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How Big is “Big Enough” to Make a Living in Pork Production?

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Summary and Implications

The size of pork production units in Nebraska increased dramatically from 1989 to 2002. In 1989, producers who marketed less than 1,000 hogs per year held 61% of Nebraska's hog inventory. By 2002, only 23% of Nebraska's hogs were held by those producers. Many decisions affect the size of a swine production unit. Basic to any decisions on size is whether the enterprise is profitable and can provide a reasonable living to those owning and working in the unit. Data from the Nebraska Swine Enterprise and Records Analysis program suggests that Nebraska farrow-to-finish producers needed to increase the size of their herds by 51% or half again as large to maintain the level of income over living for the period 1989 to 2002. During this period, the average Nebraska swine enterprise grew larger than predicted if growth was in response to maintain family living expenses. While maintaining a living may be one reason for growth, it appears there are other important drivers of growth in production unit size.

Introduction

Iowa State University researchers found that farrow-to-finish pork producers in Iowa had a slightly profitable 10-year period from 1994 to 2003, with returns averaging $0.21/head. This information suggests that pork producers could not make a

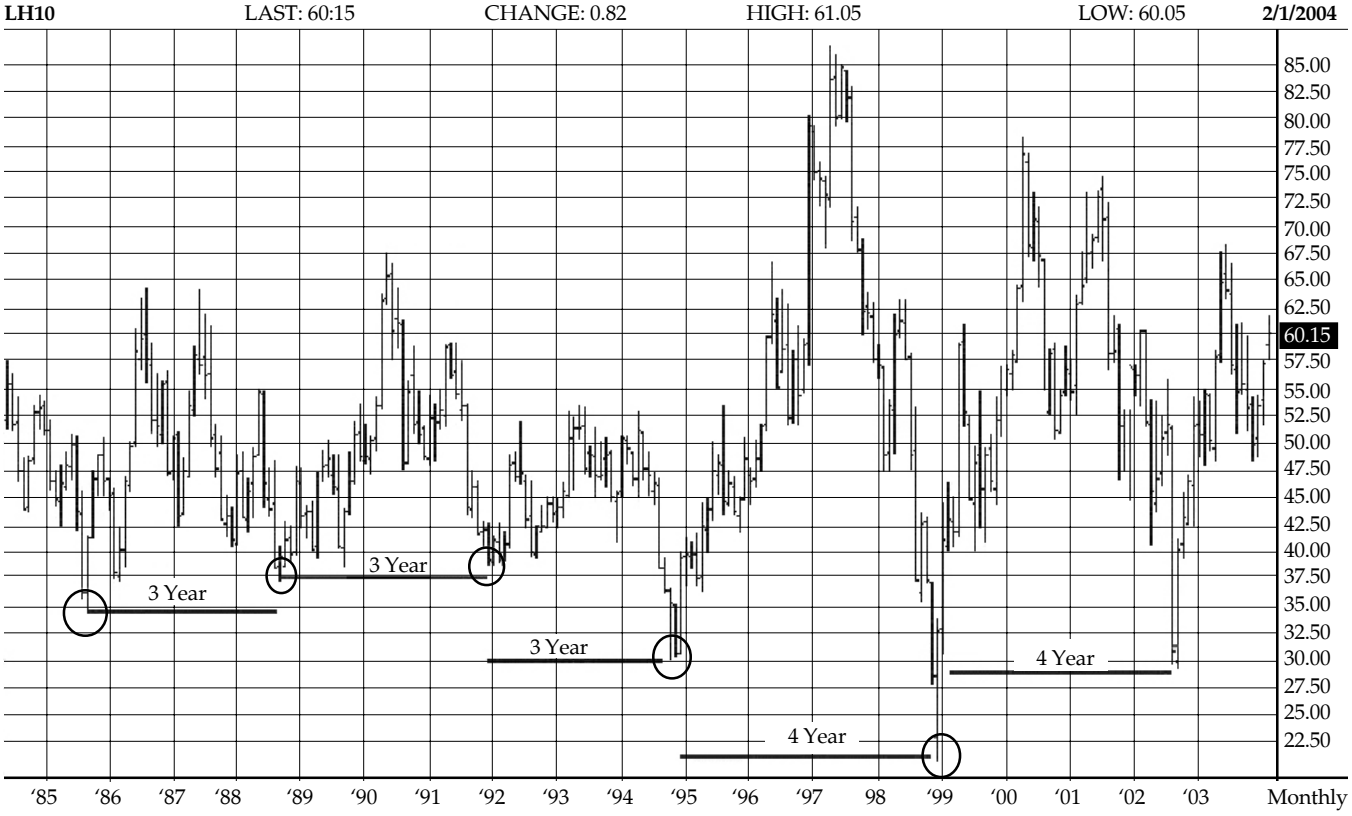

Figure 1. Chicago Mercantile Exchange Lean Hog Carcass Futures contract data.

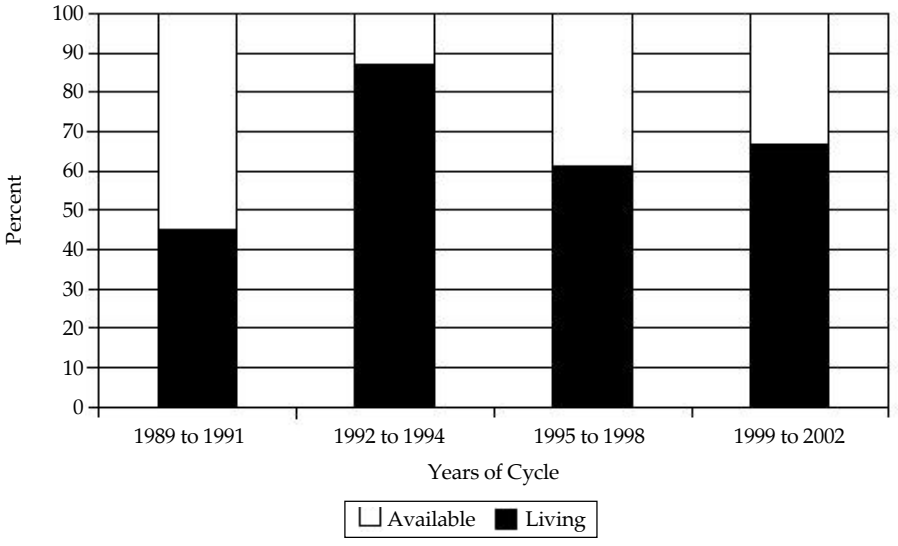

Figure 2. Percent of available dollars needed for living expenses.

reasonable living and, therefore, many would discontinue their operations. Those that remained would need to expand to provide a reasonable living. As operations expanded, economies of scale would drive some growth. This paper examines the production characteristics of producers in the *Nebraska Swine Enterprise and Records Analysis* (NSER&A) program and evaluates their ability to generate a family living from 1989 to 2002.

Methods

To examine the growth determinants, data from the NSER&A and the Nebraska Farm Business Association (NFBA) were used to analyze whether a farrow-to-finish swine enterprise of modest size still can generate sufficient profits to support family living expenses. Family living expenses reported by the NFBA for 1989 to 2002 were compared to U.S. census data for household income in Grand Island, Neb. Reported NFBA farm living expenses are very similar to average household incomes in this non-farm community. While NSER&A data includes information on the high profit one-third, low profit one-third and overall average, data for the average of all producers were used in the comparisons.

The NSER&A program ended

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in 1997 due to declining enrollment. Results from 1998 through 2002 were calculated using yearly feed cost corrections and annual average changes in non-feed costs. Productivity was increased at the same annual rate of improvement as in the 1989-1997 period.

NSER&A data contain both paid and unpaid labor costs as an expense item. As a non-cash expense, unpaid labor cost was added back to the total dollars available. These funds could be used to provide a living when comparing income versus living expenses.

In the NSER&A data, interest costs were charged on all operating capital (10%) and all fixed capital (12%). Interest costs were added back to available income when comparing income versus living expenses. This is done to provide a comparison of the true earnings of the operation regardless of financing.

Hog cycles

Hog prices remain cyclical, generally cycling in a 3- to 4-year period. Cycle lows occurred in 2002, 1998 and 1994 (four year cycles), and again in 1991, 1988 and 1985, (three year cycles) (Figure 1). Comparing the ability of an operation to generate available income to provide a family living through an entire cycle of highs and lows reduces the single-year effect and helps determine if producers are able to generate an adequate living over time.

Producer productivity

From 1988 to 1997, producers in the NSER&A increased the number of pigs sold per sow per year from 13.0 to 16.7. In 1997, the high profit one-third (top one-third) sold 19.4 pigs per sow per year.

This study examines profit from a breeding herd of 125 sows from 1990 to 2002. It was assumed that herd produced 19.4 pigs for sale per sow per year in 2002, a level achieved by the top one-third in 1997.

Living costs

In 1989, the NBFA reported average family living expense was $25,944 before taxes. By 2002, this had increased 48% to $38,341. As a comparison to non-farm families, median household income in Grand Island, Neb. was $25,019 in 1989 and $36,044 in 2002, a 44% increase. In 1989 NFBA reported living was 3.7% higher than the household income reported at Grand Island. By 2002 that had increased to 6.4%. The data suggests the amount and the rate of increase in living expense (NFBA) and household income (Grand Island) were similar for farm and non-farm families in Nebraska.

The Ability to "Make a Living"

During the first cycle from 1989 to 1991, NSER&A results suggest a 125-sow farrow-to-finish enterprise would have used 45% of the cash it generated to pay for family living (Figure 2). During the fourth cycle, 1999 to 2002, that enterprise would have used 67% of generated cash to pay family living.

These results suggest that a producer with 125 sows could have had profits sufficient to pay more than living expenses over the 14 years included in the four cycles. But producers would have needed to increase the size of their swine enterprise if they wanted to maintain the same total margin in cycle four as they had in cycle one.

Farrow-to-finish producers would have had to increase the existing 125 sow herd by 64 sows or 51% which would increase marketing to 3,659 hogs per year to maintain the margins enjoyed during the first cycle. The need to generate all family living expenses does not explain the large increases in swine production unit sizes in Nebraska.

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