Agricultural Economics Report

NUMBER 560
JUNE 1992

1992 MICHIGAN LAND VALUES

By
Steven D. Hanson, Assistant Professor
Myron Kelsey, Professor
Alan Jensen, Graduate Research Assistant

Department of
Agricultural Economics
MICHIGAN STATE
UNIVERSITY
East Lansing

1992 Michigan Land Values

by

Steven D. Hanson, Assistant Professor
Myron Kelsey, Professor
Alan Jensen, Graduate Research Assistant

Before 1991 there were three sources of Michigan agricultural land values: the Federal Reserve Bank of Chicago district farmland survey; the USDA-ERS estimate of the value of farmland and service building; and the state equalized value (SEV) used for property tax purposes. Both the USDA and Federal Reserve Bank surveys provide useful information regarding aggregate land values in the state. However, in many instances, users of land value information desire a more disaggregated measure of land values. The SEV is set by county assessors at 50 percent of the estimated market value of land using comparative sales studies conducted annually. SEVs are useful in determining representative land values but are handicapped by the historical sales perspective upon which the appraisals are based.

In an effort to measure disaggregated land values, a survey was conducted by Michigan State University in January 1991 that collected information on land values for sugar beet land and different types of corn-soybean-hay land.[1] A similar survey was conducted in January 1992. In addition to the types of information collected in the 1991 survey, the 1992 questionnaire also asked for information on irrigated land and land rents. The objective of the 1992 survey was to continue to provide information on disaggregated land values in Michigan. The remainder of this paper contains a discussion of the survey and the survey results, and a summary.

Survey Method

The sample consisted of members of the Farm Managers and Rural Appraisers Association, banker participants in the annual Michigan Farm Credit Conference, and county assessors in Michigan. After accounting for overlap between the three groups the total sample consisted of 431 agents: 206 lenders from the Farm Credit Conference, 142 appraisers, and 83 county assessors. A total of 104 questionnaires were returned, 100 of which had land value

---

[1] See Hanson, Steven D. and Mike Kelsey. "Farmland Values in Michigan." Agricultural Economics Report No. 547, Michigan State University. 1991.

information reported. The majority of responses were received from the southern half of the lower peninsula. Three responses were received from the upper peninsula and ten were received from the northern half of the lower peninsula. This is a reasonable correspondence between the location of respondents and the actual geographic distribution of agricultural production in the state. It should be noted that some respondents may have been reporting as a pool of individuals who received questionnaires, such as a farm credit service branch office or appraisal group. It is also important to recognize that the survey respondents in many cases were experts on land values in their areas. These people often had access to a significant amount of land appraisal and transaction information.

The sampled agents each received a cover letter, encouraging their participation in the study, and a two page questionnaire asking for land value information and comments on land values. Respondents were promised a summary of the results of the survey. Copies of the cover letter and questionnaire used in the survey are included in the Appendix.

Information requested on the questionnaire included: the current average value of land; the current range in value; the percent change in value over the last year; the percent change in value expected over the next year; the percent change in the supply of land on the market during the last year; and the average cash rent value of land. The questionnaire requested the information be reported separately for high quality corn-soybean-hay (C-SB-H), low quality C-SB-H, sugar beet, and irrigated land as appropriate for each respondent's area. Five year average historical yields for corn, soybeans, and hay were provided on the questionnaire to help respondents distinguish between higher and lower quality land. The respondents were asked to indicate the county or counties to which their information corresponds. In addition, space was provided for general comments on land values in Michigan. The questionnaires were mailed in January 1992 and asked for information corresponding to January 1992.

Survey Results for the Southern Lower Peninsula

Respondents reporting information on sugar beet and irrigated land were primarily concentrated in the southern lower peninsula while those reporting C-SB-H land information were spread across the state.[2] In order to account for the potential large differences in soil characteristics, the C-SB-H responses were split into two groups: (1) the upper peninsula and northern lower peninsula region (Area 1 in figure 1); and (2) the southern lower peninsula region (Areas 2 in figure 1).

Tables 1-4 present the land value information for the southern lower peninsula. Table 1 summarizes the responses regarding the average, high, and low prices for the four land types in the southern lower peninsula. The higher quality C-SB-H land had an average price of $984 per acre. Lower quality C-SB-H land had an average price of $662 per acre, over $300 per acre less than the high quality land. Sugar beet land averaged $1441 per acre and irrigated land averaged $1070 per acre. Clearly the characteristics of land has a significant impact on its value.

The range in value (not average value) for high quality C-SB-H land was reported to be $200 to $2750 per acre, while low quality C-SB-H land ranged in value from $250 to $1500 per acre. The high values reported for both high and low quality C-SB-H land were for land located in the thumb area and clearly reflect the influence of surrounding sugar beet land. Sugar beet land ranged in value from $650 to $2400 per acre and irrigated land values ranged from $500 to $2200 per acre in value.

---

[2] The only exception was one respondent reporting information for irrigated land in the northern lower peninsula. The reported information was consistent with values reported for irrigated land in the southern lower peninsula and was therefore included in the information reported for the southern lower peninsula.

FIGURE 1. Designation of State Production Areas.

Table 2 shows the percent change in value during the last 12 months and the expected increase in value during the next 12 months in the southern lower peninsula. High and low quality C-SB-H land increased in value by an average of 2.5% and 1.6%, respectively, during the last year. Sugar beet land values rose by 3% and irrigated land values increased by 3.4% during the last 12 months. Land values are expected to remain fairly stable during the upcoming year. High quality C-SB-H land is expected to increase by an average of 1.4% over the next year, while low quality C-SB-H land is expected to increase only 1.0%. Sugar beet land values are expected to rise 1.4% over the next year while irrigated land is expected to show the strongest gains with an average increase of 3.4%.

Table 3 shows the percent change in the supply of land on the market during the last 12 months in the southern lower peninsula. High quality and low quality C-SB-H land on the market increased an average of 1% and 2.4%, respectively. Sugar beet land on the market increased by 3.3%. On the other hand, the supply of irrigated land on the market remained stable, perhaps explaining the relatively strong outlook for irrigated land prices during the next 12 months. The high quality C-SB-H land showed the most variability in change in supply of land, exhibiting as much as a 30% decrease in the supply of land on the market in some areas and up to a 30% increase in other areas.

Table 4 shows the average cash rent and value to rent multipliers for each type of land. High quality C-SB-H land had an average cash rent of $64 per acre compared to $41 per acre for low quality C-SB-H land. Sugar beet land rented for $108 per acre while irrigated land rented for $92 per acre. The cash rent values are roughly in proportion to the corresponding values of each land type.

A useful tool for making comparisons among the different sets of land values is the "value to rent ratio." Value to rent ratios were calculated by dividing average land values by the

Table 1. Price Per Acre in the Southern Lower Peninsula

LAND TYPE	AVERAGE	HIGH	LOW
Corn-S.B.-Hay (above avg.)	$ 984	$2,750	$200
Corn-S.B.-Hay (below avg.)	662	1,500	250
Sugar Beet	1,441	2,400	650
Irrigated	1,070	2,200	500

Table 2. Percent Change In Value in the Southern Lower Peninsula

LAND TYPE	LAST 12 MONTHS	EXPECTED NEXT 12 MONTHS
Corn-S.B.-Hay (above avg.)	+2.54%	+1.41%
Corn-S.B.-Hay (below avg.)	+1.61	+1.03
Sugar Beet	+3.00	+1.4
Irrigated	+3.38	+3.35

Table 3. Percent Change In Land Supply on the Market in the Southern Lower Peninsula

LAND TYPE	LAST 12 MONTHS
Corn-S.B.-Hay (above avg.)	+1.07%
Corn-S.B.-Hay (below avg.)	+2.42
Sugar Beet	+3.33
Irrigated	+0.00

Table 4. Cash Rent And Value Multiplier in the Southern Lower Peninsula

LAND TYPE	AVERAGE CASH RENT	AVERAGE VALUE/RENT
Corn-S.B.-Hay (above avg.)	$64.40	16.1
Corn-S.B.-Hay (below avg.)	41.20	17.4
Sugar Beet	107.90	13.5
Irrigated	91.90	12.6

Note: Average value to rent ratios were calculated using only the questionnaires with completed responses to both the average value and average rent per acre questions.

average cash rents and then averaging over each land type. The average value to rent ratio for high and low quality C-SB-H land was 16.1 and 17.4 respectively. Sugar beet land showed a value to rent ratio of 13.5 while irrigated land had a ratio of 12.6.

Value to rent ratios are a direct function of the future cash flows the land is expected to generate. Higher expected future cash flows are "capitalized" into the value of the land today, increasing its value relative to the current years cash flow. In other words, higher expected future cash flows translate into higher value to rent ratios. The relatively high value to rent ratios for C-SB-H land thus suggest three possible situations: (1) the market actually anticipates that the cash flows for C-SB-H production will grow at a faster rate than sugar beets and irrigated land; (2) the C-SB-H land may be switched to alternative production, e.g. sugar beets, in the future; or (3) non-farm uses of the land in the future may provide higher cash flows than those expected from C-SB-H production.

Tables 5-8 show the information reported for C-SB-H land in the upper peninsula and northern lower peninsula. It should be emphasized that the total number of responses reported in these regions was only 13. Table 5 reports the average price per acre. High quality C-SB-H land averaged $465 per acre while low quality C-SB-H land averaged $303 per acre. As expected the average values per acre in the upper peninsula and northern lower peninsula are significantly below those reported for the southern lower peninsula. The difference between average value of high and low quality C-SB-H land in the upper peninsula and northern lower peninsula was about $160 per acre, roughly half the difference in the southern lower peninsula.

Table 6 shows high and low quality C-SB-H land in the upper peninsula and northern lower peninsula increased in value 1.7% and 0.8% during the last year, slightly below the values reported for the southern lower peninsula. High quality C-SB-H land is expected to increase in value by 1.4% during the next 12 months as opposed to only a 0.3% expected increase in value

for the lower quality C-SB-H land, roughly comparable to expected increases reported for the southern lower peninsula.

Table 7 contains the estimated percentage change in supply of C-SB-H land on the market in the upper peninsula and northern lower peninsula. High quality and low quality land supply increased 0.4% and 1.0%, respectively, during the last 12 months. The expected change in supply of C-SB-H land on the market in the upper peninsula and northern lower peninsula were slightly below values reported for the southern lower peninsula.

Table 8 shows the cash rent and value to rent ratio for high and low quality C-SB-H land in the upper peninsula and northern lower peninsula. High quality C-SB-H had an average cash rent of $31 per acre while the average cash rent for low quality C-SB-H land was $21 per acre, significantly below the values reported for the southern lower peninsula. The value to rent ratios for high and low quality C-SB-H land were 22.8 and 19.4, respectively. These values were even higher than those reported for the southern lower peninsula, suggesting relatively high growth rates in expected cash flows for C-SB-H production or the anticipation of some more profitable future use of the land.

The questionnaire also asked respondents to comment on land values in their area and Michigan. A few common themes exist in the comments. The major determinants of land values were believed to be: non-farm development, potential for alternative production practices, and the PA 116 program. Land values were believed to have remained generally stable over time for agricultural production, although there exists a wide variability in land prices within local regions. Sales volume has generally been low and a large number of the sales that have taken place were for non agricultural purposes.

Table 5. Price Per Acre in the Upper Peninsula and Northern Lower Peninsula

LAND TYPE	AVERAGE	HIGH	LOW
Corn-S.B.-Hay (above avg.)	$ 465	$1,100	$ 100
Corn-S.B.-Hay (below avg.)	303	550	80

Table 6. Percent Change In Value in the Upper Peninsula and Northern Lower Peninsula

LAND TYPE	LAST 12 MONTHS	EXPECTED NEXT 12 MONTHS
Corn-S.B.-Hay (above avg.)	+1.72%	+1.39%
Corn-S.B.-Hay (below avg.)	+0.83	+0.33

Table 7. Percent Change In Land Supply on the Market in the Upper Peninsula and Northern Lower Peninsula

LAND TYPE	LAST 12 MONTHS
Corn-S.B.-Hay (above avg.)	+0.43%
Corn-S.B.-Hay (below avg.)	+1.00

Table 8. Cash Rent And Value Multiplier in the Upper Peninsula and Northern Lower Peninsula

LAND TYPE	AVERAGE CASH RENT	AVERAGE VALUE/RENT
Corn-S.B.-Hay (above avg.)	$30.90	22.8
Corn-S.B.-Hay (below avg.)	21.30	19.4

Conclusion

The Michigan land value survey was continued for a second year. The primary purpose of the survey is to provide information on disaggregated land values in Michigan. In addition to asking for land value information related to C-SB-H and sugar beet land as in the previous survey, this year's survey asked for information on irrigated land and cash rents. Land prices showed slight increases during the previous year and are expected to realize even smaller increases during the upcoming year. The type of land was seen to have a significant impact on the land's value.

APPENDIX

January, 1992

Dear:

Enclosed is the annual land value survey for Michigan farmland. Land values are an important indicator of the economic strength of the economy. To help provide this information, we are asking you to take a few minutes and give us your estimates on the value of farmland which is used to grow corn, soybeans, hay, and/or sugarbeets in your area. Suggestions from respondents to last year's questionnaire led to additional questions related to irrigated land and cash rent values being included on this year's questionnaire. We will send a survey summary to all those who respond to the questionnaire.

While your participation in the survey is purely voluntary, we do value your opinion and would appreciate a prompt response. Your participation will be strictly confidential and you will remain anonymous on the report of the survey findings. You indicate your voluntary agreement to participate by completing and returning the questionnaire. Thanks for your help.
If you have any questions, please call Kelsey (517) 353-4520 or Hanson (517) 353-1870.

Sincerely,

Mike Kelsey
Professor

Steve Hanson
Assistant Professor

FARM LAND VALUE QUESTIONNAIRE
January 1992

Make the best estimates you can for your area.

Indicate which county or counties you are reporting on._____

Above Average and Below Average refers to land you expect to produce yields above or below the state average respectively. Five year averages (1986-90) for corn, soybeans and hay in Michigan are:

	Average Yield/Acre	
Corn	100	bu.
Soybeans	34	bu.
Hay	3.08	tons

Type of Land	Current Average Value	Current Range in Value		Percent Change in Value (Indicate + or -)		Percent Change in the Supply of Land on the Market in Last 12 Months Indicate + or -	Average Cash Rent
		High	Low	Last 12 Months	Expected in Next 12 Months		
	$/acre	$/acre	$/acre	% Change	% Change	% Change	$/acre
A. Corn-S.B.-Hay Above Average							
Below Average							
B. Sugar Beet (if applicable)							
C. Irrigated (if applicable)							

(over)

General Comments on Land Values in your area and Michigan:

_____

_____

_____

Would you like a summary of the survey results?

Yes ☐
No ☐

If you are interested in a copy of the survey results, please provide your correct address and phone number.

Address:

_____ Phone:_____.

_____

_____