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The Minnesota Rural Real Estate Market in 1973

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Including special studies of:
The Twin Cities Metropolitan Area
The Red River Valley
Southwestern Minnesota
Land Value Estimates by
Occupation of Reporter

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THE MINNESOTA RURAL REAL ESTATE MARKET IN 1973

ERRATA:

Page 9: Table 5, footnote, first sentence, "acres sold in 1973" should read "acres sold in 1972"

Page 12: Under "Activity in the land market", first paragraph, the figure of 42.3 sales estimated by the U.S.D.A. refers to Minnesota, not the U.S. Also, the figure of 56.6 refers to numbers of transfers, not number of sales. In second paragraph the final sentence should be split up to read "Particularly noteworthy are increases in acreage sold in the Southwest and West Central districts, a factor contributing to the weighting problem encountered in the initial analysis of statewide sales above. As noted above, the increased sales activity involved the lower priced lands in these districts."

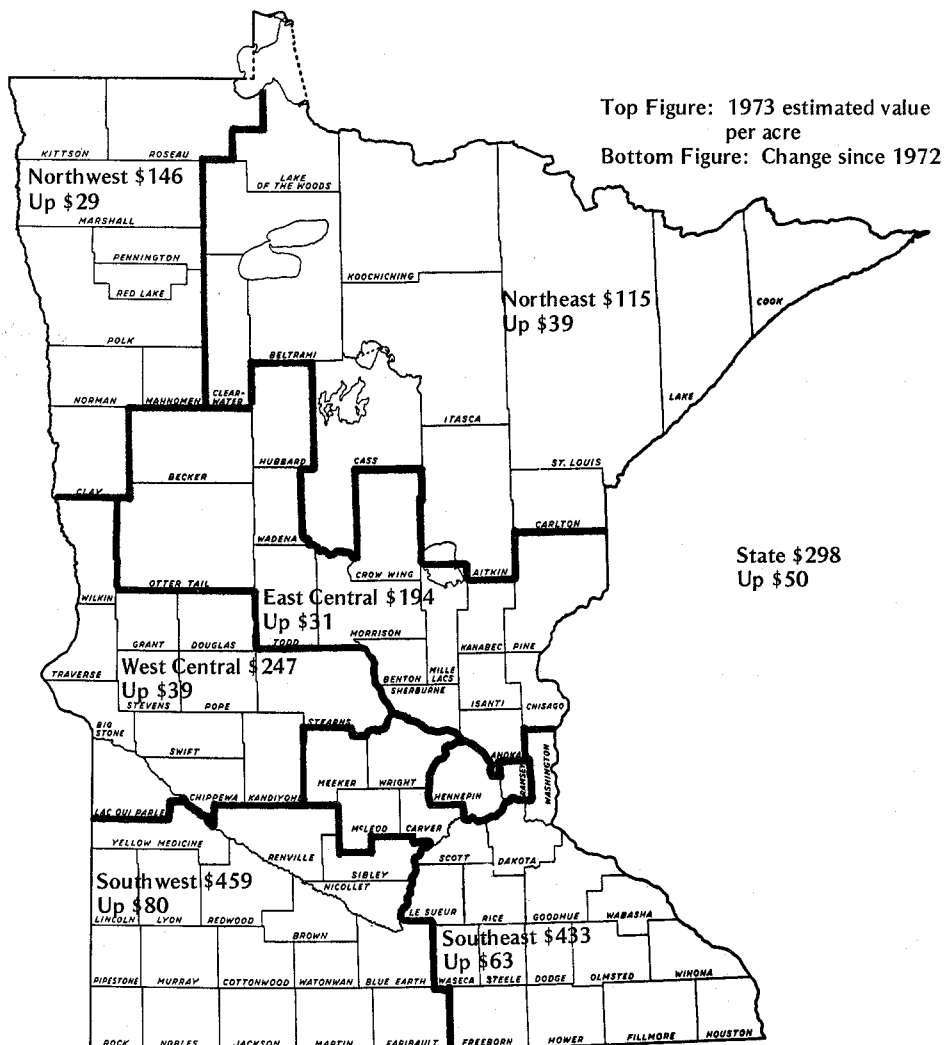
Page 13: Under "Reason for sale", the combined proportion of sales accounted for by death and retirement in the Southwest district should read 63 percent, not 67 percent (see table 10).

Page 15: Under "Type of buyer", first paragraph, the second sentence should read, in part, "... and is an average of a range from 63 percent in the Southeast ...", not "... from 67 percent in the Northeast ..." as printed (see table 14).

Page 24: In the footnote to Table 25 the second "source" should be omitted

Page 37: The figure of \$523 per acre paid by investor buyers in the top paragraph should read \$534 per acre (see table 37). In the second paragraph the figure of \$611 per acre should read \$613 per acre for good land in the low risk area (see table 39).

FIG. 1. ESTIMATED AVERAGE RURAL LAND VALUES FROM REPORTER'S ESTIMATES*



*Hennepin and Ramsey Counties Excluded

SUMMARY

The Minnesota Rural Land Market in 1973

Reporters' estimates indicate that rural land values in 1973 averaged \$298 per acre, or 20 percent above the 1972 level. This is the largest percentage increase in any 12 months since 1919-20. The state-wide average of reported sales prices, however, was \$303 per acre in 1973 against \$302 per acre in 1972. The proportionate change is zero. This can only be ascribed to the weighting exerted on the statewide average by a larger volume sales of relatively lower priced land in 1973 than in 1972. There is also a time lag in reporting sales. Some of the sales recorded in 1973 reflect prices agreed upon in 1972. The range in reported sales prices was from a 57 percent increase in Northeast Minnesota to no change in the West Central district.

The number of farmland transfers in 1973 was 22 percent greater than in 1972, according to U.S. Department of Agriculture estimates. This finding is in line with the increase in number of farm sales reported by respondents to this survey. In general, the Minnesota rural land market in 1973 was one of the most active in many years.

Improved land (that with buildings) accounted for almost three-fourths of all reported sales. This proportion was lowest in the Northwest district of the state (51 percent), and highest in the East Central district (79 percent). Statewide, unimproved land sold for 76 percent of the value of improved land.

Over 90 percent of rural land sales were for agricultural purposes, a proportion which varied from a high of 98 percent in the Southwest to a low of 85 percent of the Southeast district. Sales to farm expansion buyers accounted for 54 percent of all sales state wide, and up to 68 percent of sales in the Southwest district. In general, sales of rural land in 1973 for non-farm purposes declined over 1972 although still retaining a significant share of the market in the Southeast, East Central and Northeast districts (15, 14 and 13 percent of sales respectively).

Contracts for deed were used to finance 50 percent of all reported sales in 1973, 29 percent were financed by mortgages, 21 percent were cash sales. These percentages were unchanged from 1972.

The Twin Cities Metropolitan Area

Rural land values in the Twin Cities Metropolitan Area continue to increase. The suggestion put forward in this annual report in 1972 that Wright

and Chisago counties be included in the Metropolitan Area is enhanced and further confirmed on the evidence of 1973 data.

Non-farm investors were again active in the five- and seven-county areas, paying \$1,106 per acre for land in the five counties (Hennepin and Ramsey excluded), and \$1,068 per acre in the seven counties (that is, inclusive of Wright and Chisago counties). Their relative share of the market went down quite substantially, however, as expansion buyers and agricultural investors regained some of the ground they lost in the previous year.

In the five Metropolitan counties (excluding Hennepin and Ramsey) the highest price was paid for land classed as "poor" for agricultural use (\$832 per acre, against \$791 for good quality land and \$755 per acre for average quality land). In the seven counties, poor land sold for less than good land but for more than land of average agricultural quality, thus emphasizing the distortions introduced into agricultural land values by the presence of a large urban area.

Red River Valley

Prices paid for land in the Red River Valley increased by 33 percent in 1973 over 1972 and reversed a decline which had been in force since 1970. Market activity in the valley was substantially up in 1973 over 1972.

Expansion buyers dominate the market and accounted for 90 percent of purchases in 1973. Thus they regained their share of the market lost to other types of buyers in 1972. The market share of operating farmers especially suffered in this trend. Expansion buyers paid \$202 per acre for land, but this was less than the \$219 per acre paid by agricultural investors. This indicates the renewed vigour in the market for agricultural land in the Northwest district of the state.

Southwestern Minnesota

A "high-risk" area in West Central Minnesota is separated from a "low risk" area in the South Central part of the state by an intervening transition area. In the "high-risk" area farming is particularly susceptible to recurrent adverse weather conditions, amply demonstrated during the latter half of 1972. Land prices received in reported sales in the low-risk area in 1973 were more than twice those of the high risk area (\$524 per acre compared to \$214 per acre for the same area in 1972). Apparently the bad weather in 1972 kept land sale prices down in 1973. Land market activity in the high-risk area was higher in 1973 than in either the transition or low-risk areas.

Expansion buyers were particularly active in the low-risk area in 1973, accounting for almost four out of every five purchases. Operating farmers remain relatively important in the high-risk area while agricultural investor buyers have their biggest share of the market in the transition area.

PROCEDURE

Data for the Minnesota Rural Real Estate Market Report in 1973 were collected through the use of mail questionnaires sent to 1,325 individuals during the month of August, 1973. Potential respondents included real estate brokers, agricultural loan specialists, bankers, and other people knowledgeable of farm land values in Minnesota.

The questionnaire is divided into two parts. In the first part respondents are asked to estimate an average value for farm land, with separate estimates of land of high, medium, and low quality in their area. These estimates are used to calculate percentage changes in land values during the past year. This is done by (1) weighting the average estimated value per acre of all respondents in a county by the number of acres of farm land in their county; (2) adding these values county by county for each region; and (3) dividing this total for all counties in a region by the total acreage of farm land in that region. In making comparisons with 1972, only estimates of the respondents who had answered in both 1972 and 1973 were used. On the basis of this rather rigorous restriction, a total of 567 estimates was useable.

The second part of the questionnaire requested data on actual farm sales during the period from January 1 to July 1, 1973. Reports were obtained on a total of 2,001 sales. Data were supplied on type of buyers and sellers, method of financing, and quality of land and buildings. Reporters are requested not to include sales between close relatives when filling out this part of the questionnaire.

Four types of buyers are distinguished in this report.

1. Operating farmers: those buying complete farm units for operation as individual farmers.
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.
4. Non-farm investors: those who buy farm land that will not be used for farming purposes.

The four groups are mutually exclusive.

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.

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. The estimate method holds these factors constant, but memory bias is a problem. For this reason, only reports from respondents who report for at least two consecutive years are used in constructing the estimates of value.

PART I: THE MINNESOTA RURAL LAND MARKET IN 1973

A. Land Market Trends

Reporters' Estimates

On the basis of estimates of land values submitted by reporters the average value of rural land in Minnesota in 1973 was \$298 per acre (Table 1). This is an increase of \$50 per acre, or 20 percent, over 1972 and represents the biggest single-year increase since 1919-20, exceeding even the big increases at the end of World War II, and during the Korean War (see Appendix, Table 43). All districts showed substantial increases in estimated value over 1972, ranging from 17 percent in the Southeast to 51 percent in the Northeast (Table 2). The increase in the Northeast, while large in percentage terms, carries little weight in the statewide average. The remaining 5 districts include the vast majority of the farm land in the state and in these districts increases ranged from 17 to 25 percent.

Table 1: Estimated Average Value Per Acre of Rural Land by District, Minnesota, 1963-1973*

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

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

Table 2: Percentage Changes in Estimated Value Per Acre, Minnesota, 1963-1973.

District	Estimated 1973 Value	Percent Change From		
	Per Acre	1963	1968	1972
	—dollars—		—percent—	
Southeast	433	123	51	17
Southwest	459	87	38	21
West Central	247	74	36	19
East Central	194	88	45	19
Northwest	146	28	20	25
Northeast	115	69	102	51
Minnesota	298	85	41	20

In 1973 the largest dollar increase in rural land value was in the Southwest district of the state. This is a reflection of the renewed land market activity in the more agricultural parts of the state. In 1971 and 1972 the biggest increases in land values had been in the more urban-oriented Southeast district. The Southwest remains the area with the highest valued rural land in Minnesota at \$459 per acre (see Figure 2). Although this is an 87 percent increase over the past decade, this index lags behind the two districts of Minnesota where land values are more open to urban influences, the Southeast and East Central districts. The 123 percent increase since 1963 in the Southeast is easily the largest of any district over the decade. For the state as a whole the ten-year increase was 85 percent, evenly split between 1963-1968 and 1968-1973 (Table 2).

Actual Sales

The trend in sales prices in 1973 was in sharp contrast to the situation between 1971 and 1972, when the statewide increase in estimated land values was significantly less than the increase in average prices received in actual sales. For the state as a whole, there was a large and surprising discrepancy between estimated values per acre and prices received in actual sales between 1972 and 1973, with actual sale prices being much less than estimated values. By the evidence of sales price returns, there was no increase in the statewide average price per acre for rural land in 1973 over 1972. (Table 3 and Table 4).

This statewide figure is contradicted by reporters' estimates (Tables 1 and 2), and by the fact that substantial increases in sales prices in 1973 were reported from five of the six districts, when considered separately.

A major part of the explanation lies in the fact that there was a significant shift in the location of rural land sales activity from 1972 to 1973. In general, there was an increase in sales of lower priced lands and a decrease in the frequency with which higher priced land changed hands. This was true in each of the six districts.

FIGURE 2 - ESTIMATED AVERAGE VALUE PER ACRE OF MINNESOTA RURAL LAND BY DISTRICTS 1945 - 1973

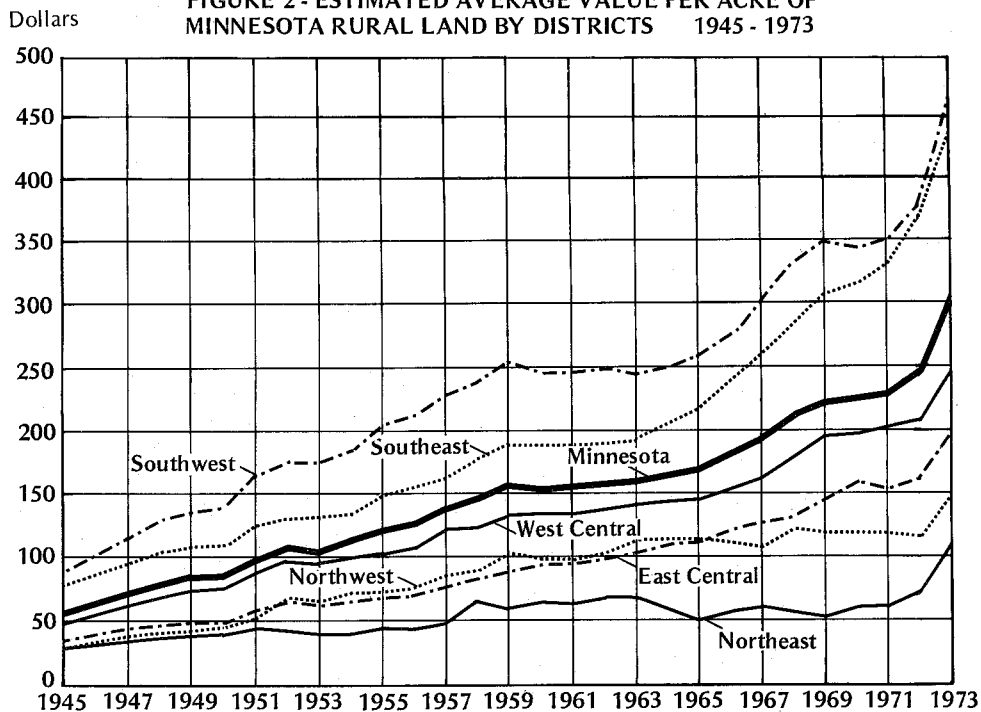


Table 3: Percentage Changes in Sales Value per Acre, Minnesota, 1963-1973.

District	Sales price per acre in 1973	1963	Percent change from 1968	1972
	—dollars—		—percent—	
Southeast	460	115	46	9
Southwest	411	85	25	12
West Central	223	64	20	0
East Central	182	116	14	20
Northwest	119	9	32	13
Northeast	121	152	157	57
Minnesota	303	80	31	0

Table 4: Average Price per Acre of Rural land, Estimated and Actual Sales, by District, Minnesota, 1972-1973.

District	1972		1973		Percent Changes Over 1972	
	Estimated Value	Sales Price	Estimated Value	Sales Price	Estimated	Actual
	—dollars per acre—				—percent—	
Southeast	370	420	433	460	17	9
Southwest	379	367	459	411	21	12
West Central	208	223	247	223	19	0
East Central	163	152	194	182	19	20
Northwest	117	105	146	119	25	13
Northeast	76	77	115	121	51	57
Minnesota	248	302	298	303	20	0

To remove the influence of this shift in sales activity an adjusted sales price was computed for each district, using the 1973 reported sales prices, county by county, while holding unchanged the acreage sold, at the 1972 level. The results are shown in Table 5.

When adjusted to remove the effect of the shifts in relative volume of acres sold, the statewide average price per acre showed an increase of 15 percent, 1973 over 1972. This is more nearly consistent with the 20 percent increase in estimated values.

The biggest differences occurred in the Southwest and Northwest districts, indicating that lower priced lands constituted a much larger percentage of land sales in 1973 than in 1972 in those districts.

This shift in sales activity toward the lower priced lands was evident throughout the state, including the Twin City Metropolitan Area. For example, in the Southwest district the highest county average sales price in 1973, was in

Table 5: Comparison of Sales Prices by Districts, 1972 and 1973, Adjusted to Remove the Effect of Changes in the Geographic Distribution of Sales.

District	Average Price Per Acre, from Reported Sales		Adjusted Price Per Acre ^a 1973	Percent change in Sales Price July 1972–July 1973	
	1972	1973		Reported Sales	Adjusted to 1972 Volume ^a
	\$	\$	\$	%	%
Southeast	420	460	463	9	10
Southwest	367	411	450	12	23
West Central	223	223	230	0	3
East Central	152	182	183	20	20
Northwest	105	119	135	13	29
Northeast	77	121	120	57	56
Minnesota	302	303	347	0	15

^a The adjusted price per acre was computed as follows: For each county, the average price per acre from reported sales in 1973 was applied to the acres sold in 1973. The results were summed for each district and divided by total acres sold in that district in 1972. The adjusted price thus eliminates the effect of changes in the geographic distribution of acres sold between 1972 and 1973.

Martin county, the lowest in Lincoln county. The number of acres sold in Martin county in 1973 was only 43 percent of the 1972 volume, while in Lincoln county the 1973 sales volume was 173 percent of the 1972 level. In the Northwest district, the highest county average price was in Clay county where sales volume fell to 61 percent of the 1972 level. The lowest county average price was in Pennington county, where sales volume was 313 percent of 1972.

This shift in market activity from higher valued to lower valued lands is one of the most pronounced characteristics of the Minnesota rural land market in 1973. As we have seen, it can lead to significant error in interpreting land market trends from prices received in actual sales. While some unusually high prices per acre have been reported, the higher priced land is selling very slowly. The bulk of the activity involves the lower priced lands, in the high-priced as well as in low-priced sectors of the state.

Only in the West Central district did the adjusted sales price show little change over 1972. The lack of change could largely be explained by bad weather conditions over certain parts of the district in 1972. The “high risk” nature of a large part of this district is the subject of further analysis in Part IV of this Report. The bulk of the sales in 1973 occurred in the Southeast, Southwest and West Central districts of the State, both in number and acreage. In the Southwest and West Central districts the number of sales and

Table 6: Average Reported Sales Price Per Acre of Rural Land, by District, Minnesota, 1963-1973*

Years	South-east	South-west	West Central	District East Central	North-west	North-east	Minn.
—dollars per acre—							
1963	214	222	136	86	109	48	168
1964	213	234	150	86	104	52	178
1965	213	233	133	96	106	40	178
1966	253	260	164	113	103	31	203
1967	272	306	179	93	117	51	215
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	372	342	205	193	99	46	269
1972	420	367	223	152	105	77	302
1973	460	411	223	182	119	121	303

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

Table 7: Estimated Number of Farm Title Transfers Per Thousand Farms, by Methods of Transfer, Year Ending March 1, Minnesota, 1958-1973.

Years	Voluntary Sales	Forced Sales (Foreclosures, Tax)	Inheritance, Gifts and all Other Transfers	Total all Classes
1958	35.6	3.5	14.7	53.8
1959	39.7	2.6	11.4	53.7
1960	34.5	2.7	9.9	47.1
1961	29.0	2.6	7.7	39.3
1962	29.3	1.9	10.4	41.6
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

Source: "Farm Real Estate Market Developments," CD-78, Economic Research Service, USDA, July 1973.

Table 8: Number of Sales, Acreage of Land Sold and Average Acres per Sale, by District, Minnesota, January 1–July 1, 1972 and 1973.

District	No. of Sales		Acres Sold		Acres/Sale	
	1972	1973	1972	1973	1972	1973
Southeast	554	536	83,355	81,799	150	153
Southwest	498	588	84,902	104,423	170	178
West Central	265	334	53,026	71,062	200	213
East Central	188	312	29,373	48,979	156	157
Northwest	98	169	26,715	55,721	273	330
Northeast	38	62	6,909	13,354	182	215
Minnesota	1,641	2,001	284,280	375,338	173	188

acreage sold were substantially up over 1972 (see Table 8). The West Central area in particular showed an increase of 34 percent in acres sold in 1973 over 1972.

This may not adequately explain the wide discrepancy between estimated values and sales prices. Further reasoning could include the lag between reporters' estimates and sales reports. The survey questionnaires in 1973 were returned during the months of August and September, and presumably respondents entered rural land value estimates as they judged them to be during those months. Data for actual sales were requested for the period January 1–July 1. Thus two elements enter into the argument. Firstly, given the rate of inflation in 1973, the estimated value of land in August–September was likely to be higher than the actual prices paid in sales concluded during the period January–July. And secondly sales which were reported during this period may have been agreed upon and terms settled as long ago as the latter part of 1972. It would be a reasonable hypothesis to assume that sales data for the latter part of 1973 and the early part of 1974 may be more nearly in line with estimates for August–September of 1973.

Examination of the sales prices for individual districts reveals a price range from \$119 per acre in the Northwest to \$460 per acre in the Southeast (Table 3). The decade 1963-1973 saw an increase of 116 percent and 115 percent in sales prices for the East Central and Southeast districts respectively. This similarity is striking considering the similarity of urban pressures on the land use of each of these districts.

Sales prices and estimates for individual districts generally are more divergent in 1973 than in 1972 (Table 4). Particularly in the three predominantly agricultural districts of the state, (Southwest, West Central and Northwest), estimated values are significantly higher than sales prices. This may indicate that reporters are thinking more of recent trends in agricultural product prices in arriving at their estimates whereas the sales prices reported, pertaining as they do to a slightly earlier period, do not reflect the full capitalization of these trends into farm land prices.

Table 9: Estimated Proportion of Rural Land Sales in which Brokers or Dealers participate, Minnesota, by district, 1970-1973.

District	Sales with Broker's Services				Change 1970-73
	1970	1971	1972	1973	
	—percent—				
Southeast	61	58	59	58	- 3
Southwest	57	55	52	51	- 6
West Central	56	55	56	54	- 2
East Central	53	53	54	58	+5
Northwest	40	42	40	40	0
Northeast	51	47	50	46	- 5
Minnesota	55	54	52	51	- 4

A final and rather interesting finding is that, for the first time ever, the sales price per acre for land in the Northeast district is not the lowest in the state. While sales data from the Northeast district must be interpreted with caution, due to the relatively small number of sales (see Table 8), the data do suggest a rising demand for farm land for recreational and residential uses in this area.

Activity in the land market

Nationwide the U.S. Department of Agriculture has estimated that voluntary sales accounted for 42.3 sales per thousand farms in 1973 (Table 7). This is a 22 percent increase over the previous year and coincides exactly with the increase in number of sales reported for Minnesota in 1973 over 1972 (Table 8). The fact that 1973 has been an unusually active year in the farm land market is seen in the fact that 56.6 sales per thousand farms occurred during the year ending March 1, 1973, the highest rate of transfer since 1949.

The number of sales reported by respondents to this survey showed a substantial increase over 1972, from 1,641 to 2,001 (Table 8). The bulk of this increase is in the Southwest, West Central, East Central and Northwest parts of the state. Average size of tract was up on average from 173 acres in 1972 to 188 acres in 1973, although in the Northwest in particular average size was up more substantially (by 57 acres). Acreage sold, as well as number of sales, was significantly higher in all districts except the Southeast. Particularly noteworthy are increases in acreage sold in the Southwest and West Central districts, a factor contributing to the weighting problem encountered in the initial analysis of statewide sales above, as noted above, the increased sales activity involved the lower priced lands in these districts.

The proportion of sales involving real estate brokers or agents seems to be declining all over the state. This decline, is however, slight and did not affect East Central Minnesota (up 5 percent from 1970 to 1973) and the Northwest (no change) (Table 9). The East Central increase is due in part to buyers in the Twin Cities intensifying their efforts to find a place to live in the country

Table 10: Reason for Selling Land, by District, Minnesota, 1973.

Reason for Sale	South- east	South- west	West Central	East Central	North- west	North- east	Minn.
—percentages—							
Death	10	21	17	8	14	11	15
Retirement	39	42	39	46	47	34	42
Left Farming	19	14	16	24	18	23	18
Moved, Still Farming	9	5	4	8	3	8	6
Other	23	18	23	13	18	23	20

while still working in the city. Statewide, about half of all sales involved brokers as intermediaries in 1973, ranging from 40 percent in the Northwest to 58 percent in the East Central and Southeast districts.

B. Analysis of reported sales

Reason for sale

As in 1972, retirement or death accounted for 57 percent of all decisions to sell in the state as a whole (Table 10). In the Southwest this combined proportion rose as high as 67 percent; in the Northwest as high as 61 percent. Statewide, 18 percent of the sellers left farming for another way of life, a move frequently given as a reason for sale in the East Central and Northeast districts. Although this reason for selling accounted for 23 percent of the decisions to sell in the Northeast, this figure is a big drop from the 42 percent reported in 1972. The East Central district figure was similarly down over the corresponding one for 1972. This is perhaps indicative of the fact that prospects in farming were brighter in 1973, or simply that people are running out of true farmland to sell. The "other" category, accounting for a fifth of all sales in the state, includes such reasons as debt, foreclosure, and sales by speculators to raise money.

Improved and Unimproved Land

Improved land (that with buildings) accounted for 73 percent of sales in 1973, the same proportion as in 1972 (Table 11). Among the districts the proportion varied from a low of 51 percent in the Northwest to a high of 79 percent in East Central Minnesota. This latter figure fits in with the postulate of a sustained demand by city people for rural dwellings. Proportions in the Southeast and Southwest were high, but those in the West Central and Northwest districts were lower than the average, suggesting that the main land-purchase motivation in these districts is to increase size of holding by buying up unimproved land. In the Northwest this supposition is given extra weight when it is considered that unimproved land sold for more than improved land in 1973 (\$121 as against \$119 per acre) (Table 12). In 1972 unimproved land

Table 11: Proportion of Improved and Unimproved Land Sold, by District, Minnesota, 1973.

District	Improved Land	Unimproved Land
	percent	percent
Southeast	76	24
Southwest	75	25
West Central	69	31
East Central	79	21
Northwest	51	49
Northeast	71	29
Minnesota	73	27

Table 12: Average Sales Price per Acre of Improved and Unimproved Rural Land, by District, Minnesota, 1973.

District	Improved Land	Unimproved Land	Unimproved as a Percent of Improved
	—dollars per acre—		percent
Southeast	460	460	100
Southwest	424	352	83
West Central	230	204	89
East Central	183	174	95
Northwest	119	121	102
Northeast	126	92	73
Minnesota	320	243	76*

*Table 12 provides a good example of the way in which a statewide average can be misleading. The statewide ratio of the sale prices per acre of unimproved land to improved land is 76 percent, which is below the ratio for five of the six districts. This results from the fact that 49 percent of the land sold in the Northwest district was unimproved land (Table 11). This was by far the highest percentage in any district, and the average price was lower than in any district except the Northeast. When aggregated into a state total, this pulls down the statewide average, since the proportion of unimproved land is relatively small in the districts with higher-priced land.

in this same district sold for only 88 percent of improved land prices. Also in 1973, as in 1972, there was no distinction between prices paid for the two categories of land in the Southeast, suggestive of a high and sustained demand for rural housing independent of a similarly high demand for farm land. In both categories for all districts, both improved and unimproved land increased in value over 1972, with the single exception of improved land in West Central Minnesota which sold for \$234 per acre in 1972, \$230 in 1973. In addition, the selling price of unimproved land statewide declined by \$4 per acre, whilst that of improved land showed only a marginal increase of \$3 per acre in 1973

Table 13: Price Differential Between Improved and Unimproved Land Sold, Minnesota, 1963-1973.

Year	Improved Land	Unimproved Land	Difference	Unimproved as a Percent of Improved
		—dollars per acre—		percent
1963	172	144	28	84
1964	181	160	21	88
1965	183	165	18	90
1966	211	158	53	75
1967	222	177	45	80
1968	248	166	82	67
1969	245	206	39	84
1970	254	200	54	79
1971	279	228	51	82
1972	317	247	70	78
1973	320	243	77	76

over 1972. These trends further help explain the anomalous “no change” finding for land sales prices considered statewide.

Between 1963 and 1973 prices paid for unimproved land averaged 80 percent of those paid for improved land. The figure for 1973 at 76 percent is below this average (Table 13). It does appear that the dollar differential between the two prices has been generally widening over the decade, however. The \$77 per acre differential in 1973 is higher than any other year except 1968 and is a large increase over the \$28 per acre in 1963.

Type of Buyer

Operating farmers (including expansion buyers) still dominate the rural land market, although their influence is relatively stronger in the agricultural Southwest, West Central and Northwest of the State (Table 14). The Minnesota figure of 77 percent of all sales in 1973 to operating farmers is an increase over the corresponding figure for 1972 (by 3 percentage points) and is an average of a range from 67 percent in the Northeast to 86 percent in the Southwest and Northwest. Agricultural investor buyers maintained their share of the market in 1973 over 1972, and sales for non-farm uses showed a drop from 11 to 8 percent, although this latter category still accounts for a relatively large share of the market in the Southeast, East Central and Northeast districts. Curiously, the only area where sales for non-farm uses increased, albeit slightly, was the overwhelmingly agricultural Northwest.

Agricultural buyers can be grouped into three classes (Table 15); operating farmers are those who are not adding land to land they already owned; farm expansion buyers may be either operating farmers or agricultural investor buyers; and agricultural investor buyers are those non-farmers who are not adding land purchased to land already owned. Each class of buyer over the 4

Table 14: Percent of Tracts Purchased for Farming and Non-farm Purposes, by District, Minnesota, 1972 and 1973.

District	Operating ^a Farmers		Investors ^b (agricultural)		Non-farm Purposes	
	1972	1973	1972	1973	1972	1973
Southeast	62	63	21	22	17	15
Southwest	89	86	9	12	2	2
West Central	78	84	14	11	8	5
East Central	63	68	15	18	22	14
Northwest	85	86	11	9	4	5
Northeast	61	67	21	20	18	13
Minnesota	74	77	15	15	11	8

a "Operating Farmers" here includes both operating farmers and expansion buyers.

b "Agricultural investors" are defined as those who buy farmland to be rented out or managed for farming purposes.

Table 15: Percent of Tracts Purchased by Type of Buyer, by District, Minnesota, 1970-1973.

District	Operating Farmer Buyer (Sole Tract)				Farm Expansion Buyer (Operator or Investor)				Investor Buyer (Sole Tract)			
	1970	1971	1972	1973	1970	1971	1972	1973	1970	1971	1972	1973
	—percent—											
Southeast	33	34	34	31	44	38	41	43	23	28	25	25
Southwest	19	22	20	20	72	67	71	68	9	11	9	12
West Central	25	29	24	29	66	60	61	58	9	11	15	12
East Central	57	51	55	52	23	26	26	27	19	23	19	20
Northwest	20	24	27	15	69	59	62	76	11	17	11	9
Northeast	33	55	58	45	17	19	16	32	50	26	26	23
Minnesota	30	31	30	29	55	50	53	54	15	19	17	17

years (1970-1973 has maintained its relative market share statewide at almost a constant proportion. Although there are wider fluctuations within districts, the same general principle applies. In 1973 operating farmers accounted for 29 percent of all sales statewide, farm expansion buyers for 54 percent and investor buyers for 17 percent. These figures compare with 30 percent, 55 percent and 15 percent respectively in 1970. In 1973 operating farmers accounted for a larger share of sales in the West Central district at the expense of expansion and investor buyers when compared to 1972. In all other districts the share of operating farmers either remained unchanged or decreased although there was no uniform movement across districts to indicate whether expansion buyers or investor buyers took up the slack. Expansion buyers still account for over half (54 percent) of all purchases.

Table 16: Average Sales Price Per Acre by Type of Buyer, by District, Minnesota, 1971, 1972, 1973.

District	Operating Farmer			Expansion Buyer			Investor Buyer (Agricultural)		
	1971	1972	1973	1971	1972	1973	1971	1972	1973
—dollars per acre—									
Southeast	363	386	453	333	369	418	330	439	470
Southwest	312	334	390	360	376	423	314	401	383
West Central	201	222	226	206	217	219	210	242	230
East Central	146	142	172	123	157	177	191	159	198
Northwest	87	97	104	122	118	124	51	72	108
Northeast	49	88	94	47	52	190	36	57	92
Minnesota	241	273	285	281	299	299	251	323	321

Sales for expansion purposes are relatively more frequent in the Northwest, Southwest and West Central districts. The improved agricultural prospects in the Northwest are particularly noticeable in the increase in purchases by expansion buyers in 1973 over 1972 (up from 62 to 76 percent). Operating farmers still account for over half (52 percent) of the purchases in the East Central district. (This figure may include some “retirement” or other varieties of “hobby” and “part-time” farming, perhaps in conjunction with other off-farm work). Investor buyers still account for a quarter of all purchases in the Southeast and Northeast districts, and for a fifth of all purchases in East Central Minnesota.

Prices paid by each type of agricultural buyer vary quite widely, in general following the predictable pattern of highest prices being paid by investor buyers, next highest by expansion buyers, lowest by operating farmers (Table 16). These three figures for 1973 are \$321 per acre (down from \$323 in 1972), \$299 (same as 1972) and \$285 (up from \$273 in 1972) respectively, statewide. In all districts, operating farmers paid more in 1973 than in 1972, although only marginally so in the West Central district. The biggest increases paid by operating farmers were in the Southeast (\$67 up) and Southwest (\$56 up). Expansion buyers similarly paid higher prices for land in all districts; substantially higher in the Southeast and Southwest, marginally so in the West Central district. The very large increase in Northwest Minnesota must be regarded as open to a higher degree of error. Investor buyers paid substantially less in the Southwest and West Central districts in 1973 over 1972 (\$383 against \$401 and \$230 against \$242 respectively) whilst paying more for land in the remaining four districts. The fact that, statewide, the price paid by investor buyers fell in 1973 over 1972 is therefore a reflection of the shift to lower priced lands in the Southwest and West Central areas of the state. This further helps explain the “no-change” in sales prices for all land in Minnesota 1973 over 1972 as being primarily attributable to weighting problems assignable to these two districts.

Table 17: Price Paid Per Acre and Proportions of Sales of Land of Various Quality, Minnesota, 1972 and 1973.

Land Quality	Proportions				Change in Price from 1972
	1972	1973	1972	1973	
	percent		dollars per acre		percent
Good	38	35	363	390	7
Average	47	48	284	280	1
Poor	15	17	192	194	1
All	100	100	302	303	0

Table 18: Price Per Acre and Percent of Purchases by Type of Buyer for Land of Various Quality, Minnesota, 1973.

Type of Buyer	Good		Land Quality Average		Poor	
	\$	%	\$	%	\$	%
Operating Farmer	361	37	260	51	174	12
Expansion Buyer	386	39	282	46	166	15
Agricultural Investor	447	27	286	50	248	22
Non-Farm Investor	677	20	432	45	317	35
All	390	35	280	48	194	17

Land Quality

While the average reported sales price of land for the state as a whole showed no increase in 1973 over 1972, good quality land went up 7 percent in price (Table 17). This contrasts sharply with average quality land which declined in value by 1 percent, and poor quality land which showed only a one percent increase. Thus the "no change" for all land is put in further perspective. Although proportions of sales in each quality class did not significantly change in 1973 over 1972, land of average quality accounted for almost half the total sales and sold for a price per acre less than in 1972 (\$280 in 1973 as against \$284 in 1972). A further 17 percent of sales was of poor quality land where there was only a slight increase in price in 1973 over 1972. This also fits in with a tendency which seems to have prevailed in 1973 for those who own better quality land to hold on to it during a period of rising prices, thus pushing up the price of good land by a larger amount than for average or poor quality land. Respondents to the survey repeatedly commented upon the shortage of sales listings in their areas.

Operating farmers paid less than other classes of buyers for good and average quality land, expansion buyers paid the lowest price in 1973 for poor quality land (Table 18). Some 48 percent of all land sold was average in quality, further reinforcing the premise that part of the weighting problem is due to a high volume of average or below-average quality land transactions.

Table 19: Price Per Acre and Percent of Purchases by Type of Buyer for Land with Various Qualities of Buildings, Minnesota, 1973.

Type of Buyer	Building Quality							
	Good		Average		Poor		None	
	\$	%	\$	%	\$	%	\$	%
Operating Farmer	375	32	254	48	211	15	205	5
Expansion Buyer	393	15	340	25	277	22	230	38
Agricultural Investor	498	17	347	27	254	26	264	30
Non-Farm Investor	599	20	452	29	251	22	493	29
All	400	21	307	32	256	21	245	27

Good quality land for all buyers sold for \$390 per acre in 1973. The fact that non-farm investors paid an average of \$677 for good land is a reflection of the concentration of sales to this class of buyers in the high-priced land areas around urban centers. With poor quality land the non-farm investor paid approximately twice the price the expansion buyer paid. In general, operating farmers and expansion buyers paid roughly the same prices for all qualities of land.

Once again the “no-change” trend in sales prices statewide is invoked. It will be noted that average quality land accounted for 50 percent of transactions by agricultural investors in 1973, at an average price of \$286 per acre. This is set against the 52 percent of similar transactions in 1972, but at the significantly higher price of \$307 per acre in 1972. Similarly 45 percent of transactions by non-farm investors in 1973 was of average quality land at \$432 per acre. This price again is significantly down from the 44 percent of transactions by the same buyers at \$486 per acre in 1972. Further weighting factors enter the argument in these figures. Apparently investors in general took advantage of poor weather in certain areas of the state in 1972 to buy up land which came onto the market at depressed prices, land furthermore, which was predominantly of average or below average quality.

Quality of Buildings

For all sales with good buildings the average price paid per acre in 1973 was \$400, the price paid for land with poor quality buildings being \$256 per acre, only slightly above the price paid for unimproved land (\$245 per acre) (Table 19). Non-farm investors paid \$599 per acre for land with good quality buildings, the highest figure in this particular set of data. In general there is a direct correlation between prices paid for land with buildings of various quality and the relative value which different classes of buyers place on their purchases if the buyers are further broadly classified as “investors” and “farmers”. Non-farm investors are likely to pay much more for land, regardless of quality of buildings, than operating farmers. Operating farmers and expansion buyers paid roughly equivalent prices for land with good quality buildings, but expansion buyers were willing to pay much more (\$277 per acre) than operating farmers (\$211 per acre) for land with poor quality buildings. This is an

Table 20: Proportion of Farm Sales by Method of Financing, by Districts, Minnesota, 1967, 1972, and 1973.

Method of Financing	South- east	South- west	District		North- west	North- east	Minn.
			West Central	East Central			
—percent—							
Cash							
1967	14	15	15	24	16	14	16
1972	18	23	18	27	22	30	21
1973	18	22	14	29	21	38	21
Mortgage							
1967	28	35	35	30	47	51	34
1972	24	28	37	31	42	24	29
1973	25	27	36	29	31	38	29
Contract for Deed							
1967	58	50	50	46	37	35	50
1972	58	49	45	42	36	46	50
1973	57	51	50	41	48	23	50

indication that building quality enters the purchase-decision as a relatively major variable primarily in the case of buyers who are acquiring entire farms for operation as resident owners.

Method of Finance

In the five years 1967-1973 the contract for deed was used to finance half of all farm land sales in Minnesota (Table 20). Mortgage sales have declined from 34 to 29 percent, cash sales have increased from 16 to 21 percent.

Contract for deed sales remain important in all districts except the North-east and, to a less extent, the East Central. There was a big jump in the use of this method of finance in the Northwest where, as mentioned above, agricultural prospects seemed more promising in 1973 than in recent years. In 1973, 48 percent of purchases were financed by this method in the Northwest, the proportion in 1972 was only 36 percent. In the same district there was a corresponding decline in the use of the mortgage as a financing tool. Other than this movement (and the error-prone movement in the Northeast) mortgage sales in all districts remained relatively constant in 1972-1973, and relatively close to the 1967 figures. Cash sales showed parallel movements among the districts although it is noticeable that this method of finance is more popular in 1973 than in 1967.

Statewide in 1973 the highest price per acre paid was \$332 in contract for deed sales, followed by \$288 per acre for cash sales and \$270 per acre for mortgage sales (Table 21). Buyers in the Southeast paid \$480 per acre for sales financed by contract for deed against \$404 per acre for mortgage sales.

Table 21: Average Sales Price Per Acre of Farm Land by Method of Financing, by District, Minnesota, 1967, 1972 and 1973.

Method of Financing	South-east	South-west	District		North-west	North-east	Minn.
			West Central	East Central			
—dollars per acre—							
Cash							
1967	262	302	170	91	97	34	194
1972	386	368	219	149	79	68	286
1973	431	393	195	163	128	100	288
Mortgage							
1967	228	293	167	97	129	46	200
1972	375	326	200	148	119	60	256
1973	404	392	212	186	131	100	270
Contract for Deed							
1967	294	318	187	91	116	60	230
1972	444	390	243	154	104	75	333
1973	480	423	241	194	116	168	322

Table 22: Price Paid Per Acre and Percent of Sales, by Method of Financing and Quality of Land, Minnesota 1972 and 1973.

Land Quality Class	Method of Financing							
	Cash		Mortgage		Contract for Deed		All Sales	
	1972	1973	1972	1973	1972	1973	1972	1973
Good								
\$ per acre	376	366	306	345	387	412	363	390
% of sales	33	27	39	36	39	37	38	35
Average								
\$ per acre	259	273	247	243	314	302	283	281
% of sales	46	50	47	50	47	47	45	49
Poor								
\$ per acre	189	210	158	188	215	196	194	194
% of sales	21	23	14	14	14	16	15	17
All Grades								
\$ per acre	286	288	256	270	333	323	302	303
% of sales	100	100	100	100	100	100	100	100

Table 23: Classification of Rural Land Sales by Distance of Buyer's Residence From Tract, by District, Minnesota, 1973.

District	Distance of Buyer's Residence from Tract Purchased, in Miles						Median Distance
	Less Than					300 and Over	
	2	2-4	5-9	10-49	50-299		
	—percent of sales—						miles
Southeast	19	21	15	28	11	6	7
Southwest	22	35	17	15	9	2	4
West Central	23	28	15	15	13	6	4
East Central	18	10	10	26	26	10	15
Northwest	25	24	15	20	6	11	5
Northeast	19	7	12	28	14	21	17.5
Minnesota	21	24	15	21	12	6	5

Sales price paid for cash-financed and contract for deed sales declined in the West Central district in 1973 over 1972, once again pointing out the general depression of rural land prices in this area in 1972-73.

Contract for deed sales accounted for about half of all sales of average quality land in 1973 as they did in 1972 (Table 22). Cash sales for good quality land declined significantly as did price paid, from 1972 to 1973 (33 to 27 percent and \$376 per acre to \$366 per acre respectively). For average quality land cash-financed sales increased in price, but declined in price for mortgage and contract for deed-financed sales. The highest price per acre paid for any land in this classification was \$412 for good quality land financed by contracts for deed, which also accounted for a substantial 37 percent of all sales of good quality land. In general however the proportion of the various qualities of land varies little when further classified by method of financing, and movements between 1972 and 1973 can be approximated by the figure for all sales for each quality class.

Distance of Buyer from Tract

The rural land market in Minnesota remains distinctly local, the median distance of the buyer from the tract he buys being only 5 miles (Table 23). The range is from 4 miles in the Southwest and West Central districts to 17.5 miles in the Northeast. Sixty percent of all sales were to buyers resident less than 10 miles from the tract, over 80 percent less than 50 miles. In the Southwest, West Central and Northwest districts respectively the proportion of sales to buyers less than 10 miles distant rises to 67, 66 and 64 percent. It is interesting to note that the highest single proportion of sales in the Southeast, (28 percent) was to buyers 10-49 miles distant and, further, that the majority of East Central district buyers (52 percent) lived 10-299 miles away from the tracts they purchased. A further 10 percent lived over 300 miles distant. The distribution according to distance in the East Central, Southeast and Northeast districts does not conform to the general decline of proportion of sales to distant buyers which is evident in the more agricultural areas of the state.

PART II: THE RURAL LAND MARKET IN THE TWIN CITIES METROPOLITAN REGIONS

As in 1972 this analysis is split into two levels, covering the "five" and "seven-county" Metropolitan Areas. Hennepin and Ramsey counties are excluded from the analysis because of their high degree of physical urbanization, and the consequent gross distortion of rural land values. The five-county area comprises Anoka, Carver, Dakota, Scott and Washington counties. The seven-county area includes the five counties mentioned plus Chisago and Wright counties. In the 1972 survey it was demonstrated that these latter two counties could justifiably be included as part of the Metropolitan Area on the basis of land values, and the data for 1973 do not contradict this decision.

Population growth rates in the Metropolitan Area as designated are considerably above those for the state as a whole (Table 24). Between 1965 and 1970 the growth for the seven counties amounted to 5.0 percent annually, which compares with 1.4 percent for the whole of Minnesota. Despite the high concentration of population the five- and seven-county areas were still predominantly agricultural in terms of area, as demonstrated by the 1969 Census of Agriculture (Table 25). Almost two-thirds of five counties are still under some kind of farming use, and almost 70 percent of the seven counties. It is noticeable, however, that in certain counties, the 1959-1969 area of farmland declined significantly. This is particularly so in Anoka, Washington, and Wright counties.

On a county basis, reporters' estimates show a highly inflationary trend in land values when the two-year average for 1972-73 is compared with that for 1970-71 (Table 26). In the five counties this showed an increase from \$575 to \$826 per acre, the biggest increases in dollar terms being in Scott and Washington counties. The seven counties similarly show a large increase, from \$507 to \$726 per acre 1970-71 to 1972-73. Reported sales do not always come out as high as reporters' estimates, but the upward trend in values is still very obvious. The five-county average for reported sales increased from \$610 to \$757 per acre 1970-71 to 1972-73, the seven-county average from \$529 to \$681 per acre. This latter figure is particularly worthy of note and reflects a big jump in prices paid for rural land in Wright county. Over the four separate years 1970 to 1973 the increase in prices paid in Wright county was from \$379 to \$637 per acre, a 68 percent increase. Over 33 percent of the increase was from 1972 to 1973. There now seems to be greater justification than ever for including Wright (and Chisago) counties within the ambit of the officially designated Twin Cities Metropolitan Area for planning purposes.

Table 24: Population in Five- and Seven-County Metropolitan Areas, Minnesota, 1960-1970.

	Population			Annual Rates of Growth	
	1960 ¹	1965 ²	1970 ³	1960-65	1965-70
	—thousands—			—percent—	
Anoka	85.9	124.9	154.6	7.8	4.4
Carver	21.3	24.5	28.3	2.8	2.9
Dakota	78.3	104.0	139.8	6.0	6.1
Scott	21.9	28.4	32.4	5.5	2.6
Washington	52.4	67.0	82.9	5.0	4.3
5 counties	259.8	348.8	438.0	6.1	4.7
Chisago	13.4	13.8	17.5	0.6	5.4
Wright	29.9	332.9	38.9	2.0	3.6
7 counties	303.1	395.5	494.4	6.1	5.0
Minnesota	3413.9	3555.0	3805.1	0.8	1.4

Sources: 1—U.S. Census of Population, 1960
2—Minnesota Department of Health, Division of Vital Statistics, 1965
3—U.S. Census of Population, 1970

Table 25: Proportion of Farmland in the Five- and Seven-County Metropolitan Areas, Minnesota, 1959, 1964, and 1969.

County	Total Land	Percent of Land Area		
	Area	1959	in Farms 1964	1969
	—000 acres—		—percent—	
Anoka	271.0	52.4	42.2	35.3
Carver	229.0	93.3	92.6	84.9
Dakota	368.4	81.6	78.9	69.6
Scott	225.7	90.4	86.6	74.7
Washington	246.9	78.2	70.6	57.9
Chisago	268.1	78.6	75.7	64.6
Wright	431.5	91.7	90.9	78.2

Source: U.S. Census of Agriculture, 1959 and 1969.

Source:

Other large increases in sales prices on a year-by-year basis were reported from Washington county (\$641 per acre in 1972, \$1,022 per acre in 1973) and Scott county (\$562 to \$788 over the same period). The decline in land values in Carver County 1972-1973 may reflect a slackening in the pace of land acquisition by the Jonathan Development Corporation, combined with a

Table 26: Average Value per Acre of Rural Land by Reporters' Estimates and Reported Sales, Five- and Seven-County Metropolitan Areas, Minnesota, 1970-71 and 1972-73.

County	Reporters' Estimates		Reported Sales				Averages	
	1970-71	1972-73	1970	1971	1972	1973	1970-71	1972-73
			—dollars—					
Carver	604	791	491	598	866	603	556	749
Dakota	636	841	830	551	696	783	622	751
Scott	428	702	412	575	562	788	509	713
Washington	514	893	432	935	641	1,022	595	830
Anoka		906 ^a	602	1,030	837	b	963	757
5 counties	575	826	584	642	724	776	610	757
Chisago	261	457	446	358	442	521	395	471
Wright	445	540	379	396	477	637	384	524
7 counties	507	726	563	581	617	745	529	681

a Average 1970-1973

b Insufficient data

Table 27: Sales Price and Percent of Sales by Type of Buyer, Five- and Seven-County Metropolitan Areas, Minnesota, 1972-73.

Type of Buyer	Price per Acre		Change in Price 1972-73	Percent of Sales	
	1972	1973		1972	1973
	—dollars—		—percent—	—percent—	
Operating Farmer					
5 counties	540	641	19	17	18
7 counties	467	648	39	17	20
Expansion buyer					
5 counties	451	621	38	9	19
7 counties	439	599	36	13	17
Investor (Agricultural)					
5 counties	681	772	13	35	39
7 counties	623	720	16	30	36
Non Farm User					
5 counties	1,017	1,106	9	39	24
7 counties	822	1,068	30	40	17

higher than usual level of activity by this same agency in 1972. This implies that the 1972 figure of \$866 per acre is the figure which is out of line rather than the 1973 figure of \$603 per acre.

Table 28: Price paid per Acre and Percent of Sales by Quality of Land, Five- and Seven-County Metropolitan Areas, Minnesota, 1972 and 1973.

Land Quality Class	5 Counties				7 Counties			
	1972		1973		1972		1973	
	\$	%	\$	%	\$	%	\$	%
Good	670	24	791	37	593	30	842	36
Average	799	58	755	47	667	55	680	48
Poor	719	18	832	16	535	15	734	16
All Grades	724	100	776	100	617	100	745	100

In 1973 agricultural investors accounted for the highest proportion of sales in the five-county area, at 39 percent. The corresponding figure for the seven counties was 36 percent and both these figures were quite significant increases over 1972 (Table 27). When proportions of purchases by non-farm users (24 percent in the five counties and 17 percent in the seven counties) are included with the agricultural investment purchases, it is evident that the majority of purchases was for some kind of investment or non-farm use in 1973. What is perhaps more significant is the substantial decline in the proportion of purchases by non-farm users. In 1972, 39 percent of purchases in the five counties and 40 percent in the seven counties were by this class of buyer. These proportions have decreased to 24 and 17 percent respectively. In the five counties much of the difference was taken up by farm expansion buyers, (increasing their share of the market from 9 to 19 percent), while in the seven counties operating farmers, expansion buyers and agricultural investors shared relatively equally in taking up the slack.

Non-farm users still paid by far the highest prices for land. Indeed, in the seven counties they paid an average of \$1,068 per acre for land in 1973, an increase from \$822 per acre in 1972. But increases in prices paid in the seven counties were also up over 1972 figures by large margins in the cases of operating farmers (39 percent) and expansion buyers (36 percent). This seems to indicate a strengthened demand for land for farming within the ambit of the Twin Cities. There is little doubt that some of the land, particularly to the south and west, is good agricultural land. Given a year when farm product prices were high, as in 1973, it becomes easier for agriculture to compete with urban uses of land, and this is reflected in prices paid by operating farmers and expansion buyers in 1973 in the five- and seven-county metropolitan areas.

The average price paid for all grades of land in 1973 was \$776 per acre in the five counties and \$745 per acre in the seven counties (Table 28). These average figures mask the more agricultural nature of the seven-county area against the more urban nature of the five-county area. Poor quality land sold for \$832 per acre in the five-county area in 1973, substantially up over the \$719 per acre in 1972 and considerably higher than the \$791 per acre paid for good quality land in 1973. In the seven counties a more "normal" relationship between price and quality of land is evident, but even here poor quality land

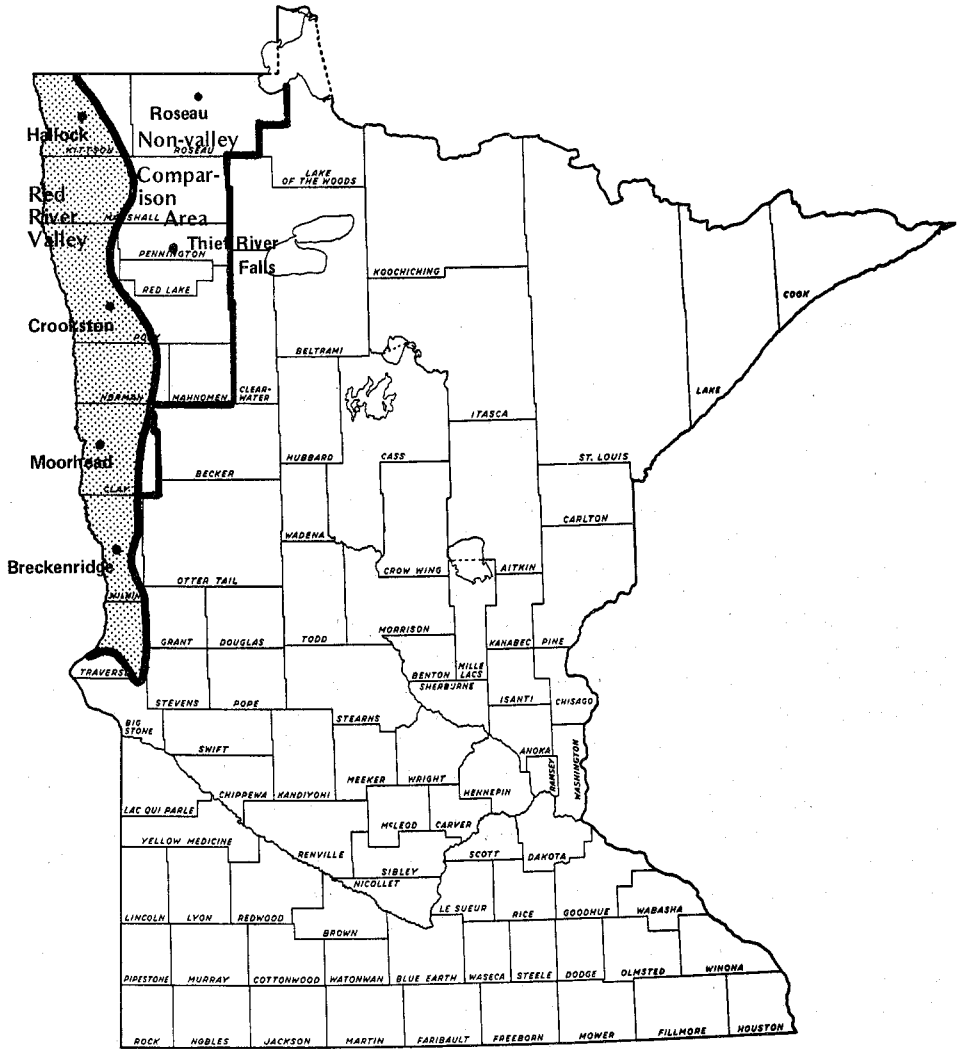
Table 29: Classification of Farm Land Sales by Distance of Buyer's Residence from Tract, Five- and Seven-County Metropolitan Areas, and Minnesota, 1973.

Miles	5 counties	7 counties	Minnesota
		—percent—	
Less than 2	13	14	21
2—4	10	10	24
5—9	19	19	15
10—49	52	49	21
50—299	6	8	12
300 and over	0	0	6
		—Miles—	
Median Distance	10	10	5

commands a much higher price than land of average quality. These figures serve to emphasize the distortions introduced into the rural land market by the proximity of a large metropolitan area. A sub-divider or developer is less concerned with quality of land in the sense inferred in this survey, that is, as it applies to agricultural fertility. But it is obvious that in the more outlying areas of the metropolitan area the better land still sells for more, the implication being that farming still has a stronger claim on such land than is the case with land closer to the Twin Cities.

In both the five- and seven-county metropolitan areas about 50 percent of sales were to persons living 10-49 miles from the tract sold (Table 29). This once again underlines the suggestion frequently put forward that many people in the Twin Cities are trying to buy rural dwellings. For Minnesota as a whole only 21 percent of buyers lived 10-49 miles from the tract purchased. The urban influence is further underlined in these figures.

FIG. 3. THE RED RIVER VALLEY AND COMPARISON AREAS



PART III: THE RURAL LAND MARKET IN THE RED RIVER VALLEY

The year 1973 marked a resurgence of economic prospects in the more agricultural areas of the state, and the Red River Valley was no exception. The number of farms sold jumped from 53 in 1972 to 76 in 1973, (from 53 to 77 in the non-Valley comparison area), and acreage reported sold went up from 16,741 to 19,164 over the same period (and by a substantial leap from 13,802 to 27,594 in the non-Valley area) (Table 30). Price paid per acre in 1972, at \$151, was down on that in 1971, but the \$201 per acre paid in 1973 seems, more than any other single figure, to point to the new health of the agricultural economy in the Valley. This represents a 33 percent increase over 1972 and reversed a decline in values which had prevailed since 1970. Prices paid in the non-Valley area are much less than those in the Valley, but also show a quite large increase over 1972 of 15 percent.

Almost twice the number of sales in the Valley were of unimproved land in 1973, a big increase proportionally over any of the previous 3 years (Table 31). Sales prices for unimproved land were \$190 per acre, the highest figure since 1970, but improved land still sold for more than unimproved. In the non-Valley area sales of improved land were almost double those of unimproved land, the reverse situation to that in the Valley. In 1973 the average acreage per sale in the non-Valley area was considerably larger than the same index in the Valley, and prices paid outside the Valley were much less than half those paid in the Valley, a situation observable for previous years. The sharp dichotomy between quality and desirability of land in the Red River Valley over adjacent non-Valley land is emphasized in the respective prices paid.

Expansion buyers reasserted their overwhelming dominance of the market in the Valley in 1973, accounting for 90 percent of purchases at an average price of \$202 per acre (Table 32). Their share of the market had slipped to a relatively low 69 percent in 1972. Operating farmers and investor buyers split the remainder of the market equally between them, at 5 percent each. This was a sharp decline in the relative share of operating farmers since 1972, but more in line with the 8 percent they accounted for in 1971. It is evident that 1972 was the "abnormal" year, not 1971 or 1973. Operating farmers paid much less, \$154 per acre, than either expansion buyers or agricultural investors in 1973, and the \$219 per acre paid by investor buyers indicates the increased attractiveness of investment in land in the Valley area. The increase over 1972 in this figure is 115 percent. Operating farmers paid most per acre for non-Valley land in 1973, (\$100) but once again most of the transactions (65 percent) involved expansion buyers.

Good and average quality land accounted for 88 percent of all Valley sales in 1973, and for 75 percent of non-Valley land sold (Table 33). Good

Table 30: Number of Sales, Acres Reported Sold and Sales Price per Acre of Rural Land in the Red River Valley and Non-Valley Areas, Northwest District, Minnesota, 1971-1973.

Item	Red River Valley			Non-Valley Area		
	1971	1972	1973	1971	1972	1973
Number of Sales, January-June	50	53	76	67	53	77
Acres Reported Sold	12,770	16,741	19,164	17,085	13,802	27,594
Sales Price per Acre (dollars)	166	151	201	66	78	90
Change of Sales Price over Preceding Period (percent)	- 14	- 9	33	- 4	18	15

Table 31: Sales of Improved and Unimproved Land, Northwest District, Minnesota, 1970-73.

	Number of Sales	Average Acreage Per Sale	Sales Price (dollars)
Red River Valley:			
Improved:			
1970	32	307	184
1971	29	286	161
1972	25	316	169
1973	27	258	220
Unimproved:			
1970	38	181	208
1971	21	209	173
1972	28	316	134
1973	49	249	190
Non-Valley Area:			
Improved:			
1970	38	242	80
1971	48	243	75
1972	35	254	84
1973	48	364	98
Unimproved:			
1970	14	605	58
1971	19	287	48
1972	18	273	67
1973	29	349	77

Table 32: Percent of Sales and Price per Acre by Type of Buyer, Red River Valley and Non-Valley Areas, Northwest district, Minnesota, 1972-73.

Type of Buyer	Red River Valley				Non-Valley Area			
	1972		1973		1972		1973	
	%	\$	%	\$	%	\$	%	\$
Operating Farmer	21	134	5	154	31	81	21	100
Expansion Buyer	69	163	90	202	54	81	65	89
Investor (Agricultural)*	10	102	5	219	15	63	14	90

*Excludes investor buyers for non-farm purposes.

Table 33: Sales Prices per Acre and Percent of Sales by Quality of Land, Red River Valley and Non-Valley Area, Northwest District, Minnesota, 1972-73.

Land Quality	Red River Valley				Non-Valley Area			
	1972		1973		1972		1973	
	%	\$	%	\$	%	\$	%	\$
Good	48	180	54	242	29	128	28	160
Average	42	173	33	162	42	80	47	91
Poor	10	70	13	81	29	46	25	66

Table 34: Method of Finance, Red River Valley and Non-Valley Area, Northwest District, Minnesota, 1971-1973.

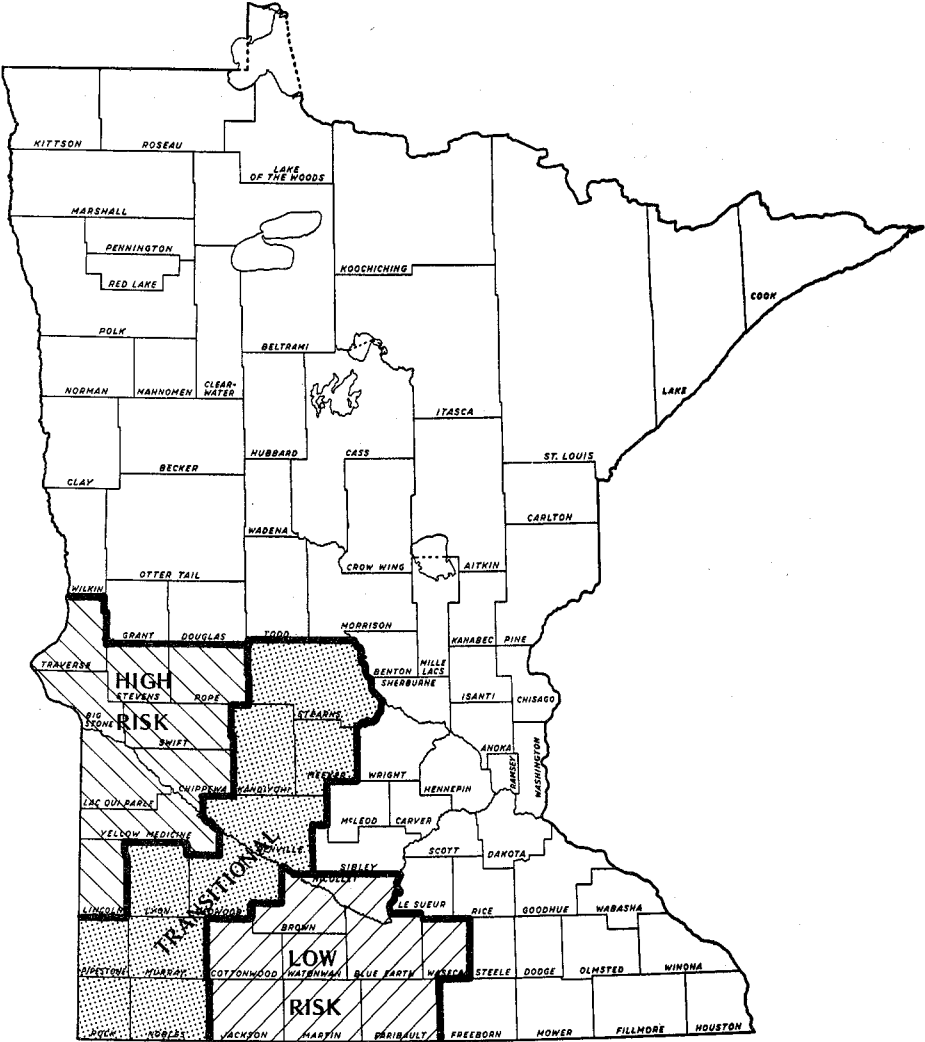
Method of Financing	Red River Valley			Non-Valley Area		
	1971	1972	1973	1971	1972	1973
	—percent—					
Cash	12	10	20	17	27	19
Mortgage	30	53	27	34	33	32
Contract for Deed	58	37	54	49	40	49

and poor quality land in the Valley sold for more in 1973 than in 1972 (\$242 against \$180, and \$81 against \$70 per acre respectively), whereas the price paid for land of average quality declined in price in 1973 from 1972, a trend which cannot readily be explained in terms other than that most sales of average land may have been in large parcels (consequently at relatively lower prices) to expansion buyers. All three quality classes of land sold for more in 1973 over 1972 in the non-Valley area and almost half the land sold was judged as average in quality.

Over half (54 percent) of Valley purchases were financed by contracts for deed in 1973, and this contrasts with the financing of over half the sales by

mortgages in 1972 (Table 34). The higher risk associated with contract for deed arrangement relative to a mortgage arrangement is apparently more than offset by the improved prospects evident in the 1973 price situation. Cash sales accounted for one-fifth of sales, an increase from one-tenth in 1972. Methods of financing and their relative importance by and large follow the pattern established for the state as a whole in 1973 (see Table 20 above) both for the Valley and non-Valley areas.

FIG. 4: HIGH RISK, TRANSITIONAL AND LOW RISK AREAS IN S. W. MINNESOTA.



PART IV: THE RURAL LAND MARKET IN SOUTHWESTERN MINNESOTA

The Southwestern quarter of the state contains some of the best farmland in Minnesota, and some of the most vulnerable in terms of risks to agriculture. The region as delineated (not to be confused with the Southwest district) contains parts of the West Central, Southwest and Southeast districts (see Figure 4). In the more northwesterly part of the region there is an area of well-known high-risk agriculture which has been the subject of special analysis in previous issues of this report. In the south-central part of the state there is a fairly well-defined block of counties which contains the highest priced farmland in the state. This is land, furthermore, which is sufficiently distant from the Twin Cities and more urbanized areas of the Southeast district so that the values determined reflect almost exclusively the inherent fertility of the soil. Between these two areas is a third "transition" area. This transition belt of counties is one where land quality is roughly comparable with that in the high-risk area but where risks to agriculture are less.

The high-risk area, as already mentioned, is one where uncertainty is a bigger factor in agricultural decision-making than in any other area of the State, and most of this uncertainty is centered on unpredictable, inclement and often disastrous weather conditions. During the latter half of 1972 such conditions occurred in the area and were of such severity as to prompt requests for Federal disaster-area status in the region. In this analysis this high-risk area is compared with the decidedly "low-risk" area in the south of the state, and with the transition area linking the two extremes.

The sharpest contrast is immediately apparent in terms of land prices in 1973. In the high-risk area land sold for \$218 per acre, in the transition area for \$346, and in the low-risk for \$524 (Table 35). Whilst these second two figures represented considerable increases in dollar terms over 1972, the figure for 1973 in the high-risk areas was only a marginal increase over 1972. In addition the value of land has approximately doubled in the low-risk area since 1962, has increased by 70 percent in the transition area, but has increased by only 45 percent in the high-risk area. Average size of tract is consistently larger in the high-risk area than in either of the other two, and moreover has been increasing since 1962, whilst remaining fairly constant in the transition and low-risk areas. A reflection of a bad year in 1972 is that the number of sales in the high-risk area in 1973 (269) was 39 percent up over 1972 whereas the increases in transactions in the other two sub-regions were less than half this figure.

In 1973, 69 percent of sales in the high-risk area were of improved land, a decline from 85% in 1962, and perhaps indicative of the increasing activity of expansion buyers over this period of time (Table 36). The proportion of

Table 35: Analysis of Reported Sales, High Risk, Transition and Low Risk Areas, Minnesota, 1962, 1972, 1973.

Item	High Risk Area			Transition Area			Low Risk Area		
	1962	1972	1973	1962	1972	1973	1962	1972	1973
Number of Sales	157	194	269	209	322	383	163	217	249
Average size of tract (acres)	194	212	216	167	177	178	142	155	154
Average sales price per acre (dollars)	150	214	218	202	319	346	264	455	524
Standard Deviation of Sales Price (dollars)	20	79	94	42	107	136	26	110	148
Coefficient of Variation (percent)	13	37	43	21	33	39	10	24	28

Table 36: Average Sales Price per Acre, and percent of Sales, of Improved and Unimproved Land, High Risk, Transitional and Low Risk Areas, Minnesota, 1962, 1972, 1973.

Area	Improved Land						Unimproved Land					
	1962		1972		1973		1962		1972		1973	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
High Risk	85	151	67	220	69	228	15	137	33	194	31	185
Transitional	83	207	74	326	79	357	17	163	26	292	21	301
Low Risk	83	264	83	455	81	529	17	259	17	455	19	502

improved land has remained relatively constant in the other two regions, and prices paid for both improved and unimproved land show the same disproportionate increases among the three regions as was noted for overall price mentioned above, with the biggest increases over the 11 years coming in the low-risk area, the smallest in the high-risk.

Expansion buyers have increased their market share in all three regions in 1972 and 1973, and accounted for over three-fourths of all transactions in the low-risk area (Table 37). This expansion has been primarily at the expense of the operating farmer whose market share declined from 32 percent in 1962 to 14 percent in 1973. Of particular significance is the fact that expansion buyers seemed willing to pay at least as much per acre for land as agricultural investor buyers both in 1972 and 1973. The commercial attractiveness of farming in the low-risk area especially seems beyond doubt. In 1973 expansion buyers paid an average of \$533 per acre in this area: investor buyers paid

Table 37: Sales Prices per Acre and Percent of Sales by type of buyer in the High Risk, Transitional and Low Risk areas, Minnesota, 1962, 1972, 1973.

Type of Buyer and Year	High Risk		Transition		Low Risk	
	%	\$	%	\$	%	\$
Operating Farmer						
1962	39	a	44	a	32	a
1972	23	201	25	336	13	403
1973	28	226	22	350	14	460
Expansion Buyer						
1962	47	a	44	a	56	a
1972	65	222	63	315	76	464
1973	61	213	60	358	79	533
Agricultural Investor						
1962	14	a	12	a	11	a
1972	12	226	12	283	11	483
1973	11	216	17	309	7	534

a Data not available

Table 38: Proportion of Sales and Price Paid according to Quality of Land, High Risk, Transition and Low Risk Areas, Minnesota, 1962, 1972, 1973.

Quality of Land and Year	High Risk		Transition		Low Risk	
	%	\$	%	\$	%	\$
Good						
1962	43	a	43	a	41	a
1972	43	260	40	374	38	528
1973	33	287	33	431	46	611
Average						
1962	45	a	43	a	41	a
1972	43	199	48	296	48	436
1973	48	210	49	327	38	488
Poor						
1962	12	a	14	a	18	a
1972	14	130	12	214	14	328
1973	18	143	17	249	15	349

a Data not available

Table 39: Proportion of Sales and Price Paid by Quality of Buildings, High Risk, Transition and Low Risk Areas, Minnesota, 1962, 1972, 1973.

Quality of Buildings and Year	High Risk		Transition		Low Risk	
	%	\$	%	\$	%	\$
Good						
1962	20	a	21	a	17	a
1972	17	272	22	382	20	514
1973	20	281	20	442	20	613
Average						
1962	43	a	39	a	34	a
1972	30	215	32	298	27	468
1973	29	228	30	353	29	503
Poor						
1962	22	a	22	a	32	a
1972	19	185	20	294	29	405
1973	20	179	23	298	24	493
None						
1962	15	a	18	a	17	a
1972	33	195	26	297	24	454
1973	31	184	27	301	27	500

a Data not available

\$523. In all three areas farmers who wish to expand their operations apparently feel able to compete on equal terms with the agricultural investor buyer in bidding for land, and this latter type of buyer has been unable to increase his market share significantly since 1962.

Although qualities of land are not strictly comparable across regional boundaries (what would be considered poor land in the low-risk area may be regarded as average or good land in the high-risk area), this index does give some base to land market activity within each area (Table 38). Good or average quality land accounts for the bulk of sales in all three areas. Not surprisingly, the highest price paid in 1973 for any land in the Southwest was \$611 per acre for good land in the low-risk area. Good quality land accounted for a smaller share of the transactions in the high-risk and transition areas in 1973 compared with earlier years, perhaps indicating that due to bad weather in 1972 much average (or below average) quality land suddenly came into the market either by default (occasioned by crop failure) or by design. It would, however, be premature to say that good quality land will fail to regain the market share it had in 1972 (43 percent in the high-risk area, 40 percent in the transition area) a proportion, furthermore, which seems to have remained more or less constant since 1962.

The importance of building quality in the purchase-decision was mentioned in Part I of this report, indicating that an operating farmer would attach more significance to this consideration than, for example, an expansion buyer. It is difficult to separate out any distinct trends in building-quality figures other than that the proportion of sales in each building-quality class in all 3 areas is remarkably similar, and this has been true to a lesser extent for the 3 years of 1962, 1972 and 1973 (Table 39). Prices paid for land with buildings showed a predictable correlation with quality of building. More interesting is the fact that prices paid for land with no buildings in both 1972 and 1973 were above the prices paid for land with poor quality buildings. This applied in all three areas. In the low-risk area in 1973 an average of \$500 per acre was paid for land with no buildings, and \$493 for land with poor quality buildings. In the transition area the figures were \$301 and \$298 respectively; in the high-risk area they were \$184 and \$179 respectively. This must partially reflect the importance of the expansion buyer in each area.

In both 1972 and 1973 contracts for deed financed most sales in all three areas, overwhelmingly so in the low-risk but are of relatively less importance in the high-risk area (Table 40). Highest prices were paid for contract-for-deed financed purchases (\$234 per acre in the high-risk area in 1973, \$356 per acre in the transition area, \$538 per acre in the low risk area) and there was quite a close resemblance in all areas between cash-financed and mortgage-financed purchase prices.

Table 40: Price Paid per Acre and Proportion of Sales by Method of Financing, High Risk, Transition and Low Risk Areas, Minnesota, 1972 and 1973.

Method of Financing	High Risk				Transition				Low Risk			
	1972		1973		1972		1973		1972		1973	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
Cash	17	215	14	203	23	315	23	321	21	427	19	491
Mortgage	41	198	39	205	33	295	25	343	19	448	28	501
Contract for Deed	42	233	47	234	45	338	52	356	60	465	52	538
All	100	214	100	218	100	319	100	346	100	455	100	524

PART V: ANALYSIS OF REPORTERS' ESTIMATES BY OCCUPATION

This survey has been carried out in this form annually since 1953. The primary source of data is a group of people of quite widely differing professional backgrounds throughout Minnesota. Some of the respondents have been filling in the questionnaires every year since the survey began and many more have been added as, for various reasons, other respondents were removed from the mailing list. Without the help of all these people there would be little to report.

Partly in deference to the respondents it was decided to include an analysis to determine whether there was any correlation between occupational background and the information they forwarded concerning the land market in their particular areas of Minnesota. The seven main occupational groups were aggregated into 3 broader groups, the first comprising real estate agents, (including those who combine some insurance brokerage with their real estate business), the second comprising the broad group of credit agents, (including county bankers and local representatives of the Farmers' Home Administration, the Federal Land Bank Association and the Production Credit Association), and the third comprising county officials (county auditors, tax assessors, agricultural agents, zoning administrators and planning board officials), insurance agents, and a group conveniently designated "others" which includes such diverse occupations or life styles as auctioneers, building contractors, high school vocational agricultural instructors, farm managers, actual farmers, store-keepers and interested lay people. The biggest part of the response, it should be mentioned, comes from real estate people, bankers and local credit agents, but the occupational base of the reporters seems to widen every year. Everyone who is contacted and who responds to the survey has some knowledge of the rural land market in their area which is valuable and pertinent to the overall findings of the survey.

The original hypothesis was that real estate people might tend to overstate their land market estimates relative to more cautious estimates of bankers, or relative to those county officials who, for example, were in possession of more accurate data relating to actual transactions. In fact no such trend was discernible when the four periods (1969-70, 1970-71, 1971-72 and 1972-73) were considered (Table 41). Indeed there is no general trend applicable to any one of the three occupational categories relative to the others. The one thing which is evident is that all the respondents regardless of occupation react in a similar way in reporting the land market under similar general economic conditions. If the market is slow, as in 1969-70 and 1970-71, the reporters' estimates of the market show across-the-board slight increases in values of the magnitude of 0 to 3 percent. If the market is very active, as in 1973, the estimates show much more movement from the previous year, in a

Table 41: Annual percentage change in land value estimates by occupation of reporter, Minnesota, 1970-1973.

Occupation	1969-70	1970-71	1971-72	1972-73
			—percent—	
Brokers and Broker-Insurance	1	3	7	18
Bankers and Credit Agents	3	2	9	19
County officials, insurance agents and others	2	0	7	24
All	2	2	7	20

range of estimates from 18 to 24 percent increases. If anything, the real estate agents and dealers seem to be more conservative than other groups in their estimates. Without detracting from the judgement of other respondents it must be admitted that the estimates given by real estate agents may tend to be more accurate if only because their livelihood and businesses depend to a large extent on an accurate appraisal of values at any given time. The same reasoning in varying degrees applies to other categories, particularly credit agents and bankers. It is noticeable that Table 41 shows a close similarity between trends based on year-to-year reporters' estimates sent in by real estate people, bankers and credit agents. It is the accuracy with which all the reporters estimate the land values and report sales which gives this report its value.

STATISTICAL APPENDIX

One disadvantage in the use of average prices based on 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 44. 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 \$100 per acre with a standard deviation of \$50. This means that approximately two-thirds of the sales in that district fell between \$50 and \$150 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 50 percent. Wider variations in sales price above and below the average create larger coefficients of variation.

In the Northwest district a relatively high coefficient of variation (68.2 percent) results from a wide variation in sales price, particularly between the Red River Valley and neighboring non-Valley areas. The range is from less than \$50 per acre in some non-Valley areas to over \$300 per acre in the Valley itself.

In the Southeast, heavily influenced in parts by urban pressures, there is a high coefficient of variation when compared to the Southwest and West Central farming districts. Wide variations in price are also characteristic of the Northeast district which typically has one of the highest coefficients of variation of any district in the state.

Table 42: Average Estimated Price Per Acre of Rural Real Estate in Minnesota by Districts, 1910-1911 through 1944-1945, by Two-Year Periods, and Annually, 1946 through 1973.

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

Table 43: Annual Percentage Change in Estimated Rural Land Values Per Acre, Minnesota, 1946-1973.

	%		%
1945-46	16.1	1959-60	1.3
1946-47	10.8	1960-61	0.6
1947-48	9.7	1961-62	1.9
1948-49	5.1	1962-63	1.3
1949-50	2.4	1963-64	3.1
1950-51	16.5	1964-65	3.0
1951-52	8.1	1965-66	7.0
1952-53	1.9	1966-67	6.0
1953-54	7.6	1967-68	8.8
1954-55	7.1	1968-69	5.7
1955-56	4.1	1969-70	1.8
1956-57	9.5	1970-71	2.2
1957-58	6.5	1971-72	6.8
1958-59	6.8	1972-73	19.9

Table 44: Average Price Per Acre of Reported Rural Sales, Standard Deviation and Coefficient of Variation, by District, Minnesota, 1960-73*

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
Average Price Per Acre (dollars)							
1960	189.1	240.4	136.4	69.3	100.8	49.5	160.9
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	372.1	341.6	205.1	192.5	99.3	46.4	269.3
1972	420.1	367.1	223.0	151.6	104.9	76.7	301.8
1973	460.1	410.7	223.2	181.9	119.2	120.9	302.5
Standard Deviation (dollars)							
1960	90.4	77.0	47.7	48.6	76.6	42.1	95.8
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	2.1	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	247.6	128.4	71.9	237.4	66.6	34.5	202.6
1972	258.5	137.4	86.5	129.3	64.6	39.3	206.2
1973	243.8	166.5	97.6	107.2	81.3	87.3	207.7
Coefficients of variations (percent)							
1960	47.8	32.0	35.0	70.2	76.0	85.1	59.5
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	66.5	37.6	35.1	123.3	67.1	74.4	75.2
1972	61.5	37.4	38.8	85.3	61.6	51.2	68.3
1973	53.0	40.5	43.7	58.9	68.2	72.2	68.7

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