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Analysis of Kansas Hog Enterprise returns from 1981-1990 (1990)

Michael R. Langemeier

ANALYSIS OF KANSAS HOG ENTERPRISE RETURNS FROM 1981-1990

Michael R. Langemeier[1]

Summary

Estimated historical return distributions for farrow-to-finish, feeder pig finishing, and feeder pig producing operations in Kansas from 1981-1990 were examined. Average returns per head were the highest and downside risk was the lowest for farrow-to-finish operations over this period. However, the required investment in buildings, equipment, and breeding stock per head was also higher for this operation. Thus, a tradeoff exists between returns per head and capital requirements per head.

(Key Words: Enterprise, Records, Economics.)

Introduction

A distribution of potential returns is important information to have when developing long-term plans. In particular, expansion or contraction decisions can be made more readily with this information.

Using just the current return information to make these decisions may cause an inadequate result. Using several alternative return scenarios enables the producer to determine potential profitability for alterative situations.

The objectives of this study were to determine estimated historical return distributions for farrow-to-finish, feeder pig finishing, and feeder pig producing operations in Kansas from 1981-1990 and to discuss how this information can be used.

Procedures

Data pertaining to market hog prices, sow prices, feeder pig prices, fixed costs, feed costs, and other variable costs were collected for the 38 quarters from January 1981 to June 1990. Cash prices for market hogs, sows, milo, soybean meal, and other feed ingredients were obtained from various publications of the Kansas Agricultural Statistical Service. Feeder pig prices for 40 pound feeder pigs in Southern Missouri were obtained from data collected by the Agricultural Marketing Service. Other variable and fixed costs were obtained from representative farrow-to-finish, feeder pig finishing, and feeder pig production budgets developed by Extension Agricultural Economists at Kansas State University. The fixed costs of production include annual charges needed to recover the investment in buildings,

[1]Assistant Professor, Department of Agricultural Economics, Kansas State University.

equipment, and breeding stock. These costs would be incurred even if no hogs were produced. Variable costs include milo, soybean meal, vitamins, minerals, pig starter, feed processing, labor, veterinarian costs, supplies, utilities, repairs, and interest on operating expenses. These costs vary with the level of production.

Returns per head for farrow-to-finish, feeder pig finishing, and feeder pig producing operations were estimated by subtracting variable and fixed costs from gross returns obtained through market hog and cull sow sales. Charges for management and risk were not included in cost calculations. Thus, the estimated return distributions represent the returns to management and the risk associated with hog production.

Results and Discussion

Table 1 presents the estimated return distribution for farrow-to-finish production in Kansas from the first quarter of 1981 to the second quarter of 1990. The average return over the 10-yr period was $17.78 per head. Quarterly returns per head ranged from a loss of $11.53 to a profit of $54.46. Returns per head exceeded $50 about 10.5% of the time. Returns per head exceeded $20 about 31.6% of the time. Returns per head were below the break-even value about 15.8% of the time.

The estimated return distribution for feeder pig finishing in Kansas from the first quarter of 1981 to the second quarter of 1990 is presented in Table 2. The average returns per head over the 10-yr period was $8.30. Quarterly returns per head ranged from a loss of $11.58 to a profit of $40.65. Returns per head exceeded $20 about 18.4% of the time. Returns per head were below the break-even value about 31.6% of the time. Thus, returns per head were relatively lower and downside risk was relatively greater for feeder pig finishing operations.

Table 3 presents the estimated return distribution for feeder pig producing operations in Kansas from the first quarter of 1981 to the second quarter of 1990. The average return per head over the 10-yr period was $.30, or about $17 and $8 lower than the average return per head for farrow-to-finish production and feeder pig finishing. None of the quarters had returns per head greater than $20. Returns per head were below the break-even value about 52.6% of the time. Thus, there was a considerable degree of downside risk in feeder pig production over this period.

These results indicate that potential returns per head are higher for farrow-to-finish operations than for feeder pig finishing and feeder pig producing operations. Also, downside risk is relatively lower for farrow-to-finish operations. However, investment per head is relatively higher for farrow-to-finish operations. Thus, there is a tradeoff between returns per head and capital intensity. The return distribution above can be used by producers along with information pertaining to limits on available capital to choose the appropriate mode of production.

Table 1. Estimated Distribution of Farrow-to-Finish Hog Returns in Kansas from 1981-1990

Returns per head	Percent of quarters
Returns greater than $50/head	10.5
Returns greater than $40/head	13.2
Returns greater than $30/head	26.3
Returns greater than $20/head	31.6
Returns greater than $10/head	60.5
Returns greater than break-even value	84.2
Returns less than break-even value	15.8
Loss greater than $10/head	2.6

Table 2. Estimated Distribution of Feeder Pig Finishing Returns in Kansas from 1981-1990

Returns per head	Percent of quarters
Returns greater than $50/head	0.0
Returns greater than $40/head	2.6
Returns greater than $30/head	5.3
Returns greater than $20/head	18.4
Returns greater than $10/head	39.5
Returns greater than break-even value	68.4
Returns less than break-even value	31.6
Loss greater than $10/head	7.9

Table 3. Estimated Distribution of Returns for Feeder Pig Production Operations in Kansas from 1981-1990

Returns per head	Percent of quarters
Returns greater than $50/head	0.0
Returns greater than $40/head	0.0
Returns greater than $30/head	0.0
Returns greater than $20/head	0.0
Returns greater than $10/head	23.7
Returns greater than break-even value	47.4
Returns less than break-even value	52.6
Loss greater than $10/head	15.8