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# CORNHUSKER ECONOMICS

UNIVERSITY OF  
**Nebraska**  
Lincoln

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University of Nebraska–Lincoln Extension

Institute of Agriculture & Natural Resources  
Department of Agricultural Economics  
<http://www.agecon.unl.edu/Cornhuskereconomics.html>

## Does the Data Support Ikerd's "Economic Fallacies of Industrial Hog Production"?

Market Report	Yr Ago	4 Wks Ago	1/26/07
<b><u>Livestock and Products,</u></b>			
<b><u>Weekly Average</u></b>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight . . . . .	\$93.74	\$87.58	\$85.52
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb . . . . .	140.88	116.76	113.72
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb . . . . .	116.73	*	*
Choice Boxed Beef, 600-750 lb. Carcass . . . . .	155.95	143.44	149.37
Western Corn Belt Base Hog Price Carcass, Negotiated . . . . .	52.31	55.97	60.43
Feeder Pigs, National Direct 45 lbs, FOB . . . . .	56.68	*	*
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean . . . . .	59.65	63.63	64.31
Slaughter Lambs, Ch. & Pr., 90-160 lbs., Shorn, Midwest . . . . .	78.25	*	*
National Carcass Lamb Cutout, FOB . . . . .	224.01	252.09	241.52
<b><u>Crops,</u></b>			
<b><u>Daily Spot Prices</u></b>			
Wheat, No. 1, H.W. Imperial, bu . . . . .	3.59	4.54	4.36
Corn, No. 2, Yellow Omaha, bu . . . . .	1.94	3.57	3.80
Soybeans, No. 1, Yellow Omaha, bu . . . . .	5.54	6.46	6.63
Grain Sorghum, No. 2, Yellow Columbus, cwt . . . . .	3.02	5.95	6.25
Oats, No. 2, Heavy Minneapolis, MN , bu . . . . .	2.04	2.85	2.77
<b><u>Hay</u></b>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton . . . . .	130.00	135.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton . . . . .	65.00	87.50	92.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton . . . . .	52.50	82.50	82.50
* No market.			

In one of the most comprehensive studies of U.S. hog production, McBride and Key (2003) found that although the cost of producing hogs declines with increasing farm size across producer types (farrow-to-finish, farrow-to-feeder, and feeder-to-finish), the distribution of costs is such that many small and medium-sized operations produce at a cost that is competitive with industrial-scale operations. The study attributed the cost competitiveness to managerial ability, which "is likely to be as important as size economies lowering the costs of hog production" (p. 18). The same view is shared by Ikerd (2001), a well-known advocate of small hog farms. He reports that farm records "have consistently indicated that 20-40 percent of family hog farms are as cost-efficient as are the large-scale, corporate hog operations. So even with current production methods, a well-managed family hog operation can compete with the large-scale corporate hog operations."

While managerial ability may be useful in explaining the cost competitiveness of small hog farms, it is not easily measurable. In this report I suggest that another potential source of cost-competitiveness - which is measurable but remains virtually unexplored in the literature on hog production, is vertical scope economies. A hog farm is said to enjoy vertical scope economies if the cost of producing pork in a farrow-to-finish operation is less than the cost of producing the same amount of pork in separate farrow-to-feeder and feeder-to-finish operations.<sup>1</sup>

The data set used was collected back in the late 80s and early 90s by Al Prosch (Pork Central Coordinator, UNL) and Larry Bitney (Professor and Extension Farm Management Specialist, UNL - now retired). I estimated

<sup>1</sup> In a 1998 article I used a nonparametric test and found no evidence of vertical scope economies. That test is much weaker than the one I used to generate the results in this report. The 1998 article was entitled "Testing for Vertical Economies of Scope: An Example from Hog Production," and appeared in the *Journal of Agricultural Economics*, Vol. 49, pages 427-533.



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vertical scope economies using what is called a multistage cost function. The data is quite old but was collected about the same time period that USDA collected its own data. Here is what was found. While the cost-savings from combining farrow-to-feeder and feeder-to-finish are positive for all feeder-pig market-hog combinations, they can be substantial for both large and small hog farms (Table 1). For example, a hog farm producing 50,000 pounds of feeder pigs and 150,000 pounds of finished hogs enjoys the same cost-savings (12.4 percent) as a hog farm producing 900,000 pounds of feeder pigs and 1,000,000 pounds of finished hogs. Readers can browse the table for identical or near identical savings, find corresponding mixes and draw conclusions for themselves.

What transpires from the table is that farrow-to-finish benefited both large and small, depending on the farrow-to-feeder and feeder-to-finish mix. This result partially supports Ikerd's claim that "family hog farms are as cost efficient as are the large-scale, corporate hog operations."

I say partially because, although vertical scope economies are positive for all the farrow-to-feeder and feeder-to-finish mix, they may be offset at some point by stage specific diseconomies. That is the subject of future research.

References:

Ikerd, J. "Economic Fallacies of Industrial Hog Production." Presented at Sustainable Hog Farming Summit, sponsored by Water Keepers Alliance, White Plains, NY, held at New Bern, NC, January 11, 2001. Available at: <http://www.ssu.missouri.edu/faculty/JIkerd/papers/EconFallacies-Hogs.htm>

McBride, W. D. and N. Key. *Economic and Structural Relationships in U.S. Hog Production*. Economics Research Service, United States Department of Agriculture, Agricultural Economic Report No. AER818, February, 2003.

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**Table 1. Vertical Scope Economies**

Farrow-to-Feeder Output (1,000 lbs)	Feeder-to-Finish Output (1,000 lbs)														
	50	100	150	200	250	300	350	400	450	500	600	700	800	900	1,000
50	0.186	0.148	0.124	0.107	0.095	0.086	0.078	0.072	0.067	0.062	0.056	0.050	0.046	0.043	0.040
100	0.123	0.110	0.101	0.093	0.087	0.082	0.078	0.075	0.072	0.069	0.064	0.061	0.058	0.055	0.053
150	0.092	0.089	0.086	0.084	0.082	0.080	0.078	0.077	0.075	0.074	0.071	0.069	0.067	0.065	0.064
200	0.074	0.075	0.076	0.077	0.077	0.077	0.078	0.078	0.077	0.077	0.077	0.076	0.075	0.075	0.074
250	0.062	0.066	0.069	0.071	0.074	0.075	0.077	0.078	0.079	0.080	0.081	0.082	0.082	0.083	0.083
300	0.054	0.059	0.063	0.067	0.071	0.074	0.076	0.078	0.080	0.082	0.085	0.087	0.088	0.089	0.090
350	0.047	0.054	0.059	0.064	0.068	0.072	0.075	0.078	0.081	0.083	0.088	0.091	0.093	0.095	0.097
400	0.043	0.049	0.055	0.061	0.066	0.070	0.074	0.078	0.081	0.084	0.090	0.094	0.098	0.100	0.103
450	0.039	0.046	0.052	0.058	0.064	0.069	0.073	0.078	0.081	0.085	0.091	0.097	0.101	0.105	0.108
500	0.035	0.043	0.050	0.056	0.062	0.067	0.072	0.077	0.081	0.085	0.093	0.099	0.104	0.109	0.112
600	0.015	0.023	0.031	0.038	0.045	0.052	0.058	0.063	0.069	0.074	0.083	0.091	0.098	0.105	0.110
700	0.014	0.022	0.030	0.037	0.044	0.051	0.057	0.063	0.069	0.075	0.085	0.094	0.102	0.110	0.116
800	0.013	0.021	0.029	0.036	0.043	0.050	0.057	0.063	0.069	0.075	0.086	0.096	0.105	0.113	0.121
900	0.012	0.020	0.028	0.035	0.042	0.049	0.056	0.063	0.069	0.075	0.086	0.097	0.107	0.116	0.124
1,000	0.012	0.019	0.027	0.034	0.041	0.048	0.055	0.062	0.068	0.074	0.086	0.097	0.108	0.117	0.126