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The Minnesota Rural Real Estate Market in 1986

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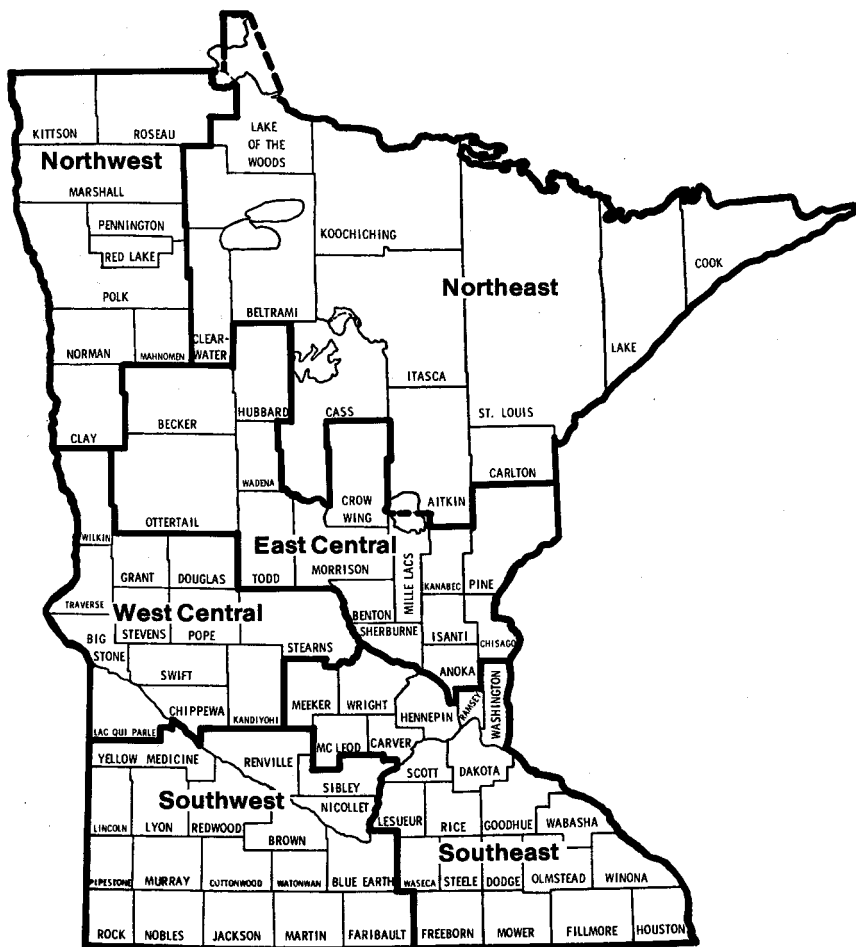
Southwestern Minnesota
Red River Valley
Metropolitan Area Farmland
Deflated Land Values

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Cover photo by Dave Hanson; farm near Minnesota's southern border.

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Summary

The value of Minnesota farmland declined from 1985 to 1986 for the fifth consecutive year. The average reported sale price in 1986 actual farmland sales was \$650 per acre, down 25% from \$864 reported in 1985. The average of reporters estimates of farmland values was \$636.00, also down 25% from 1985.

Value decreases were essentially statewide. Dividing Minnesota into six districts, estimated values declined by between 18 percent and 30 percent in each district. There is always more variability in reported sales prices than in estimated values. Reported sales prices were down from 1985 in five of the six districts by a range of 1 percent in the Northeast to 34% in the Southwest. The East Central district was the sole exception with several high priced sales resulting in a modest (9 percent) increase from 1985's average reported sales price. The recent price and value reductions have wiped out all of the gains made in the 1970's land boom. In discounting for inflation, the current prices and values in real terms are at levels lower than at any time since 1956 (in the case of estimated value) or 1965 (in the case of reported sales price).

Expansion of existing operations was again the principal reason for purchase in the vast majority of transactions. Expansion buyers accounted for 72 percent of farmland sales in 1986, only slightly below the 74 percent in 1985. Investment purchases comprised 17 percent of the 1986 sales, compared to 13 percent of the 1985 sales. In acre terms, investors purchased 19 percent of the acres sold and only 10 percent went to whole-farm operator buyers. (The corresponding figures for 1985 were 19 and 13 percent respectively.)

A significant change from 1985 is that 52 percent of the sales in 1986 were motivated by either financial reasons or an effort to reduce size of operations. These were the prime motivating factors in just 34 percent of the sales in 1985. Death and retirement together motivated 30 percent of the sales (down from 42% in 1985).

The percentage of acreage financed by cash (as opposed to mortgages or contracts for deed) was 36 percent, up from 29 percent in 1985. Contracts for deed continued to be the leading method of finance, used for 46 percent of the acreage sold. The significance of cash as the method of finance has grown consistently from 1981, when cash sales accounted for 16 percent of acres sold. Contracts for deed, meanwhile, have consistently declined in popularity from their use in 61% of the acres sold in 1981.

The Minnesota rural real estate market continued to be highly localized in 1986. In 75 percent of the transactions, the buyer lived within 10 miles of the tract purchased. Only 10 percent of the buyers lived 50 or more miles from their purchase. (In 1981, 14 percent of the buyers lived 50 or miles from the tract purchased.)

It is important to note that the data used to analyze the rural real estate market in 1986 represent sales which occurred between January 1 and July 1, 1986.

Introduction and Procedures

The University of Minnesota has been collecting information on rural land markets in the state for 76 years. Since 1953, the data have been obtained from an annual survey mailed to brokers, farm managers, insurance agents, bank officers, county officials and others who are familiar with the rural real estate market in their respective areas. The surveys are mailed out in the summer and returned by the end of September. For the 1986 survey, 1402 surveys were issued, of which 698 were returned, for a response rate of 50 percent. We are grateful to each of the many individuals who have participated in this study.

Respondents provide two types of information. The first type concerns their opinions about several matters. Most notably, they are asked to estimate land values in their areas (for low, medium, and high grade farmland). These estimated values are for total farm acres, including land and buildings, not just for cropland alone. Respondents are also asked their opinion about the frequency of sales compared to the previous year.

Reporters' estimates of value were used to identify land value trends in the various regions of the state. We did this by considering a subsample comprised of the 345 respondents who provided value estimates in both 1985 and 1986. We averaged all of the subsample estimates for each county, multiplied each average by the total number of acres of farmland in the respective county, and added these total value figures of each county to arrive at land value totals for each region of the state for each year, 1985 and 1986. Dividing by the number of farmland acres in each region yielded regional average estimated values. In a similar manner we calculated statewide average estimated values for 1985 and 1986. We compared the average estimated values for 1985 and for 1986 to arrive at a percentage change in farmland values. This procedure has been in use since 1953, when a base land value was assumed. Average estimated land values published since 1953 have been calculated by applying the above noted percentage changes to the previous year's published value. The published values have been indexed to the base value reported in 1953. This time series method has been useful in preventing year to year changes in the subsample of respondents from exaggerating changes in estimated values. We are continuing this procedure in analyzing 1986 land values, but we are also providing the actual average estimates for 1986. The actual average estimated value of Minnesota farmland in 1986 was \$636. Consistent with the time series method (indexed to assumed values in 1953) the "average estimated value" for 1986 was \$515 per acre. The 25% value drop from 1985 applies to either case.

Survey respondents were also asked to provide a second type of information involving specific sales with which they were familiar. After eliminating obvious duplications in the reporting, 980 actual farmland

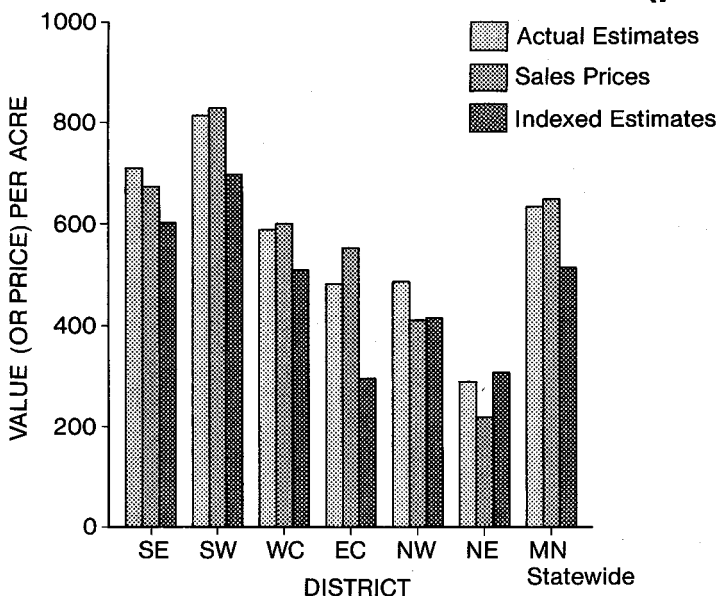
sales occurring between January 1 and June 30, 1986 were used. The survey collects data on acreage, sales price, township location of tract, type of financing, type of buyer, reason for sale, land and building quality, and distance of buyer from tract. While data on actual sales are very helpful in understanding the forces at work in the rural real estate market, it should be noted that the data on actual sales prices are subject to greater year to year variability than are the data on estimated values. The sales data for a county or region for a given year reflect the characteristics of the land that changed ownership but it cannot be assumed that the land sold in any given year is representative of a cross-section of the land in the county or region. The qualitative features (quality of land and buildings) in specific sales are necessarily based on the judgement of the respondents and thus not standardized across the state.

The results of the three methods of considering land value (actual estimate, indexed estimate, and reported sales price) are presented for each of the state's districts in Figure 1.

The authors wish to thank Cindy Jahr for her invaluable secretarial support in this project.

Figure 1

Alternative Views of 1986 Land Value (price)



Part I

The Minnesota Rural Real Estate Market in 1986

A. Land Market Trends

Reporters' Estimates

The average estimated value of Minnesota farmland (including buildings) for the first six months of 1986 was down 25% from the same period in 1985. This was the fifth year of continuous decline since statewide values reached a peak in 1981. The University of Minnesota began collecting farmland value data in 1910, and since that date there have been only two other years of comparable declines. In 1985, values reflected a 26% drop from 1984 and in 1933 they reflected a 25% one year decline. The average value of Minnesota farmland in 1986 was only 39% of its 1981 level. Please note that Hennepin and Ramsey counties (Minneapolis and St. Paul) are excluded from this study.

Dividing the state into 6 districts (see map on inside front cover), the Southeast and Southwest districts had the greatest one year declines in 1986, at 30 and 28 percent respectively. All of the districts experienced a decline in value. West Central, East Central, Northwest, and Northeast districts had value declines of 26, 21, 18, and 15 percent, in that order. (see Table 1.)

The actual average estimated land value in 1986 was \$636 per acre statewide. The Southwest retained its long standing record as the district with the most highly valued farmland, averaging \$816 per acre in 1986. The Northeast district farmland value was, as usual, the lowest in the state with a 1986 value of \$291. Other districts were the Southeast (\$710/acre), West Central (\$591/acre), Northwest (\$488/acre), and East Central (\$483/acre). (These are identified as "actual estimates" in Figure 1).

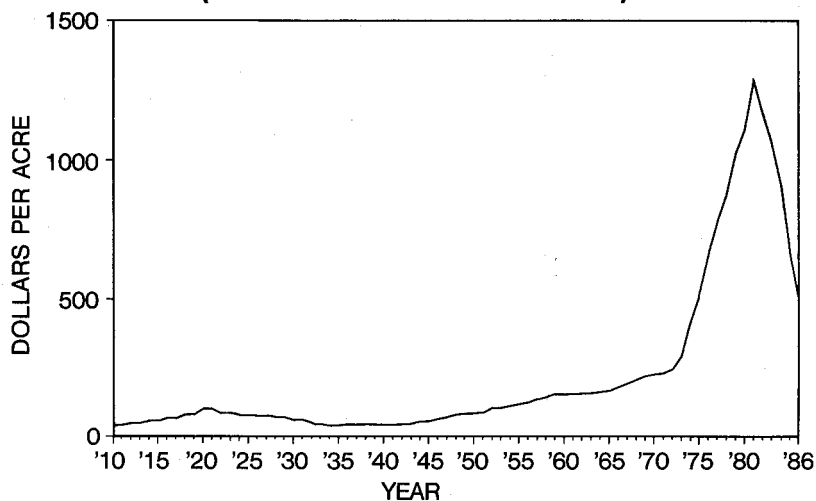
The indexed average estimated values were lower than the actual in each district, except the Northeast. These indexed values are useful for observing trends over time in land values and for comparing this report with the previous land value reports published by the University of Minnesota. The difference between the actual and the indexed estimated values is explained in the section of this report captioned "introduction and procedures." The indexed average estimated value for the state as a whole was \$515, with district values as follows: Southwest (\$696), Southeast (\$603), West Central (\$511), Northwest (\$418), Northeast (\$308), and East Central (\$296). Figure 2 presents the statewide indexed estimated values of the past 76 year period.

Table 1 Estimated Average Value Per Acre of Minnesota Farmland,
by District, 1972-1986

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
Percent Change 1985-86	-30	-28	-26	-21	-18	-15	-25

Figure 2

**Average Estimated Value Per Acre
(indexed and in current dollars)**



Actual Sales

Data were collected on 980 actual farmland sales which occurred from January 1, 1986 to June 30, 1986. For inclusion in this study, reported sales may be of any number of acres. However, sales of fewer than 40 acres (which comprised less than 1 percent of total reported sales) are scrutinized and then eliminated if they are at a price substantially greater than the average price in each respective county. The average of reported sales prices for farms (with buildings) was \$650 per acre, down 25 percent from \$864 reported in 1985. It is entirely possible (and quite common) for the average reported sales price to change by a different percentage than the average estimated value, but in 1986 both percentage figures were within one percent of each other. It is also notable that the average sale price of \$650 was within 3 percent of the actual average estimated value of \$636 in 1986.

The 1985 to 1986 percentage price changes varied considerably district by district. (Table 2) The Southeast average price fell the most at 34%, followed by the West Central at 31%, the Southwest at 30%, and the Northwest at 29%. The average price in the Northeast was down a mere 1 percent from 1985 in the Northeast. Some unusual sales reported in the East Central district resulted in the appearance of a 9 percent price increase there; that percentage change should not be relied upon.

Table 2 Average Reported Sales Price per Acre of Farmland by District, Minnesota, 1972-1986 (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
Percent Change 1985-86	-34	-30	-31	9	-29	-1	-25

There was also greater district to district variation in reported prices than in estimated values, though the ordering by district was the same in both cases with the exception of the East Central District. The Southwest had the highest reported prices at an average of \$830, followed by the Southeast (\$673), West Central (\$602), East Central (\$556), Northwest (\$411), and Northeast (\$220). Figure 3 gives the trend in statewide average reported sales prices from 1972 to 1986.

Adjusted Sales Prices

Geographical shifts in real estate market activity from year to year can distort the calculated changes in sales prices. District and State sales price averages are calculated by dividing the total dollar value of farmland sold by the number of acres comprising those sales. If the frequency of sales in a higher priced area was greater this year than last year, the average sales price would appear higher than if the geographical distribution of sales was the same as last year. To reduce this distortion, adjusted average sales prices were calculated by district, and for the state. These data are presented in Table 3.

For each county in a district, the average reported sales price per acre for 1986 was calculated and then multiplied by the number of acres sold in 1985. The resulting figures were then summed across counties to

Figure 3

Average Reported Sales Price Per Acre (unadjusted and in current dollars)

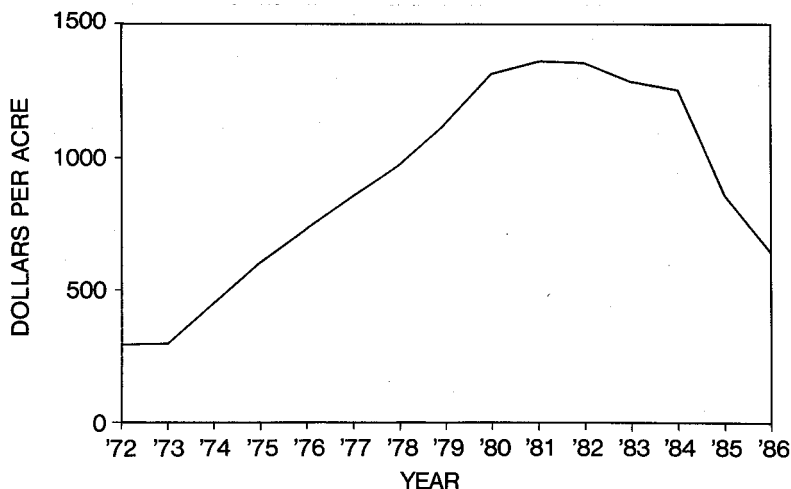


Table 3 Adjusted Sales Price for 1986 by Region

Region	1985 Price	Percent Change 1985 to 1986	1986 Adjusted Price
Southeast	1013	-27%	744
Southwest	1181	-30%	823
West Central	872	-21%	619
East Central	510	11%	565
Northwest	575	-13%	503
Northeast	222	-39%	134
Minnesota	864	-.24%	647

yield a district figure. The district figure was then divided by the total acreage reported sold in that district in 1985 to arrive at the 1986 adjusted average sales price per acre. The figure for the state as a whole was similarly computed by taking the average reported sales price in 1986 for each district and multiplying that figure by the 1985 share of total acres sold for that district. This procedure removes the effect of year to year shifts in the relative frequency of sales activity among counties and districts. The weighting procedure described earlier in this report concerned estimated values (not reported sales prices), but it had a similar effect of providing a method of identifying meaningful district and statewide data averages.

The results of this process for all districts were summed to obtain the adjusted 1986 average sales price per acre for the state. There was, in fact, a southward shift in acres of land reported sold between 1985 and 1986. The Southeast and Southwest districts comprised 51 percent of all acres reported sold in 1985 and 59 percent of all acres reported sold in 1986. Nevertheless, after considering shifts within districts and among districts, the statewide decline in adjusted sales prices was 24 percent, nearly the same as the 25 percent decline in unadjusted sales prices. The most dramatic result from this adjustment process was in the Northeast, where an adjusted price decrease of 39% was found (versus the 1 percent decline in unadjusted prices). The Northeast is the district with the fewest reported farmland sales (just 22 in 1986), and the average sale price for this district is especially subject to strong influence by occasional atypical sales. The percentage changes in adjusted sales price for each district are presented in Table 4.

Percentage changes in the Consumer Price Index are included in Table 4 so that the adjusted price changes can be easily compared with economy-wide price changes. The Consumer Price Index is also used in the section on deflated land prices in this report.

Table 4 Percentage Changes in Adjusted Sales Price per Acre and in the Consumer Price Index¹

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota	Index 1
1975-76	23	33	32	6	10	21	26	6.2
1976-77	23	20	8	32	10	8	18	6.4
1977-78	13	2	18	37	12	-24	10	6.8
1978-79	13	22	4	16	44	47	17	10.3
1979-80	6	12	9	0	18	-27	9	14.3
1980-81	6	15	13	19	18	-4	11	10.5
1981-82	-8	-8	-9	4	-14	-18	-8	7.2
1982-83	-14	-11	-9	-7	-20	-17	-12	3.5
1983-84	-7	-13	-3	6	4	-44	-8	4.4
1984-85	-25	-35	-20	-12	-16	-8	-25	3.7
1985-86	-27	-30	-21	11	-13	-39	-24	2.4

¹Index 1 is the Consumer Price Index. The percentage changes in the index are calculated by comparing the average for the first six months of the year with the average for the first six months of the previous year.

Farmland Turnover

We do not have the absolute number of farmland sales for 1986 or any other year, but our survey does provide two ways in which we can gauge changes in the frequency of farmland sales from one year to another. One method is by asking respondents to estimate the change in number of farms sold in their communities from the first half of 1985 to the first half of 1986. The results are summarized in Table 5. Weighting the districts' average responses by the percent of state farmland in each district, we find that 55 percent of the respondents (statewide) indicated no change in number of farms sold. Of those who did indicate a change, 2.7 times as many reported a decrease in sales as reported an increase, relative to 1985.

The other approach to estimating frequency of farmland sales is to consider the actual number of farmland sales reported by respondents. In 1986, reports were received on 980 sales, comprising 150,696 acres (for an average of 154 acres per sale). This constitutes an increase in number of reported sales of 23 percent from 1985. (see Table 6). This is still considerably below the number of sales reported in 1984 (1230 sales) and in 1983 (1204 sales). The two approaches to estimating frequency of sales in 1986 seem to contradict each other. This need not be surprising given the limitations of each approach. The respondents' estimates of frequency are highly subjective and dependent on both their familiarity with the market and their recollection of the previous year's market.

Table 5 Estimated change from 1985 to 1986 in number of farms sold by district. For example, 18% of the respondents in the Southeast district felt that there was an increase in the number of farms sold in their district; 35% felt there was a decrease.

Region	% Estimating increase in sales	% Estimating decrease in sales	% Estimating no change in sales
Southeast	18	35	47
Southwest	17	25	55
West Central	08	45	47
East Central	05	36	59
Northwest	07	26	67
Northeast	08	20	72

Participation of Brokers

Survey respondents were asked to estimate the percent of sales in their areas in which brokers participated. Statewide, the estimate was 55 percent in 1986. For the past 15 years the estimated percentage of sales involving brokers has varied from 51 to 59 percent. The highest frequency has usually been in the Southeast district, and the lowest in the Northwest. The numbers (see table 7) show very little change from 1985 or from previous years. It is important to understand that these numbers are subjective estimates on the part of survey participants. Those respondents who identify themselves as either brokers or agents (in selling farms) were also asked whether the number of farms they had listed during the survey period (January 1 to July 1, 1986) had increased, decreased, or stayed about the same. Table 8 provides their responses by district. While about two thirds reported no change, those who reported an increase substantially outnumbered those who reported a decrease in all but the Southeast district (and there it was nearly evenly divided).

Table 6 Number of Reported Sales, Acreage of Land Sold and Average Acres Per Sale, by District, Minnesota, January 1 - July 1, 1983-1986.

District	1983	1984	1985	1986
<u>No. of Sales*</u>				
Southeast	336	365	237	322
Southwest	395	468	221	312
West Central	187	208	142	152
East Central	158	112	86	91
Northwest	105	69	91	81
Northeast	23	8	18	22
Minnesota	1204	1230	795	980
<u>Acres Sold</u>				
Southeast	40,878	45,520	29,601	49,133
Southwest	50,127	52,855	27,336	39,281
West Central	31,190	34,771	22,377	28,912
East Central	20,421	15,599	10,475	12,175
Northwest	24,211	15,023	16,652	17,996
Northeast	3,007	1,346	7,273	3,199
Minnesota	169,834	165,114	113,714	150,696
<u>Acres/Sale</u>				
Southeast	122	125	125	153
Southwest	127	113	124	126
West Central	167	167	158	190
East Central	129	139	122	134
Northwest	231	218	183	222
Northeast	131	168	404	145
Minnesota	141	134	143	154

*These sales should not be interpreted as a record of total farm land transactions for the years indicated. The majority of farm land sales are completed in the first half of the calendar year, which explains the choice of the January 1 - July 1 reporting period. Some sales do occur in the latter half of the year, but they are not included in the data reported.

Table 7 Estimated Proportion of Farm Land Sales in which Brokers or Dealers Participate, Minnesota, by District, 1972-1986.

<u>Year</u>	<u>Sales with Brokers' Services</u>						<u>Minnesota</u>
	<u>South-east</u>	<u>South-west</u>	<u>West Central</u>	<u>East Central</u>	<u>North-west</u>	<u>North-east</u>	
1972	59	52	56	54	40	50	52
1973	58	51	54	58	40	46	51
1974	61	54	53	55	40	58	54
1975	58	47	52	60	34	54	51
1976	58	48	50	56	37	57	51
1977	57	48	50	59	42	57	52
1978	60	48	51	60	43	61	54
1979	55	44	52	59	40	55	51
1980	57	48	50	60	41	56	52
1981	60	51	56	63	44	58	55
1982	61	55	59	65	45	64	58
1983	64	58	63	60	43	67	59
1984	61	54	58	57	37	52	53
1985	61	57	60	54	48	64	58
1986	64	54	61	57	45	49	55

Table 8 Percentage of Sales By Reason For Selling Land, Minnesota,
1972-1985.

Year	<u>Reason for Sale</u>						
	Death	Retirement	Left Farming	Moved, Still Farming	Divorce*	Reduce* Size of Operation	Other
1972	20	39	20	8			14
1973	15	42	18	6			20
1974	15	46	12	10			18
1975	17	40	15	7			21
1976	16	41	14	9			19
1977	15	38	15	9			23
1978	14	39	16	10			21
1979	18	41	15	10			17
1980	16	39	12	10			23
1981	17	36	16	9			22
1982	17	32	11	3	2	23	11
1983	14	29	12	2	1	23	20
1984	16	22	13	2	2	25	20
1985	17	25	12	2	1	18	25
1986	12	18	11	1	1	17	40

*These reasons were added to the survey in 1982.

B. Analysis of Reported Sales

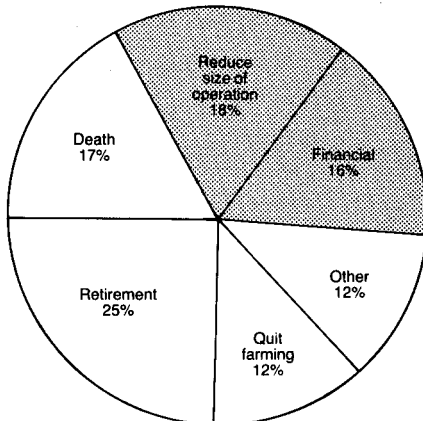
Reason for Sale

Financial concern was the overwhelming reason for sale in 1986, comprising 35% of all reported sales. Of those sales, almost 9 out of 10 (88 percent) were noted as relating to a mortgage foreclosure or contract for deed cancellation. An additional 17 percent of all reported sales were for the purpose of reducing the seller's size of operation. If it is assumed that all of the size-reduction sales reflected financial stress, then financial difficulties would be the reason for over half (52 percent) of all sales in 1986 (35 percent plus 17 percent). Applying a similar assumption about size-reduction sales for 1985 and 1984, then 34 percent and 16 percent of the sales, respectively, were due to financial stress in those years. Table 8 gives the reasons for sale in each year since 1972. Financial reasons are included in the "other" category in the table. In 1986, financial reasons comprised 95 percent of the other category responses. The most common reasons for sale other than financial were retirement, death, and decisions to leave farming, in that order. A graphic display of the reasons for sale in 1985 and 1986 is given in Figure 4.

The Southeast district exhibited the highest incidence of financial motivation at 48 percent of sales; the West Central district was at the low end with financial reason accounting for only 13 percent of the sales. (see Table 9). If size reduction is added to financial reason in order to

Figure 4

Reasons for Sale, 1985



Reasons for Sale, 1986

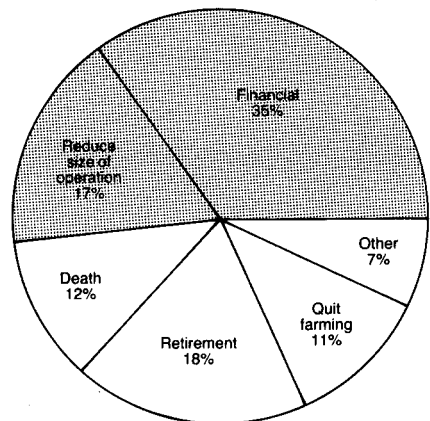


Table 9 Percentage of Sales by Reason for Selling Land (by District) 1986

	South- east	South- west	West Central	East Central	North- west	North- east	MN
Financial	48	36	13	24	32	36	35
Reduce Size	12	19	17	18	32	14	17
Death	6	14	22	4	9	9	12
Retirement	19	17	22	28	6	18	18
Left Farming	11	7	13	18	10	14	11
Moved, Still Farming	0	1	3	1	1	0	1
Other	4	6	10	7	10	9	6

define the category of financial stress motivation, then the Northwest had the highest incidence of financial stress motivation (64 percent of sales) and again, the West Central district has the lowest (30 percent of sales). Many survey respondents in 1986 went beyond answering the basic questionnaire, and without solicitation made marginal notes to the effect that financial stress was dominating the market.

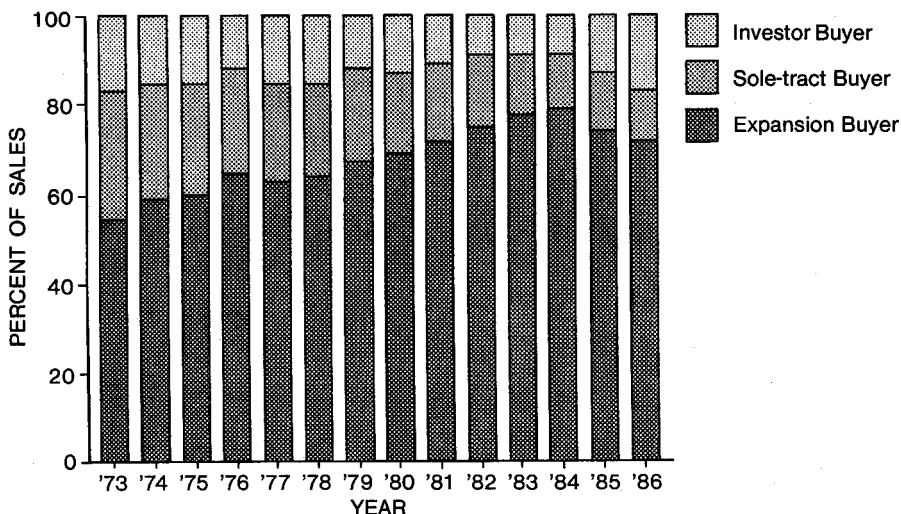
Type of Buyer

Respondents to the Minnesota Rural Real Estate Market Survey are asked to classify the buyer in each reported sale into one of three major groups. Sole-tract buyers are operating farmers who intend to farm the purchased land themselves and are not using the purchase to expand an existing land holding. Expansion buyers are those who are adding to existing land holdings (they may be investors or owner operators). Investor buyers are non-expansion buyers who do not plan to operate the land themselves and who may rent out the land or operate the farm through a manager. The market shares held by these three categories of buyers for the years 1973 to 1986 are presented in Figure 5. The data by district for 1985 and 1986 are presented in Table 10.

Expansion buyers in 1986 accounted for 72 percent of all farmland sales, compared to 74 percent in 1985. This is also below the 1984 figure of 79 percent, which was the peak of a thirty-year trend toward an ever-higher proportion of sales to expansion buyers. The Northwest and Southwest Districts led the state in percentage of sales to

Figure 5

Percent of Minnesota Farmland Sales By Type of Buyer, 1973-1986



expansion buyers, with 91 percent of Northwest buyers and 79 percent of Southwest buyers adding their purchases to existing holdings. Expansion buyers accounted for only 45 and 42 percent, respectively, of all buyers in the Northeast and East Central Districts.

Sole-tract buyers were at an all time low in 1986, comprising 11 percent of all farm purchases. The percentage of sales going to sole-tract buyers has shrunk slowly but steadily since 1973, both as prices were going up, and as they have come down.

Investors increased their share to 17 percent of farm purchases in 1986, compared to 13 percent in 1985. The proportion of sales to investor buyers reached a low in 1982 when it first became clear that prices were slipping. In 1985 and 1986, the investor share picked up considerably, and by the first half of 1986 it was at a level higher than at any time during the 1970's land boom, and approximately equal to the level of the mid-1960s. The share of the market going to investors increased in all but the Northeast and Northwest Districts.

On a statewide basis, the investor buyers paid the highest price per acre (\$717), followed by sole-tract buyers (\$681) and expansion buyers (\$645) in 1986. In the previous three years, expansion buyers had paid the highest prices and sole-tract buyers the lowest prices. In 1985, the average price paid by expansion buyers was \$915 per acre; the average sole-tract price was \$742, and the average investor price was \$717.

Table 10 Proportion of Farmland Sales and Average Sales Price per Acre by Type of Buyer, by District, 1985-1986

<u>District</u>	<u>Sole-Tract Operator Buyer</u>			
	1985 %	1985 \$	1986 %	1986 \$
Southeast	17	1064	11	749
Southwest	4	1000	5	842
West Central	16	775	11	585
East Central	29	471	38	709
Northwest	3	578	4	409
Northeast	33	284	32	231
Minnesota	13	742	11	681
	<u>Expansion Buyer</u>			
	1985 %	1985 \$	1986 %	1986 \$
Southeast	69	992	68	656
Southwest	80	1192	79	624
West Central	77	916	77	612
East Central	60	551	42	523
Northwest	86	611	91	421
Northeast	39	246	45	168
Minnesota	74	915	72	645
	<u>Investor Buyer</u>			
	1985 %	1985 \$	1986 %	1986 \$
Southeast	14	1051	21	692
Southwest	16	989	16	841
West Central	7	817	13	594
East Central	11	507	19	520
Northwest	11	398	5	305
Northeast	28	129	23	295
Minnesota	13	717	17	717

Improved versus Unimproved Land

Improved land refers to land with buildings; unimproved land refers to land without buildings. Sales reported in 1985 and 1986 were nearly equally divided between these two categories of land. Improved land was involved in 44 percent of the sales reported in 1986, and 43 percent of the sales reported in 1985. Table 11 provides average prices separately for the two types of land for the years 1985 and 1986. In 1986 the value of unimproved farmland was 98 percent the value of improved farmland. From 1959 to 1974, the price per acre of unimproved farmland as a percentage of improved land never went above 90 percent. This changed with the boom in land prices beginning in 1974. From 1974 to 1986, the relative price of unimproved farmland has fluctuated between 90 and 110 percent of the price of improved land, with the exception of 87 percent in 1977 and 1978.

The division of 1986 sales between improved and unimproved land is barely changed from 1985 when the corresponding percentages were 43 percent improved and 57 percent unimproved land. The Northwest District had the largest proportion of sales of unimproved land with 75 percent of

Table 11 Proportion of Sales and Average Sales Price per Acre of Improved and Unimproved Farmland, by District, Minnesota, 1985 and 1986.

District	Improved				Unimproved				Price of Unimproved Land as a percent of Price of Improved	
	1985		1986		1985		1986		1985	1986
	%	\$	%	\$	%	\$	%	\$	%	%
Southeast	53	1035	52	694	47	977	48	643	94	93
Southwest	36	1101	34	825	64	1251	66	832	114	101
W. Central	48	870	49	608	52	875	51	595	101	98
E. Central	49	545	62	617	51	470	38	439	86	71
Northwest	15	448	25	338	85	605	75	443	135	131
Northeast	78	286	64	242	22	106	36	162	37	67
Minnesota	43	885	44	656	57	841	56	644	95	98

the sales involving land with no buildings. Unimproved land brought a price 31 percent higher than improved land in that district. This is consistent with the finding that 91 percent of the sales in the Northwest district were to expansion buyers (who seldom have any interest in buildings on their purchased tract). Sales in the Southeast and West Central districts were fairly evenly divided between unimproved and improved land. In both districts the unimproved land was less expensive than the improved (by 7 percent in the Southeast and by 2 percent in the West Central district). In the Northeast and East Central districts unimproved land comprised just 36 and 38 percent, respectively, of land sales. Unimproved land there brought a price of only about two thirds that of improved land. These were the two areas with the lowest incidence of expansion purchases. The average price of improved and unimproved land was nearly the same in the Southwest district in 1986, after two years in which unimproved land sold for 10 to 15 percent more.

Method of Finance

One feature of the decline of land prices since 1981 has been a steady increase in the proportion of sales for cash. The trend continued in 1986, when 41 percent of all sales (and 36 percent of all acreage sold) were financed by cash. The use of mortgages involved only 19 percent of sales, equaling the low level of 1982, when mortgage financing was also involved in only 19 percent of all sales. Contracts for deed were used to finance 40 percent of all farmland sales, continuing the consistent decline from 1980 when contracts were used to finance an all time high of 61 percent of sales. These proportions are presented in Table 12. The average prices per acre, by district, for the years 1980 to 1986 are in Table 13. Figure 6 shows the trend from 1980 to 1986 in methods of financing.

Several factors may be involved in the growing proportion of cash financing. Increasing numbers of buyers may be reluctant to assume new debt in light of the severe debt problems faced by many Minnesota farmers. Contracts for deed and mortgages are likely to have been more difficult to arrange than in recent years. The farmers who are in a position to buy farmland at this time are those who have survived the farm debt crisis. Many of these farmers can probably attribute their success at least in part to a conservative stance toward borrowing. They are being consistent with their past and paying cash for their new farmland acquisitions.

Cash financing was at its highest incidence (56 percent of sales) in the district with the highest land prices (the Southwest). It was also at its lowest incidence (19 percent of sales) in the district with the lowest land prices (the Northeast). For the four remaining districts, the trend is not clear. Regional variation in financing preference may be based on many factors, including deep-seated tradition.

Table 12 Proportion of Farm Sales by Method of Financing, By District, Minnesota, 1965, 1970, 1975, 1980-1986.

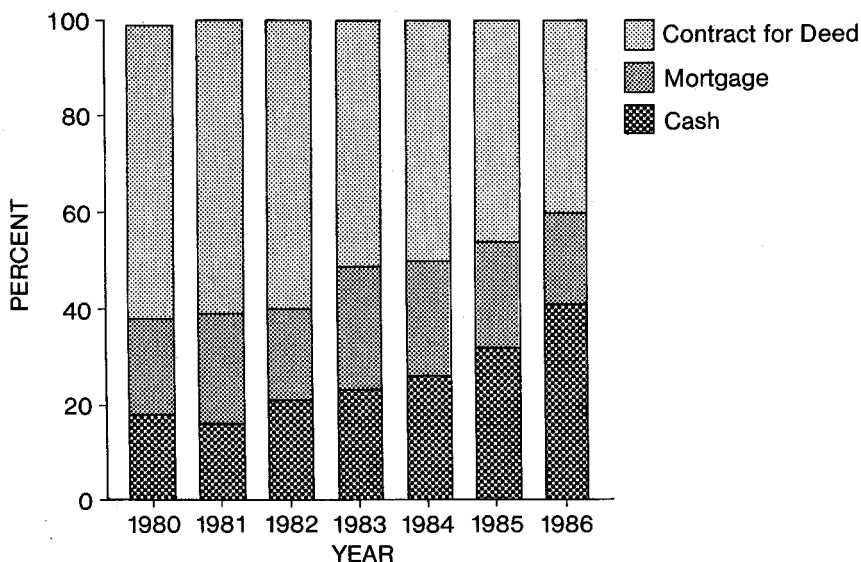
Method of Financing	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
----- percent -----							
<u>Cash</u>							
1965	17	15	22	21	29	29	19
1970	15	13	14	19	20	31	16
1975	12	16	13	15	18	30	15
1980	14	22	11	16	31	33	18
1981	17	20	17	9	16	10	16
1982	20	24	20	15	28	9	21
1983	25	27	22	10	25	22	23
1984	23	31	23	19	25	13	26
1985	26	41	20	26	42	17	32
1986	32	56	36	24	49	19	41
<u>Mortgage</u>							
1965	33	39	41	30	27	3	35
1970	19	23	28	28	40	26	25
1975	28	27	24	36	30	25	28
1980	21	24	25	12	19	12	20
1981	20	22	19	28	27	32	23
1982	17	22	17	13	22	23	19
1983	25	26	25	19	38	17	26
1984	19	25	28	22	39	13	24
1985	24	21	18	21	33	6	22
1986	17	19	19	18	19	24	19
<u>Contract For Deed</u>							
1965	50	45	37	49	44	68	46
1970	66	64	58	53	40	43	59
1975	60	58	63	49	52	45	57
1980	65	54	63	72	50	55	61
1981	63	58	63	63	57	58	61
1982	63	54	62	72	50	69	60
1983	50	47	53	71	37	61	51
1984	59	43	49	59	36	75	50
1985	51	38	53	52	26	78	46
1986	51	25	44	58	32	57	40

Table 13 Average Sales Price Per Acre of Farmland by Method of Financing,
by District, Minnesota 1980-85.

Method of Financing	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
----- Dollars per Acre -----							
<u>Cash</u>							
1980	1774	1945	1109	694	877	319	1346
1981	2091	2058	1251	758	1084	397	1613
1982	1490	1992	1014	792	772	407	1326
1983	1367	1723	1058	476	825	328	1315
1984	1314	1520	1047	700	686	100	1254
1985	986	1063	733	454	539	237	820
1986	637	785	566	341	491	199	646
<u>Mortgage</u>							
1980	1798	2066	914	610	720	443	1470
1981	1900	2021	1115	494	1039	514	1295
1982	1553	1909	1119	772	1240	379	1416
1983	1464	1932	1108	650	808	205	1332
1984	1375	1629	1041	761	797	185	1268
1985	969	1113	835	435	646	890	866
1986	664	895	666	736	338	212	674
<u>Contract for Deed</u>							
1980	1883	1746	1144	594	717	415	1290
1981	1947	1910	1174	843	851	478	1318
1982	1879	2008	1223	790	834	413	1358
1983	1536	1907	1077	724	632	400	1263
1984	1417	1747	1119	605	648	229	1268
1985	1069	1194	946	552	552	179	856
1986	680	853	592	556	384	227	635

Figure 6

Farm Sales by Type of Financing



The data show that farmland tracts financed by cash were on average smaller (average size: 135 acres), than those financed by either mortgages (average size: 151 acres) or by contracts for deed (average size: 175 acres). This observation is related to the fact that the Southwest District, which had the highest incidence of cash financing, also had the smallest tract size. It is also understandable that buyers using cash would have definite limits on the size of tract they could purchase with available cash. Mortgage financed sales would be limited in size by the lender's judgement of the borrower's ability to repay. The contract for deed is likely the method of financing which constrains the size of purchase the least.

Distance of Buyer from Tract Purchased

The Minnesota rural real estate market remained highly localized in 1986. On a statewide basis, the median distance of buyer from tract purchased was 4 miles. That is to say, one half of all buyers lived within 4 miles of their purchases. This is consistent with findings of the last 4 years. The median distance was also 4 miles in 1981, 1982, and 1983. In 1984 and 1985 it was 3 miles. (Table 14) Another way to view these figures is that 53 percent of all buyers lived within 5 miles of their purchases, 75 percent lived within 10 miles, and 90 percent lived within 50 miles. This is consistent with our earlier observation that the rural real estate market is dominated by expansion buyers.

Table 14 Percentage of Farm Land Sales by Distance of Buyer's Residence from Tract, by District, Minnesota, 1981-1986

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>							
1981	24	27	17	13	15	13	21
1982	23	17	25	17	24	14	21
1983	22	17	18	28	15	29	20
1984	20	18	21	23	24	13	20
1985	25	25	21	29	19	19	24
1986	21	18	12	16	14	20	17
<u>2-4 Miles</u>							
1981	31	37	29	18	27	13	30
1982	40	42	36	11	41	6	35
1983	34	44	30	14	46	19	35
1984	39	46	40	21	32	0	40
1985	34	41	35	33	43	25	37
1986	31	38	41	24	43	15	36
<u>5-9 Miles</u>							
1981	20	18	24	8	26	10	19
1982	16	27	19	17	13	3	19
1983	23	23	27	16	14	5	22
1984	19	22	20	18	32	25	21
1985	21	21	21	12	22	6	20
1986	21	24	24	15	29	15	22
<u>10-49 Miles</u>							
1981	18	12	16	25	17	10	17
1982	15	9	13	25	13	19	14
1983	16	13	19	28	15	19	17
1984	18	11	15	23	8	50	15
1985	16	10	21	14	8	6	14
1986	17	10	16	31	9	15	7
<u>50-299 Miles</u>							
1981	6	4	14	26	8	32	10
1982	5	5	6	21	5	33	8
1983	3	2	6	12	5	19	5
1984	4	3	3	12	5	13	4
1985	1	2	1	10	3	0	3
1986	8	7	7	11	1	15	7
<u>300 Miles and Over</u>							
1981	1	3	1	9	8	23	4
1982	1	0	1	8	6	25	3
1983	0	1	0	2	3	10	1
1984	1	0	1	2	0	0	1
1985	1	1	0	1	5	44	2
1986	2	3	1	4	4	15	2
<u>Median distance in Miles</u>							
1981	4	3	5	15	5	55	4
1982	3	4	4	10	3	70	4
1983	4	3	5	6	3	5	4
1984	3	3	3	5	4	11	3
1985	3	3	3	3	3	27	3
1986	4	4	4	5	4	8.5	4

A median distance of 4 miles was also found in each of the districts of the state, except for the East Central district (5 miles) and the Northeast district (8.5 miles). This pattern of median distance uniformity across the state is comparable to that observed during the previous 5 years.

The variation across the state in distance of buyer from tract may be made more meaningful by considering the percentage of buyers that lived within 10 miles of the tracts purchased. In the Northwest district 86 percent of the buyers lived within this 10 mile range. The percentages for the other districts are: Southwest (80), West Central (77), Southeast (73), East Central (55), and Northeast (50). This very closely follows the ranking of districts by the percentage of buyers who are expansion buyers. (Table 10)

Another view of this matter of the distance of buyer's residence from tract purchased is to examine the percentage of acres sold (as opposed to the percentage of sales transactions) for different distance categories. On a statewide basis, 46 percent of acres fell in the 5 mile range, 71 percent fell in the 10 mile range, and 89 percent fell in the 50 mile range. (Table 15). These numbers correspond very closely with the percentages of sales discussed above.

Table 15 Percentage of Acres Sold by Distance of Buyer's Residence from Tract Purchased, Minnesota, 1986

Distance of Buyer's Residence from Tract Purchased	South- east	South- west	West Central	East Central	North- west	North- east	MN
Less than 2 miles	14	16	15	10	13	14	14
2-4 miles	29	34	34	25	36	11	32
5-9 miles	22	26	25	17	34	8	25
10-49 miles	19	13	20	34	8	30	18
50-299 miles	12	8	6	9	3	9	8
300 miles and over	3	3	1	3	6	27	3

C. Sales Activity by Economic Development Region

In 1967, the State of Minnesota replaced some 160 different systems of dividing the state into regions with a uniform system of 13 Economic Development Regions (EDR). Since 1970, the Minnesota Rural Real Estate Market Survey has provided an alternative presentation of reported sales prices, using the 13 EDRs. This larger number of divisions of the state allows for a more detailed study of market activity. The development regions are highlighted on the map in Figure 7. Reported sales for each of these 13 development regions are summarized in Table 16.

For the second consecutive year, the Seven County Metro Area (Region 11) had the highest average sales price for farmland at \$1,127. (Note that Hennepin and Ramsey Counties were excluded from this study). Region 9, which had been the highest from 1975 through 1984, was second highest in 1986, at \$953 per acre.

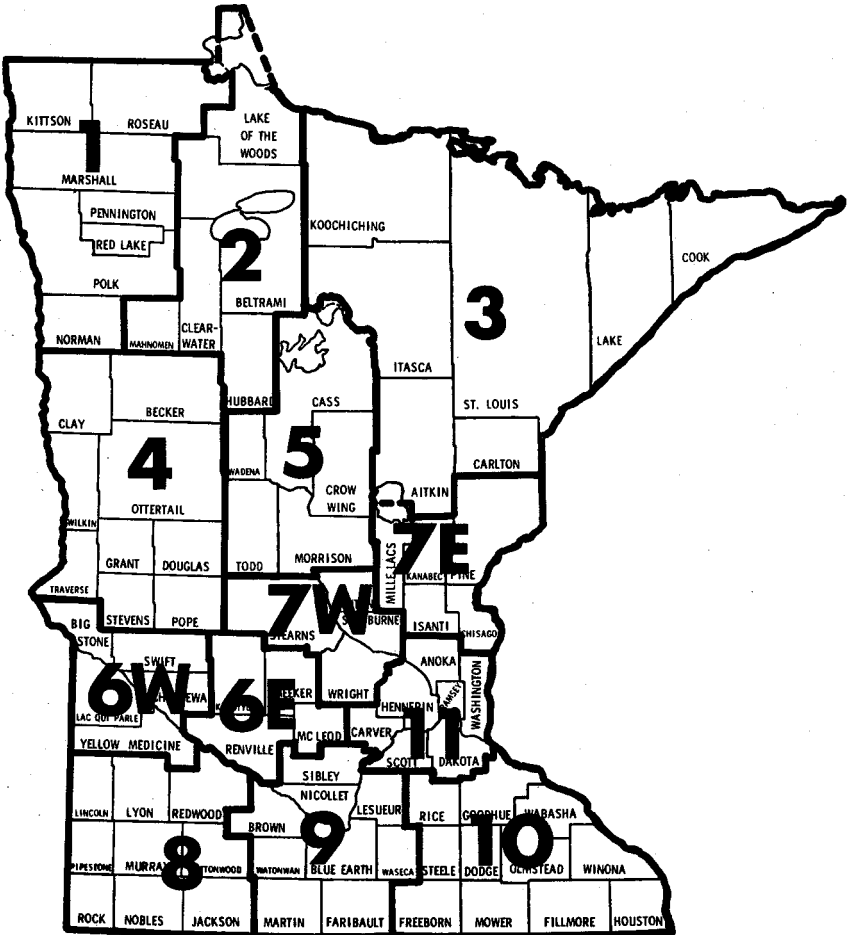
Expansion buyers constituted between 42 percent of the market (in the East Central district) and 91 percent of the market (in the Northwest

Table 16 Average Reported Sales Price Per Acre of Farmland by Economic Development Regions, Minnesota, 1974-1986 (Unadjusted) and 1986 Adjusted Sales Price Data.

Year	Economic Development Regions													Minnesota
	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
% Change of														
Unadjusted Prices														
1985 to 1986	-36%	-41%	40%	-10%	7%	-37%	-36%	-15%	47%	-29%	-32%	-32%	-21%	-25%
Adjusted														
1986 Prices	425	256	87	638	403	566	744	771	918	687	975	674	1119	647
Percent Change from														
Unadjusted 1985 to														
Adjusted 1986														
Prices	-20%	-34%	-55%	-8%	-14%	-35%	-36%	-11%	+52%	-30%	-30%	-27%	-21%	-25%

Figure 7

Minnesota Economic Development Regions



district). Examination of the type of buyer by the smaller economic development regions shows a wider variation in percentage of sales going to expansion buyers. Region 5 had the lowest number of expansion buyers, with just 24 percent of the buyers in that category. Operating buyers there constituted 42 percent of the market and investor buyers accounted for the remaining sales transactions. Regions 11 and 3 were the next lowest (at 37 and 38 percent respectively) in terms of percentage of sales going to expansion buyers.

Cash was used for financing 41 percent of the sales statewide. By considering economic development regions, however, we find that in region 11 (the "seven" county metro area, but excluding Ramsey and Hennepin Counties), only 11 percent of the sales were financed by cash. Contracts for deed were used in 53 percent of the sales. Mortgages, which were used in 19 percent of the sales statewide, were used in only 8 percent of the sales in region 5.

Sales in region 11 were, on average, made to buyers who lived further from the tracts purchased than sales statewide or sales in any other region. Only 6 percent of the buyers there lived within 2 miles of tract purchased (versus 17 percent statewide). This is consistent with the low incidence of expansion buying in the metro area and the high incidence of investor buyers.

Part II

Southwestern Minnesota, Red River Valley, and Greater Twin Cities Metropolitan Area

The Effect of Climate, Soil Quality, and Location on the Rural Real Estate Market

It is expected that a higher quality of climate, soil, or location for a particular tract of farmland would be reflected in a higher value for that land. The extent to which those features enhance the market value of the land, however, is subject to change. In this part of the report, we consider the impact of these qualities on the farmland market over a period of time. In the Southwest the comparison areas are high-risk and low-risk climates; in the Red River Valley we compare farmland transactions in the fertile Valley area with the less fertile adjacent area. In the Metropolitan area, we see both location and land productivity as factors in the rural real estate market there. In addition to price, we examine type of buyer, size of tract, and type of financing.

The Rural Real Estate Market in Southwestern Minnesota

The Southwestern area of Minnesota provides an opportunity to examine the effect of relative crop yields and climatic conditions on the farmland market. We have divided the area into three zones (Figure 8). The lower-risk area has historically had high land values and relatively stable weather patterns. The higher-risk area, on the other hand, has had lower land values over time and has also greater fluctuations in climatic conditions. The transitional area lies geographically between the other two regions, and also falls between the the higher-risk and lower-risk areas in terms of agricultural productivity and climatic variability. It is understandable that a stable climate is desirable and that the lower the risk, the higher the value of the land, other things being equal. In 1986, the average price for the lower-risk area was \$919, compared to \$561 in the higher-risk area and to \$680 in the transition area. (Table 17) This ordering of value has not been altered by the recent dramatic decreases in land value statewide. Average reported sales prices for the higher and lower risk zones are shown graphically in Figure 9. Throughout the land boom of the 1970s, the lower-risk area had had the highest average reported sales price in the state. This held true until 1985, when its average price of \$1,354 was surpassed by the \$1,423 average of the seven county metro area. In 1986, the metro area was ahead again with an average price of \$1,127.

There is indication that the price differences among risk areas are diminishing. The bottom section of Table 17 shows that the price of higher-risk land has increased relative to that of lower-risk land over the past five years. In 1981, the higher-risk land price was 42% of the lower-risk price. In 1986, it was 61% of the lower-risk price. The price in the transitional area has stayed at 74-75% of the lower-risk price since 1983, except in 1984, when the impact of drought on the transitional area was reflected in a price at 69% of the lower-risk price. The average price in the lower-risk area has declined more in percentage terms than the higher-risk price in each year since prices began to fall in 1981-82.

For the six years, 1981-1986, the higher-risk sales have had the largest average tract size, the lower-risk sales have had the smallest tract sizes, and the transition sales had average tract sizes falling between the other two. In 1986 the higher-risk average size was 206 acres and the lower-risk size was 117 acres. Multiplying the average price times the average size, we see average total prices per transaction in 1986 of \$115,566 for the higher-risk land, and \$107,523 for the lower-risk land. While total amounts are very close to each other, the same dollar bought more land in the higher-risk area.

Buyers are categorized as "sole-tract buyers" (for operator buyers who are not expanding an existing farm), "investors" (for investor buyers who are not farm operators and who are not expanding an existing farm), and "expansion buyers" (who may be operators or investors, and who are expanding an existing farm). Consistent with statewide results, expansion

Figure 8

High-Risk, Low-Risk, and Transitional Areas of Minnesota, 1986

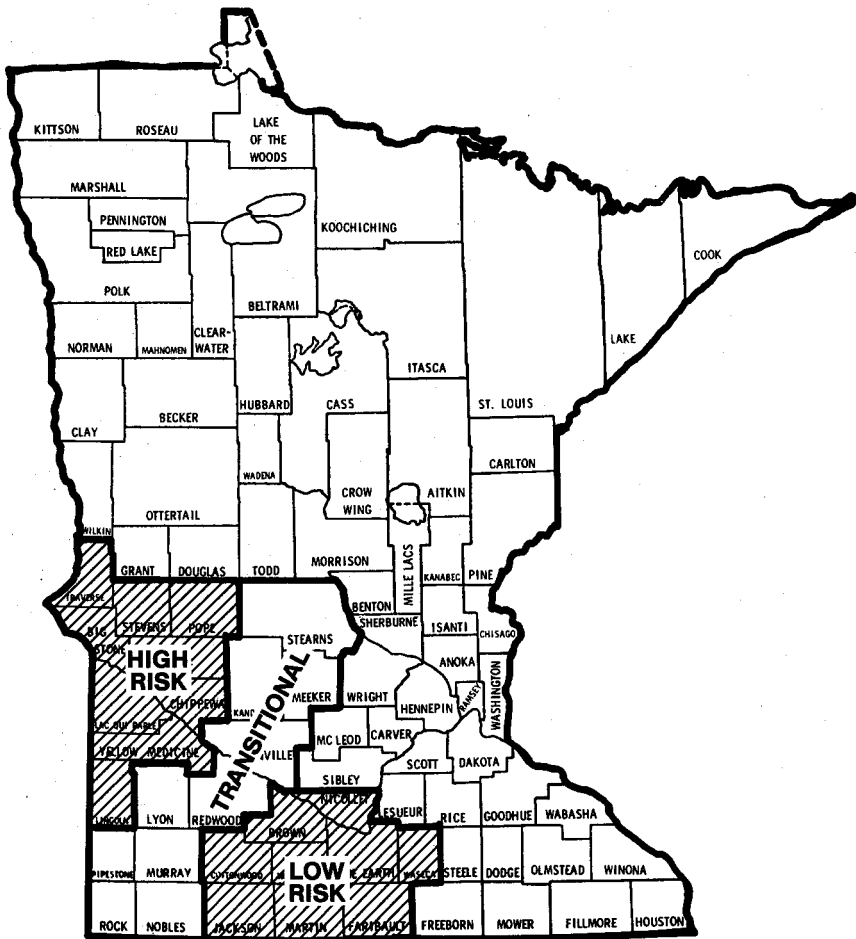


Table 17 Farmland Sales by Risk Category in Southwestern Minnesota, 1981-1986

item	1981	1982	1983	1984	1985	1986
average #	hi 191	hi 158	hi 162	hi 167	hi 151	hi 206
acres per	tr 156	tr 136	tr 150	tr 127	tr 140	tr 148
sale	lo 111	lo 110	lo 110	lo 101	lo 115	lo 117
average	hi 1159	hi 1140	hi 1016	hi 1001	hi 783	hi 561
sale price	tr 1680	tr 1698	tr 1590	tr 1356	tr 1011	tr 680
per acre (\$)	lo 2760	lo 2529	lo 2145	lo 1954	lo 1354	lo 919
change in	hi 22	hi -2	hi -11	hi -1	hi -22	hi -28
sale price	tr 8	tr 1	tr -6	tr -15	tr -25	tr -33
from previous	lo 19	lo -8	lo -15	lo -9	lo -31	lo -32
year (%)						
average sale	hi 42	hi 45	hi 47	hi 51	hi 58	hi 61
price as % of	tr 61	tr 67	tr 74	tr 69	tr 75	tr 74
average price						
in low risk area						

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

Figure 9

Southwest Minnesota by Risk Area average sales price per acre

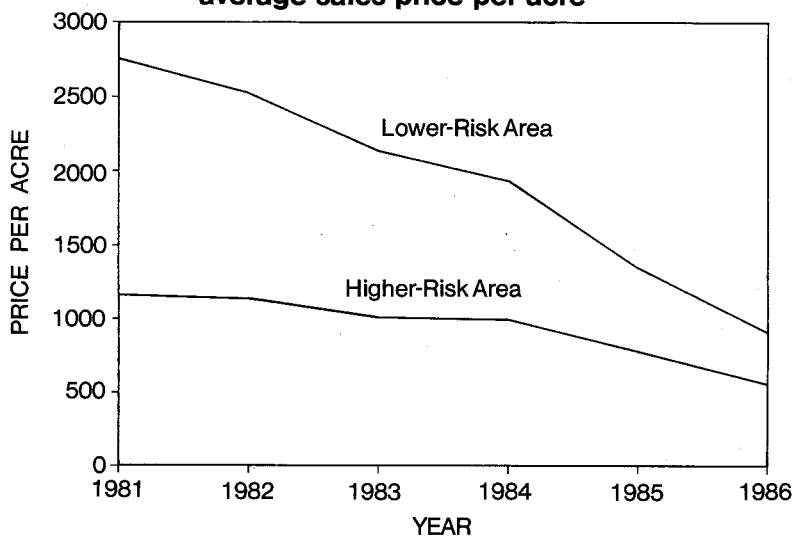


Table 18 Proportion of sales by type of buyer (top number) and average price per acre (bottom number), 1981-1986. Data given for each of the risk areas: high, low, transitional. For example, in 1986, 5% of the high risk land sales were to sole-tract buyers, 80% were to expansion buyers, and 14% of the high risk area sales were to investors. The high risk area investor buyers paid an average of \$594 per acre.

	1981	1982	1983	1984	1985	1986
HIGHER-RISK AREA						
sole-tract buyer	05% \$1165	06% \$1264	07% \$994	06% \$1207	08% \$499	05% \$479
expansion buyer	88% \$1171	83% \$1135	85% \$1026	83% \$996	83% \$836	80% \$564
investor buyer	06% \$1172	11% \$1127	07% \$1052	11% \$895	08% \$748	14% \$594
TRANSITIONAL AREA						
sole-tract buyer	13% \$1557	11% \$1733	14% \$1249	10% \$1190	14% \$900	10% \$624
expansion buyer	76% \$1752	81% \$1742	79% \$1678	85% \$1373	72% \$1061	76% \$68
investor buyer	10% \$1405	08% \$1302	08% \$1368	05% \$1330	14% \$900	14% \$677
LOWER-RISK AREA						
sole-tract buyer	03% \$2763	02% \$2447	04% \$1875	02% \$1699	04% \$1338	04% \$931
expansion buyer	93% \$2790	94% \$2569	92% \$2183	95% \$1979	83% \$1331	81% \$905
investor buyer	04% \$2765	04% \$1617	04% \$2368	03% \$2098	13% \$1142	15% \$968

Table 19 Percentage of sales by method of finance (top number), and average sale price (bottom number) for each method of finance, 1981-1986. Data are given by risk area. For example, in 1986, of all reported sales in the high risk area, 39% were financed by cash, 15% by mortgage, and 46% by contract for deed. The average price per acre for sales financed by cash in the high risk area was \$506.

	1981	1982	1983	1984	1985	1986
HIGH RISK AREA						
cash	14% \$1335	23% \$1085	30% \$984	30% \$1002	33% \$730	39% \$506
mortgage	24% \$1042	16% \$1160	24% \$1106	26% \$1010	15% \$840	15% \$607
contract for deed	62% \$1165	61% \$1149	46% \$1002	44% \$1051	52% \$769	46% \$555
TRANSITIONAL AREA						
cash	19% \$1646	25% \$1675	23% \$1497	24% \$1985	34% \$855	50% \$676
mortgage	19% \$1842	21% \$1576	19% \$1604	25% \$1286	19% \$1031	20% \$722
contract for deed	63% \$1626	54% \$1758	58% \$1598	51% \$1476	48% \$1075	31% \$649
LOW RISK AREA						
cash	28% \$2893	19% \$2502	26% \$2078	35% \$1901	38% \$1272	52% \$885
mortgage	24% \$2583	26% \$2546	34% \$2226	25% \$1941	20% \$1202	22% \$956
contract for deed	47% \$2680	55% \$2495	40% \$2175	40% \$2029	42% \$1333	27% \$920

buyers were in the vast majority. They were the purchasers in 80% of the higher-risk sales and in 81% of the lower-risk sales. (Table 18) Investor buyers accounted for approximately three times the number of sales as sole-tract buyers in both risk areas. Investor buyers increased their share of purchases in all three risk areas to the highest levels since 1981. At 14-15% of purchases, investor buyers still account for less than one-sixth of the purchases by expansion buyers. In 1985 and 1986, the investor share increased the most in the lower-risk and transitional areas.

In 1986 cash financing was at a high across the board, in all risk areas as well as statewide. Higher per acre values are associated with higher incidence of cash financing. Cash sales comprised 56% of all sales in the Southwest District as a whole versus 36% statewide. Similarly, the lower-risk sales in the southwest were financed by cash 52% of the time. Only 39% of the higher-risk sales were financed by cash. (Table 19) Mortgage financing was used less in the higher-risk area than in any other area (at 15% of sales), unchanged from 1985. Contracts for deed have fallen in use in all risk zones from 1985. They are at their lowest level of use in all three risk areas since 1981 (with the exception of the higher-risk area in 1984).

The Rural Real Estate Market in the Red River Valley

The Red River Valley in Minnesota runs along the western border of the state from Traverse County to the Canadian Border. Known for its fertile soils, the valley is the site of a former glacial lake. A unique feature of this fertile area is its well defined boundary. Figure 10 identifies the Valley as well as an adjacent "comparison area" which is less fertile, though also in the Red River drainage basin. In this section of the paper we compare the reported sales data from the Valley townships with the data from the comparison area townships.

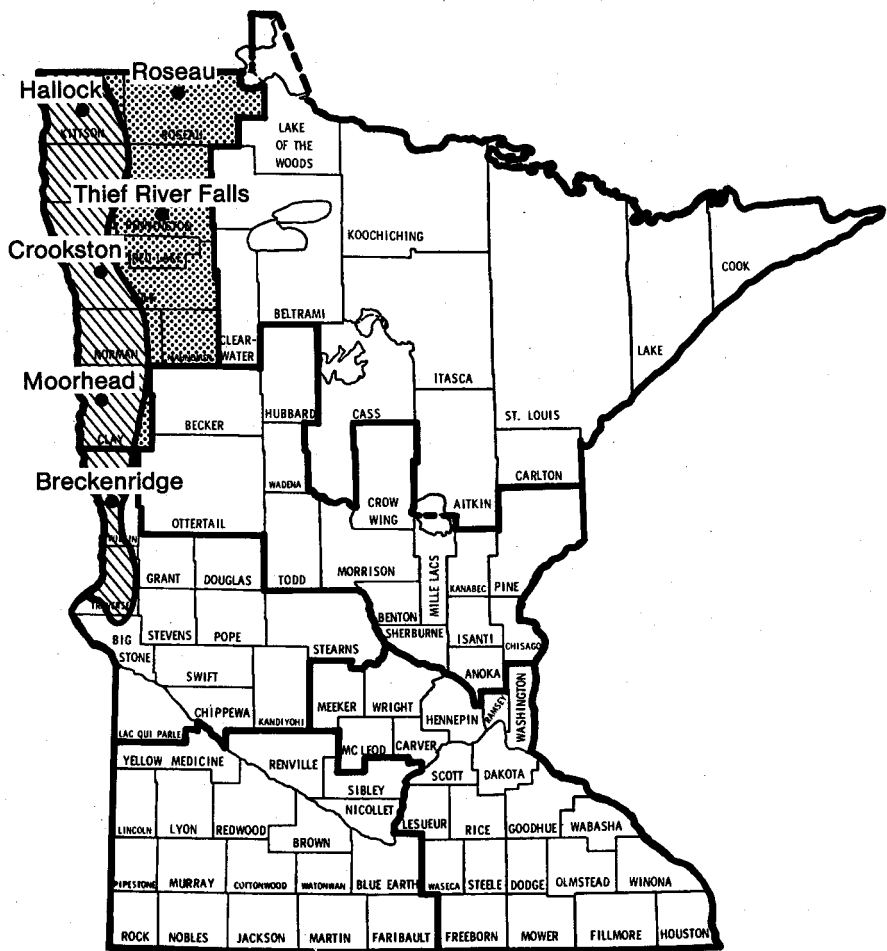
Valley prices peaked in 1982 at \$1,239 per acre, while the comparison area prices peaked in 1981 at \$788 per acre. (See Table 20 and Figure 11.) Prices reached their all time high on a statewide basis in 1981. Since their respective price peaks, both areas have undergone continuous declines in land values. In 1986 the average reported sale prices were \$625 per acre in the Valley and \$266 per acre in the comparison area. The 1986 Valley price was 50% of its 1982 peak price. The comparison area price in 1986 was just 34% of its 1981 peak price. In the years from 1972 to 1986 the comparison area average sale price ranged between 38% (1976) and 66% (1981) of the Valley average sale price. In 1986 it was 43% of the Valley average price, the lowest percentage since 1981.

In reported sales, the average tract size in the Valley has been smaller than that of the comparison area each year since 1973. In 1986 the respective tract sizes were 187 acres in the Valley and 265 acres in the comparison area. Considering both price and tract size, the average reported transaction in the Valley has consistently involved a higher tract price. In 1986 the average tract prices were \$179,375 in the Valley and \$70,490 in the comparison area. The highest tract price averages occurred in 1981 in both the Valley (\$335,795) and the comparison area (\$223,792).

The vast majority of the 1986 buyers in both the Valley and the comparison area were expansion buyers, consistent with findings for the state as a whole and for every region studied within the state. (Table 21.) We categorize buyers as "sole-tract buyers" (buyers who are not expanding nearby farms and who will operate the farms themselves), "investor buyers" (who are not expanding nearby farms and who will not operate the farms themselves), and "expansion buyers" (who are expanding nearby farms and who may or may not operate the farms themselves). Investor buyers had surged ahead in 1985 to comprise 8% of the Valley market and 23% of the comparison area market, but in 1986 they declined to 2% of the valley market and 6% of the comparison market, percentages more consistent with the 6 year pattern from 1981 to 1986. Throughout this period, both investor and sole-tract buyers have comprised a greater share of the market in the comparison area than in the Valley.

Figure 10

The Red River Valley and Comparison Area



 Red River Valley  Non-Valley Comparison Area

Table 20 Farm land sales prices and average tract size for Red River Valley and Comparison Area, 1972-1986.

Year	Price Per Acre (\$)		Percent Change From Previous Year (%)		Average Size of Tracts Sold (acre)	
	Valley	Comparison Area	Valley	Comparison Area	Valley	Comparison Area
1972	151	78	-9	18	316	260
1973	201	90	33	15	252	358
1974	359	152	79	69	231	337
1975	535	227	49	49	219	270
1976	733	279	37	23	216	325
1977	780	306	6	10	284	287
1978	849	385	9	26	270	290
1979	993	461	17	20	257	321
1980	1112	638	12	38	204	317
1981	1195	788	7	24	281	284
1982	1239	629	4	-20	164	287
1983	998	561	-19	-11	190	249
1984	939	524	-6	-7	186	248
1985	755	387	-20	-26	180	203
1986	625	266	-17	-31	187	265

Figure 11

Valley and Comparison Area average sales price per acre

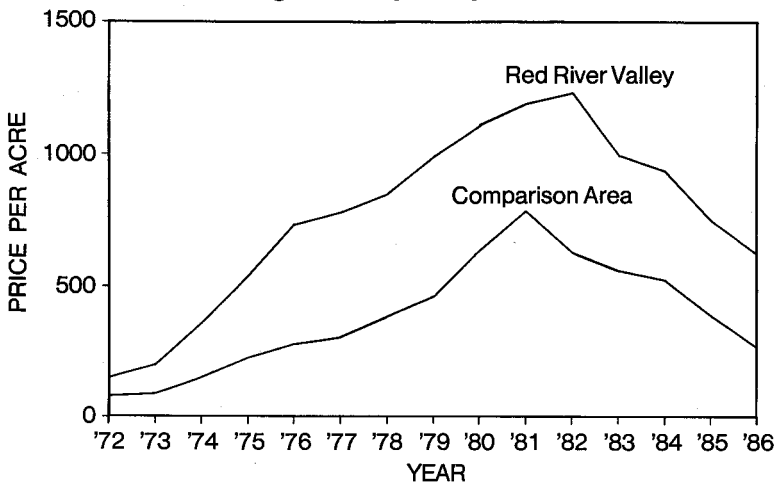


Table 21 Proportion of sales by type of buyer (top number) and average price per acre (bottom number), 1981-1986. For example in 1986, 96% of the Red River Valley sales were to expansion buyers, who paid an average of \$626 per acre.

		1981	1982	1983	1984	1985	1986
RED RIVER VALLEY							
Sole-Tract Buyer	(%)	4	3	2	2	0	2
	(\$)	1126	579	1150	1250	--	513
Expansion Buyer	(%)	90	95	98	98	92	96
	(\$)	1276	1254	995	1005	740	626
Investor Buyer	(%)	6	2	0	0	8	2
	(\$)	669	1400	--	--	857	897
COMPARISON AREA							
Sole-Tract Buyer	(%)	15	26	11	17	9	6
	(\$)	814	638	646	445	578	356
Expansion Buyer	(%)	77	69	81	80	68	88
	(\$)	792	625	561	544	402	258
Investor Buyer	(%)	8	5	8	3	23	6
	(\$)	703	613	399	350	289	393

Expansion buyers have played a more dominant role in both the Valley and the comparison area than in the state as a whole since 1981. Table 10 shows that 1985 and 1986 expansion buyers comprised 86% and 91% respectively of the market in the Northwest District of the State while they comprised 74% and 72% for the same periods statewide. There is no consistent relationship between type of buyer and price paid per acre.

A common assumption is that expansion buyers are more interested in unimproved land (without buildings) than in improved land. Consistent with this assumption, the data from 1981-1985 have shown that unimproved land has accounted for a higher percentage of sales in the Valley than in the comparison area. (Table 22). That is, where expansion sales were most dominant, they involved unimproved land more frequently than improved land. However, in 1986, only 70% of the Valley sales were unimproved land, while 76% of the comparison area sales were unimproved land. This reversal is especially dramatic when compared to the 1984 and 1985 data

Table 22 Proportion of Sales and Average Sales Price Per Acre of Improved and Unimproved Land in the Red River Valley and Non-Valley Comparison Area, 1981-1984.

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					
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
Non-Valley 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

which show unimproved land sales comprising 85% and 92% respectively in the Valley versus 60% and 72% in the comparison area. The per acre price of unimproved land was greater than that of improved land in both areas in 1985 and 1986.

Cash was the dominant method of financing in 1986 in both the Valley (49% of all sales) and comparison area (45% of all sales). (Table 23) In the Valley, cash financing was down slightly from 52% of sales in 1985, but mortgage financing dropped from 37% of transactions in 1985 to 13% in 1986. Contract for deed financing was accordingly up substantially (to 38% of all sales in 1986 from 11% in 1985). In the comparison area, the frequency of mortgage financing barely changed (from 31% of sales in 1985 to 32% in 1986), while cash and contract for deed financing reversed their relative frequencies. Use of cash increased from 23% to 45% while use of contracts for deed decreased from 46% to 23%.

Table 23 Proportion of Sales and Price Paid Per Acre by Method of Finance, Red River Valley and Non-Valley Comparison Area, 1983-1984.

Method of Finance	Red River Valley				Non-Valley Area			
	1985		1986		1985		1986	
	%	\$	%	\$	%	\$	%	\$
Cash	52	675	49	715	23	235	45	279
Mortgage	37	834	13	601	31	439	32	303
Contract for Deed	11	801	38	598	46	463	23	202

There are many factors which may determine the method of financing any particular transaction, but in general it is likely that mortgage financing would be preferred by both parties over contract for deed financing under similar terms. Sellers in 1986 would probably not have benefitted as much by the favorable tax treatment of installment (contract) sales to shelter their capital gains as they would have before prices began to decline. Buyers would likely prefer mortgages to contracts because of the more favorable redemption rights. In 1986 there was a surprising price difference between cash financed sales (\$715/acre) and mortgage financed sales (\$601/acre). Mortgage money was apparently less available for the higher priced land. It may also reflect a preference by cash buyers for the best land available. In the comparison area, contract for deed financed sales were at the very low average price of \$202 per acre, compared with \$303 and \$279 for mortgage and cash financed sales respectively. The numbers, while intriguing, are difficult to interpret with any confidence.

The Rural Real Estate Market in the Greater Twin Cities Metropolitan Area

The Greater Metropolitan Area is defined in this study as a 14 county region surrounding the Twin Cities (Figure 12). As before, Hennepin and Ramsey Counties (Minneapolis and St. Paul) are excluded from consideration because of the overwhelming urban influence. To permit closer analysis, the Greater Metropolitan Area has been divided into three sub-areas based upon population levels, recent rates of population growth, productivity of the land and historical trends in land values. The "Five County Metro Area" is Economic Development Region 11 minus Hennepin and Ramsey Counties (Anoka, Washington, Carver, Scott, and Dakota). This area is bordered on the north by the "North Metro Fringe" area, including Chisago, Isanti, Sherburne and Wright Counties. The counties to the south of the Five County Metro Area make up the "South Metro Fringe": Goodhue, McLeod, LeSueur, Rice, and Sibley Counties. The "Five County Metro Area," the "North Fringe," and the "South Fringe" comprise the three sub-areas of the Greater Metropolitan Area.

The highest average reported price per acre for 1986 was for land in the Five-County Metro Area (\$1,127/acre; Table 24). The South Metro Fringe is the most agriculturally active sub-area in the Greater Metropolitan Area. It had an average reported sales price of \$846/acre. The North Metro Fringe counties have historically been less agriculturally productive than the counties of the South Metro Fringe. In 1984 the gross income of North Fringe farmers from crops, livestock, and government payments totaled \$246 per acre, 29% less than the \$347 per acre gross income received by South Metro Fringe farmers.¹ This has been traditionally reflected in lower farmland sales prices in the North Fringe. For example, in 1980, sales prices realized in the South Metro Fringe counties averaged \$2,097 per acre, compared to \$1,170 per acre in the North Metro Fringe area. That gap in prices narrowed from 1980 to 1985, but now became wider again in 1986, with a \$125 per acre difference in price between the two sub-regions. Figure 13 shows the prices for the "Seven" county Metro Area and the two fringe areas from 1973 to 1986.

Reported sales price averages for both the South Metro Fringe and the Five County Metro Area reflect nominal declines of 21% from 1985 to 1986. The average reported sales price per acre for the North Metro Fringe declined during the same period by 31%. Overall, the 14 county Greater Metropolitan Area experienced a price decrease of 26%, nearly the same as the State's 25% decrease.

¹ from Minnesota Agricultural Statistics, Minnesota Agricultural Statistics Service, July, 1986 and the 1982 Census of Agriculture, volume 1, Geographic Area Series, United States Department of Agriculture.

Figure 12

Minnesota Economic Development Regions and the Greater Twin Cities Metropolitan Area

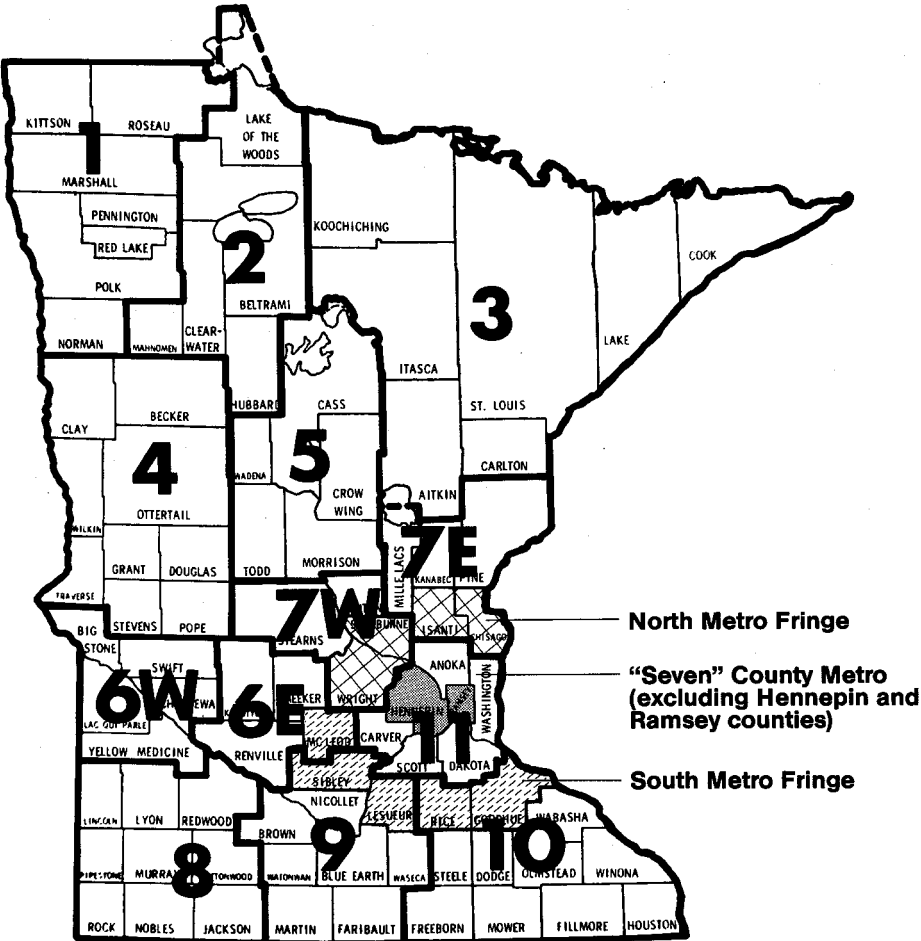


Table 24 Average Reported Sales Price per Acre, Greater Twin Cities Metropolitan Area and Sub-areas, 1973-86

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

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

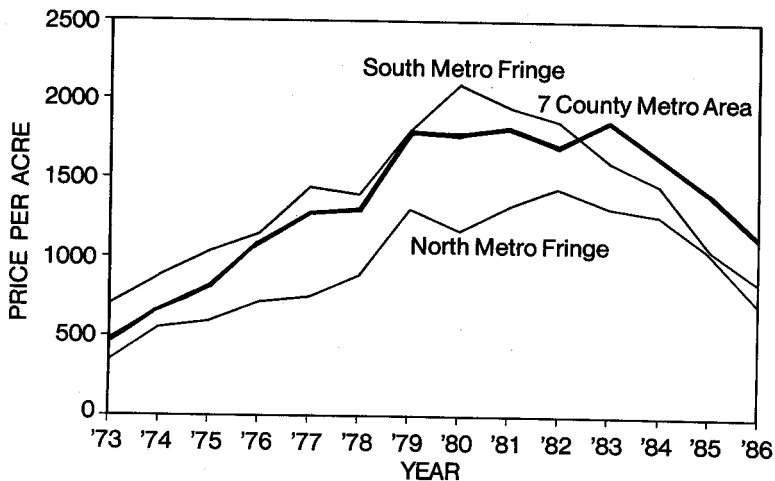
²Goodhue, McLeod, Le Sueur, Rice and Sibley Counties.

³Chisago, Isanti, Sherburne, Wright Counties.

⁴All fourteen counties named above.

Figure 13

Average Reported Sales Price Per Acre Greater Metro Area



There are a number of factors which may be at play in this recent expansion of the gap between South Fringe prices and North Fringe prices. As farmland prices in general were falling after 1981, the metro area land prices approached a range reflecting metro location more than agricultural value. As the agricultural component of value decreased in importance, relative to the locational component, the gap in prices between the two areas narrowed.

If the widening of the price gap in 1986 is the beginning of a trend, it may be due to some recovery in the way in which buyers and sellers view the agricultural quality of the land as a significant factor in the land's value. For the first time since statewide farmland prices began to fall (1982), the 1985-1986 percentage fall in South metro fringe prices was smaller than that of the North metro fringe prices. The agricultural component of farmland value may be increasing in importance in the greater metropolitan area.

A further consideration in the analysis of Metro Area farmland values is that the interstate highway system was developed later in the North Metro Fringe than in the South. The positive impact of this development on land prices may have occurred later in the North than in the South. As prices have generally declined since 1981, the farmland values in the North Metro Fringe may have been initially supported by the more recent ex-urban development of that area. This "interstate" effect may be starting to wear off.

The analysis of farmland prices is a very complex subject. We have looked at several likely factors in the relative shifts of Metropolitan Area farmland prices. The agricultural (versus locational) component of farmland value, the product mix (dairy versus grains), and highway development are undoubtedly all considerations in the pricing of farmland in the Metropolitan Area. The exact impacts of each of these and other factors may be impossible to identify, but in examining them generally we gain some insights in understanding how the farmland market is operating.

Conclusion of Part II

In Southwestern Minnesota, we have observed that the proportional difference in price between higher-risk land and lower-risk land has diminished during the general decline in farmland values (1982-1986). In the Red River Valley, the price difference between the fertile Valley land and the comparison area land was generally higher during the boom than during the bust, however, in 1986 the gap expanded once again. In the Metro area, the price gap between the "North Fringe Area" and the more productive "South Fringe Area" narrowed during this period of decline up until 1986, when the gap widened once again.

Part III

Deflated Estimated Real Estate Values

The 1986 average sales price of Minnesota farmland (\$650) was lower than any since 1974. Similarly 1986's average estimated value of \$515 was at a level lower than any since 1974. In current dollars, 1986 land prices and values had not yet fallen to the 1972 "pre-boom" levels of \$248 for estimated value and \$293 for average sales price. A somewhat different picture emerges, however, when real estate values and prices are adjusted for inflation.

The Consumer Price Index (CPI) is used to restate each year's figures in 1967 dollars.² Roughly speaking, the CPI states that a basket of goods costing \$100.00 in 1967 would have cost \$326.90 in the first half of 1986, due to inflation. Dividing the 1986 price of land by 3.269 gives the price of land as if there had been no inflation since 1967. Similarly, dividing the price of land in any year by the appropriate CPI number for that year results in a price denominated in constant (1967) dollars.

The 1986 statewide average estimated value per acre of \$515 in current dollars is equivalent to \$158 in constant (1967) dollars. Table 25 and Figure 14 show the constant dollar trend in estimated values from 1910 to 1986. To find a constant dollar value below the 1986 figure, it is necessary to go back to 1956 when the constant dollar value was \$155. After removing the effects of general inflation from the year to year values, the 1986 estimated value dropped to the lowest level in thirty years. In 1985, the constant dollar estimated value was the lowest since 1972, the last year before the "boom" in farmland prices began. That is, by 1985, the gains in real value from the 1973 -1981 boom were essentially wiped out. The additional fall in values from 1985 to 1986 completely eroded the real value gains made in the relatively stable period from 1956 to 1972.

The 1986 average reported sales price of \$650 in current dollars is equivalent to \$199 in constant (1967) dollars, approximately the same as in 1965. It is again apparent that the recent falls in sales prices have more than wiped out the gains made during the 1970's farmland boom.

The general trend in deflated estimated values per acre has been similar in the various districts of the state. For comparison purposes, Figure 15 shows average estimated values from 1910 to 1986 for the Southwest District (the state's most expensive), for the Northeast (the state's least expensive), and for the state as a whole.

² The GNP implicit price deflator for Personal Consumption Expenditures may be generally preferable to the CPI for this application, but it is not available for the years prior to 1930.

Table 25 Average Estimated Value Per Acre, State and Districts, Deflated by the CPI, Minnesota, 1910-1986

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
	----- in 1967 dollars -----						
1910-11	207	193	139	86	86	39	146
1912-13	238	238	159	100	100	45	169
1914-15	272	279	186	113	106	47	193
1916-17	281	306	205	125	113	46	208
1918-19	259	262	173	111	89	40	182
1920-21	235	253	163	113	95	40	173
1922-23	227	237	163	112	88	46	169
1924-25	203	215	145	96	86	43	152
1926-27	200	206	136	92	68	42	143
1928-29	195	199	131	86	64	41	138
1930-31	176	176	102	72	44	36	120
1932-33	156	159	103	66	49	34	110
1934-35	130	145	95	65	55	37	100
1936-37	142	154	92	70	53	58	106
1938-39	142	161	88	66	52	59	107
1940-41	140	162	86	62	53	57	102
1942-43	133	156	82	59	49	51	98
1944-45	148	171	91	66	55	53	106
1946	150	178	96	67	56	55	111
1947	143	173	93	64	55	52	108
1948	144	179	96	65	57	53	110
1949	150	190	102	69	62	55	116
1950	151	196	105	69	64	55	118
1951	161	213	114	76	69	59	127
1952	165	220	121	82	86	53	135
1953	162	218	119	77	80	50	131
1954	173	232	123	82	89	50	140
1955	187	256	128	85	91	56	151
1956	192	263	131	86	93	52	155
1957	196	273	145	91	102	58	164
1958	207	279	142	97	104	75	170
1959	219	292	153	102	118	66	180
1960	212	280	150	106	112	72	175
1961	223	292	157	112	118	76	184
1962	212	276	152	109	115	76	175
1963	212	268	155	112	124	74	176
1964	222	271	156	119	124	64	179
1965	232	276	154	119	120	54	181
1966	249	285	157	126	115	60	188
1967	262	303	163	128	108	62	194
1968	275	320	174	129	117	55	203
1969	283	321	180	134	110	50	205

Table 25
(con't)

Average Estimated Value Per Acre, State and Districts, Deflated by the CPI, Minnesota, 1910-1986

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
1970	273	299	171	139	103	53	196
1971	275	290	169	128	98	52	192
1972	296	303	166	130	94	61	198
1973	326	345	186	146	110	86	224
1974	392	459	257	190	135	98	288
1975	418	524	312	184	183	101	326
1976	502	649	366	205	222	123	391
1977	566	725	402	229	225	154	437
1978	610	727	411	255	247	156	455
1979	668	745	406	263	275	169	478
1980	618	709	390	241	277	158	454
1981	627	765	417	249	298	169	481
1982	520	649	361	202	259	167	408
1983	454	559	329	188	221	138	357
1984	374	450	281	162	188	140	298
1985	267	300	214	116	158	112	213
1986	185	213	156	91	128	94	158

Figure 14

Average Estimated Value Per Acre
(indexed and in 1967 constant dollars)

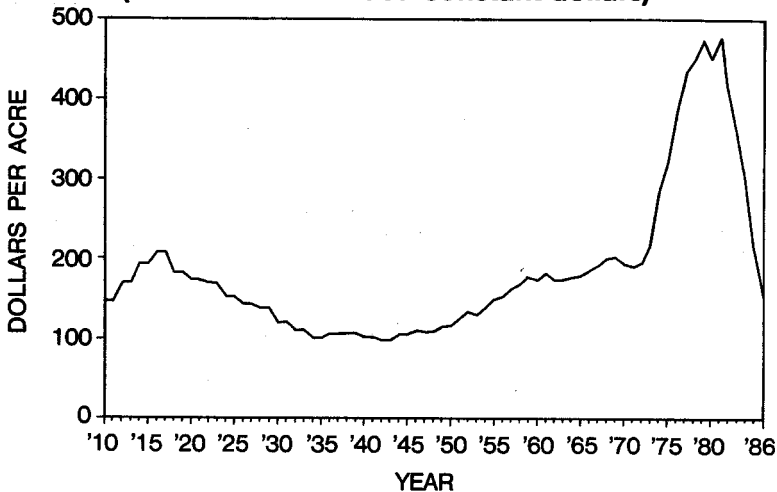


Figure 15

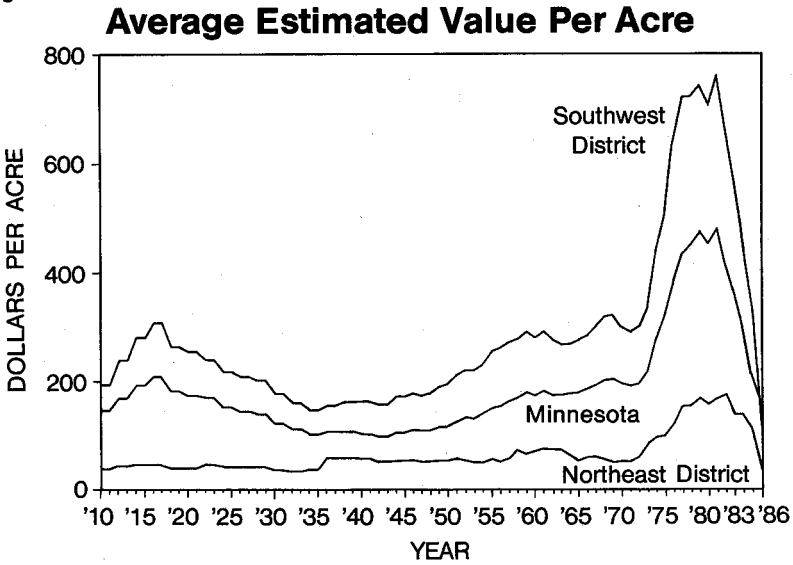
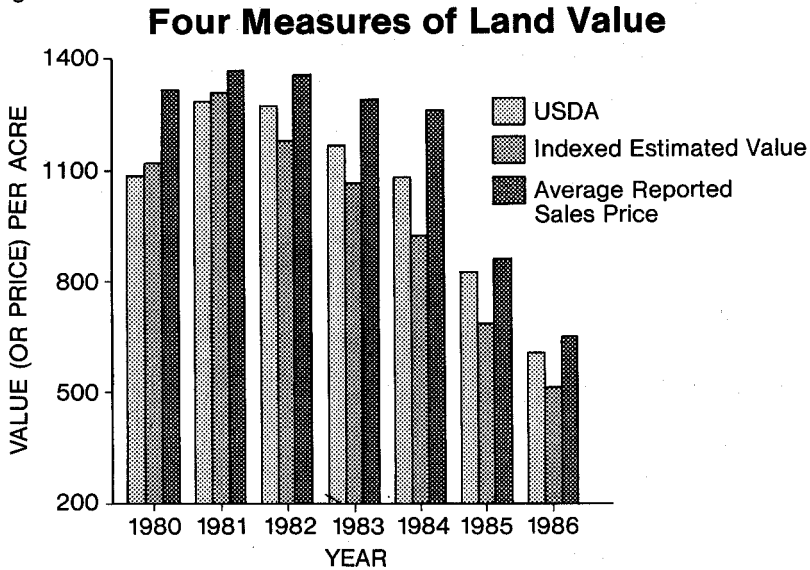


Figure 16



Statistical Appendix

This report has made much use of average prices based upon actual sales. A disadvantage in use of data averages is that they do not indicate the degree of variation in the data. In 1986, for example, the statewide average reported sales price was \$650. This figure, however, does not tell us whether or not most of the respondents reported average sales prices close to that figure or whether some respondents reported sales involving high priced land and other respondents reported sales involving very low priced land, which averaged to \$650.

One measure of this variability, the standard deviation, is given in Table 26. The standard deviation gives the dollar range within which approximately two-thirds of the reported sales prices fall. For example, in the Southeast District, the average reported sales price in 1986 was \$672.50, and the standard deviation of reported sales prices for that region was \$264.30. This indicates that approximately two-thirds of the sales prices per acre reported in the Southwest during the first six months of 1986 were between \$408.20 ($672.5 - 264.3$) and \$936.80 ($672.5 + 264.3$). Table 26 also presents another measure of variability, the coefficient of variation. The coefficient of variation is computed by dividing the standard deviation by the average price for each district, and multiplying by 100 to arrive at a percentage figure. In the above example, the coefficient of variation is 39.3. Larger coefficients of variation reflect larger variations about the average reported price.

Table 27 gives the 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 1986.

The United States Department of Agriculture (USDA) publishes reported values of Minnesota farmland which are determined independently from the research on which this University report is based. It is understandable that the two methods result in different numbers. Figure 16 shows the figures based on three different evaluations of Minnesota farmland from 1980 to 1986. These are the USDA figures (1), the indexed average estimated values (2), the average reported sales prices (3).

In each of the 7 years, the average reported sales price was highest. In 1981 and 1982, the only years of price and value increase in this period, the indexed estimated value exceeded the USDA figure slightly. In the 5 years of value decline, the USDA value exceeded the indexed value. The fact that different methods of analysis yield notably different results should caution people from relying too heavily on this type of data in attempting to establish a value for a particular farm. These aggregate data are very useful for indicating trends and general ranges of farmland value. Additional comparisons of the USDA and University of Minnesota results are described in The Minnesota Rural Real Estate Market in 1984 by Carolyn J. Emerson and Philip M. Raup.

Table 26 Average Price Per Acre of Reported Farm Sales, Standard Deviation and Coefficient of Variation, Minnesota and districts, 1961-1986

Year	South-east	South-west	West Central	East Central	North-west	North-east	Minnesota
Average Price Per Acre (dollars)							
1961	189.1	255.8	130.3	89.0	92.0	37.9	165.2
1962	195.7	228.5	140.5	76.3	73.9	30.3	161.1
1963	214.1	221.9	136.2	86.2	108.8	47.6	168.1
1964	213.3	234.3	150.3	86.3	103.6	51.6	178.1
1965	202.0	232.7	133.2	95.8	106.2	39.7	178.0
1966	253.4	260.4	164.3	113.0	103.4	30.6	203.4
1967	272.4	306.1	178.6	92.9	116.6	51.2	214.8
1968	316.0	329.0	186.0	104.0	90.0	47.0	232.0
1969	340.7	334.1	193.6	129.7	120.8	50.7	238.3
1970	346.0	340.0	206.0	141.0	113.0	45.0	243.0
1971	343.6	343.0	204.5	150.2	100.1	43.7	259.0
1972	389.4	365.7	221.7	145.1	107.2	76.4	293.3
1973	443.5	410.1	223.0	178.1	119.7	121.7	298.4
1974	598.4	630.1	339.8	242.7	204.0	144.4	450.1
1975	791.8	843.9	492.9	298.5	352.8	159.3	607.0
1976	937.2	1115.7	663.7	321.3	377.0	209.7	735.2
1977	1216.0	1340.4	708.6	445.7	431.7	197.9	858.8
1978	1351.7	1320.7	907.6	554.0	504.0	256.3	979.6
1979	1674.6	1679.5	618.1	618.1	612.2	410.9	1139.9
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
Standard Deviation							
1961	83.5	71.9	40.0	47.8	54.1	20.1	86.8
1962	80.7	68.6	45.1	39.1	57.2	29.7	88.5
1963	79.4	77.1	50.8	43.7	69.4	26.1	88.6
1964	91.6	77.3	70.1	52.4	89.9	39.0	97.2
1965	96.3	87.0	82.1	63.5	91.1	31.7	98.1
1966	142.7	95.3	56.1	66.5	65.7	32.2	199.4
1967	115.3	106.2	62.8	67.6	85.4	29.8	127.6
1968	179.0	124.2	77.5	108.5	70.5	41.6	160.7
1969	228.6	123.4	64.5	104.2	83.9	45.0	174.0
1970	189.7	129.6	75.4	105.6	89.5	29.3	162.5

Table 26 Average Price Per Acre of Reported Farm Sales, Standard Deviation
(con't) and Coefficient of Variation, Minnesota and districts, 1961-1986*

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
Standard Deviation							
1971	154.3	128.1	66.6	100.7	66.9	28.9	157.4
1972	154.9	136.4	79.0	96.7	70.0	38.8	164.4
1973	183.3	164.1	94.0	97.2	76.8	86.6	188.9
1974	265.2	290.0	147.2	153.0	127.5	60.6	287.7
1975	291.3	373.8	225.0	142.5	220.8	72.2	360.4
1976	359.0	501.4	243.0	176.2	273.2	100.6	457.8
1977	476.9	606.8	305.2	244.1	294.3	99.4	599.0
1978	454.4	496.9	329.2	304.0	260.9	100.5	539.7
1979	850.3	833.3	361.4	357.2	354.7	228.3	791.6
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	293.02
Coefficient of Variation (percent)							
1961	44.2	31.8	30.7	53.7	58.7	53.1	52.6
1962	41.2	30.0	32.2	51.2	77.3	98.0	54.9
1963	37.1	34.8	37.3	40.7	63.8	54.8	52.7
1964	42.9	33.0	46.6	60.8	86.7	75.5	54.6
1965	47.6	37.4	61.6	66.2	85.8	79.8	55.1
1966	56.4	36.7	32.6	58.9	63.8	105.4	58.7
1967	42.3	34.7	35.2	72.8	73.2	58.2	59.4
1968	56.6	37.3	41.6	103.8	78.3	88.5	69.2
1969	67.1	36.9	33.3	80.4	69.5	88.9	73.0
1970	54.8	38.1	36.6	74.9	79.2	65.1	66.9
1971	44.9	37.4	32.6	67.0	66.8	66.1	60.8
1972	39.8	37.3	35.2	66.6	65.3	50.8	56.1
1973	41.3	40.0	42.2	54.6	64.2	71.2	63.3
1974	44.3	46.0	43.3	63.0	62.5	42.0	63.9
1975	36.8	44.3	45.7	47.7	62.6	45.3	59.4

Table 26 Average Price Per Acre of Reported Farm Sales, Standard Deviation
(con't) and Coefficient of Variation, by District, Minnesota 1961-1986*

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
1976	38.3	44.9	36.6	54.8	72.5	48.0	62.3
1977	39.2	45.3	43.1	54.8	68.2	50.2	69.7
1978	33.6	37.6	36.3	54.9	51.7	39.2	55.1
1979	50.8	49.6	38.1	57.8	57.9	55.6	69.4
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

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

Table 27 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 1986

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
1946-47	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
1960	188	248	133	94	99	64	155
1961	189	247	133	95	100	64	156
1962	192	250	138	99	104	69	159

Table 27 Average Estimated Value Per acre of Farm Real Estate in Minnesota
(con't) by Districts, 1910-11 through 1944-45, by Two-Year Periods, and
Annually, 1946 through 1986

Year	South- east	South- west	West Central	East Central	North- west	North- east	Minnesota
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

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