shifts in the geographic frequency of sales. Table 5 presents the unadjusted average sales prices by regions for the fifteen years from 1974 through 1988, and the percentage change in unadjusted prices from 1987 to 1988. In addition, the sales prices in 1988 are adjusted to show the changes that can be attributed to price shifts alone and that are not due to variations by counties in the frequency of sales of higher and lower priced land.

A comparison of the unadjusted and adjusted percentage changes in prices from 1987 to 1988 reveals some sharp differences. In general, the adjusted percentage price changes showed the smallest variation from the unadjusted changes in the four southern and southwestern regions (Regions 6W, 8, 9, and 10), and in the Northwest (Region 1). In contrast, the greatest differences were in Region 2, where the unadjusted increase of 36 percent from 1987 to 1988 was converted into a decline of 8 percent, and in Region 5, where a modest 6 percent increase in unadjusted prices became a 29 percent increase after adjustment.

These data underline the highly variable nature of the mix of sales of better and poorer quality land in the regions outside the major cash grain producing areas. In a contiguous area comprising Regions 2, 5, 7E, and 11, changes in year-to-year average sales prices are extremely sensitive to variation in the quality of land being sold. These are areas in which recreation and residential demand for rural lands are prominent, and in which sales prices are frequently influenced by quality features that are relatively unrelated to agricultural productivity.

The Greater Twin Cities Metropolitan Area

The *Greater Twin Cities Metropolitan Area* is defined, for this study, as 14 counties surrounding the Twin Cities counties (Hennepin and Ramsey counties). To facilitate a more detailed study of this area,

three sub-areas are designated. These are based on population levels, recent rates of population growth, productivity of the land, and historical trends in land values.

The *"Seven" County Metro* area consists, for this study, of region 11 among the Economic Development Regions. It includes five counties (excluding Hennepin and Ramsey counties): Anoka, Carver, Dakota, Scott, and Washington.

The *South Metro Fringe* consists of five counties: Goodhue, McLeod, Le Sueur, Rice, and Sibley.

The *North Metro Fringe* includes four counties: Chisago, Isanti, Sherburne, and Wright.

All sub-areas experienced an increase in reported sales prices in 1988.

The average for the Greater Twin Cities Metro Area as a whole increased 20 percent, from $772 in 1987 to $928 per acre in 1988 (table 6). This increase was a reversal of the continuous decline in land prices since 1981.

The sharpest increase in prices was shown in the North Metro Fringe, with an increase of 52 percent from $764 per acre in 1987 to $1,159 in 1988. This is the first time since this grouping of counties was introduced in this annual survey in 1973 that the North Metro Fringe has shown the highest price of the three sub-areas. The remaining sub-areas also experienced increases, of 29 percent in the "Seven" County Metro core, and 13 percent in the South Metro Fringe.

The increase in the North Metro Fringe gains significance from the fact that in general it has poorer soils than the South Metro Fringe. This is further evidence of the extent to which non-agricultural considerations are playing a leading role in patterns of rural land values around the Twin Cities.

Deflated Estimated Values and Reported Sales

Trends in the estimated values and reported sales prices are heavily influenced by the rate of inflation in the general economy. One means of removing the effect is by deflating with the Consumer Price Index (CPI). In 1988, the average CPI for the first six months was 349.9 (1967 = 100). The effect of the rate of inflation can be removed from the estimated values and reported sales prices by dividing the 1988 data by 3.499.

The nominal (current) statewide estimated land value for 1988 was $523 per acre, slightly below the nominal value of $525 per acre in 1975. When deflated, the estimated value in 1988 was $149 (table 7). This 1988 land value was slightly below the deflated 1955 value of $151 per acre.

The nominal reported sales price per acre in 1988 was $691, well below the nominal 1976 value of $735. The 1988 deflated sales price was $197, ranking it below the deflated sales price of $209 per acre in 1966.

When deflated by districts, all districts except the Northeast experienced an increase in real values over 1987, and all districts except the East Central experienced an increase in real reported sales prices.

U.S. Government Bond Yields

A possible consideration of investors, when purchasing land, is when it is better to invest in U.S. Government Bonds and when it is better to invest in rural land. The comparison is between two measures: the percentage change in the real estimate land values and the real U.S. Government Bond Yields (USGBY) with a 10-year maturity.

Figure 7 shows that during the 1950s and 1960s investors chose between the slow constant increase in real USGBY and an erratic trend in real estimated land values. In the 1970s investors chose between the significant appreciation of land and the lower stable yields of the USGBY. The op-

Table 5. Average Reported Sales Price per Acre of Farmland by Economic Development Regions, Minnesota, 1974-1988 (Unadjusted) and 1988 Adjusted Sales Price Data

	Economic Development Regions													
Year	1	2	3	4	5	6W	6E	7W	7E	8	9	10	11	Minnesota
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	1137	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	702	878	577	827	559
1988	375	269	191	504	381	582	831	804	670	795	1061	749	1070	691
%Change of Unadjusted Prices 1987-1988	15	36	—	10	6	15	31	36	−2	13	21	30	29	24
Adjusted 1988 Prices	362	182	—	460	466	594	784	761	607	817	1068	745	914	652
Percentage Change from 1987 Unadjusted to Adjusted 1988 Prices	11	−8	—	0	29	17	23	29	−12	16	22	29	10	20

Table 6. Average Reported Sales Price per Acre, Greater Twin Cities Metropolitan Area and Sub-areas, 1973-88

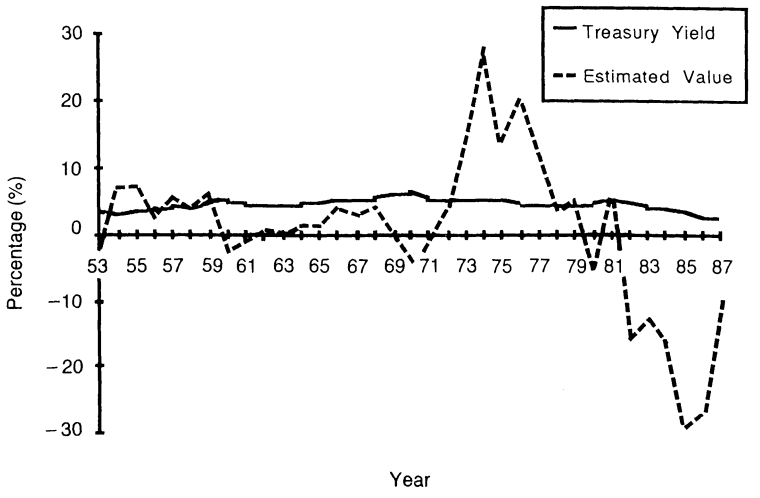
Year	"Seven" County Metro[1]	South Metro Fringe[2]	North Metro Fringe[3]	Greater T.C. Metro (14 counties)[4]	Minnesota
1973	698	475	353	516	298
1974	882	647	556	689	450
1975	1035	808	599	839	607
1976	1150	1086	718	1045	735
1977	1437	1285	752	1198	859
1978	1396	1313	892	1185	980
1979	1799	1799	1309	1694	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

[1]Anoka, Carver, Dakota, Scott, Washington Counties (Hennepin and Ramsey are excluded for reporting purposes.)
[2]Goodhue, McLeod, Le Sueur, Rice and Sibley Counties
[3]Chisago, Isanti, Sherburne, Wright Counties
[4]All fourteen counties named above

Table 7. Average Estimated Value per acre, Average (Unadjusted) Reported Sales Price per acre, State and Districts, Deflated by the CPI, 1986-1988

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Average Estimated Value per acre (Deflated)							
1986	185	213	156	91	128	94	158
1987	166	199	140	77	111	87	143
1988	185	224	143	77	111	72	149
Average Reported Sales Price per acre (Deflated)							
1986	206	254	184	170	126	67	199
1987	185	224	146	127	100	50	166
1988	228	260	163	113	117	53	197

Figure 7. Percent Change in Deflated Estimated Land Values and U.S. Treasury Bond Yields (10-year maturity), 1953-1987



posite was true for the 1980s. If the rates of return to farming, as shown in table 8, are added to the percentage changes in real estimated land values, from 1953 to 1987, the percentage changes in real estimated land values are greater than the real USGBY except for the years 1952-1953, 1960-1961, 1968-1970, and 1979-87.

In 1969-1970 the two measures (percentage change in real estimated land values and real USGBY) diverged. Real USGBY continued to increase while real (deflated) estimated land values decreased by 3.9 percent.

The two measures diverged again in 1972-1973 when real estimated land values increased by 13.1 percent and real USGBY increased by only 5.1 percent. Increases in real estimated land values continued to be larger than the increase in real USGBY until 1977 through 1979, when the two measures increased at approximately the same rate of 5 percent.

In 1979-1980 real USGBY continued to increase while real estimated land values declined by 5.1 percent. At this time, 1979-1980, investors should have begun to question continued investment in farmland versus U.S. Government Bonds. This signal to consider switching investments came two years before the decline in land values in 1981-1982.

An additional analysis of real USGBY (10 year) and real estimated land values can be made by comparing annual growth rates. Comparisons of these two measures for the periods 1953-1960, 1961-1970, 1971-1980, and 1981-1987 are given in table 8.

As seen in table 8 the annual growth rates of real estimated land values and real USGBY were close during the period 1953-1960. However, during the 1961-1970 period the real USGBY was more than four times greater than the annual growth rate of real estimated land values.

This reversed for the 1971-1980 period when the annual growth rate for real estimated land values was two times greater than real USGBY for the same period. The growth rate of real estimated land values greater than that for real USGBY was consistent with the strong land market during the 1970s.

During the most recent period, 1981-1987, the growth rate for real estimated land values was significantly negative and thus, considerably less than real USGBY.

Table 8. Average Return to Assets, Annual Growth Rate of Real Minnesota Estimated Land Value, Average Real U.S. Government Bond Yields (10 Year), 1953-1960, 1961-1970, 1971-1980, and 1981-1987

Period	Average Rate of Return to Farming[a]	Annual Growth Rate Real Estimated Land Values	Average Real USGBY[b]
		Percentage	
1953-1960 (8 years)	3.738	3.659	3.966
1961-1970	4.327	1.149	5.004
1971-1980	7.680	9.025	4.709
1981-1987 (7 years)	−4.750	−16.076	3.632

[a]Source: 1953-1986, U.S. Federal Reserve. *The Agricultural Finance Databook* plus preliminary data for 1987.

[b]Source: The Nominal U.S. Government Bond Yields (10 year) were from *The Economic Report of the President, Transmitted to the Congress*, January, 1988.

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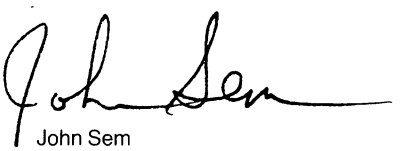

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