

Michigan State University
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2019 Michigan Agricultural
Land Values and
Leasing Rates

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2019 MICHIGAN LAND VALUES

Michigan State University (MSU) has collected information on land values since 1991 using a mail survey of appraisers, lenders and others involved in Michigan agriculture. The goal of the MSU study is to provide information on the value of land based on agricultural and non-agricultural use. The survey also collects information on land leasing and rental rates. This report contains the results for the MSU land value survey conducted in spring and early summer of 2019. Results reveal that average land prices and rental rates for many categories of agricultural land declined from the previous year perhaps searching for a new equilibrium with lower commodity prices.

Survey Methods

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, wheat, dry beans and sugar beets. These respondents often had access to a significant amount of land appraisal, transaction, and leasing information. Some respondents were reporting for a group of individuals who received the questionnaire, such as a Farm Credit Service branch or an appraisal group.

The survey questionnaire was mailed in May with responses coming in through July 2019. Each potential respondent received a cover letter encouraging their participation in the study and a two-page questionnaire asking for information on farmland prices, values and rental rates. 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 following the original questionnaire.

After accounting for overlap between the different groups, the 2019 sample consisted of 463 potential respondents. A total of 179 responses were generated. In order to account for potentially large differences in soil and climate characteristics, information is reported separately for different state regions. Figure 1 displays the total number of responses by the Agricultural Statistics District in the state. Results for Districts 1 through 4 were combined because of a low number of responses. In addition, results are only reported for each question when at least five responses were received for a reporting area.

Respondents were asked to provide the current agricultural-use value of the farmland, expected change in value during the next year, and cash rental rate for their geographic area. In addition, information on the non-agricultural-use value of farmland was requested. Estimates on agricultural-use values for farmland were reported separately for tilled (non-irrigated) field crops, non-tilled field crops, fruit, sugar beets, and irrigated land. Price data on non-agricultural use land values were collected for residential, commercial, and recreational development. Respondents were also asked to indicate the counties to which their information corresponds. An opportunity was also provided for each respondent to rank the major agricultural factors influencing land values and cash rents. Similarly, a ranking was requested of the major factors influencing land values in rural areas for land that appears destined to transition to non-agricultural uses.

Efforts were made to gather reports only the value of land in agricultural production. However, it is difficult to separate out non-agricultural influences on land prices, so the agricultural-use values will contain influences from relevant non-agricultural-uses. The magnitude of these influences varies across regions. The influences of non-agricultural factors on farmland values are addressed below.

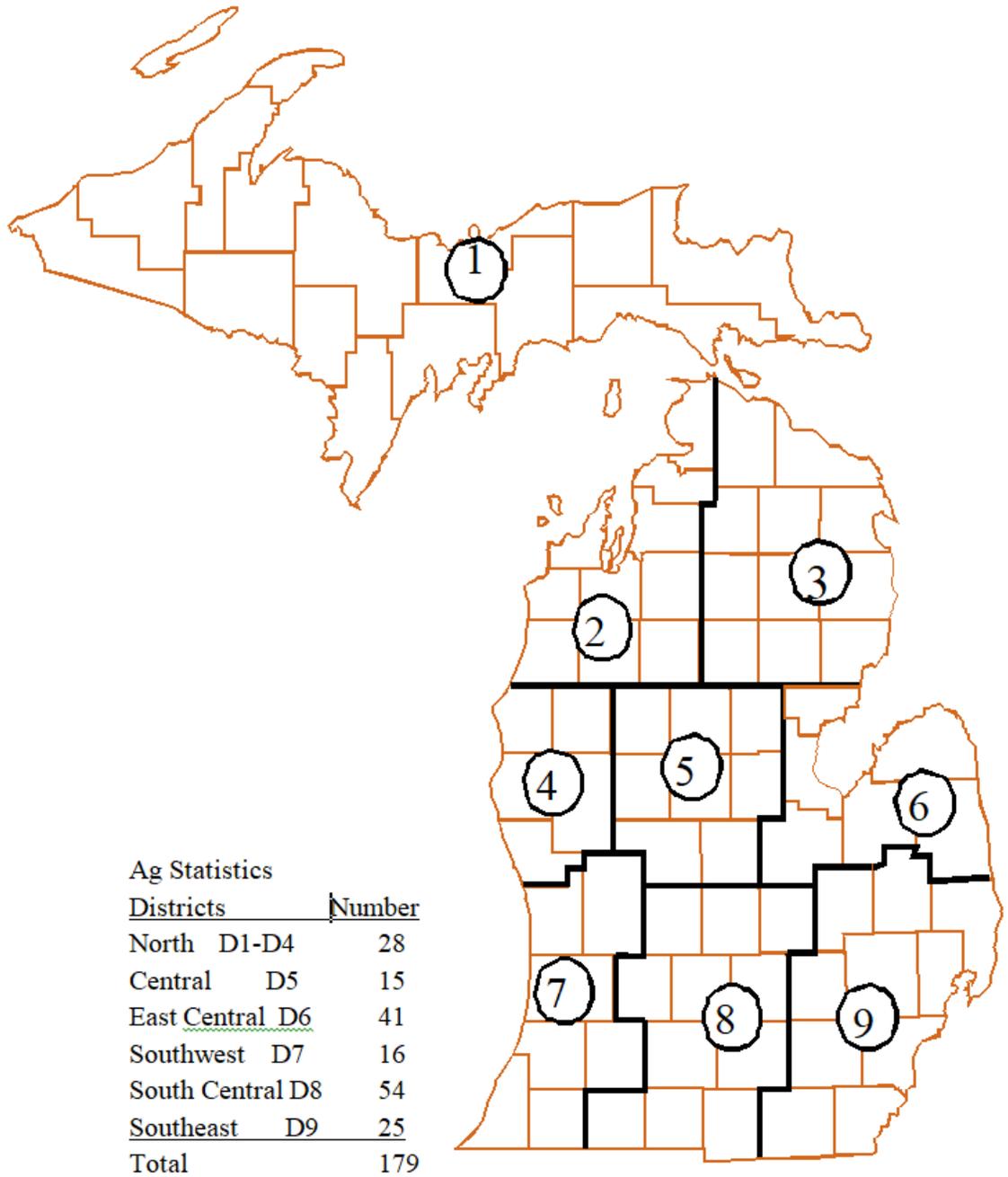


Figure 1. Agricultural Statistics Districts and Number of Respondents

Agricultural-Use Farmland Values

Average agricultural farmland values are reported by region in Table 1. In the Southern Lower Peninsula, the average value of tilled field cropland was \$5,013 per acre while non-tiled field cropland averaged \$4,274 per acre.

Table 1. Michigan Average Agricultural Land Values, 2019

Region	Land Type					
	Field Crop Tiled	Field Crop Non-tiled	Sugar Beet	Irrigated	Fruit Trees [#]	Suitable for Fruit
	\$/acre					
Michigan	4,815	3,897	5,981	5,685	9,571	7,008
Districts 1-4	2,925	1,931	NA	4,833	7,000	5,684
District 5	5,284	4,127	6,643	5,857	NA	NA
District 6	5,672	4,295	6,366	6,933	NA	NA
District 7	6,004	5,570	NA	6,450	10,100	9,000
District 8	4,341	4,279	NA	5,280	NA	NA
District 9	4,237	3,564	NA	5,500	NA	NA

* Note: Results were only reported when a minimum of five responses were received. These cases are denoted "NA" in the table.

[#] With bearing trees.

For land primarily producing field crops (e.g., grains), Agricultural Statistics Districts 6, 7, 8 and 9 in Southern Michigan, tilled farmland values averaged \$4,300 to \$6,000 per acre and \$3,500 to \$5,600 per acre for non-tiled land. Land in the Upper Peninsula and Northern Lower Peninsula, Districts 1-5, had lower average prices for field cropland. Fruit and sugar beets are expected to generate higher gross and net income per acre than general field crops. The highest priced agricultural land in Michigan is capable of producing fruit and located in proximity to Lake Michigan (Districts 2, 4 and 7). Land planted to fruit trees is highly valued not only because of its earnings potential from the harvested fruit but also because of non-agricultural

demand due to amenity value and, in particular, proximity to Lake Michigan. Land values reported for fruit tree acres averaged \$7,542 per acre.

Farmland Rental Rates

Table 2 displays average cash rent without bonus, with bonus and percentage of land leased. In Michigan cash rent without bonus was \$147 per acre with 68% of land utilizing cash rent contracts. Cash rent of \$150 with a bonus of \$34 per acre with 20% of land leased. In 2019, an estimated 87% of leased or rented field crop acres were controlled by cash leases (with or without bonuses). Cash rent was the dominant leasing arrangement in all reporting districts of Michigan. Districts 6 and 7 reported the highest average cash rent without bonus.

Table 2. Cost of Leased Farmland by Arrangement Type, 2019

Region	Cash Rent without Bonus	% Land Cash Rent	Cash Rent with Bonus	Cash Bonus	% Land Cash Rent with Bonus	Share Rent
	\$/acre	%	\$/acre	\$/acre	%	%
Michigan	147	68	150	34	19	13
Districts 1-4	72	100	NA	NA	NA	NA
District 5	121	71	140	30	7	22
District 6	154	64	135	50	14	22
District 7	153	74	125	75	25	0
District 8	129	71	133	42	24	4
District 9	148	68	106	50	8	24

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

Non-Agricultural-Use Values of Farmland

The value of farmland for non-agricultural by use are summarized in Table 4. The average value of farmland being converted to residential development was \$8,977 per acre. The highest residential development values were found in the Southwest (D7) where the average value was \$13,768 per acre.

The average value for farmland that was converted to commercial use was \$17,271 per acre for the state of Michigan. Note, however, that the variance behind these estimated averages was quite high. The recreational development value of farmland averaged \$3,485 per acre.

Table 3. Non-Agricultural-Use Value of Undeveloped Land in Michigan, 2019

Region	Land Use		
	Residential	Commercial/Industrial	Recreational
	\$/acre		
Michigan	8,977	17,271	3,485
Districts 1-4	7,332	11,833	2,600
District 5	7,571	7,200	2,854
District 6	7,575	12,018	2,818
District 7	13,768	24,714	4,000
District 8	8,202	24,321	3,220
District 9	9,934	21,109	3,353

Long-Term Trends in Michigan Land Prices

Percentage change in land value from 1992-2019 are displayed in Table 7. These percentage changes are related to Southern Lower Peninsula region reported for Field Crop Tiled, Field Crop Non-tiled, Sugar Beet and Irrigated cropland. These values are not adjusted for inflation. The long-term trend has been growth in prices but with periodic downturns reflecting the influence of commodity prices, interest rates and the general economy. The average price increase over this period was about six percent for all agricultural use land. At that rate values will double in about 12 years.

Table 7. Southern Lower Peninsula Change in Average Land Value, 1992-2019

Year	Land Type			
	Field Crop Tiled ¹	Field Crop Non tiled	Sugar Beet	Irrigated
	% Change			
1992	0.9	7.1	5.8	0.0
1993	-3.6	1.4	-12.1	-3.4
1994	15.0	8.2	13.5	21.8
1995	-2.5	0.8	6.1	7.1
1996	13.3	11.7	8.7	5.5
1997	7.8	12.1	6.0	-0.6
1998	16.9	18.1	15.5	21.1
1999	12.0	6.7	-3.0	11.4
2000	8.0	12.9	-1.9	19.1
2001	7.8	9.7	-1.5	-0.9
2002	8.2	14.7	13.5	3.9
2003	12.4	3.8	2.5	9.7
2004	7.5	14.1	9.2	5.9
2005	10.1	9.6	5.6	24.5
2006	-0.4	-1.4	6.2	-5.9
2007	9.8	12.4	12.7	4.6
2008	16.3	13.0	17.9	23.3
2009	0.4	-7.4	-5.6	-7.6
2010	-8.2	-4.4	10.5	4.1
2011	12.4	12.9	15.4	17.3
2012	9.3	7.4	10.6	11.2
2013	17.7	21.3	36.8	9.1
2014	5.1	3.9	0.0	0.9
2015	-2.2	-6.5	21.6	9.6
2016	0.6	-5.9	-14.0	-8.1
2017	-6.1	11.4	-9.6	1.8
2018	8.8	-1.8	10.5	1.3
2019	-2.1	4.4	-13.1	4.3
Average	6.3	6.8	6.0	6.8

Figure 2 displays the average land price and rental rate for tilled field cropland in the southern lower peninsula of Michigan from 1991 through 2019. The series move together over that time period with a correlation between the two series is 97 percent.

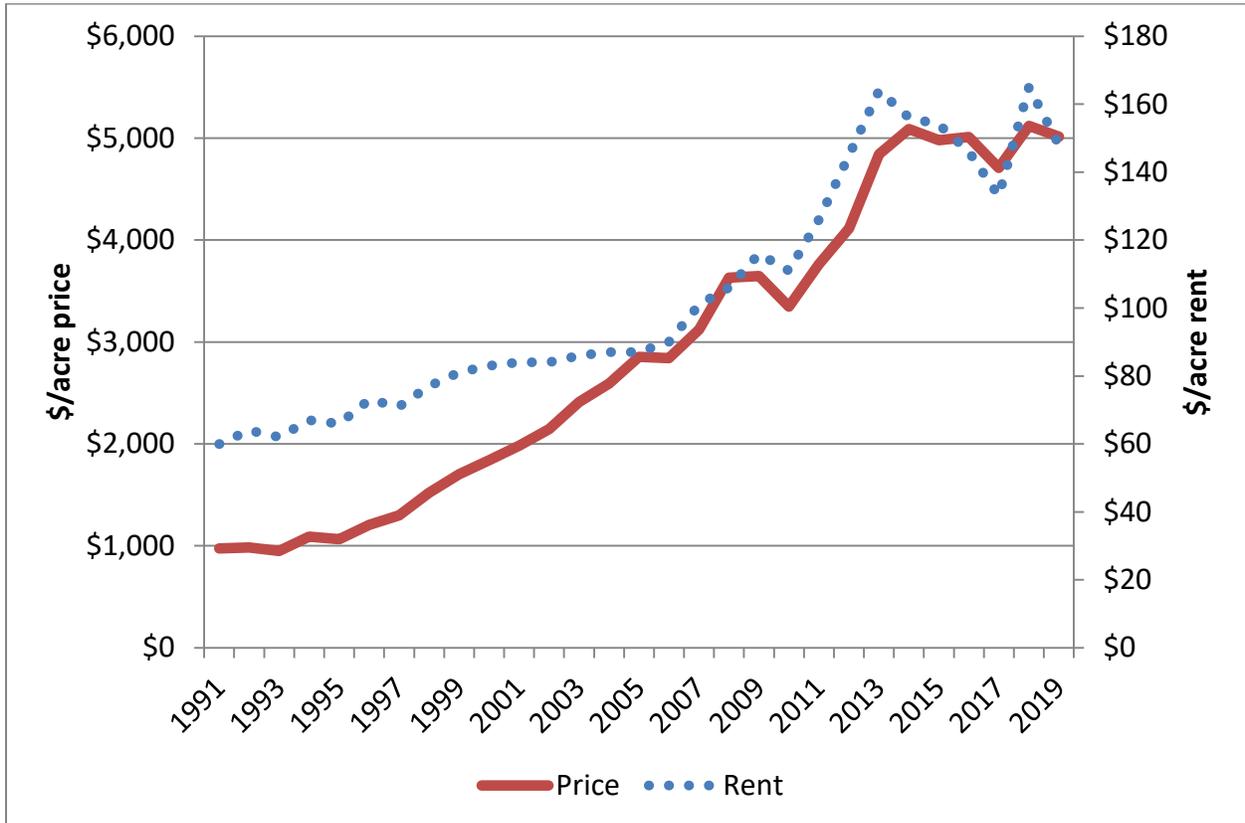


Figure 2. Michigan Average Farmland Prices and Rental Rates, 1991-2019

To further examine Michigan land prices, consider a simple model of capitalized farmland values where farmland value is expressed as a function of returns in perpetuity. In this case

$$\text{Value of farmland } (V) \text{ (\$/acre)} = (\text{return per acre}) / (\text{discount rate}),$$

where return per acre is equal to cash rent and the discount rate is set equal to the 10 year constant maturity treasury (CMT) rate. If price is greater than capitalized value (V), then land price is too high or there is an expectation of either increased returns (land rents) or lower

interest rates. If price is less than capitalized value, then price is too low or there is an expectation of either decreased returns (rent) or higher rates.

As Figure 3 displays, price was greater than capitalized value consistently from 1998-2008. Since 2009, price has consistently been below capitalized value reflecting an expectation of higher interest rates, decreased returns, or increased land prices. The run up in land rents reflected the high commodity prices and the desirability of growing rather than buying feed. The gap between the two series narrowed in recent years.

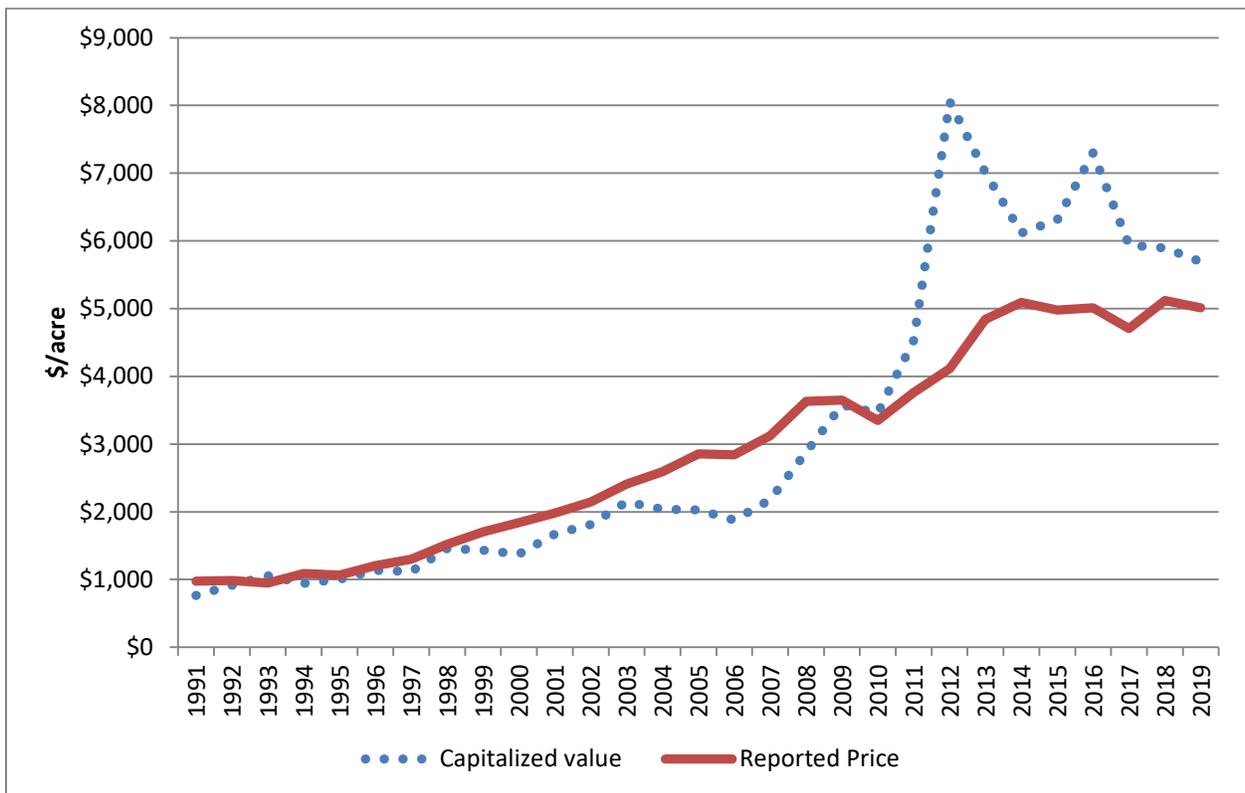


Figure 3. Michigan Farmland Prices and Capitalized Values, 1991-2019