

No. 611

December 2001

## 2001 MICHIGAN LAND VALUES

by
Steven D. Hanson
Gerald Schwab

Department of
Agricultural Economics
MICHIGAN STATE
UNIVERSITY
East Lansing, MI
48824-1039

# 2001 MICHIGAN LAND VALUES 

By

Steven D. Hanson and Gerry Schwab*<br>Michigan State University

The authors are Professors in the Department of Agricultural Economics (AEC), Michigan State University.

## TABLE OF CONTENTS

Page
Survey Method ..... 2
Data Reporting ..... 5
Agricultural-Use Farmland Values ..... 6
Average Farmland Values ..... 6
Change in Farmland Values ..... 7
Farmland Leasing ..... 9
Crop Acres Leased ..... 10
Landlord:Tenant Share Leasing Arrangements ..... 10
Cash Rent Levels ..... 11
Non Agriculture-Use Values of Farmland ..... 14
Major Factors Influencing Land Values and Rents in Michigan ..... 15
Conclusions ..... 17
Appendix ..... 19

## LIST OF TABLES

Page
Table 1. Michigan Agricultural Land Values ..... 6
Table 2. Change in Michigan Farmland Value ..... 8
Table 3. Characteristics of Leased Farmland in Michigan ..... 9
Table 4. Average Cash Rent and Value Multipliers for Michigan Agricultural Use Land ..... 12
Table 5. Non Agricultural-Use Value of Undeveloped Land in Michigan ..... 15
Table 6. Percentage Change in Land Value from 1991-2001 in the Southern-Lower Peninsula ..... 18

## LIST OF FIGURES

## Page

Figure 1. Farmland Value Questionnaire Responses . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2
Figure 2. Agricultural Statistics Districts and Number of Respondents . . . . . . . . . . . . . . . . . . . . . . . . 4

## 2001 MICHIGAN LAND VALUES

Land is a natural resource that is valued for many different reasons. Farmers use land to earn their livelihood and as a store of wealth for future retirement. Potential rural residents have increasingly sought green space for a home site and life style. Developers seek financial opportunities to invest and "develop" the land for non-farm uses. Recreational needs are often met with use of land. For some, land is viewed as an investment and hedge against inflation. This myriad of demands for land combined with its fixed supply continually alters its market price as a monetary measure of its perceived value.

Land prices and expected changes in land prices are frequently asked questions. There are several sources of information on Michigan farmland values. The Federal Reserve Bank of Chicago reports quarterly farmland values for each state in its district based on a survey of lenders; however, Michigan farmland sales transactions are sporadically reported due to lack of reported volume. The USDA estimates the value of farmland and service buildings each year for every state based on a survey of farmers. Both of these surveys provide useful information on aggregate farmland values in the state. For land value information to be useful for individual decision-making, a more disaggregated measure of land values based on land type and use is desired. The state equalized value (SEV) used to determine property taxes is set by township assessors at an estimated 50 percent of the market value of farmland based on comparative sales studies conducted annually. County equalization directors review the assessment rolls of local township assessors and make adjustments based on sales data. SEVs are useful in determining representative land values but are handicapped by the historical sales perspective upon which the appraisals are based.

Michigan State University (MSU) has also collected data on land values since 1991 by mail survey. The goal of the MSU study is to provide information on the value of land based on its production use. The survey asks for information on the value of tiled and untiled land used to produce field crops as well as information on the value of land that is used for sugar beets and for irrigated crops. The study also provides information on leasing rates and practices in the state. In addition, the study collects information on the non-
agriculture use value of farmland. The remainder of this paper contains the results for the MSU land value survey conducted in Spring 2001.

## Survey Method

The survey sample consists of members of the Farm Managers and Rural Appraisers Association, Michigan agricultural lenders, county equalization directors in Michigan, and members of the Farm Bureau Advisory Committees on feed grains, oil seeds and wheat, and dry beans and sugar beets. After accounting for overlap between the different groups, the total sample consisted of 521 potential respondents. A total of 142 questionnaires were returned with useable information reported on farmland. There were 114 responses received from the southern half of the lower peninsula (area 2 in Figure 1). The remaining 28 responses were received from the upper and northern-lower peninsula (area 1 in Figure 1). This is a reasonable correspondence between the location of respondents and the geographic distribution of production in the state. Figure 1 shows the distribution of respondents by county and Figure 2 shows the total number of responses by Agricultural Statistics District in the state.

It should be noted that some respondents may have been reporting as a pool of individuals who received the questionnaire, such as a Farm Credit Service branch or an appraisal group. It is also important to recognize 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, transaction, and leasing information.

Each sample member received a cover letter encouraging their participation in the study and a two-page questionnaire asking for information on farmland. Respondents were to be provided a summary of the survey results upon request. A follow-up letter asking for participation in the survey and a second copy of the questionnaire was sent to non respondents approximately four weeks after the original questionnaire was sent. Copies of the cover letter and questionnaire used in the survey are included in the Appendix.


Figure 1. Farmland Value Questionnaire Responses

| Ag Statistics Districts | Number |
| :---: | :---: |
| North 1-4 | 28 |
| Central | 19 |
| East Central 6 | 28 |
| South West | 16 |
| South Central 8 | 37 |
| South East 9 | 14 |
| Total | 142 |



Figure 2. Agricultural Statistics Districts and Number of Respondents

## Data Reporting

Information requested on the questionnaire included: the current agriculture-use value of the farmland; the change in value during the last year; the expected change in value during the next year; the cash lease rate; and information on share rental arrangements. In addition, information on the non agriculture-use value of farmland was requested. Estimates on farmland agriculture-use values were reported separately for tiled (nonirrigated) field crop, non tiled field crop, sugar beet, and irrigated land. Information on non agriculture-use land values was collected for residential, commercial, and recreational development. The respondents were also asked to indicate the county or counties to which their information corresponds. In addition, space was provided for comments on the major factors influencing land values and rental rates in each respondent's area. The questionnaire was mailed in March of 2001.

In order to account for potentially large differences in soil and climate characteristics, information is reported separately for different regions of the state. Results are reported for two halves of the state, the southern-lower peninsula and the upper and northern-lower peninsula, which are split at a line running from Oceana across to Bay county as shown in Figure 1. Results are also reported for the nine "Agricultural Statistics Districts" across the state. The results for Districts 1 through 4 are combined because of lower number of responses in that region. In addition, results are only reported when at least five responses were received for a reporting area. The paucity of data response results in some unreported information for some areas.

Efforts were made to report only the value of land in its agricultural production use. However, it is difficult to remove all non agriculture influences on values in many areas and so the agriculture-use values will certainly display some non agricultural-use impacts. The magnitude of these influences will vary across local regions in state. The influence of non-agricultural factors on farmland values are addressed in more detail later in the report.

## Agricultural-Use Farmland Values

## Average Farmland Values

Average farmland values are reported in Table 1 for different regions in the state. In the southern lower peninsula, the average value of tiled field crop land was $\$ 1,982$ per acre while non tiled field crop land averaged $\$ 1,685$ per acre. In the upper and northern-lower peninsula field crop land averaged $\$ 1,188$ and $\$ 1,069$ per acre for tiled and non tiled, respectively.

Table 1. $\quad$ Michigan Agricultural Land Values

| Region | Land Use |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Field Crop <br> Tiled | Field Crop <br> Non tiled | Sugar <br> Beet | Irrigated |
| Michigan | $\$ 1,895$ | $\$ 1,649$ | $\$ 1,905$ | $\$ 2,250$ |
| Southern Lower <br> Peninsula | 1,982 | 1,685 | 1,905 | 2,250 |
| Upper and Northern | 1,188 | 1,069 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| Lower Peninsula | 1,432 | 1,187 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| District 1-4 | 1,753 | 1,500 | 1,890 | 1,960 |
| District 5 | 1,785 | 1,321 | 2,009 | 2,318 |
| District 6 | 2,333 | 2,035 | $\mathrm{n} / \mathrm{a}$ | 2,000 |
| District 7 | 1,829 | 1,622 | $\mathrm{n} / \mathrm{a}$ | 2,373 |
| District 8 | 2,690 | 2,475 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| District 9 |  |  |  |  |

Note: Results were only reported when a minimum of five responses were received.

As expected, agricultural statistics districts 1-4 which contain the Upper Peninsula (1), Northwest (2), Northeast (3), and West Central (4) Districts have lower average farmland values than the remaining districts with field crop farmland averaging $\$ 1,432$ and $\$ 1,187$ per acre for tiled and non tiled land. The Southeast District (9) had the highest average values for field crop land at $\$ 2,690$ and $\$ 2,475$ per acre for tiled and non
tiled land, respectively. Values in this area appear to be the highest in the state and probably reflect the influence of non-agricultural demands. The Southwest (7) District also showed strong land values averaging $\$ 2,333$ per acre for tiled and $\$ 2,035$ per acre for non tiled field-crop land. The Central (5), East Central (6), and South Central (8) Districts had somewhat similar average values for field crop land ranging from \$1,321 per acre for non tiled land in the East Central District to $\$ 1,829$ per acre for tiled land in South Central District.

Land that produces higher valued crops can support higher cost per acre of land. Sugar beets are one commodity produced in Michigan that tends to generate both a higher gross and higher net income per acre. Land that can support sugar beets in its crop rotation averaged $\$ 1,905$ per acre with the sugar beet production being concentrated in the East Central and Central Districts. However, land that has been increasing in value due to an expected future stream of profits from growing sugar beets might have had some dampening in that demand in year 2001. With the uncertainty associated with agricultural policy involving sugar beets and the financial pressures upon sugar beet processors, many growers might feel less certain of expected profits from growing sugar beets and retreat somewhat in their quest to control acres on which to grow sugar beets. Irrigated land value averaged $\$ 2,250$ per acre in the state. Most responses on irrigated land values came from southwest and south central Michigan. Irrigated land in the Southwest and South Central Districts, typically used for seed corn production and some speciality crops, averaged $\$ 2,000$ and $\$ 2,373$ per acre, respectively. Irrigated land in East Central Michigan averaged $\$ 2,318$ per acre.

## Change in Farmland Values

The change in Michigan farmland values during the last 12 months and the expected change during the next 12 months is shown in Table 2. In the southern-lower peninsula field crop land values increased around $7.3 \%$ for tiled land and $6.8 \%$ for non tiled land during the year. In the upper peninsula and northernlower peninsula land values for field crops increased $9.9 \%$ for tiled land, and around $13.6 \%$ for non tiled land. The East Central District 6 reported the lowest annual growth rate in price for field crop land averaging 1.3\%
for tiled land and $2.2 \%$ for untiled land. The largest percentage increase in land values occurred in Districts $1-4$ where sales price for tiled field crop land increased $17.6 \%$ and untiled field crop land increased $14.9 \%$ in value. This marks the third consecutive year that the area composed of the Upper Peninsula and the Northern Lower Peninsula has had the higher annual rate of increase in land values.

Table 2. Change in Michigan Farmland Value

| Region | Type of Land Use |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Field Crop Tiled |  | Field Crop Untiled |  | Sugar <br> Beet |  | Irrigated |  |
|  | Last Year | Expected Next Year | $\begin{aligned} & \text { Last } \\ & \text { Year } \end{aligned}$ | Expected Next <br> Year | $\begin{aligned} & \text { Last } \\ & \text { Year } \end{aligned}$ | Expected Next Year | Last Year | Expected Next Year |
| Michigan | 8.4\% | 3.2 | 7.7 | 4.3 | -0.4 | -1.5 | 4.7 | 2.5 |
| Southern Lower Peninsula | 7.3 | 4.4 | 6.8 | 3.3 | -0.4 | -1.5 | 4.8 | 2.6 |
| Upper and Northern Lower Peninsula | 9.9 | n/a | 13.6 | 12.3 | n/a | n/a | n/a | n/a |
| District 1-4 | 17.6 | n/a | 14.9 | 12.4 | $\mathrm{n} / \mathrm{a}$ | n/a | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| District 5 | 6.0 | 0.7 | 6.8 | 1.5 | -0.3 | -0.7 | n/a | $\mathrm{n} / \mathrm{a}$ |
| District 6 | 1.3 | -0.8 | 2.2 | -0.9 | 0.0 | -1.6 | n/a | n/a |
| District 7 | 12.0 | 8.0 | 9.8 | 7.1 | n/a | n/a | 10.5 | n/a |
| District 8 | 9.1 | 3.7 | 7.4 | 4.0 | $\mathrm{n} / \mathrm{a}$ | n/a | 4.2 | 2.4 |
| District 9 | 11.8 | 8.6 | 13.4 | 9.0 | n/a | n/a | n/a | $\mathrm{n} / \mathrm{a}$ |

Note: Results were only reported when a minimum of five responses were received.

Field crop tiled land values are expected to rise just over 3\% during the next year. For untiled land, the percentage land value change is again expected to increase more in the Upper and Northern-lower peninsula than in the Southern Lower Peninsula. The weakest gains are expected in the East Central District

6 where values are expected to decline slightly. The strongest gains are expected in district's $1-4$ where field crop land is expected to increase in value by over $12 \%$ during the upcoming year.

Sugar beet land values did not increase during the year and are expected to decline slightly in value during the upcoming year. The expected decline of $1.5 \%$ in sugar beet land value is most likely a reflection of financial difficulties and political uncertainties associated with the sugar beet industry. Irrigated land values increased nearly $5 \%$ in value and are expected to continue to rise $2.5 \%$ during the upcoming year.

## Farmland Leasing

Leasing or renting of land provides an alternative method to gain control of land. Table 3 reports on land leasing activity in Michigan and indicates that approximately half of the crop acres in Michigan are controlled by lease. Cash leasing is the most predominant form of land rental used by farmers as compared to share rental whereby the crop inputs and outputs are shared between the land owner (landlord) and the land

Table 3. Characteristics of Leased Farmland in Michigan

| Region | Crop Acres Leased | Leased Land <br> Under Cash Lease | Landlord:Tenant Output Share |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1/4:3/4 | 1/3:2/3 | 1/2:1/2 | 20:80 |
| Michigan | 47\% | 73\% | 18\% | 67\% | 12\% | 3\% |
| Southern Lower Peninsula | 50 | 74 | 18 | 67 | 12 | 3 |
| Upper and Northern Lower Peninsula | 30 | 63 | n/a | n/a | n/a | n/a |
| Districts 1-4 | 26 | 63 | n/a | n/a | n/a | n/a |
| District 5 | 59 | 58 | 15 | 68 | 17 | 0 |
| District 6 | 51 | 72 | 6 | 78 | 2 | 14 |
| District 7 | 39 | 80 | 14 | 76 | 10 | 0 |
| District 8 | 46 | 76 | 32 | 50 | 18 | 0 |
| District 9 | 60 | 85 | 19 | 50 | 28 | 3 |

Note: Results were only reported when a minimum of five responses were received. The output shares were normalized to $100 \%$ when necessary.
operator (tenant).Crop Acres Leased
In the southern Lower Peninsula, an estimated $50 \%$ of crop acres appear to be controlled by leases; while only $30 \%$ of the crop land in the upper and northern-lower peninsula is leased. The highest amount of leasing occurs in the Southeast District where $60 \%$ of the crop land is leased. Cash rent is the predominant leasing arrangement. In the southern-lower peninsula approximately three-fourths of rented land is controlled on a cash rent arrangement. The lowest proportion of cash leasing occurs in Central District 5 where $58 \%$ of the leased land is controlled by cash lease arrangements; while the highest proportion of cash leasing occurs in the Southeast District 9 where $85 \%$ of the leased land uses a cash rental agreement.

For land that was share leased in the southern-lower peninsula, a variety of output share arrangements were used. The most common split used in $67 \%$ of the share rental arrangements is for the landlord to receive $1 / 3$ of the output and the tenant to receive $2 / 3$ of the output. Around $18 \%$ of the share leases use a $1 / 4: 3 / 4$ output split between the landlord and tenant; while around $12 \%$ use a $1 / 2: 1 / 2$ split; and $3 \%$ used an $20: 80$ split that was reported primarily on sugar beet land.

An important determinant of the share split is the amount of inputs supplied by the landlord and tenant. Share rent is a land rental arrangements whereby the cropping inputs, products and associated risk are shared as described in an agreement between the land owner and the land operator (tenant). A typical representative 1/3:2/3 share rental agreement would be where the land owner provides the land and incurs its ownership cost; while the tenant incurs the cost of all labor and machinery services associated with planting, nurturing and harvesting the crop.

In the $1 / 2: 1 / 2$ (also referred to as $50: 50$ ) share rental agreement, the land owner and tenant typically split equally the quantity produced and also share equally in the cost of off-farm purchased inputs such as seed, fertilizer, and pesticides. When the tenant receives more than $50 \%$ of production as in a $1 / 3: 2 / 3,1 / 4: 3 / 4$, or 20:80 arrangement; the tenant operator most typically pays all expenses associated with the crop inputs. Response data received in this survey indicated that the land owner seldom pays for expenses associated with off-farm purchased inputs when his/her share is $1 / 3$ or less.

Machinery services are most often supplied by the tenant whenever the tenant receives more than 50\% of the production as in the $25: 75,33: 67$, and 20:80. In the $50: 50$ sharing arrangement, some sharing of the cost of machinery services was reported by $43 \%$ of the respondents.

## Cash Rent Levels

Cash rental arrangements provide the opportunity for a land owner to receive a fixed payment from a tenant who gains control of the land in exchange for his/her payment. Cash rental amounts and their
relationship to land values are shown in Table 4. Cash rents in the southern-lower peninsula averaged $\$ 84$ and $\$ 63$ per acre for tiled and non tiled field crop land, respectively. In the upper and northern-lower peninsula, tiled field crop land rented for an average of $\$ 56$ per acre; while non tiled land rented for $\$ 29$ per acre. The highest rent levels for field crop land were found in the East Central District 6 where tiled land commanded an average cash rent of $\$ 94$ per acre. Sugar beet land in Michigan rented for an average of $\$ 116$ per acre and irrigated land rented for $\$ 126$ per acre. The cash rent values for the state were up slightly in 2001 except for sugar beet and irrigated which declined slightly.

Table 4. Average Cash Rent and Value Multipliers for Michigan Agricultural Use Land

| Region | Type of Land Use |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Field Crop Tiled |  | Field Crop <br> Non tiled |  | Sugar <br> Beet |  | Irrigated |  |
|  | Rent | Value/ Rent | Rent | Value/ Rent | Rent | Value/ Rent | Rent | Value/ Rent |
| Michigan | \$83 | 22.8 | \$60 | 27.5 | \$116 | 16 | \$126 | 18 |
| Southern Lower <br> Peninsula | 84 | 24 | 63 | 27 | 116 | 16 | 127 | 18 |
| Upper and Northern Lower Peninsula | 56 | 21 | 29 | $\mathrm{n} / \mathrm{a}$ | n/a | n/a | n/a | n/a |
| Districts 1-4 | n/a | n/a | 24 | n/a | n/a | n/a | n/a | n/a |
| District 5 | 88 | 24 | 59 | 28 | 121 | 16 | 121 | 16 |
| District 6 | 94 | 20 | 64 | 23 | 120 | 17 | 140 | 17 |
| District 7 | 71 | 34 | 60 | 35 | n/a | n/a | 114 | 19 |
| District 8 | 78 | 24 | 65 | 26 | n/a | n/a | 138 | 18 |
| District 9 | 83 | 32 | 59 | 47 | $\mathrm{n} / \mathrm{a}$ | n/a | $\mathrm{n} / \mathrm{a}$ | n/a |

Note: Results were only reported when a minimum of five responses were received.

The value-to-rent ratios presented in Table 4 were calculated by dividing the land value reported by each respondent by the corresponding cash rent value reported by the same respondent. The value-to-rent ratio for tiled field crops was 24 in the southern-lower peninsula and 21 in the upper and northern-lower peninsula. Sugar beet land had value-to-rent ratios of 16 ; while irrigated land values were 18 times cash rent levels. The highest value-to-rent ratios appear to be in areas where land values have drastically increased. It is hypothesized that those high value-to-rent ratios occur most often when ownership of land transitions to a nonfarmer. Although the land may continue to be farmed during these transition years, the operating farmer will bid a rental amount based on the agricultural value of the land, not its non-agricultural investment value.

The current price of land is a direct function of the future cash flows expected (or speculated) to be generated by the land. Higher expected future cash flows are "capitalized" into the price of the land today, increasing its value relative to the current year's cash flow. In other words, higher expected future cash flows translate into higher value-to-rent ratios. As speculation and expectations increase about future cash flows, the resultant value-to-rent ratio will increase; and conversely the current return on investment will decrease. The value-to-rent ratio calculation and movement is analogous to the price/earnings ratio in equity stocks and funds traded on national exchanges. Relatively high value-to-rent ratios suggest four possible situations: 1) the market actually anticipates that the cash flows will grow at a faster rate than for alternative land parcels located in other areas and/or used for lower valued purposes; 2) the land may be switched to alternative uses with higher expected cash flows in the future; 3) non farm uses of the land in the future may provide higher cash flows than those expected from current land use; or 4) the market views the future cash flows to be less risky than the cash flows from alternative land locations and is therefore willing to pay a higher price. When agriculture land is being transitioned out of agriculture and/or its ownership is changed, land values may increase but agricultural rental values may not increase proportionately as long as the acreage is used for agricultural purposes. It can be noted that the highest cash rents per acre in Michigan tend to be associated
with higher projected incomes per acre; e.g. from irrigated acres producing higher valued crops and/or higher yields; but also tend to have the lowest value-to-rent ratios.

## Non Agriculture-Use Values of Farmland

The value of farmland for development purpose is summarized in Table 5. These values, in most cases, are significantly above the agriculture-use value of the land and therefore tend to exert upward pressure on surrounding farmland values. The average value of farmland converted to residential development is $\$ 8,115$ per acre in the southern lower peninsula and $\$ 3,543$ per acre in the upper and northern-lower peninsula. The highest residential development values are found in the Southeast District where the average value is $\$ 13,257$ per acre.

The value of farmland converted to commercial use was $\$ 32,913$ in the southern-lower peninsula and $\$ 10,259$ in the upper and northern-lower peninsula. Although the average value for farmland that was converted to commercial use is approximately $\$ 28,500$ per acre for the state of Michigan, the variance in this data is quite high as indicated by a standard deviation that is slightly greater than the mean in all districts. The occasional extremely high values reported probably reflect the often recited real estate mantra of "location, location, location."

Recreational development values for farmland were closer to the agricultural-use value of farmland in many areas. The recreational development value of farmland was $\$ 2,476$ per acre in the southern lower peninsula and $\$ 1,912$ per acre in the upper and northern-lower peninsula. The highest average value for recreational development land was in Southeast District 9 where land for recreational development averaged $\$ 4,120$ per acre. It is noted that the average land value for recreational purposes had a higher value in each district than land valued for agricultural purposes.

Table 5. Non Agricultural-Use Value of Undeveloped Land in Michigan

| Region | Type of Land Use |  |  |
| :--- | :---: | :---: | :---: |
|  | Residential | Commercial/Industrial | Recreational |
| Michigan | 7,224 | 28,517 | 2,342 |
| Southern Lower | 8,115 |  |  |
| Peninsula | 32,913 | 2,476 |  |
| Upper and Northern | 3,543 |  |  |
| Lower Peninsula | 10,259 | 1,912 |  |
| Districts 1-4 | 2,722 | 16,957 | 1,965 |
| District 5 | 5,956 | $\mathrm{n} / \mathrm{a}$ | 1,859 |
| District 6 | 6,067 | 15,869 | 2,095 |
| District 7 | 11,064 | 45,222 | 2,950 |
| District 8 | 7,453 | 12,232 | 2,348 |
| District 9 | 13,257 | 75,440 | 4,120 |

Note: Results were only reported when a minimum of five responses were received.

## Major Factors Influencing Land Values and Rents in Michigan

The final portion of the survey was made available for open-ended comments about agricultural and non-agricultural factors that influence land values and rents in the local area of each respondent. Although the variety of responses did not permit categorization for statistical analysis and tabular presentation, there were sufficient common responses that conveyed a strong message.

The most frequently cited agricultural factor influencing land values was low prices for farm commodities. The respondents indicated that low prices for one or more commodities were negatively impacting farm incomes and ability to pay for land. Most of the comments centered around the impacts of low prices for corn, soybeans, and dry beans plus the uncertainty associated with the sugar beet industry. As might be expected, the concerns regarding low commodity prices were reported throughout many regions of the state. The irony of low commodity prices associated with continued escalation of land prices was often
expressed. The explanatory rationale is that low profit margins per acre created by low prices results in an expansion incentive for farmers to lower costs with economies of size; by spreading machinery investment over more acres. Several comments related to expansion by dairy farmers in their quest for land on which to produce feed and manage manure. Other comments related to government payments being bid into the price of land. Government transfer payments; e.g. production flexibility contract (PFC) payments and loan deficiency payments (LDP) enhance the farmer's cash flow ability to pay for land. Concern was expressed about possible changes in agricultural policy and the projected termination of PFC payments after year 2002. If farmers' ability to pay is decreased, will land prices and cash rents decrease? Or, will more land be transitioned more rapidly out of agriculture?

Michigan's economy has a diversified structure led by industry with tourism and the agriculture/food system vying closely for the number two rank in contribution to the economy. The diversity in economic base, the performance of Michigan's economy, and good highway infrastructure have both positive and negative impacts upon the future of agriculture in Michigan. From a land valuation vantage; industry, tourism (recreation) and urban growth are having significant impacts upon land values throughout the state of Michigan.

Numerous comments on non-agricultural factors were rendered regarding the escalating land prices. Non-agricultural factors are an extremely important element in determining land values throughout Michigan. Urban sprawl and residential development were mentioned by an overwhelming number of respondents as a factor influencing land values in their area. While the impact of urban growth has been obvious for some time in the more heavily populated regions in Southern Michigan where residents spread out from city population centers, the most striking aspect of the comments was the wide-spread impact that residential development is having in nearly every area of the state. Many comments suggest that most of their land transfers are for agricultural land being converted to residential and/or recreational use. Several statements indicated that there are few agriculture-use to agriculture-use transfers of land.

Recreational use as well as residential development was often mentioned as impacting land values in all districts of the State. Timber on land and access to surface water increase the value of land to be used for recreation. It can be noted that the value per acre for land used for recreational purposes (reported in Table 5) is higher than the value per acre for tiled field crop land (reported in Table 1) for every district in Michigan. Commercial development was mentioned by a relatively small number of respondents as a factor impacting farmland values and the comments were primarily concentrated in the Southwest and Southeast Districts.

## Conclusions

Farmland values in Michigan continued to increase but at a slower rate than in previous years. In the southern lower peninsula, land values for field crops showed gains of around 7\%. Sugar beet land values appeared to plateau while irrigated land values were up nearly $5 \%$. Rental rates in the southern lower peninsula averaged $\$ 84$ per acre for tiled ground and $\$ 63$ per acre for non tiled ground. Sugar beet acreage rented for $\$ 116$ per acre while irrigated land averaged $\$ 127$ per acre.

Land values relative to cash rents were highest in Upper and Northern Lower Peninsula and the Southeastern District. In the North Country, the value-to-rent ratios were 21 for tiled land; while the value-torent ratios for the Southeast District were 32 and 47 for tiled and non tiled land respectively. The value-to-rent ratios for most of the regions in the state are closer to 20 . The 20 value-to-rent ratio implies a gross current return to investment of 5 percent per year. A higher value to rent ratio suggests a lower annual current return to investment. Apparently as demand drives land prices up, the new owners are willing to accept a short run cash rent return that more closely approaches an agricultural value.

Land values in Michigan have exhibited strong growth rates over the last five years. Table 6 shows the percentage change in land values for the 1991-2001 time period in the southern lower peninsula. Farmland values have increased each year with accelerating increases since 1996. Since 1991, the simple average annual percentage increase in land values has respectively been $6.2,5.5,4.4$, and 6.0 for tiled, non tiled, sugar beet,
and irrigated crop land in Southern Michigan. Concern for year 2001 and beyond is whether the financial performance from agriculture can support increased valuations and cash rates that are often buoyed up by nonagricultural demand.

Table 6. Percentage Change in Land Value from 1991-2001 in the Southern-Lower Peninsula

| Year | Field Crop <br> Tiled $^{1}$ | Land Type <br> Field Crop <br> Non tiled | Sugar Beet | Irrigated |
| :---: | :---: | :---: | :---: | :---: |
| 1991 | $5.0 \%$ | $3.0 \%$ | $9.0 \%$ | - |
| 1992 | 2.5 | 1.6 | 3.0 | $3.4 \%$ |
| 1993 | 2.0 | 1.4 | 1.9 | 3.6 |
| 1994 | 4.6 | 4.1 | 4.8 | 5.4 |
| 1995 | 4.3 | 3.3 | 6.2 | 2.8 |
| 1996 | 8.1 | 6.8 | 8.4 | 7.3 |
| 1997 | 8.4 | 8.1 | 5.3 | 10.0 |
| 1998 | 10.2 | 10.2 | 5.9 | 12.7 |
| 1999 | 7.0 | 7.5 | 2.3 | 9.2 |
| 2000 | 8.8 | 7.8 | 2.3 | 7.1 |
| 2001 | 7.4 | 5.5 | -0.4 | 4.8 |
| Average | 6.2 |  | 4.4 | 6.0 |

[^0]
## Appendix

May, 2001

## FIELD(address)

Dear FIELD(salutation):
Enclosed is the annual land value survey for Michigan farmland. If you have provided data in the past thanks - we appreciate your continued effort. If you have not responded to our requests in the past, we welcome your valued opinion.

We are asking you for about five minutes of your time to give us your estimates on the market value and rental rates of farmland used to grow corn, soybeans, hay, and/or sugar beets in your area. In addition, we are asking for information regarding the non-agricultural use of land in areas where development and recreation land uses are impacting land values. The survey results are used in research, extension, and teaching programs at Michigan State and other institutions. The results also provide reference information for farmers, bankers, appraisers, and land owners across the state. If you are unable to complete the questionnaire, feel free to pass it on to someone else who you feel is qualified to provide the information.

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. We thank you for your voluntary agreement to participate by completing and returning the questionnaire. Enclosed is a self- addressed, stamped envelope in which you can return the survey. Thanks for your help.

For those who would like to receive a summary of the results of this survey, please provide your name and address on the separate response form provided in this mailing. We will gladly send you the publication that results from your contribution.

If you have any questions, please call Steve Hanson 517/353-1870 or Gerry Schwab at 517/355-2153. If you have questions concerning this survey and your rights, feel free to contact David Wright, Chair, University Committee on Research Involving Human Subjects (UCHRIS) at 517/355-2180.

Sincerely,

Steve Hanson
Professor

Gerry Schwab
Professor
nra

Enclosure

## FARM LAND VALUE QUESTIONNAIRE May 2001

Make the best estimates you can for your area. Complete only the sections applicable to your area.
Indicate which county or counties you are reporting on. $\qquad$
Agricultural-Use Value

| Type of Land | Current <br> Average <br> Value | Percent Change in Value (Indicate + or -) |  | Average Cash Rent |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Last <br> 12 Months | Expected in Next 12 Months |  |
| A. Field Crop (non-irrigated) | \$/acre | \% change | \% change | \$/acre |
| Tiled |  |  |  |  |
| Untiled |  |  |  |  |
| B. Sugar Beet (if applicable) |  |  |  |  |
| C. Irrigated (if applicable) |  |  |  |  |

Non Agricultural-Use Value

|  |  | Current Range <br> in Value |  |
| :---: | :---: | :---: | :---: |
| Undeveloped <br> Land* | Current <br> Average Value <br> \$/acre | High <br> \$/acre | Low |
|  |  |  |  |
| A. Residential |  |  |  |
| B. Commercial/ <br> Industrial |  |  |  |
| C. Recreational |  |  |  |

* Land that may be in agricultural use but the land value is being influenced by residential, commercial or recreational development pressure.

What percentage of crop acres in your area is leased? $\qquad$
What percentage of the leased crop acres in your area is cash leased? $\qquad$ $\%$.

Please provide the following information if you have share leases in your area.

| Landlord/tenant output share | What percent of share leases use each share arrangement? | Do landlord and tenants typically share input costs? |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Purchased Inputs | Machine Services |  |
| 25-75 | \% | Yes ___ No ___ | Yes | No |
| 1/3-2/3 | \% | Yes ___ No ___ | Yes | No |
| 50-50 | \% | Yes ___ No ___ | Yes | No |
| Other (specify) | \% | Yes ___ No ___ | Yes | No |
|  | $100 \%$ |  |  |  |

What major factors are influencing land values and rents in your area?

- Agricultural Factors:
$\qquad$
$\qquad$
$\qquad$
- Non Agricultural Factors:
$\qquad$
$\qquad$
$\qquad$


[^0]:    ${ }^{1}$ Beginning with the 1998 Survey, the question on agriculture land values and cash rents referred to "Field-crop tiled and non tiled." Previously the similar categories were referred to as Corn-Soybean-Cropland - above average and below average.

