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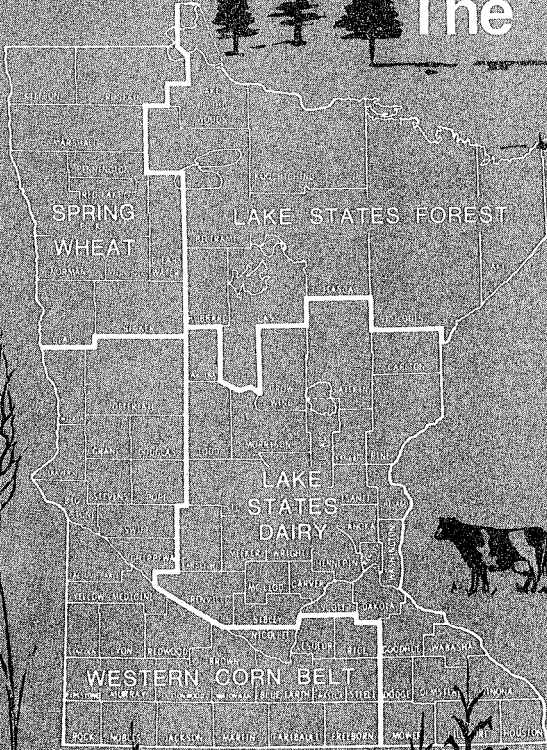
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# The Minnesota

# Rural Real Estate Market in 1978



Including special studies of:  
The Red River Valley  
Southwestern Minnesota  
Deflated Farmland Prices and  
Long-term Market Trends

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## TABLE OF CONTENTS

Summary . . . . .	1
Procedure . . . . .	4
Part I: The Minnesota Farm Land Market in 1978 . . . . .	7
A. Land Market Trends . . . . .	7
Reporters' Estimates . . . . .	7
Actual Sales . . . . .	9
Activity in the Land Market . . . . .	13
B. Analysis of Reported Sales . . . . .	15
Reason for Sale . . . . .	15
Improved and Unimproved Land . . . . .	15
Type of Buyer . . . . .	18
Land and Building Quality . . . . .	20
Method of Financing . . . . .	23
Distance of Buyer from Tract Purchased . . . . .	25
Part II: The Farm Land Market in the Red River Valley . . . . .	27
Part III: The Farm Land Market in Southwestern Minnesota . . . . .	34
Part IV: Deflated Farmland Prices and Long-Term Market Trends . . . . .	40
Statistical Appendix . . . . .	48

## SUMMARY

### The Minnesota Rural Real Estate Market in 1978

While farmland prices continued to rise in Minnesota for the year ending in July 1978, the annual rate of increase was the lowest reported since 1971-72. Average farmland values as estimated by brokers, lending agencies, and others familiar with the rural real estate market increased 12%, July 1977 to July 1978. Above-average increases of 20% occurred in the East Central District lying north and west of the Twin Cities, and of 16% in the Southeast, along an axis running from the Twin Cities, and to Rochester. Much smaller increases were reported for the south-central, southwestern, western and Red River Valley agricultural counties, where land value increases had led the state in the period of most rapid change in 1973-74.

This slow-down in the rate of increases has been associated with a sharp decline in the volume of rural land market transactions. The index of farm transfers by voluntary sale expressed as a percentage of all farms in Minnesota, as reported by the U.S. Department of Agriculture, was the lowest since the early years of the 1930's. When total transfers are considered, including those accomplished through inheritance or by forced sale, the rate of turnover in 1978 was the lowest ever reported since statistics were first collected on the rate of farmland transfers in 1926.

The thinness of the market in 1978 was reflected in erratic trends in prices received in actual sales. While they increased 14% over 1977 for the state as a whole, actual sales prices in 1978 were approximately equal to or below prices received in the previous year ending in July 1977 in a continuous group of counties along the southwestern border with Iowa, and extending north in the south-central part of the state along an axis reaching from Albert Lea to Mankato and to the boundaries of the Twin Cities Metropolitan Area. It would be misleading to place great emphasis on the significance of this decline in sales prices, due to the reduced number of transactions, but the data do suggest an increase in buyer resistance in the areas of highest priced agricultural land.

In contrast, the biggest increases in sales prices in 1978 occurred in the forested northeast district and in forest-fringe counties along an axis from Fergus Falls to Duluth. This reversed a trend that had been

quite pronounced during the years of rapid land price increases from 1973 to 1976, when the greatest buoyancy in the land market occurred in the strictly agricultural counties of the state. The slow-down in increase in prices paid for the higher priced lands was also clearly apparent in the Red River Valley Lake Plain, where the rate of increase in the two years from July 1976 to July 1978 failed to keep pace with the rate of inflation in the general economy.

Throughout the agricultural counties of the southeast, southwest, west central and northwest the demand side of the market was dominated by buyers who were adding their purchases to land already owned. Statewide, farm expansion buyers accounted for 64 percent of all sales, with percentages ranging up to 74 percent in the southwest, 83 percent in the northwest, and 95 percent in the Red River Valley Lake Plain. The percentage of sales to investor buyers, statewide, was unchanged from the 1977 level, at 15 percent. Operating farmers buying complete farm units accounted for only 21 percent of the purchases, the lowest percentage recorded for this type of buyer since this data series was begun in 1954. It is clear that participation in the Minnesota farm land market in 1978 was primarily dependent on the financing and debt-repaying capacity provided by the prior possession farm land.

Another distinctive characteristic of the rural real estate market in 1978 was a sharp increase in the relative prices paid for poorer grades of agricultural land. When lands are grouped in three classes, good, average, and poor, the respective rates of increase in 1978 were 2% for good land, 15% for land of average quality, and 40% for land rated poor. These statewide averages are strongly influenced by the relatively higher rate of transfer of lands in the areas with lower land values in the state, but they do reinforce the conclusion that 1978 was characterized by a substantial degree of buyer reluctance to pay the high prices asked for the best quality lands.

Over the past two decades there has been a significant shift in the reasons given for selling farmland. In the mid-1960's approximately one-fourth of all sales were occasioned by decisions to quit farming. This percentage has steadily declined, averaging from 12 to 16 percent of the decisions to sell in the past five years.

The financing of sales by sellers through use of contracts for deed has continued to dominate the market. For the past four years, 1975-1978, the proportion of all sales financed by cash, by mortgages, and by contracts for deed has been essentially unchanged, statewide. In 1978, 14% of the sales were initially financed by cash, 29% by use of mortgages, and 57% by contracts for deed. There have been significant changes in these percentages among the districts of the state, with a sharp increase in mortgage-financed sales in 1978 in the Red River Valley area.

One noteworthy feature of the Minnesota rural real estate market in 1978 was the substantial price increase in the counties subjected to relatively high climatic risks in the West Central part of the state. This is shown most clearly in a comparison of estimates of value in these counties and prices received in actual sales. In the West Central region, land values in 1978 were estimated to be 10% above those of 1977 whereas reported sales prices were 28% higher. This was the largest discrepancy between estimates of value and prices received in actual sales reported for any of the agricultural districts of the state. One interpretation is that this region, which was severely affected by drought conditions during the years 1974-76, was experiencing a "technical correction" in 1978 from the depressed prices of the drought years.

It is revealing to note that farmland prices in important areas of the state in 1978 failed to keep pace with the rate of inflation of prices in the general economy. This was especially marked in Development Region 9, along an axis from Sibley County through Mankato to Albert Lea, and in Region 11, comprising the 7 counties of the Twin Cities Metropolitan Area. It is also apparent in the Red River Valley Lake Plain, as noted above.

It must be emphasized that these data report changes in the Minnesota rural real estate market from July 1977 to July 1978. There was some evidence of a resumption in the upward trend of land prices in several areas of the state during the last half of 1978. It will be interesting to see whether this trend is sustained, and carries through for the reporting year for this survey that will end in July 1979.

## PROCEDURE

Data for the Minnesota Rural Real Estate Market Report in 1978 were collected through the use of mail questionnaires sent to 1700 individuals during the months of July and August 1978. Potential respondents included real estate brokers, agricultural loan specialists, bankers, and other people knowledgeable of farm land values in Minnesota.

The questionnaire was expanded in 1974 to include a third section dealing with rural land sales primarily for non-farm use. However, this report deals mainly with rural land sales and values in agricultural use. In the first section respondents were asked to estimate an average value for farm land, with separate estimates for land of high, medium and low quality in their area. These estimates were used to calculate percentage changes in land values during the past year. This was done by (1) weighting the average acres of farm land in their county; (2) adding these values county by county for each district; and (3) dividing this total for all counties in a district by the total acreage of farm land in that district. In making comparisons with 1977, only estimates of the respondents who had answered in both 1977 and 1978 were used. On the basis of this rather rigorous restriction, a total of 492 estimates were usable.

The second section of the questionnaire requested data on actual farm sales. Reports were obtained on a total of 1149 sales. Data were supplied on type of buyers and sellers, method of financing, and quality of land and buildings. Reporters were requested not to include sales between close relatives or sales of less than 10 acres when filling out this part of the questionnaire.

Three types of agricultural buyers are distinguished in this report:

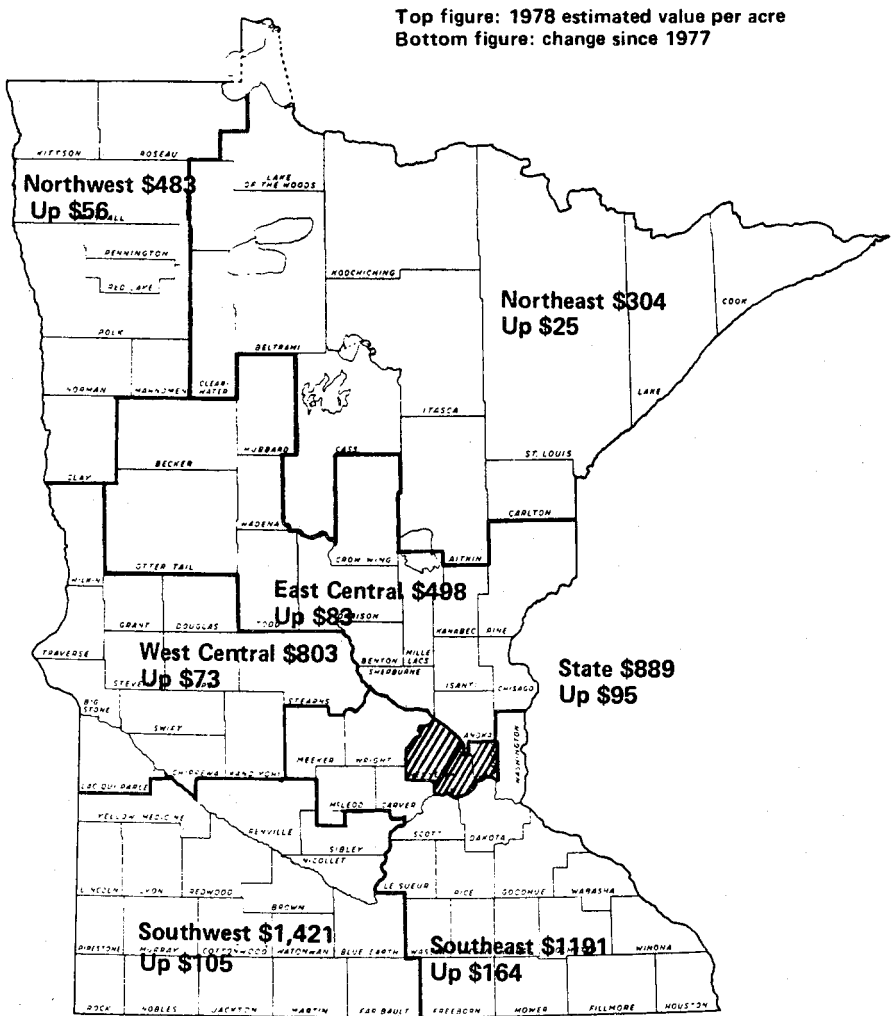
1. Operating farmers: Those buying complete farm units for operation as individual farms.
2. Expansion buyers: Those who already own some farm land either as farmers or landlords.
3. Agricultural investors: Those who buy farm land to be rented out or managed for farming purposes.

The distinction between improved and unimproved land is determined by the presence of buildings. Land with buildings is classified as improved land. Land with no buildings is unimproved. The quality of land for farming purposes is judged good, average, or poor by the respondents. Also building quality is rated as good, average, poor, or none by the respondents.

Land value changes determined by the estimate method have definite advantages over value changes based on reported sales. The quality of land and buildings has a marked effect upon land value and these factors can vary significantly from year to year and from sale to sale. For this reason, only reports from respondents who report for at least two consecutive years are used in constructing the estimates of value.



**Figure 1. Estimated average rural land values per acre\* (excluding Hennepin and Ramsey counties)**



## PART I: THE MINNESOTA FARM LAND MARKET IN 1978

### A. Land Market Trends

#### Reporters' Estimates

The estimated statewide average value of farmland in Minnesota in (July) 1978 was \$889 per acre (Table 1), an increase of \$95 per acre or 12 percent over 1977. The annual increases in farmland values from 1972 to 1977 were 20, 42, 24, 27, and 19 percent, respectively (Table 2). While the 1978 increment is still notable in dollar terms, this is the smallest annual percentage rise in six years reflecting a downturn in real terms (i.e., adjusted for inflation) for the farmland market in several regions of the state and an actual decline in money terms for a few areas of southern Minnesota (see Parts III and IV). In 1978, several other counter-trends developed which are in contrast to the farmland market activity that dominated the 1972-1977 period. For example, the 1978 reported sales price per acre of good farmland changed very little over the last year, while the average price paid by expansion buyers for good land declined significantly from the 1977 level (see the next section-analysis of reported sales). Overall, farmland values have climbed up more than 3½ times since grain prices moved considerably upward in late 1972 following the Russian wheat purchases (\$889 in 1978 vs. \$248 in 1972, Table 1).

During the 1970's two distinct land market regional groupings have emerged. In general, the three eastern districts—the Northeast, East Central, and Southeast—are most strongly influenced by urban, residential, and recreational land uses, and are more dependent upon livestock agriculture than the three western districts. Throughout the 1960's and to July 1972, the largest annual percentage increases in farmland values typically occurred in these three livestock and urban-oriented districts (Table 2). Over the next three years this trend was completely reversed as estimated farmland values rose substantially in the Southwest, West Central, and Northwest districts (ranging from 19 to 53 percent each year during 1973-75).

In the three western districts cash crops dominate land use. Prices received by farmers for cash crops (corn, soybeans, wheat, barley, sugar beets) were remarkably stable until late 1972. After the Russian

Table 1: Estimated Average Value Per Acre of Farm Land by District, Minnesota, 1968-1978\*

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
-dollars per acre-							
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

\*Based on reporters' estimates of average value per acre of farm land in their area.

Table 2: Annual Percentage Changes in Estimated Farm Land Value Per Acre, by District, Minnesota 1971-1978.

District	-----Percentage Change from July to July-----						
	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
-percent-							
Southeast	11	17	33	17	27	20	16
Southwest	8	21	47	25	31	19	8
West Central	2	19	53	33	24	17	10
East Central	5	19	44	6	18	19	20
Northwest	-2	25	36	48	28	13	13
Northeast	20	51	25	13	29	33	9
Minnesota	7	20	42	24	27	19	12

grain purchases, grain prices jumped dramatically upward, to be followed by sugar beets in mid-1973. These higher crop prices were quickly capitalized into higher farmland prices. Many farmers used their record incomes to buy additional land to expand the size of their holdings, thus putting further upward pressure on farmland prices. By 1975, farmland values rose by more than the statewide average in the three western districts (25 to 48 percent) while farmland values increased by notably less than the statewide average (6 to 17 percent) in the eastern districts where livestock farming and urban, residential, and recreational land uses are prominent (Table 2).

By districts, the percentage increase in estimated farmland values for 1977-78 continue a readjustment in this regional balance that was first evident in 1976 and very pronounced in 1977. The highest percentage increases in 1978 took place in the Southeast and East Central districts (16 and 20 percent, respectively, Table 2), while in the Southwest and West Central districts where cash crops dominate, farmland values rose by one-half that much (8 and 10 percent, respectively, Table 2). The slow-down in farmland value increases in these two western districts is apparently associated with the general downward movement of cash crop prices and farm incomes over the last 2-3 years, and the smaller role played by expansion buyers in these districts when compared to previous years (see Table 13).

Farmland values in the Southwest district continue to lead the state, with an average estimated value of \$1,421 per acre (Figure 1 and Table 1). The Southwest district has maintained this top position for the past thirty years. During this period, its lead generally widened from 1945 until 1960, and then slowly narrowed to a difference of less than \$10 per acre over the Southeast by 1972. The narrowing was due primarily to the non-farm demand for land during the 60's and early 70's which was especially intense in the urbanizing corridor of the state running from St. Cloud southeast through the Twin Cities to Rochester. Starting in 1973 the Southwest's lead again lengthened as agricultural forces dominated the rural land market, 1973-1975. After 1975, stronger urban and recreational forces in the rural land market have once again narrowed the gap, due particularly to large land value increases in the counties adjacent to the Mississippi River in the Southeast district. Also, the 20 percent increment in farmland values in the East Central district for 1977-78 was substantial enough to place this district's average land value (\$498 per acre) above that found in the Northwest (\$483 per acre), thus reversing the trend of the previous two years (Table 1).

### Actual Sales

Information was received on 1149 farm sales in the first six months of 1978. The statewide average reported sales price for farmland was

Table 3: Average Reported Sales Price Per Acre of Farm Land, by District, Minnesota, 1968-1978\*

Years	District						Minn.
	South-east	South-west	West Central	East Central	North-west	North-east	
	—dollars per acre—						
1968	316	329	186	104	90	47	232
1969	341	334	194	130	121	51	238
1970	346	340	206	141	113	45	243
1971	344	343	205	150	100	44	259
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	664	321	377	210	735
1977	1216	1340	709	446	432	198	859
1978	1352	1321	908	554	504	256	980

\*Based on reported farm sales, January 1 to July 1 of each year.

\$980 per acre (Table 3). This represents a 14 percent increase over the 1977 average sales price and is consistent with both the statewide slow-down that was indicated above for estimated farmland values and an actual decline for some areas of southern Minnesota (Table 4). The regional shift in land market activity toward the more livestock, urban, and recreationally oriented eastern districts continues to be evident in the reported sales data as well. The average sales price rose by 11 percent in the Southeast district, while the reported price declined 1 percent in the Southwest (Table 4). The 11 percent increment that occurred in the Southeast returned this district to the top position in average sales price for the first time since 1973 (Table 3), another indication of the weakened agricultural forces in the 1978 rural land market in southern Minnesota. Among the five most agricultural districts (excluding the Northeast) the percentage rise was greatest in the West Central, a district whole land market is apparently recovering from the drought conditions experienced 2 years ago.

The huge percentage increases in actual sales price in the West Central and Northeast districts (28 and 29 percent, Table 4), 1977-78, can be explained in part by a disproportionately larger number of sales of high-priced land in these districts in 1978 compared to 1977. To remove the effect of this shift in the location of sales activity from lower priced to higher priced land, an adjusted sales price per acre was computed for each district to eliminate the effect of changes in the geographic distribution of acres sold between 1977 and 1978. The results, summarized in Table 5, show that the adjusted percentage changes in sales price were significantly smaller than the unadjusted changes in the West Central, Northwest, and Northeast districts (18 vs. 28 percent, 12 vs. 17 percent, and -24 vs. 29 percent, respectively). The opposite geographic shift in sales activity (from higher-priced to lower-priced land) occurred in the Southeast, Southwest, and East Central in 1978 since the adjusted percentage change in sales prices was bigger than the unadjusted change in this district (13 vs. 11 percent, 2 vs. -1 percent, and 37 vs. 24 percent, respectively, Table 5).

Table 4: Average Estimated Value Per Acre of Farm Land Compared with Prices Received in Actual Sales, by District, Minnesota, 1977-1978.

District	1977		1978		Percent Changes Over 1977	
	Estimated Value	Sales Price	Estimated Value	Sales Price	Estimated	Actual
	—dollars per acre—				—percent—	
Southeast	1027	1216	1191	1352	16	11
Southwest	1316	1340	1421	1321	8	-1
West Central	730	709	803	908	10	28
East Central	415	446	498	554	20	24
Northwest	427	432	483	504	13	17
Northeast	279	198	304	256	9	29
Minnesota	794	859	889	980	12	14

Table 5: Comparison of Average Sales Prices by District, 1977 and 1978, Adjusted to Remove the Effect of Shifts in the Geographic Distribution of Sales.

District	Average Price Per Acre From Reported Sales		Adjusted Price Per Acre*	Percent Change in Sales Prices July 1977-July 1978	
	1977	1978	1978	Reported Sales	Adjusted to 1977 Volume*
	\$	\$	\$	%	%
Southeast	1216	1352	1375	11	13
Southwest	1340	1321	1366	-1	2
West Central	709	908	835	28	18
East Central	446	554	611	24	37
Northwest	432	504	484	17	12
Northeast	198	256	151	29	-24
Minnesota	859	980	941	14	10

\*The adjusted price per acre was computed as follows: For each county, the average price per acre from reported sales in 1978 was applied to the acres sold in 1977. The results were summed for each district and divided by total acres sold in that district in 1977. The adjusted price thus eliminates the effect of changes in the geographic distribution of acres sold between 1977 and 1978.

Table 6: Estimated Number of Farm Title Transfers Per Thousand Farms, by Methods of Transfer, Year Ending February 1, Minnesota 1963-1978.

Years	Voluntary Sales	Forced Sales (Foreclosures, Tax)	Inheritance, Gifts, and all Other Transfers	Total all Classes
1963	24.1	1.9	10.1	36.1
1964	30.6	3.2	12.4	46.2
1965	29.7	2.8	10.6	43.1
1966	35.5	2.1	14.9	52.5
1967	37.5	1.4	14.2	53.1
1968	38.1	2.4	9.8	50.3
1969	33.5	2.0	11.8	47.3
1970	31.8	2.2	9.6	43.6
1971	36.1	2.2	10.4	48.7
1972	34.7	1.6	9.6	45.9
1973	42.3	2.4	11.9	56.6
1974	47.7	1.1	11.1	59.9
1975	37.4	0.3	10.0	47.6
1976	29.3	0.6	9.5	39.5
1977	31.6	0.3	9.7	41.6
1978	21.7	2.5	6.0	30.2

Source: "Farm Real Estate Market Developments", CD-83, Economic Research Service, USDA, July 1978.

## Activity in the Land Market

The U.S. Department of Agriculture has estimated that voluntary sales for the year ending February 1, 1978 numbered 21.7 per 1,000 farms in Minnesota, the lowest rate of transfers by voluntary sale since 1935 (Table 6). This represents a 31 percent decline from 1977 and is consistent with the decreased number of sales reported in this survey, particularly in the Southwest district (Table 7). The number of forced sales (foreclosures and tax delinquency) is up again to 2.5 per 1,000 farms. This figure is now close to its long-term average after dropping to record lows over the previous three years (0.3 to 0.6 per thousand, Table 6). Transfers of all types (voluntary sales, estate settlements, foreclosures, tax sales and other miscellaneous transfers) reached a record low of 30.2 per 1,000 farms in 1978, the lowest figure ever recorded for Minnesota since this data series was begun in 1926. It has truly been a hard year for farm acquisition.

Statewide, the average size of farm tract sold remained stable at 179 acres/sale when compared to last year (Table 7). Over the past six years, however, there has been a decline in the average size of tract sold. This decline has been fairly uniform in all the districts except the East Central and Northeast where expansion buyers do not dominate the land market as they do in the other four agricultural districts (see Table 13).

During the 1970's the proportion of sales involving real estate brokers or agents has generally declined in the three western cash grain districts (Table 8). Two reasons for this decline have emerged from this study. First, respondents have commented upon the growing number of auction sales in these districts. Second, the percentage of purchases for farm expansion reached record levels over this period in the Southwest, West Central, and Northwest districts (see Table 13). These purchases are typically made from neighbors and often do not involve the services of a real estate broker or agent. Broker participation, 1971-1978, increased in the urban, residential, and recreationally-oriented eastern districts (Table 8). This is probably due to the larger proportion of urban buyers who have purchased farmland in the Southeast, East Central, and Northeast districts for investment, residential, and recreational purposes. Statewide, there has been little change in broker participation in farmland sales, 1971-1978, with the exception of small increases in 1974 and 1978.



Table 7: Number of Reported Sales, Acreage of Land Sold and Average Acres Per Sales, by District, Minnesota January 1—July 1, 1976-1978.

District	No. of Sales*			Acres Sold			Acres/Sale		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
Southeast	377	324	322	64,683	44,426	50,162	172	137	156
Southwest	347	431	313	52,079	64,696	47,651	150	150	152
West Central	227	231	197	50,377	44,691	40,168	222	193	204
East Central	187	161	168	27,181	25,952	26,720	145	161	159
Northwest	132	120	127	38,202	35,351	34,586	289	295	272
Northeast	44	65	22	8,274	21,939	5,823	188	338	265
Minnesota	1,314	1,332	1,149	240,796	237,055	205,110	183	178	179

\*These sales should not be interpreted as a record of total farm land transactions for the years indicated. The majority of farm land sales occur in the first half of the calendar year, which explains the choice of the Jan. 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 above.

Table 8: Estimated Proportion of Farm Land Sales in which Brokers or Dealers Participate, Minnesota, by District, 1971-1978.

District	Sales With Broker's Services								Change 1971-1978
	1971	1972	1973	1974	1975	1976	1977	1978	
	—percent—								
Southeast	58	59	58	61	58	58	57	60	+2
Southwest	55	52	51	54	47	48	48	48	-7
West Central	55	56	54	53	52	50	50	51	-4
East Central	53	54	58	55	60	56	59	60	+7
Northwest	42	40	40	40	34	37	42	43	+1
Northeast	47	50	46	58	54	57	57	61	+14
Minnesota	52	52	51	54	51	51	52	54	+2

## B. Analysis of Reported Sales

### Reason for Sale

Retirement is the most prevalent reason for selling land in Minnesota accounting for about two-fifths of all decisions to sell in 1978 (Table 9). Over the past six years the number of sellers who left agriculture for another job has generally fallen from over 20 percent to the present 16 percent. Departures from farming are still substantial in the East Central (25%) and Northeast (32%) districts where agriculture is heavily dependent upon milk and livestock production (Table 9). Other frequently mentioned reasons for selling include death, divorce, sales for profit by farmers and investors, ill health, and financial problems. A less recurrent reason but an interesting phenomenon is the purchase of a farm followed by the re-sale of the buildings for rural residential and recreational purposes.

### Improved and Unimproved Land

Improved land (that with buildings) accounted for only 61 percent of 1978 Minnesota farm sales (Table 10). This proportion has been steadily declining since the 1960's when improved land consistently made up 80 percent or more of all sales. Among the districts, there are the two familiar regional groups. The three western cash grain districts had proportions of improved land transactions near or below the statewide average (63, 51, and 39 percent for the Southwest, West Central, and Northwest districts, Table 10). The three less agricultural eastern districts had proportion of improved land sales well above the average. This illustrates the major motivation for land purchase in the cash grain areas, which has been for farm expansion through acquisition of unimproved land. Fewer farmers have increased the size of their holding in the Southeast, East Central, and Northeast districts, and the demand for land with buildings for residential and recreational purposes has been stronger in these districts.

Prior to 1974 unimproved land prices consistently averaged 80 percent of prices paid for improved land (Table 11). In 1975 and 1976 this statewide trend was reversed and unimproved farmland sold for more than improved land. During 1975 and 1976 the absence of buildings was strongly associated with higher farmland prices in the three western cash grain districts, where farm expansion buyers placed a greater value on land without buildings. In 1977 the trend shifted and this reversal continued in 1978. Again unimproved land prices averaged substantially less than the prices paid for improved land (\$888 vs. \$1026, or 87 percent, Table 12). Among the western districts, the absence of buildings is now associated with significantly higher farmland prices in only the Northwest (Table 12), where expansion buyers still

Table 9: Reason for Selling Land, by District, Minnesota, 1978

Reason for Sales	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
				-percent-			
Death	11	22	15	8	7	5	14
Retirement	44	40	33	32	44	50	39
Left Farming	15	12	14	25	18	32	16
Moved, Still Farming	11	6	10	20	10	5	10
Other	19	22	28	14	21	9	21

Table 10: Proportion of Improved and Unimproved Land Sales, by District Minnesota, 1969, 1977 and 1978.

District	Improved Land			Unimproved Land		
	1969	1977	1978	1969	1977	1978
		-percent-			-percent-	
Southeast	83	67	68	17	33	32
Southwest	81	55	63	19	45	37
West Central	73	58	51	27	42	49
East Central	80	75	70	20	25	30
Northwest	67	37	39	33	63	61
Northeast	80	63	68	20	37	32
Minnesota	79	60	61	21	40	39

Table 11: Price Differential Between Improved and Unimproved Land Sold, Minnesota, 1968-1978.

Year	Improved Land	Unimproved Land	Difference	Price of Unimproved Land as a Percent of Price of Improved Land
		—dollars per acre—		—percent—
1968	248	166	82	67
1969	245	206	39	84
1970	254	200	54	79
1971	271	207	64	76
1972	308	236	72	77
1973	317	234	83	74
1974	454	438	16	96
1975	605	613	-8	101
1976	729	753	-24	103
1977	899	782	117	87
1978	1026	888	138	87

Table 12: Average Sales Price Per Acre of Improved and Unimproved Farm Land, by District, Minnesota, 1977 and 1978.

District	Improved Land		Unimproved Land		Price of Unimproved Land as a Percent of Price of Improved Land	
	1977	1978	1977	1978	1977	1978
	—dollars per acre—				—percent—	
Southeast	1230	1375	1167	1264	95	92
Southwest	1420	1350	1219	1259	86	93
West Central	736	910	664	904	90	99
East Central	445	562	448	533	101	95
Northwest	512	455	360	548	70	120
Northeast	192	245	212	287	110	117
Minnesota	899	1026	782	888	87	87

overwhelmingly dominate the farmland market (see Table 13). For the Southwest and Northwest districts the average sales price per acre of improved land in 1978 dropped from 1977 levels (\$1350 vs. \$1420, and \$455 vs. \$512, respectively, Table 12).

### Type of Buyer

Agricultural buyers are grouped into three classes in this survey: Operating farmers who buy complete farm units as owner-operators; farm expansion buyers, who may be operating farmers or investors increasing the size of their holdings; and agricultural investor buyers, who are nonfarmers who have bought land to be rented out or managed for farming purposes (this land is not being used to expand the size of farms already owned). In 1974 a notable shift in the proportion of farmland purchased by these three classes occurred toward the expansion buyer. Over the next two years this trend intensified so that by 1976 expansion buyers dominated the farmland market making up 65 percent of all purchases in Minnesota, while sales to both operating farmers and agricultural investors declined proportionately (Table 13). The shift was even more pronounced in the three western cash grain districts accounting for 79, 75, and 72 percent of 1976 sales in the Southwest, Northwest, and West Central, respectively. Among the districts in 1977 there was a slight shift away from expansion buying for the West Central, East Central, and Northwest districts (Table 13). In 1978, expansion buyers still dominate statewide, with 64 percent of all purchases and they were once again especially active in the East Central and Northwest districts when compared to the previous year (39 vs. 30 percent, and 83 vs. 68 percent, respectively, Table 13).

Operating farmer buyers continue to predominate in the East Central and Northeast, two districts associated with a larger proportion of part-time and "hobby" farms (Table 13). Statewide, agricultural investors held their own in 1978 after rebounding from a five-year decline in their market share of farmland purchases the previous year. By districts, investor buying remained steady or increased in all but the Northwest, a district which experienced unusually heavy investment purchases in 1977.

A slow-down in the Minnesota rural land market was evident in 1977 when investor buyers, statewide, paid less on the average than they did in 1976 (\$582 in 1977 vs. \$592 in 1976, Table 14). The 1977 issue of this report indicated that these slightly lower prices together with an increased market share for investor buyers may lead to a future softening of prices paid by other buyers as well. It did; statewide, expansion buyers paid prices which averaged only 3 percent above last year (\$1048 vs. \$1018, Table 14). District-wise, the average sales price

Table 13: Proportion of Tracts Purchased by Type of Buyer, by District, Minnesota, 1976, 1977, and 1978.

District	Operating Farmer Buyer (Sole Tract)			Farm Expansion Buyer (Operator or Investor)			Agricultural Investor Buyer (Sole Tract)		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
	--percent--								
Southeast	22	20	20	64	63	61	14	18	19
Southwest	12	11	13	79	77	74	9	11	13
West Central	18	23	24	72	67	65	10	10	11
East Central	49	54	45	36	30	39	15	16	16
Northwest	15	12	5	75	68	83	11	20	13
Northeast	70	40	41	14	32	23	16	29	36
Minnesota	23	22	21	65	63	64	12	15	15

Table 14: Average Sales Price Per Acre by Type of Buyer, by District, Minnesota, 1976, 1977, and 1978.

District	Operating Farmer			Expansion Buyer			Investor Buyer (Agricultural)		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
	--dollars per acre--								
Southeast	963	1269	1262	993	1280	1433	737	1023	1174
Southwest	894	1117	1231	1187	1392	1373	833	1160	1138
West Central	607	649	821	686	743	954	624	667	803
East Central	300	460	511	366	463	654	298	364	411
Northwest	305	449	436	425	536	526	275	264	433
Northeast	213	233	293	206	216	236	204	135	212
Minnesota	569	694	858	831	1018	1048	592	582	843

negotiated by expansion buyers declined in the Southwest and Northwest, while operating farmers paid less in the Southeast and Northwest (Table 14). Expansion buyers continue to lead all other buyers in average price paid in 1978, both statewide and in all districts except the Northeast. However, the wide price differentials of previous years in the cash grain areas are narrowing, particularly for the Southwest and Northwest districts. Growing price differentials between expansion purchases and other farmland sales are now found in the livestock and urban-oriented Southeast and East Central districts (Table 14).

## Land and Building Quality

Land of good quality increased in price by only 2 percent over 1977, from \$1187 to \$1213 per acre while land of average and poor quality rose in price to \$939 and \$613 per acre, respectively (Table 15). From 1974 to 1977, good quality land, statewide, consistently sold for more than twice the price of poor quality land. This market trend shifted in 1978 as both average and poor quality land experienced much larger percentage increases in price per acre than did land rated good quality (15 and 40 percent increases, respectively, Table 15). These relative changes in sales price among the various land quality categories reflect the overall slow-down and decline in the better quality land areas of the state—namely, in the southwestern and south-central counties of Minnesota.

During the 1975-1977 period farm expansion buyers paid substantially more than other buyers for all land, regardless of its quality. In 1978 this market trend started to revert to its pre-1975 situation when agricultural investors consistently outbid other buyers for land of good and average quality. The highest prices for good quality land were offered by investor buyers in 1978 (\$1336 per acre, Table 16) while expansion buyers of good land paid lower prices in 1978 than they did the previous year (\$1232 vs. \$1335 per acre). Agricultural investors were also very active buyers of poor quality land in 1978 as they both paid considerably more for it and increased their proportion of purchases when compared to their 1977 market behavior (\$611 vs. \$252 per acre, and 29 vs. 18 percent, Table 16). Operating farmers were the most active as buyers of land rated average in quality; average quality land constituted 56 percent of their purchases and the average price paid for it was 36 percent above last year's figure (\$872 vs. \$643 per acre, Table 16).

Before 1974, land without buildings consistently sold for less than land with buildings, in spite of their quality. This trend was altered in 1974 and further intensified in 1975 and 1976 when land without buildings sold for notably more than land with either poor or average quality buildings. As mentioned previously, this was chiefly due to the dominance of expansion buyers in the land market who placed a higher value on land without buildings than did other buyers. In 1977, this trend shifted direction toward the pre-1974 price pattern, and this trend strengthened in 1978. Land without buildings again sells for notably less than land with poor and average quality buildings (\$886 vs. \$959 and \$930 per acre, Table 17). Farm expansion buyers con-

Table 15: Proportion of Sales and Price Paid Per Acre for Land of Various Quality, Minnesota, 1976, 1977, and 1978.

Land Quality	Proportions			Price Per Acre			Change in Price	
	1976	1977	1978	1976	1977	1978	1976-77	1977-78
	--percent--			--dollars per acre--			--percent--	
Good	39	38	36	941	1187	1213	26	2
Average	46	48	47	655	813	939	24	15
Poor	15	14	17	449	438	613	-2	40
All	100	100	100	735	859	980	17	14

Table 16: Proportion of Purchases and Price Paid Per Acre by Type of Buyer for Land of Various Quality, Minnesota, 1977 and 1978.

Type of Buyer	Land Quality											
	Good				Average				Poor			
	1977		1978		1977		1978		1977		1978	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
Operating Farmer	40	856	32	1055	47	643	56	872	13	411	12	470
Expansion Buyer	40	1335	41	1232	46	942	44	1005	14	546	15	665
Agricultural Investor	24	1075	22	1336	58	642	50	782	18	252	29	611
All	38	1187	36	1213	48	813	47	939	14	438	16	613

Table 17: Proportion of Purchases and Price Paid Per Acre by Type of Buyer for Land with Various Quality of Buildings, Minnesota, 1978.

Type of Buyer	Building Quality									
	Good		Average		Poor		None			
	%	\$	%	\$	%	\$	%	\$		
Operating Farmer	39	1011	34	785	15	756	12	721		
Expansion Buyer	12	1364	19	1062	20	1030	49	923		
Agricultural Investor	14	1070	20	811	23	802	42	793		
All	18	1192	22	930	19	959	40	886		

tinued to pay more than did other buyers regardless of building quality. The significance of building quality still varies widely among classes of buyers when proportion of purchases is considered. While 73 percent of purchases by operating farmers included buildings of good or average quality, only 31 and 34 percent of purchases by expansion buyers and investors, respectively, had average or better buildings (Table 17).



## Method of Financing

Use of contracts for deed (or land contracts) to finance Minnesota farmland transfers increased gradually from the mid-1950's to the mid-1970's, reaching an all time high in 1974 of 60 percent of purchases (Table 18). Mortgage sales dropped to 24 percent by 1974, the lowest proportion ever reported in this survey. Since 1974 mortgage financing has risen statewide (to 29 percent in 1978) while contract sales have fallen to 57 percent and cash sales have declined to 14 percent (Table 18). Among the districts the proportion of purchases involving contracts for deed jumped significantly in the Southeast and Northeast in 1978 while falling in the other four districts.

Prior to 1975 the highest prices per acre, statewide, were consistently paid in sales financed by contract for deed. This resulted from the heavy use of contracts in areas of higher priced lands (the Southeast and Southwest districts) due probably to the tax advantage to sellers achieved by spreading capital gains over a period of years. In 1975, cash sales brought the top price per acre as greater agricultural incomes over the 1973-75 period apparently enabled expansion buyers financing with cash in the Southwest and Northwest districts to outbid other buyers. The higher prices offered by cash buyers in these districts evidently outweighed any tax advantage to sellers from the use of contracts for deed. The general downward movement of cash crop prices over the last three years has returned cash purchases to their pre-1975 position, below mortgage and contract purchases (Table 19). In 1978 contract for deed sales were again associated with the highest prices per acre, statewide, (\$995 vs. \$966 and \$956 per acre, Table 19).

For the districts the pattern of prices by method of financing varies much more widely. Contract for deed sales lead in the Southeast and West Central, mortgage financing is on top in the Southwest and East Central, and cash purchases are ahead in the Northwest and Northeast (Table 19). The average prices paid per acre dropped for both cash and contract purchases, 1977-78, in the Southwest while mortgage sales prices declined in the Southeast district.

The method of financing is related to the quality of land and to price paid per acre and proportion of sales in Table 20. Before 1974, the highest prices paid for good and average quality land were typically associated with sales financed by contract for deed. In 1975, cash buyers

Table 18: Proportion of Farm Sales by Method of Financing, By District, Minnesota, 1964, 1974-1978.

Method of Financing	District						Minn.
	South-east	South-west	West Central	East Central	North-west	North-east	
--percent--							
<u>Cash</u>							
1964	19	17	16	30	24	36	20
1974	12	15	13	24	22	28	16
1975	12	16	13	15	18	30	15
1976	12	16	15	23	18	16	16
1977	16	15	16	17	14	19	16
1978	13	15	9	15	19	18	14
<u>Mortgage</u>							
1964	29	42	46	30	31	37	36
1974	19	26	26	27	24	26	24
1975	28	27	24	36	30	25	28
1976	21	31	23	28	33	34	26
1977	27	29	23	29	27	38	28
1978	17	31	36	38	32	18	29
<u>Contract for Deed</u>							
1964	52	41	38	40	45	27	44
1974	68	59	61	49	54	47	60
1975	60	58	63	49	52	45	57
1976	68	54	62	49	50	50	58
1977	57	56	61	53	59	44	56
1978	70	53	55	47	49	64	57

Table 19: Average Sales Price Per Acre of Farm Land by Method of Financing, by District, Minnesota, 1976, 1977, and 1978.

Method of Financing	District						Minn.
	South-east	South-west	West Central	East Central	North-west	North-east	
--dollars per acre--							
<u>Cash</u>							
1976	919	1131	659	286	355	127	719
1977	1066	1417	586	327	300	207	820
1978	1323	1279	797	396	547	314	956
<u>Mortgage</u>							
1976	911	1098	659	347	407	210	740
1977	1358	1345	643	436	394	218	939
1978	1330	1345	924	601	498	297	966
<u>Contract for Deed</u>							
1976	934	1111	668	319	369	246	736
1977	1217	1313	759	468	471	181	838
1978	1353	1299	930	554	490	236	995

paid more for land rated good and average in quality than did other buyers and this trend continued for average quality land in 1976. For 1978, the highest prices paid for average quality land were again associated with contract for deed sales (\$979 vs. \$907 and \$910 per acre, Table 20). However, cash buyers offered higher prices for good quality land than did other buyers (\$1293 vs. \$1118 and \$1235 per acre). Mortgage financed buyers paid less for good quality land in 1978 than they did in 1977 (\$1118 vs. \$1334 per acre, Table 20). Apparently mortgage lenders are becoming more cautious after their cooperation in financing the highest priced land sales in 1977.

Table 20: Price Paid Per Acre and Proportion of Sales, by Method of Financing and Quality of Land, Minnesota, 1977 and 1978.

Land Quality Class	Method of Financing							
	Cash		Mortgage		Contract for Deed		All Sales	
	1977	1978	1977	1978	1977	1978	1977	1978
Good								
\$ per acre	1271	1293	1334	1118	1108	1235	1187	1213
% of Sales	33	29	36	38	40	37	38	36
Average								
\$ per acre	720	910	850	907	816	979	813	939
% of Sales	49	44	48	49	47	48	48	47
Poor								
\$ per acre	487	614	493	700	387	579	438	613
% of Sales	18	26	16	13	13	15	14	17
All Grades								
\$ per acre	820	956	939	966	838	995	859	980
% of Sales	100	100	100	100	100	100	100	100

## Distance of Buyer from Tract purchased

During 1975-1976, the Minnesota farmland market, always distinctly local in character, became even more localized due to heavy expansion buying in those years. Beginning in 1975, the median distance of buyer from purchased tract declined, statewide, from 5 to 4 miles and this trend continued into 1976. By 1976, 69 percent of all buyers lived less than 10 miles from their purchased tract, and over 50 percent less than 5 miles (Table 21). In 1977 this trend shifted direction and continued into 1978 as the median distance, statewide, rose again to 5 miles. The proportion of purchases 10-49 miles from the buyer's residence increased noticeably, 1977-1978, for the state as a whole (17 to 21 percent, Table 21). This increase was particularly evident in the three western cash crop districts (12 to 17 percent, 14 to 23 percent, and 21 to 24 percent for the Southwest, West Central, and Northwest, respectively).

Finally, in the two least agricultural districts where expansion buyers do not dominate, the Northeast and East Central (see Table 13), the farmland market does not follow this localized norm. In the Northeast, 68 percent of the buyers lived over 10 miles from the purchased tract while 27 percent lived 300 or more miles away (Table 21). The East Central land market, however, does appear to be more local when contrasted with past years. Previously, more than 60 percent of the buyers resided over 10 miles away, but now only 52 percent do. Also, the median distance has consistently dropped over the past few years from 40 miles in 1970 to 10 miles in 1978 (Table 21).

Table 21: Classification of Farm Land Sales by Distance of Buyer's Residence from Tract, by District, Minnesota 1976, 1977 and 1978.

Distance of Buyer's Residence from Tract Purchased	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
	--percent--						
<u>Less than 2 miles</u>							
1976	28	27	20	22	25	7	25
1977	23	23	19	16	23	17	21
1978	20	30	22	19	16	18	22
<u>2-4 miles</u>							
1976	23	36	29	17	24	7	26
1977	33	39	25	10	18	11	28
1978	26	33	28	15	29	14	27
<u>5-9 miles</u>							
1976	18	18	19	11	22	13	18
1977	13	17	27	19	16	11	18
1978	21	14	16	14	21	0	17
<u>10-49 miles</u>							
1976	19	14	15	22	17	27	17
1977	20	12	14	25	21	28	17
1978	21	17	23	26	24	18	21
<u>50-299 miles</u>							
1976	9	3	14	20	8	25	10
1977	7	8	13	21	13	17	11
1978	8	4	9	21	4	23	9
<u>300 miles &amp; over</u>							
1976	2	2	3	8	2	20	4
1977	5	1	2	10	9	16	5
1978	4	1	3	5	6	27	4
<u>Median Distance in Miles</u>							
1976	4	3	5	9	5	28	4
1977	4	3	5	10	6	15	5
1978	5	3	5	10	5	65	5

## PART II: THE FARMLAND MARKET IN THE RED RIVER VALLEY

The Northwest district is sharply divided into two parts by soil differences. The Red River Valley, comprising the western part of the district, has fertile soil and relatively large-scale farming. The non-Valley Comparison Area to the East contrasts sharply in soil fertility, type of farming, and prices paid for land (Figure 2)\*.

During the 1973-76 period, the Red River Valley was the most active part of the Minnesota farmland market, consistently reporting the highest annual percentage increases in sales prices. In the three years from July 1973 to 1976 the average price paid per acre climbed from \$201 to \$733, at annual rates of increase of 79, 49 and 37 percent, respectively. In both 1977 and 1978 this rate of increase slowed dramatically, to 6 and 9 percent increments (Table 22). The average sales price for Red River Valley farmland stands at \$849 per acre for 1978. The number of reported farm sales in the Valley picked up substantially in 1978, after dropping off in 1977 (65 vs. 37 sales, Table 22). In the Non-Valley Comparison Area the average price paid per acre rose 26 percent over 1977, going from \$306 to \$385 per acre, while the number of sales remained about the same (Table 22).

The Red River Valley continues to lead all areas of the state in the proportion of sales of unimproved land, with 69 percent of the 1978 farm sales comprising land without buildings (Table 23). From 1974 to 1976 unimproved land sold for more per acre than improved land (with buildings). This was due to the extreme dominance of expansion buyers in the Valley who placed a greater value on land without buildings than did other buyers. In 1977 expansion buyers played a somewhat smaller role compared to previous years in the Red River Valley land market and this was reflected by improved land selling for slightly more than unimproved land (\$790 vs. \$767 per acre, Table 23).

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\*While most of the area designated as a "non-valley comparison area" lies within the drainage basin of the Red River and in this sense is within the Red River Valley broadly defined, the term Red River Valley is used here in a narrower sense to describe the much higher valued lands of the Red River Valley Lake Plain.

Figure 2: The Red River Valley and Comparison Area

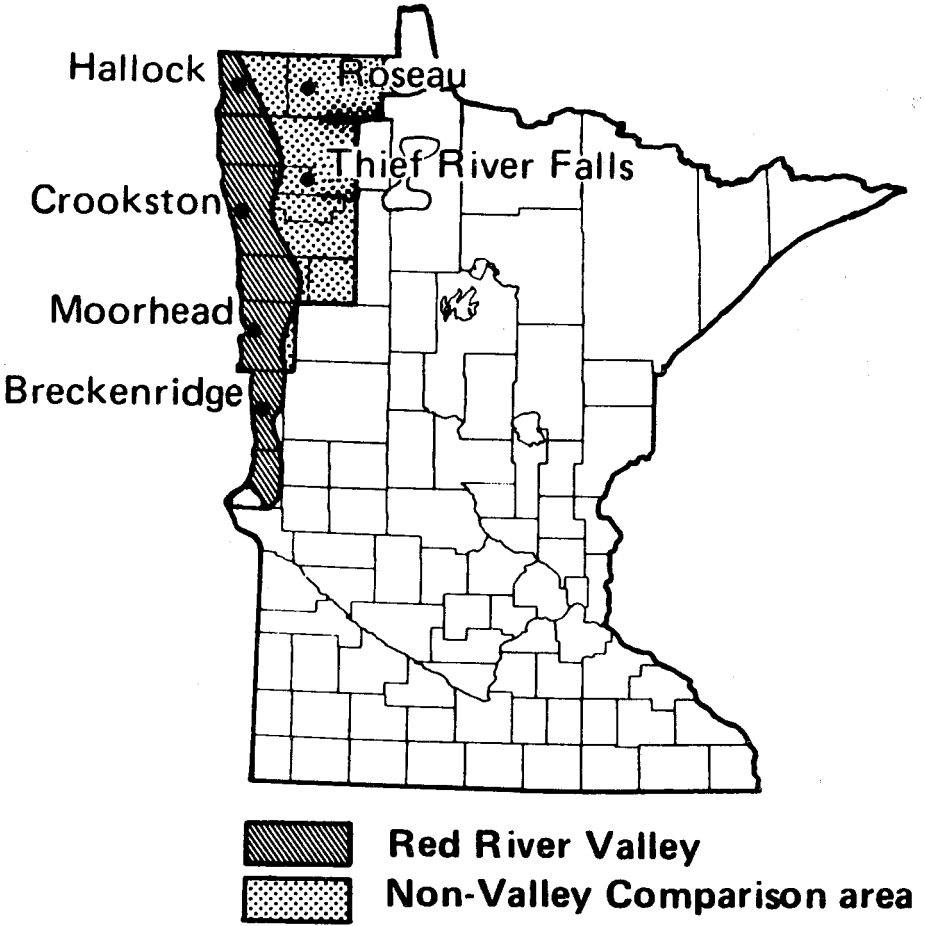


Table 22: Analysis of Reported Farm Sales in the Red River Valley and Non-Valley Areas, Northwest District, Minnesota, 1976, 1977, and 1978.

Item	Red River Valley			Non-Valley Area		
	1976	1977	1978	1976	1977	1978
Number of Sales (Jan.-June)	54	37	65	88	75	77
Average Size of Tract (Acres)	216	284	270	325	287	290
Average Sales Price Per Acre (dollars)	733	780	849	279	306	385
Change in Sales Price over preceding year (percent)	37	6	9	23	10	26
Standard Deviation of Sales Price* (dollars)	348	313	291	112	165	159
Coefficient of Variation* (percent)	47	40	34	40	54	41

\*See Statistical Appendix

Table 23: Proportion of Sales and Average Sales Price Per Acre of Improved and Unimproved Land in the Red River Valley and Non-Valley Comparison Area, Minnesota, 1975-1978.

Area and Year	Percent of Sales		Price Per Acre		Price of Unimproved Land as a Percent of Price of Improved Land
	Improved	Unimproved	Improved	Unimproved	
Red River Valley	%	%	\$	\$	%
1975	29	71	487	559	115
1976	33	67	677	769	114
1977	30	70	790	767	97
1978	31	69	729	901	124
Non-Valley Comparison Area					
1975	55	45	233	213	91
1976	53	47	281	275	98
1977	37	63	345	278	81
1978	45	55	402	364	91



For 1978, purchases by expansion buyers increased with the resultant price of unimproved land once again above that of improved land (\$901 vs. \$729 per acre). In fact, the average sales price of improved Valley land declined from its 1977 level, from \$790 to \$729 per acre (Table 23). In the Non Valley Comparison Area, the proportion of sales of unimproved land exceeded improved land sales for the first time in 1977 and this continued in 1978. Improved land continues to sell for more than the average price paid for unimproved land, (\$402 vs. \$364 per acre, Table 23), but the difference narrowed appreciably over the last year.

Expansion buyers overwhelmingly dominated the land market in both the Red River Valley and Non-Valley Comparison Area in 1978. Farm expansion buyers accounted for 95 percent of Valley purchases and 74 percent of the Non-Valley buying in 1978 (Table 24). Expansion buyers continued to pay higher prices than other buyers in the Red River Valley (\$853 vs. \$770 and \$750 per acre) but in the Non-Valley Area operating farmers in a small number of sales again offered the highest prices per acre after being outbid by expansion buyers in 1975 and 1976 (Table 24). Although the proportion of purchases by investor buyers was down in 1978 when compared to 1977 in both areas of the Northwest district, the average prices paid by investors jumped by 50 percent in the Valley and over 100 percent in the Non-Valley Area (\$499 to \$750 per acre, and \$205 to \$422 per acre, respectively, Table 24). In contrast, the average prices paid per acre by expansion buyers rose very little in the Valley (\$831 to \$853) and not at all in the Non-Valley Area (\$364 vs. \$363).

Good and average quality land constituted 90 percent of all Valley sales in 1978, while accounting for only 79 percent of land sold in the Non-Valley Comparison Area (Table 25). These quality categories are relative terms, used to compare land quality within an area not between areas. The sharp contrast in land quality between the Valley and Non-Valley Comparison Area is obvious, with Valley land in 1977 selling for two and up to three times the price of Non-Valley land in the various quality categories (Table 25). For 1978 the price differentials between the two areas of the Northwest district narrowed significantly from 1977 levels in all three quality categories. Compared to 1977, the average price paid per acre for both good and poor quality land dropped notably in the Red River Valley (\$989 vs. \$1058, and \$368 vs. \$558, Table 25).

Use of contract for deed financing had generally been rising in both areas of the Northwest during the 1970's associated with the much higher-priced land sales occurring in this district. This trend continued for the Non-Valley Comparison Area in 1978 with contract for deed

Table 24: Proportion of Sales and Price Paid Per Acre by Type of Buyer, Red River Valley and Non-Valley Comparison Area, Minnesota 1976, 1977 and 1978.

Type of Buyer	Red River Valley						Non-Valley Area					
	1976		1977		1978		1976		1977		1978	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
Operating Farmer	9	538	6	558	3	770	16	245	15	424	6	440
Expansion Buyer	89	743	86	831	95	853	70	304	62	364	74	363
Investor (Agricultural)	2	2000	8	499	2	750	14	240	23	205	19	422

Table 25: Proportion of Sales and Price Paid Per Acre By Quality of Land, Red River Valley and Non-Valley Comparison Area, Minnesota, 1977-1978.

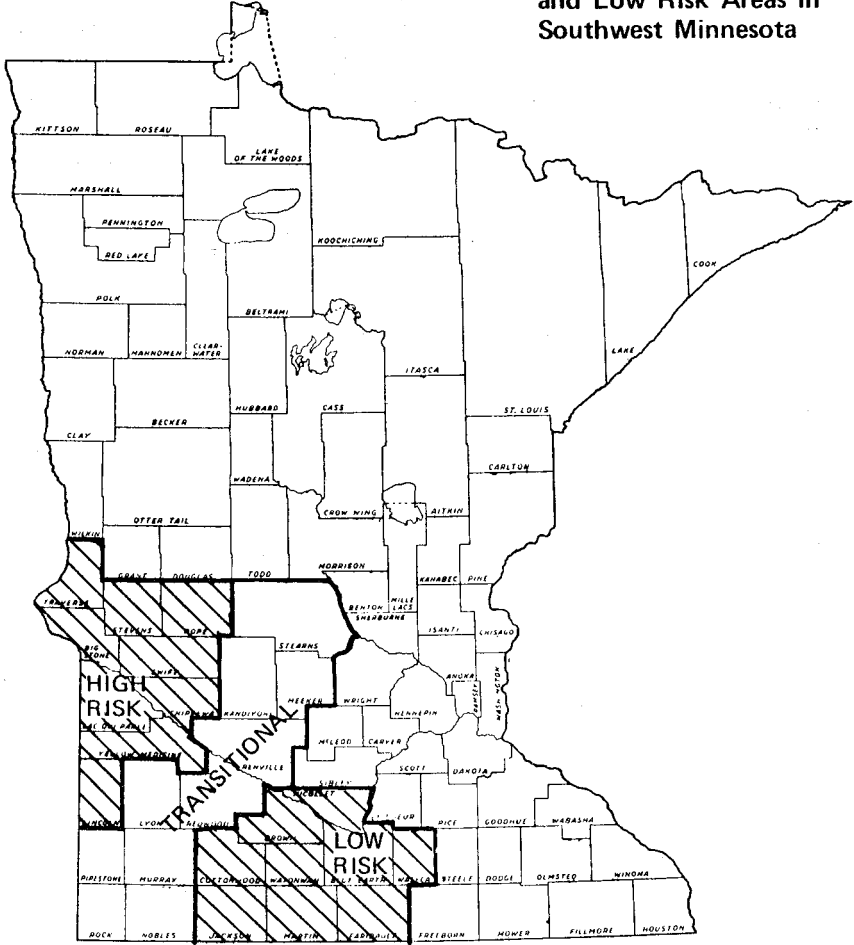
Land Quality	Red River Valley				Non-Valley Area			
	1977		1978		1977		1978	
	%	\$	%	\$	%	\$	%	\$
Good	56	1058	68	989	35	454	27	568
Average	36	633	22	737	44	325	52	376
Poor	8	558	10	368	21	178	21	244

sales making up 58 percent of this area's farmland sales (Table 26). In the Red River Valley the proportion of sales involving contract for deed financing dropped enormously from 65 percent in 1977 to only 29 percent in 1978. Use of mortgage financing climbed considerably to account for 51 percent of Valley purchases (Table 26). This pattern of financing was typically found in this region prior to 1973 when mortgage sales were much more frequent in the Red River Valley than in the rest of the state. Not only did the proportion of contract for deed sales fall in the Valley, but the average price paid per acre in these transactions also declined from 1977 (\$804 to \$723 per acre in 1978, Table 26).

Table 26: Proportion of Sales and Price Paid Per Acre by Method of Finance, Red River Valley and Non-Valley Comparison Area, Minnesota, 1977-1978.

Method of Financing	Red River Valley				Non-Valley Area			
	1977		1978		1977		1978	
	%	\$	%	\$	%	\$	%	\$
Cash	6	788	20	940	13	258	15	269
Mortgage	29	836	51	894	30	333	27	350
Contract for Deed	65	804	29	723	57	305	58	410

Figure 3: High Risk, Transitional and Low Risk Areas in Southwest Minnesota



### PART III: THE FARMLAND MARKET IN SOUTHWESTERN MINNESOTA

The Southwestern quarter of Minnesota contains most of the best farmland in the state, but it also has some of the areas more vulnerable to climatic risk. In 1976 parts of western Minnesota experienced the driest summer ever recorded. To test the impact of this drought, the Southwestern quarter of the state was divided into three areas on the basis of variability in crop yields over time (Figure 3). The "high risk" farming area comprises a group of nine counties in west central Minnesota with large crop yield fluctuations from year to year due to occasionally severe weather conditions (principally drought). In contrast, the "low risk" farming area consists of a fairly well-defined block of nine counties in south central Minnesota containing the highest priced farmland in the state. Linking these two extremes is the "transitional belt" of counties where land is of roughly the same quality found in the high risk area but climatic risks are less.

The difference between the three areas is obvious when comparing land price levels over the last four years (Table 27). Farmland in the low-risk counties averaged considerably more than double the price paid for land in the high-risk group from 1974 to 1976. During 1977 the differential between the two areas approached three-fold, with land prices increasing 21 percent in the low-risk block while rising only 1 percent in the high-risk counties. Then in 1978 this regional trend reversed as farmland prices fell in the low-risk area by 6 percent while the average sales price climbed 26 percent in the high-risk counties. This substantial increment in the high-risk counties indicates that this area has rebounded from the severe drought conditions experienced 2 and 3 years ago. Farmland price increases in the transitional belt have slowed at a regular rate over the last three years consistent with the decline in cash crop prices over the same period, (30, 20, and 10 percent, respectively, Table 27).

Expansion farmer buyers generally predominated in all three areas over the 1975-1977 period, both as to proportion of purchases and average price paid per acre (Table 28). The dominance of the expansion buyer shifted in 1978 regarding the highest prices paid for farmland. Agricultural investors negotiated higher purchase prices in the high-risk area (\$848 per acre) while operating farmers offered more in the low-risk counties (\$814 per acre). Expansion purchases continue to make-up the great majority of farm sales in all three areas, although this proportion declined in the transitional belt, 1977-1978 (69 to 63

Table 27: Analysis of Reported Farm Sales in the High Risk, Transition and Low Risk Areas, Minnesota 1975-1978.

Item	High Risk Area				Transition Area				Low Risk Area			
	1975	1976	1977	1978	1975	1976	1977	1978	1975	1976	1977	1978
Number of Sales (Jan.-June)	169	162	186	131	259	223	265	216	181	159	198	123
Average Size of Tract (acres)	205	236	195	188	175	161	157	150	139	135	133	130
Average Sales Price Per Acre (dollars)	480	638	644	810	653	852	1025	1130	1145	1495	1812	1699
Change in Sales Price over Preceding Year (percent)	48	33	1	26	23	30	20	10	44	31	21	-6
Standard Deviation of Sales* Price (dollars)	230	228	261	321	261	333	380	407	359	486	574	452
Coefficient of Variation* (percent)	48	36	41	40	40	39	37	36	31	33	32	27

\*See Statistical Appendix

Table 28: Proportion of Sales and Average Price Paid Per Acre, by Type of Buyer in the High Risk, Transitional and Low Risk Areas, Minnesota, 1975-1978.

Type of Buyer and Year	High Risk Area		Transitional Area		Low Risk Area	
	%	\$	%	\$	%	\$
<b>Operating Farmer</b>						
1975	22	440	23	578	8	1061
1976	16	619	18	788	10	1106
1977	19	494	17	953	10	1694
1978	19	730	21	1130	7	1814
<b>Expansion Buyer</b>						
1975	61	550	62	702	88	1170
1976	70	625	71	892	86	1558
1977	70	708	69	1046	81	1831
1978	71	828	63	1205	84	1725
<b>Agricultural Investor</b>						
1975	17	346	15	611	4	860
1976	14	731	11	682	4	1100
1977	11	540	14	1017	9	1726
1978	10	848	16	919	9	1436

percent, Table 28). Compared to 1977, the average price paid by agricultural investors dropped in the transitional area (\$1017 to \$919 per acre) and low-risk counties (\$1726 to \$1436 per acre) while expansion buyers paid lower prices in the low-risk area (\$1725 in 1978 vs. \$1831 in 1977, Table 28). Only operating farmers bid higher average prices in all three areas, ranging from 7 to 48 percent above last year's levels. Apparently, operating farmer buyers have access to more liberal credit arrangements than other buyers or are placing a heavier weight on the non-monetary benefits of agriculture.

The relative differences between average prices paid in the low-risk counties and in the other two areas for all qualities of land had been growing wider over the 1974-1977 period. During these four years land rated poor in quality in the low-risk area consistently sold for more per acre than land judged good in the high-risk area and this difference widened even more sharply in 1976 and 1977. To illustrate, the sales price per acre of poor land in the low-risk area exceeded the price of good land in the high-risk area by only 2 percent in 1975 (\$704 over \$692 per acre, Table 29) but in 1976 this differential was 38 percent, and in 1977, 45 percent (\$1221 over \$841 per acre, Table 29). In addition, the price of poor quality land in the low-risk area surpassed the price of average quality "transitional" land in 1975 and was about to overtake the price paid for good quality land in the transitional belt in 1977 (\$1221 vs. \$1198 per acre, Table 29).

This widening regional trend narrowed in 1978 as the average price paid for poor quality land in the low-risk counties dropped (from \$1221 to \$1198 per acre, Table 29) while the sales prices of all qualities of land increased in the other two areas. As a result the sales price of poor quality "low-risk" land exceeds the price of good "high-risk" land by only 19 percent and the price of average quality "transitional" land by just 7 percent (\$1198 vs. \$1007 and \$1117 per acre, respectively, Table 29). For the low risk counties the average price paid for good quality land declined notably from its 1977 level (\$2058 to \$1936 per acre), and the proportion of sales shifted significantly away from good to poor quality land purchases (Table 29).

Table 29: Proportion of Sales and Price Paid Per Acre, by Quality of Land in the High Risk, Transitional and Low Risk Areas, Minnesota, 1975-1978.

Quality of Land and Year	High Risk Area		Transitional Area		Low Risk Area	
	%	\$	%	\$	%	\$
<b>Good</b>						
1975	36	692	37	748	42	1313
1976	37	710	39	1013	48	1775
1977	28	841	42	1237	51	2058
1978	37	1007	36	1337	39	1936
<b>Average</b>						
1975	46	447	47	654	46	1117
1976	47	619	44	829	42	1332
1977	50	660	40	1004	41	1604
1978	41	781	47	1117	41	1754
<b>Poor</b>						
1975	18	249	16	429	11	704
1976	16	427	17	593	10	982
1977	22	398	18	645	8	1221
1978	22	546	17	784	20	1198

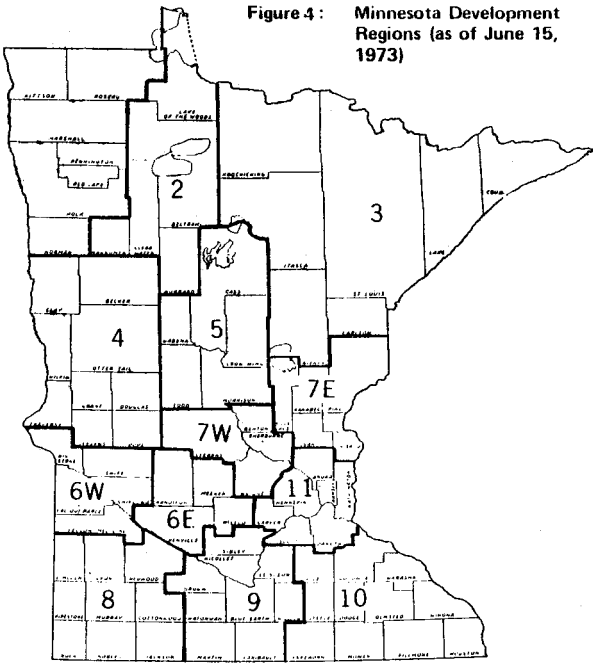


Methods of financing land purchases have shifted back and forth over the past four years in Southwestern Minnesota. For example, cash purchases in the low-risk area stood at 25 percent in 1975, a year of record farm incomes and expansion buying, then fell to lower levels over the next three years (Table 30). In 1978, the high-risk area experienced a huge increase in mortgage-financed sales (22 to 35 percent) while both cash and contract for deed purchases declined—a situation that is the reverse of the land financing pattern during the two previous years. For the low-risk counties the average price paid under all three methods of financing dropped in 1978 with cash and mortgage sales prices both declining 13 percent from 1977 but contract sales only 4 percent (Table 30).

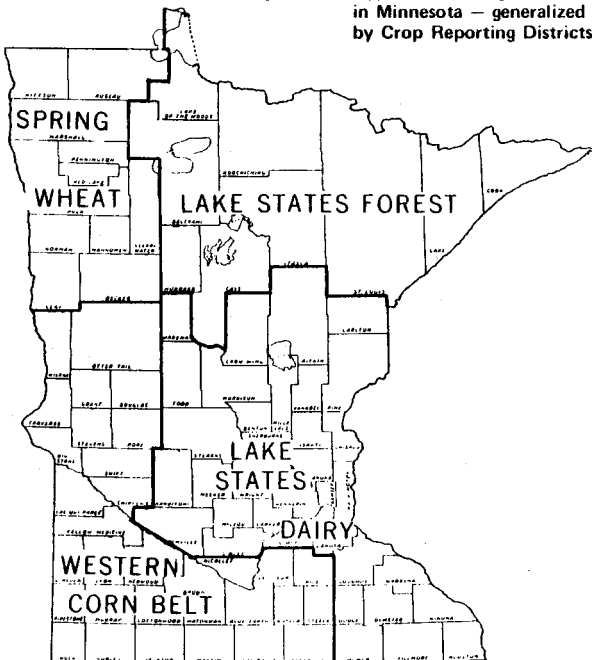
Table 30: Proportion of Sales and Price Paid Per Acre, by Method of Finance in High Risk, Transitional and Low Risk Areas, Minnesota 1975-1978.

Method of Financing and Year	High Risk Area		Transitional Area		Low Risk Area	
	%	\$	%	\$	%	\$
<b>Cash</b>						
1975	14	452	8	658	25	1216
1976	12	555	15	935	14	1486
1977	15	494	14	985	17	1831
1978	9	562	10	1074	20	1587
<b>Mortgage</b>						
1975	32	560	25	639	28	1254
1976	28	670	30	847	34	1471
1977	22	630	31	1034	29	1927
1978	35	892	33	1169	26	1669
<b>Contract for Deed</b>						
1975	54	434	67	657	47	1074
1976	60	643	55	827	52	1533
1977	63	681	55	1034	54	1815
1978	56	796	57	1111	54	1741

**Figure 4: Minnesota Development Regions (as of June 15, 1973)**



**Figure 5: Types of Farming Areas in Minnesota — generalized by Crop Reporting Districts**



## PART IV DEFLATED FARMLAND PRICES AND LONG-TERM MARKET TRENDS

The State of Minnesota in 1967 recognized the need for a common set of regional delineations (at the sub-state level) in order to facilitate developmental planning, state and federal program implementation, state agency administration, and local inter-governmental cooperation. Prior to 1967 over 160 mostly different regional delineations existed in Minnesota. For example, there were 4 political regions, 10 economic regions, 24 federal agency regions, and 88 state agency regions. Through research efforts at the University of Minnesota and the State Planning Agency, and as a result of federal, state, and local government decisions, a common set of 13 development regions emerged. The present development regions are illustrated in Figure 4, and the average reported sales price for farm land in each of these regions, 1971-1978, is presented in Table 31.

The most agricultural areas of the state, where cash crops dominate land use, embrace Regions 1, 4, 6W, 8, and 9 in western and southwestern Minnesota. These five regions correspond closely to the "spring wheat" and "western corn belt" farming areas of Minnesota as delineated by the U.S. Department of Agriculture in Figure 5. Regions 5, 6E, 7W, 7E, 10 and 11 fit fairly well into the "lake states dairy" area. Prior to 1973 the largest annual percentage increases in farmland prices typically occurred in these six dairy and urban-oriented regions and in the two recreation-oriented regions of northeast Minnesota (Regions 2 and 3). To illustrate, for the two year period 1971-73 farmland prices rose by 17 to 223 percent in these regions while they increased at a slower rate in the five cash crop regions (8 to 34 percent, Table 31). Then from 1973 to 1975 the average sales price of farmland more than doubled in each of the five cash crop regions, while the other eight dairy, urban, and recreation-oriented regions experienced much smaller increments (48 to 85 percent, Table 31). The greater rates of land price increases in the cash crop regions for 1973-75 reflected the record cash crop prices and incomes received by farmers during this period. Thus, one could speak of strong agricultural forces dominating the Minnesota rural land market 1973-1975, in contrast to the strong urban forces predominant in previous years.

Table 31: Average Reported Sales Price Per Acre of Farm Land, by Economic Development Regions, 1971-1978.

Economic Development Region	1971	1972	1973	1974	1975	1976	1977	1978
	—dollars per acre—							
1	93	105	114	199	344	330	367	433
2	53	83	108	141	206	250	277	321
3	39	81	126	148	157	162	179	280
4	176	170	192	317	446	542	558	853
5	93	127	164	197	259	235	297	478
6W	216	238	233	341	537	696	746	906
6E	319	361	374	569	691	923	1027	1171
7W	230	290	291	430	472	596	778	927
7E	228	216	203	254	316	455	473	575
8	298	323	354	534	710	906	1058	1199
9	400	461	534	829	1115	1464	1835	1682
10	314	368	411	565	753	915	1197	1373
11	465	586	698	882	1035	1150	1437	1396
MN	259	293	298	450	607	735	859	980

From 1976-1978 a readjustment process has been occurring in the relative strength of urban and agricultural forces in the rural land market. During this period there has been a general downward movement in cash crop prices and farm income, accompanied by severe drought conditions in parts of western Minnesota. Consequently the rates of farmland price increases slowed significantly in all five cash crop regions over 1976-78 period when compared to their 1973-75 increments (Table 32). This slow-down was particularly evident in Regions 1, 8, and 9 with actual declines in Region 1 in 1976 (-4 percent) and Region 9 in 1978 (-8 percent, Table 32). In the other two western cash crop regions, 4 and 6W, the rural land market rebounded substantially from the previous drought-stricken year.

Over the 1976-78 period, the larger annual percentage increases are once again found in the dairy, residential, and recreational-oriented regions (Table 32). For 1976-77 the rates of increase were greatest in Regions 7W and 10, which embrace the urbanizing corridor of the state running from St. Cloud southeast through the Twin Cities to Rochester. For 1977-78 the rate of increase was greatest for Region 5 which lies just north of Region 7W in the heart of the recreational areas of northern Minnesota (Table 32). Among the three southern regions, the largest increase in farmland prices, 1977-78, occurred again in Region 10 particularly in the counties adjacent to the Mississippi River in southeastern Minnesota. The average price per acre of farmland dropped in Region 11 which comprises the Twin Cities Metropolitan Area (Table 32). Thus, the two regions with the highest farmland prices, 9 and 11, both experienced declines in the average price paid for farmland within their borders for 1977-78.

Table 32 indicates that several regions of the state during the 1970's have witnessed farmland price declines in dollar terms, (as indicated by the negative terms). More interestingly, an even larger number of regions encountered farmland price declines when these changes are expressed in real terms, i.e., adjusted for inflation. To illustrate, for 1972-73 Regions 6W and 7E experienced farmland price declines in money terms (-2 and -6 percent respectively, Table 32). In real terms Regions 6E and 7W also underwent land price decreases since the consumer Price Index (CPI) rose by 6.2 percent that year, while farmland prices increased by a lower rate (4 and 0 percent, respectively, Table 32). The annual percentage change in the CPI is displayed at the bottom of Table 32. This information can be used to determine if farmland prices for a given region increased or decreased in real terms in a given year during the 1971-78 period.

Table 32: Annual Percentage Changes in Sales Price Per Acre, by Economic Development Regions, Minnesota, and in the Consumer Price Index, 1971-1978.

Economic Development Region	Percent Change in Sales Price						
	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
				-percent-			
1	13	9	75	73	-4	11	18
2	57	30	31	46	21	11	16
3	108	56	17	6	3	10	56
4	-3	13	65	41	22	3	53
5	37	29	20	31	-9	26	61
6W	10	-2	46	57	30	7	21
6E	13	4	52	21	34	11	14
7W	26	0	48	10	26	31	19
7E	-5	-6	25	24	44	4	22
8	8	10	51	33	28	17	13
9	15	16	55	35	31	25	-8
10	17	12	37	33	22	31	15
11	26	19	26	17	11	25	-3
MN	13	2	51	35	21	17	14
CPI	3.3	6.2	11.0	9.1	5.8	6.5	7.6

Over the last 15 to 20 years, several farmland market trends have clearly emerged from this study. The most frequent reasons for selling farmland in Minnesota have been retirement and death, generally accounting for about three-fifths of all decisions to sell, 1965-1978. During this same period, the percentage of sales triggered by sellers who left farming for another job has dropped significantly. In the mid-1960's the proportion of sales triggered by a seller's decision to quit farming usually amounted to one-fourth or more of all farmland sales (Table 33). By the early 1970's this proportion had declined to an average of 18 percent of sales, 1970-1974. Over the last four years, 1975-1978, departures from farming have dropped even further, now accounting for only 15 percent of all reasons to sell (Table 33). There is considerable variation among the districts, with sales due to exit from agriculture increasing significantly in some years for the East Central and North-east districts. In these two districts agriculture is most heavily dependent upon milk and livestock production and is heavily affected by proximity to non-farm jobs.

Table 33: Trends in Percentage of Farm Land Sales Triggered by Seller's Decision to Quit Farming, Minnesota, 1965-1978

Year	Percentage of Sellers for Whom "Quitting Farming" Was Reported As the Reason for the Sale	
	annual	average
1965	26	23.2
1966	27	
1967	21	
1968	21	
1969	21	
1970	22	18.0
1971	19	
1972	19	
1973	18	
1974	12	15.0
1975	15	
1976	14	
1977	15	
1978	16	

Since 1965 the average size of farm in Minnesota has continually grown larger, for 228 acres in 1965 to 268 acres for 1978 (Table 34). Over this same period the average size of tract purchased has stayed about the same, averaging 180 acres. The average tract purchased rose to its largest size in 1973, reaching 196 acres, but generally declined thereafter to its present level of 179 acres (Table 34). The reason for this apparent paradox is vividly portrayed in Figure 6. Over the last 25 years there has been an enormous shift in the type of buyer active in the Minnesota farmland market. During this period the roles played by the operating farmer buyer and expansion buyer have been exactly reversed. In 1955, for example, operating farmers purchased more than 60 percent of the farm tracts sold while expansion buying constituted less than one-fourth of the sales. By the late 1970's expansion buyers consistently accounted for 60 percent of farmland sales whereas operating farmer purchases had dropped to under one-fourth of all transactions. Consequently, while the average size of tract purchased has remained virtually constant, the size of the average farm in Minnesota has risen, reflecting the increasing dominance of the expansion buyer in the farmland market.

%

Figure: 6 **MINNESOTA:** Percent of Farm Land Sales  
By Type of Buyer  
1954-1978

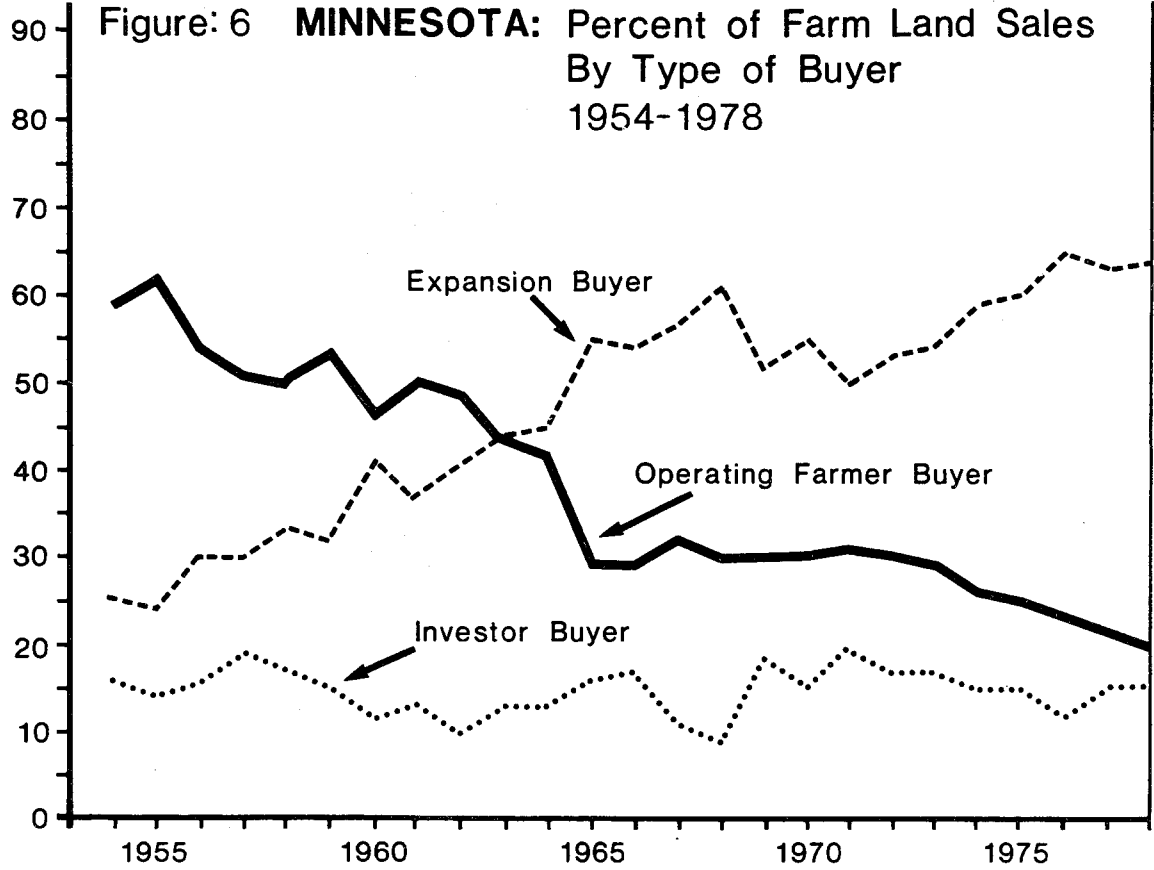




Table 34: Comparison of Average Size of Tract Purchased with the Average Size of Farms, Minnesota, 1965-1978.

Year	Average Size of Tract Purchased	Average Size of Farm*
	-acres/purchase-	-acres/farm-
1965	171	228
1966	181	234
1967	181	240
1968	185	246
1969	172	253
1970	173	255
1971	167	256
1972	184	259
1973	196	262
1974	186	262
1975	179	262
1976	183	262
1977	178	264
1978	179	268

\*Source: Minnesota Agricultural Statistics 1978, Crop and Livestock Reporting Service, Minnesota Dept. of Agriculture, St. Paul, MN. p.3.

Use of contracts for deed (or land contracts) to finance Minnesota farmland purchases has been gradually rising since the mid-1950's, while utilization of both cash and mortgage financing has continually, though erratically, declined. In 1974 the statewide proportion of farm sales financed with contracts for deed reached 60 percent, the highest

proportion ever reported in this annual study (Table 35). Mortgage financed sales, on the other hand, were at an all time low in 1974 (24 percent). The increase popularity of contract for deed financing has been particularly evident in areas of higher priced lands (the Southeast and Southwest districts). Its frequency of use is also growing in other districts as farmland prices have climbed to much higher levels in most areas of the state over the past six years. The increased use of contracts for deed stems in good part from the tax advantage to farmland sellers achieved by spreading capital gains over a period of years (installment sales).

Table 35: Classification of Reported Sales of Farmland by Method of Financing, Minnesota, 1961 - 1978.

Year	Cash	Mortgage	Contract for Deed
Percent of Sales			
1961	21	33	46
1962	19	39	42
1963	20	37	43
1964	20	36	44
1965	19	35	46
1966	17	41	42
1967	16	34	50
1968	19	34	47
1969	16	32	52
1970	16	25	59
1971	16	31	53
1972	21	29	50
1973	21	29	50
1974	16	24	60
1975	15	28	57
1976	16	26	58
1977	16	28	56
1978	14	29	57

## STATISTICAL APPENDIX

One disadvantage in the use of average prices based upon actual sales is that the averages do not indicate the degree of variation in the data. Quality of land varies greatly in any one county or district, for example, but it is not possible to derive an accurate measure of land quality from this survey. Over time, the quality of land involved in the sales in any one year may also vary.

One measure of this variability in prices is indicated in Table 38. The standard deviation represents the dollar range from the average within which approximately two thirds of the reported sales fall. Assume, for example, a district average of \$600 per acre with a standard deviation of \$200. This means that approximately two thirds of the sales in that district fell between \$400 and \$800 per acre. The coefficient of variation is the standard deviation divided by the average sales price, and multiplied by 100 to convert it to a percentage form. In the above example, the coefficient of variation is 33.3 percent. Wider variations in sales price above and below the average create larger coefficients of variation.

Table 36: Average Estimated Value Per Acre of Farm Real Estate in Minnesota by Districts, 1910-1911 through 1944-45, by Two-Year Periods, and Annually, 1946 through 1978.

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
1910-11	58	54	39	24	24	11	41
1912-13	69	69	46	29	29	13	49
1914-15	82	84	56	34	32	14	58
1916-17	92	100	67	41	37	15	68
1918-19	117	118	78	50	40	18	82
1920-21	141	152	98	68	57	24	104
1922-23	114	119	82	56	44	23	85
1924-25	104	110	74	49	44	22	78
1926-27	106	109	72	49	36	22	76
1928-29	100	102	67	44	33	21	71
1930-31	88	88	51	36	22	18	60
1932-33	64	65	42	27	20	14	45
1934-35	52	58	38	26	22	15	40
1936-37	59	64	38	29	22	24	44
1938-39	60	68	37	28	22	25	45
1940-41	59	68	36	26	22	24	43
1942-43	65	76	40	29	24	25	48
1944-45	78	90	48	35	29	28	56
1946	88	104	56	39	33	32	65
1947	96	116	62	43	37	35	72
1948	104	129	69	47	41	38	79
1949	107	136	73	49	44	39	83
1950	109	141	76	50	46	40	85
1951	125	166	89	59	54	46	99
1952	131	175	96	65	68	42	107
1953	130	175	95	62	64	40	105
1954	139	187	99	66	72	40	113
1955	150	205	103	68	73	45	121
1956	156	214	107	70	76	42	126
1957	165	230	122	77	86	49	138
1958	179	242	123	84	90	65	147
1959	191	255	134	89	103	58	157
1960	188	248	133	94	99	64	155
1961	189	247	133	95	100	64	156
1962	192	250	138	99	104	69	159
1963	194	246	142	103	114	68	161
1964	206	252	145	111	115	59	166
1965	219	261	146	112	113	51	171
1966	242	277	153	122	112	58	183
1967	262	303	163	128	108	62	194
1968	286	333	181	134	122	57	211
1969	308	350	196	146	120	54	223
1970	317	347	198	161	120	62	227
1971	333	351	204	155	119	63	232
1972	370	379	208	163	117	76	248
1973	433	459	247	194	146	115	298
1974	576	675	378	279	199	144	423
1975	674	844	503	296	295	163	525
1976	856	1106	624	349	378	210	667
1977	1027	1316	730	415	427	279	794
1978	1191	1421	803	498	483	304	889

Table 37: Annual Percentage Change in Estimated Farm Land Values Per Acre, Minnesota 1946-1978.

	%		%
1945-46	16.1	1961-62	1.9
1946-47	10.8	1962-63	1.3
1947-48	9.7	1963-64	3.1
1948-49	5.1	1964-65	3.0
1949-50	2.4	1965-66	7.0
1950-51	16.5	1966-67	6.0
1951-52	8.1	1967-68	8.8
1952-53	-1.9	1968-69	5.7
1953-54	7.6	1969-70	1.8
1954-55	7.1	1970-71	2.2
1955-56	4.1	1971-72	6.9
1956-57	9.5	1972-73	20.2
1957-58	6.5	1973-74	41.9
1958-59	6.8	1974-75	24.1
1959-60	-1.3	1975-76	27.0
1960-61	0.6	1976-77	19.0
		1977-78	12.0

Table 38: Average Price Per Acre of Reported Farm Sales, Standard Deviation and Coefficient of Variation, by District, Minnesota, 1961-1978\*.

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
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	150.3	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	504.4	256.3	979.6
Standard Deviation (Dollars)							
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	56.7	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
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
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	35.6	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
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

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

