

**2006 Michigan Swine Business Analysis
Summary**

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2006 Michigan TelFarm and Farm Credit Services Data
Staff Paper No. 07-12

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Executive Summary

This report summarizes the financial and production records of 14 Michigan swine farms. To be included, the farms must have produced at least 50 percent of gross cash farm income from one or a combination of fat hogs, feeder pigs and cull breeding hogs sales. The records came from Michigan State University's TelFarm project and the Farm Credit Service system in Michigan. The values were pooled into averages for reporting purposes.

Farm records were included if a farm financial summary was completed on 2006 data including beginning and ending balance sheets, plus income and expenses. The data were checked to verify that cash discrepancy was less than 10% of gross cash inflow and that debt discrepancy was less than \$1,000. While considerable variation in the data exists, average values are reported in the summary tables below.

Summary of Results

The average size of a farrow to finish swine farm contained in this 2006 business analysis was 161 sows, 292 acres owned and 555 acres cropped, Table 1. Additional data on farm characteristics indicated that the average weight for a finished hog was 250 pound and the average price was \$46.34 per hundredweight.

Table 1. Average Michigan Swine Farm Characteristics, 2002-2006

	2002	2003	2004	2005	2006
Average number of sows	1095	364	178	161	161
Total acres owned	491	769	587	401	292
Total crop acres	800	1036	919	536	555
Average weight of hogs sold (lbs.)	247	252	256	254	250
Average price/cwt.	\$36.47	\$44.82	51.77	54.90	46.34
Number of farms	7	9	12	11	14

Net farm income (NFI) is the amount remaining after all cash farm expenses and depreciation have been subtracted from net cash farm income and inventory changes have been recognized. The net farm income value is the return to operator unpaid management, labor and equity capital invested. Income statement data presented in Table 2 indicates that net farm income in 2006 averaged \$104,651. This average somewhat obscures a very large range of net farm income values. The range was a negative \$17,264 to \$450,382 and the standard deviation was \$125,537.

Gross cash farm income averaged \$728,924 in 2006. The largest components of this revenue are finished feeder pigs sales which averaged \$282,291, finished raised hogs sales which

averaged \$178,804 and weaning to finished hogs sales which averaged \$135,694. Government payments averaged \$20,560 per farm in 2006.

Average total cash expenses were \$612,742 in 2006 and average net cash farm income was \$116,182. Inventory levels increased and averaged \$48,017 per farm. Crops, feeds, market livestock, and accounts receivable increased while prepaid expenses, supplies and accounts payable decreased.

Table 2. Average Swine Farm Income Statement, 2002-2005

	2002	2003	2004	2005	2006
	(\$)				
Gross cash farm income	1,986,148	1,001,043	1,089,291	842,919	728,924
- Total cash expense	<u>2,149,235</u>	<u>833,911</u>	<u>892,506</u>	<u>681,217</u>	<u>612,742</u>
= Net cash farm income	-163,087	167,132	196,785	161,703	116,182
+ Inventory change	111,150	-35853	79,912	5,050	48,017
+ Depreciation and capital adjustments	<u>-71,696</u>	<u>-113880</u>	<u>-78,960</u>	<u>-73,922</u>	<u>-59,548</u>
= Net farm income	-123,632	17399	197,737	92,830	104,651

Table 3 compares profitability for the years 2002 - 2006 with assets valued at cost. Profitability indicators calculated using assets valued at cost, can be used to compare the same farm over time. The average 2006 swine farm ROA was 9.9 percent, which was an 41 percent increase over 2005 value. Return on equity averaged 18 percent. Operating profit margin measures the dollars of profit generated per dollar of revenue. In 2006, the OPM was 18.4 percent. Asset turnover measures the efficiency with which farm assets generate revenue. In 2006, this ratio was 53.9 percent. All these profitability measures indicate that on the average, 2006 was a profitable year financially.

Four key financial performance indicators are presented in Table 3. The rate of return on assets (ROA) is calculated as if the farm has no debt. ROA indicates the farm earnings, after subtracting out an allowance for unpaid operator labor and management, as a percentage of invested assets. ROA provides the key summary performance indicator for your farm. By multiplying the operating profit margin by the asset turnover rate, the ROA is determined. The ROA for 2006 averaged 9.9 percent.

The rate of return on equity (ROE), expressed as a percentage of own equity capital, represents the farm earnings after interest payments. Ideally the ROE should be higher than the ROA indicating that profit is being made on borrowed money. This was the case in 2006. ROE performance for 2006 averaged 18 percent. This farm summary indicates that these farms were profitable in 2006.

Table 3. Average Swine Farm Profitability Indicators, 2002-2005

	2002	2003	2004	2005	2006
			(%)		
Rate of return on assets*	-3.2	0.7	16.1	7.0	9.9
Rate of return on equity	-14.8	-10.2	52.4	11.8	18.0
Operating profit margin	-7.0	1.4	25.3	13.8	18.4
Asset turnover rate*	45.6	49.8	63.5	50.8	53.9

* Assets valued at **cost** value (rather than market value).

Table 4 compares profitability measures across the years 2002 - 2006 valued at market. The market value approach includes the impact of price appreciation (inflation) of the asset base overtime. Land is the main reason for price appreciation and reflects a form of income. Financial performance indicators like ROA can be looked upon in this comparison as the “opportunity cost of capital” of farming versus alternative investments. Market value for assets is more appropriate when comparing across different farms (while cost is more appropriate to compare the same farm across time).

The average return on assets (ROA) for 2006 was 7.9 percent, a positive change when compared to 2005. Return on equity (ROE) for 2006 was 9.5 percent. Operating profit margin (OPM) measures the dollars of profit generated per dollar of revenue. In 2005 the OPM was 26.7 percent. In 2006 these swine farms are generating good profit per dollar of revenue.

Asset turnover ratio measures the efficiency with which farm assets generate revenue. In 2006, the asset turnover ratio was 29.6 percent. This was a slight decrease when compared with 2005. Higher prices for production or lower total asset value will increase ATO. This is a slight decrease of 6 percent, meaning that the farm assets generated less dollars per dollar invested in farm assets. The trend with respect to profitability in 2006 was good.

Table 4. Average Swine Farm Profitability Indicators, 2002-2005

	2002	2003	2004	2005	2006
			(%)		
Rate of return on assets*	-0.1	2.8	10.1	7.7	7.9
Rate of return on equity	-3.6	1.7	13.9	9.8	9.5
Operating profit margin	-0.5	11.0	32.4	28.4	26.7
Asset turnover rate*	31.2	25.1	31.0	27.2	29.6

* Assets valued at **market** value (rather than cost value).

Table 5

Crop Production and Marketing Summary

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Acreage Summary	
Total acres owned	292
Total crop acres	555
Crop acres owned	189
Crop acres cash rented	366
Crop acres share rented	-
Total pasture acres	-

Table 6

Farm Income Statement
2006 MI Swine Farms
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Cash Farm Income	
Beans, Navy	8,398
Corn	23,133
Hay, Mixed	75
Soybeans	27,591
Straw	778
Sugar Beets	12,527
Wheat, Winter	12,955
Miscellaneous crop income	14
Hogs, Farrow-Fin, Raised Hogs	178,804
Hogs, Feeder Pigs, Feeder Pigs	40,311
Hogs, Finish Feeder Pigs	241,980
Hogs, Contractee	2,629
Hogs, Weaning to Feeder	3,364
Hogs, Weaning to Finish	135,694
Cull breeding livestock	8,823
Direct & CC govt payments	3,673
Other government payments	16,887
Custom work income	4,332
Patronage dividends, cash	1,384
Insurance income	1,716
Cash from hedging accts	714
Other farm income	3,142
Gross Cash Farm Income	728,924

Table 6

Farm Income Statement (Continued)

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Cash Farm Expense	
Seed	21,864
Fertilizer	22,654
Crop chemicals	14,172
Crop insurance	3,241
Drying fuel	9,327
Crop supplies	1,725
Crop marketing	282
Crop miscellaneous	919
Feeder livestock purchase	120,685
Purchased feed	167,510
Breeding fees	3,662
Veterinary	6,243
Livestock supplies	2,232
Livestock leases	502
Livestock hauling and trucking	711
Livestock marketing	6,735
Livestock miscellaneous	4,193
Interest	24,046
Packaging and supplies	256
Fuel & oil	15,926
Repairs	23,882
Custom hire	27,694
Hired labor	29,320
Land rent	27,248
Machinery leases	21,331
Real estate taxes	6,697
Personal property taxes	99
Farm insurance	8,408
Utilities	21,014
Hauling and trucking	179
Dues & professional fees	2,589
Hedging account deposits	3,214
Miscellaneous	14,184
Total cash expense	612,742
Net cash farm income	116,182
Inventory Changes	
Crops and feed	56,276
Market livestock	1,348
Accounts receivable	1,822
Prepaid expenses and supplies	-7,722
Accounts payable	-3,706
Total inventory change	48,017
Net operating profit	164,199
Depreciation and Other Capital Adjustments	
Breeding livestock	-8,615
Machinery and equipment	-34,326
Buildings and improvements	-16,607
Other farm capital	0
Total depr. and other capital adj	-59,548
Net farm income	104,651

Table 7

Inventory Changes
2006 MI Swine Farms
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Net cash farm income	116,182
Crops and Feed	
Ending inventory	164,770
Beginning inventory	108,494
Inventory change	56,276
Market Livestock	
Ending inventory	202,294
Beginning inventory	200,946
Inventory change	1,348
Accts Receivable & Other Current Assets	
Ending inventory	21,834
Beginning inventory	20,012
Inventory change	1,822
Prepaid Expenses and Supplies	
Ending inventory	53,362
Beginning inventory	61,084
Inventory change	-7,722
Accounts Payable & Accrued Expenses	
Beginning inventory	14,476
Ending inventory	18,182
Inventory change	-3,706
Total inventory change	48,017
Net operating profit	164,199

Table 8

Depreciation and Other Capital Adjustments

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Net operating profit	164,199
Breeding Livestock	
Ending inventory	34,686
Capital sales	4,020
Beginning inventory	37,414
Capital purchases	9,907
Depreciation, capital adjust.	-8,615
Machinery and Equipment	
Ending inventory	97,966
Capital sales	2,257
Beginning inventory	89,292
Capital purchases	45,257
Depreciation, capital adjust.	-34,326
Buildings and Improvements	
Ending inventory	77,095
Capital sales	-
Beginning inventory	57,540
Capital purchases	36,162
Depreciation, capital adjust.	-16,607
Other Capital Assets	
Ending inventory	17,561
Capital sales	3,626
Beginning inventory	18,161
Capital purchases	3,026
Depreciation, capital adjust.	0
Total depreciation, capital adj.	-59,548
Net farm income	104,651

Table 9

Profitability Measures
2006 MI Swine Farms
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Profitability (assets valued at cost)	
Net farm income	104,651
Labor and management earnings	82,291
Rate of return on assets	9.9 %
Rate of return on equity	18.0 %
Operating profit margin	18.4 %
Asset turnover rate	53.9 %
Interest on farm net worth	22,360
Farm interest expense	26,596
Value of operator lbr and mgmt.	40,990
Return on farm assets	90,258
Average farm assets	912,205
Return on farm equity	63,662
Average farm equity	352,807
Value of farm production	491,559

	Avg. Of All Farms
Number of farms	14
Profitability (assets valued at market)	
Net farm income	145,553
Labor and management earnings	79,376
Rate of return on assets	7.9 %
Rate of return on equity	9.5 %
Operating profit margin	26.7 %
Asset turnover rate	29.6 %
Interest on farm net worth	66,177
Farm interest expense	26,596
Value of operator lbr and mgmt.	40,990
Return on farm assets	131,159
Average farm assets	1,662,345
Return on farm equity	104,563
Average farm equity	1,102,947
Value of farm production	491,559

Table 10

Liquidity Measures
2006 MI Swine Farms
(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Liquidity (cash)	
Net cash farm income	116,182
Net nonfarm income	12,162
Family living and taxes	47,236
Principal due on long term debt	22,224
Cash available for interm. debt	58,883
Average intermediate debt	144,291
Years to turnover interm. debt	2.5
Expense as a % of income	84 %
Interest as a % of income	3 %
Working capital to gross income	37 %
Liquidity (accrual)	
Total accrual farm income	788,369
Total accrual operating expense	624,170
Net accrual operating income	164,199
Net nonfarm income	12,162
Family living and taxes	47,236
Principal due on long term debt	22,224
Available for intermediate debt	106,901
Average intermediate debt	144,291
Years to turnover interm. debt	1.3
Expense as a % of income	79 %
Interest as a % of income	3 %
Working capital to gross income	34 %

Table 11

Balance Sheet at Cost Values

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	
Number of farms	14	
	Beginning	Ending
Assets		
Current Farm Assets		
Cash and checking balance	9,306	12,103
Prepaid expenses & supplies	61,084	53,362
Growing crops	2,976	2,824
Accounts receivable	11,968	15,194
Hedging accounts	2,926	3,816
Crops held for sale or feed	108,494	164,770
Crops under government loan	0	0
Market livestock held for sale	200,946	202,294
Other current assets	2,143	0
Total current farm assets	399,843	454,363
Intermediate Farm Assets		
Breeding livestock	37,414	34,686
Machinery and equipment	89,292	97,486
Titled vehicles	0	480
Other intermediate assets	16,193	15,593
Total intermediate farm assets	142,899	148,245
Long Term Farm Assets		
Farm land	259,474	281,016
Buildings and improvements	57,540	77,095
Other long-term assets	1,968	1,968
Total long-term farm assets	318,981	360,079
Total Farm Assets	861,723	962,687
Total Nonfarm Assets	70,622	83,176
Total Assets	932,345	1,045,863
Liabilities		
Current Farm Liabilities		
Accrued interest	2,349	4,899
Accounts payable	12,127	13,283
Current notes	121,021	123,397
Government crop loans	0	0
Principal due on term debt	44,226	44,775
Total current farm liabilities	179,722	186,355
Total intermediate farm liabs	121,257	124,177
Total long term farm liabilities	238,988	268,296
Total farm liabilities	539,967	578,828
Total nonfarm liabilities	12,366	18,534
Total liabilities	552,332	597,362
Net worth (farm and nonfarm)	380,012	448,500
Net worth change		68,488
Ratio Analysis		
Current farm liabilities / assets	45 %	41 %
Curr. & interm farm liab. / assets	55 %	52 %
Long term farm liab. / assets	75 %	75 %
Total debt to asset ratio	59 %	57 %

Table 12

Balance Sheet at Market Values

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms	
Number of farms	14	
	Beginning	Ending
Assets		
Current Farm Assets		
Cash and checking balance	9,306	12,103
Prepaid expenses & supplies	61,084	53,362
Growing crops	2,976	2,824
Accounts receivable	11,968	15,194
Hedging accounts	2,926	3,816
Crops held for sale or feed	108,494	164,770
Crops under government loan	0	0
Market livestock held for sale	200,946	202,294
Other current assets	2,143	0
Total current farm assets	399,843	454,363
Intermediate Farm Assets		
Breeding livestock	38,635	35,734
Machinery and equipment	267,470	287,882
Titled vehicles	2,929	3,215
Other intermediate assets	16,402	15,736
Total intermediate farm assets	325,435	342,566
Long Term Farm Assets		
Farm land	646,070	683,829
Buildings and improvements	185,203	213,335
Other long-term assets	34,860	39,185
Total long-term farm assets	866,134	936,348
Total Farm Assets	1,591,412	1,733,277
Total Nonfarm Assets	220,491	237,963
Total Assets	1,811,903	1,971,240
Liabilities		
Current Farm Liabilities		
Accrued interest	2,349	4,899
Accounts payable	12,127	13,283
Current notes	121,021	123,397
Government crop loans	0	0
Principal due on term debt	44,226	44,775
Total current farm liabilities	179,722	186,355
Total intermediate farm liabs	121,257	124,177
Total long term farm liabilities	238,988	268,296
Total farm liabilities	539,967	578,828
Total nonfarm liabilities	12,366	18,534
Total liabs excluding deferreds	552,332	597,362
Total deferred liabilities	0	0
Total liabilities	552,332	597,362
Retained earnings	380,012	448,500
Market valuation equity	879,558	925,378
Net worth (farm and nonfarm)	1,259,571	1,373,878
Net worth excluding deferreds	1,259,571	1,373,878
Net worth change		114,308
Ratio Analysis		
Current farm liabilities / assets	45 %	41 %
Curr. & interm farm liab. / assets	41 %	39 %
Long term farm liab. / assets	28 %	29 %
Total debt to asset ratio	30 %	30 %
Debt to assets excl deferreds	30 %	30 %

Table 13

Statement Of Cash Flows

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Beginning cash (farm & nonfarm)	9,813
Cash From Operating Activities	
Gross cash farm income	728,924
Net nonfarm income	12,162
Total cash farm expense	-612,742
Apparent family living expense	-47,093
Income and social security tax	-143
Cash from operations	81,107
Cash From Investing Activities	
Sale of breeding livestock	4,020
Sale of machinery & equipment	2,257
Sale of titled vehicles	-
Sale of farm land	3,889
Sale of farm buildings	-
Sale of other farm assets	3,626
Sale of nonfarm assets	-
Purchase of breeding livestock	-9,907
Purchase of machinery & equip.	-44,778
Purchase of titled vehicles	-480
Purchase of farm land	-15,828
Purchase of farm buildings	-36,162
Purchase of other farm assets	-3,026
Purchase of nonfarm assets	-17,477
Cash from investing activities	-113,865
Cash From Financing Activities	
Money borrowed	381,896
Cash gifts and inheritances	1,706
Principal payments	-339,701
Dividends paid	-
Gifts given	-8,699
Cash from financing activities	35,201
Net change in cash balance	2,444
Ending cash (farm & nonfarm)	12,257

Table 14

Financial Standards Measures

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Liquidity	
Current ratio	2.44
Working capital	268,008
Solvency (market)	
Farm debt to asset ratio	33 %
Farm equity to asset ratio	67 %
Farm debt to equity ratio	50 %
Profitability (cost)	
Rate of return on farm assets	9.9 %
Rate of return on farm equity	18.0 %
Operating profit margin	18.4 %
Net farm income	104,651
Repayment Capacity	
Term debt coverage ratio	225 %
Capital replacement margin	77,547
Efficiency	
Asset turnover rate (cost)	53.9 %
Operating expense ratio	75.8 %
Depreciation expense ratio	7.6 %
Interest expense ratio	3.4 %
Net farm income ratio	13.3 %

Table 15

Operator and Labor Information

2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Operator Information	
Average number of operators	1.4
Average age of operators	46.3
Average number of years farming	21.5
Results Per Operator	
Working capital	187,606
Total assets (market)	1,379,868
Total liabilities	418,153
Net worth (market)	961,715
Net worth excl deferred liabs	961,715
Gross farm income	551,859
Total farm expense	478,603
Net farm income	73,256
Net nonfarm income	8,513
Family living & tax withdrawals	33,065
Total acres owned	204.1
Total crop acres	388.8
Crop acres owned	132.4
Crop acres cash rented	256.4
Crop acres share rented	-
Total pasture acres	-
Labor Analysis	
Number of farms	14
Total unpaid labor hours	2,816
Total hired labor hours	1,545
Total labor hours per farm	4,360
Unpaid hours per operator	1,971
Value of farm production / hour	112.73
Net farm income / unpaid hour	37.17
Average hourly hired labor wage	19.31

Table 16

Financial Summary
2006 MI Swine Farms

(Farms Sorted By Rate of Return on Assets - Mkt)

	Avg. Of All Farms
Number of farms	14
Income Statement	
Gross cash farm income	728,924
Total cash farm expense	612,742
Net cash farm income	116,182
Inventory change	48,017
Depreciation and capital adjust	-59,548
Net farm income	104,651
Profitability (cost)	
Labor and management earnings	82,291
Rate of return on assets	9.9 %
Rate of return on equity	18.0 %
Operating profit margin	18.4 %
Asset turnover rate	53.9 %
Profitability (market)	
Labor and management earnings	79,376
Rate of return on assets	7.9 %
Rate of return on equity	9.5 %
Operating profit margin	26.7 %
Asset turnover rate	29.6 %
Liquidity	
Ending current ratio	2.44
Ending working capital	268,008
End working capital to gross inc	36.8 %
Term debt coverage ratio	224.5 %
Expense as a percent of income	79.2 %
Interest as a percent of income	3.4 %
Solvency (cost)	
Number of farms	14
Ending farm assets	962,687
Ending farm liabilities	578,828
Ending total assets	1,045,863
Ending total liabilities	597,362
Ending net worth	448,500
Net worth change	68,488
Ending farm debt to asset ratio	60 %
Beg total debt to asset ratio	59 %
End total debt to asset ratio	57 %
Solvency (market)	
Number of farms	14
Ending farm assets	1,733,277
Ending farm liabilities	578,828
Ending total assets	1,971,240
Ending total liabilities	597,362
Ending net worth	1,373,878
Net worth change	114,308
Ending farm debt to asset ratio	33 %
Beg total debt to asset ratio	30 %
End total debt to asset ratio	30 %
Nonfarm Information	
Net nonfarm income	12,162
Crop Acres	
Total acres owned	292
Total crop acres	555
Total crop acres owned	189
Total crop acres cash rented	366
Total crop acres share rented	-