Why are Michigan Farms Getting Bigger?

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There has been a historical trend for farms in Michigan to get larger, which has led to public concerns about potential impacts on the environment. Concurrently, the number of total farms in Michigan has declined by 9.3% from 58,661 in 1983 to 53,200 in 2004. Interestingly, the number of farms with sales between $1,000 to $9,999 has increased from 28,432 in 1983 to 31,400 in 2004. The purpose of this article is to explain why this trend has occurred and will utilize a Michigan feedlot as the example.

The average or "nominal" price of fed cattle and "nominal" profit per animal from 1983 to 2005 is shown in Table 1. The "nominal" price and profit can be adjusted for inflation using the consumer price index (CPI) which is then used to express the amount of purchasing power the sales price or profit has for any subsequent year in 1983 dollar equivalents. Between 1983 and 2005, the accumulated affect of inflation has nearly doubled the CPI from 100 to 195.3. As a result, the purchasing power of the dollar has been cut in half, or stating it another way, it takes twice as much income in 2005 as 1983 to provide the same standard of living. Adjustment for inflation using the CPI, creates a price or profit value that is referred to as "real" price/profit. The table clearly demonstrates the downward trend in real prices, profit and subsequent purchasing power. To counter this downward trend and improve the likelihood for economic survival, Michigan farms have become more efficient and grown in size. To generate a "nominal" $30,000 household income per year for each of the last 23 years (1983-2005), a feedlot had to market an average of 2,292 animals per year. To generate equivalent purchasing power in disposable "real" income over the 23 year period, the feedlot had to market 4,234 animals per year. Clearly, feedlots had to grow in size and efficiency to remain economically viable and provide a minimal standard of living for their families.

Table 1. "Nominal" and "real" prices for fed cattle and profit for Michigan feedlots

		Nominal		Real		No. animals marketed[d]	
Year	CPI[a]	Price[b], $/hd	Profit[c], $/hd	Price, $/hd	Profit, $/hd	Nominal	Real
1983	100.0	64.32	23.56	64.32	23.56	1273	1273
1984	103.9	66.95	43.72	63.95	42.08	686	713
1985	107.6	60.71	-2.50	56.42	-2.69	*	*
1986	109.6	59.46	34.20	54.24	31.20	1202	1320
1987	113.6	66.87	65.87	58.86	57.98	624	710
1988	118.3	71.58	16.85	60.51	14.24	2440	2892
1989	124.0	74.54	20.81	60.11	16.78	1442	1788
1990	130.7	78.88	43.56	60.36	33.33	689	900
1991	136.2	74.83	-14.10	54.94	19.2	*	*
1992	140.3	75.72	32.20	53.97	22.95	1437	2115
1993	144.4	76.80	34.09	53.15	23.59	1357	2058
1994	148.2	69.51	-41.06	46.90	-60.85	*	*
1995	152.4	66.52	11.19	43.65	7.34	6662	11661
1996	156.9	64.77	15.28	41.28	9.74	3814	6888
1997	160.5	65.90	23.51	41.06	14.65	2479	4579
1998	163.0	61.71	-81.78	37.86	-133.30	*	*
1999	166.6	65.81	39.05	39.50	23.44	1956	4237
2000	172.2	69.69	18.01	40.47	10.46	4242	9496
2001	177.0	72.26	9.21	40.82	5.20	8294	19087
2002	179.9	67.31	-44.56	37.42	-80.16	*	*
2003	184.0	83.34	167.54	45.30	91.05	357	831
2004	188.9	84.65	101.86	44.81	53.92	587	1403
2005	195.3	87.81	34.74	44.96	17.79	1722	4254
	23 yr avg.	70.85	49.78	23.97	8.83	2292	4234

[a] Consumer price index

[b] Price series from western Kansas

[c] Profit series from Dekalb Feeds, Rock Island, IL

[d] During the years when a loss was realized, one-third of the loss was added to the $30,000 set income for the next 3 yrs.