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Hedging opportunities for feeder pig finishers

Abstract

This study examined the frequency of profitable, short, hedging opportunities that have been available to feeder pig finishers in recent years. The results indicate that there have been periods offering frequent opportunities to "lock in" a profit by hedging. However, there have not been many extended periods beyond 6 mo offering frequent profitable hedging opportunities, and over several feeding periods, no trading day offered profitable hedging opportunities. Though not always offering a profit, the futures market offered some improved returns relative to the cash market. During a few feeding periods, improved return opportunities were present in excess of 80% of the trading days, but overall, the frequency of improved returns was fairly low.; Swine Day, Manhattan, KS, November 17, 1988

Keywords

Swine day, 1988; Kansas Agricultural Experiment Station contribution; no. 88-149-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 556; Swine; Hedging; Hog marketing; Hog profits

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HEDGING OPPORTUNITIES FOR FEEDER PIG FINISHERS¹

T.C. Schroeder²

Summary

This study examined the frequency of profitable, short, hedging opportunities that have been available to feeder pig finishers in recent years. The results indicate that there have been periods offering frequent opportunities to "lock in" a profit by hedging. However, there have not been many extended periods beyond 6 mo offering frequent profitable hedging opportunities, and over several feeding periods, no trading day offered profitable hedging opportunities. Though not always offering a profit, the futures market offered some improved returns relative to the cash market. During a few feeding periods, improved return opportunities were present in excess of 80% of the trading days, but overall, the frequency of improved returns was fairly low.

(Key Words: Hedging, Hog Marketing, Hog Profits.)

Introduction

Futures markets are one alternative tool that feeder pig finishers can use in their marketing scheme, but some observers have questioned the usefulness and economic value of futures markets. Questions have arisen about the impact of the futures price on the cash price, the ability of the futures price to adjust to new information, the usefulness of the futures market to producers, and the possible manipulation of futures markets by large traders. This study examines the profit opportunities and improved return opportunities that were available to hog producers through hedging in the live hog futures market over the 1980 through 1987 period.

Procedures

A computer simulation was used to compare futures market revenues with USDA estimated costs of production and cash marketing profits. The analysis included hogs placed on feed from January 1980 through December 1987. This period covers approximately two complete hog cycles, thereby minimizing the impact on the results of partial hog price cycles. This analysis provides a retrospective picture of the frequency and magnitude of recent profit opportunities and improved returns available to feeder pig finishers using the live hog futures market to hedge the sale of finished hogs.

A 4-mo feeding period, typical of feeder pig finishing, was assumed. It was assumed that the pigs were placed on feed and sold on the 15th day of the month or the nearest business day following the 15th. It was assumed that each trading day during the feeding period could be used to place a short hedge, but no hedges were allowed to be placed in the marketing month. The midpoint of the daily futures price range was used to represent the

¹The helpful comments of Jim Mintert are gratefully acknowledged.

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price at which the typical hedger could have placed a hedge.

Production and Marketing Costs

Representative Corn Belt feeder pig finishing costs of production were taken from the USDA Livestock and Poultry Outlook and Situation Reports. It was assumed that the feeder pigs were purchased at a weight of 40-50 lb, fed for 4 mo, and marketed at a weight of 220 lb. The per head estimated costs of production includes the feeder pig purchase price, the cost of corn (11 bushel), protein supplement (130 lb), labor and management (1.3 hr), veterinary and medicine, interest, death loss (4% of purchase value), transportation (100 miles), marketing costs, and other miscellaneous and indirect costs.

Results

The percentage of trading days offering a short hedging profit opportunity for feeder pigs placed on feed over the January 1980 through December 1987 period is reported in Table 1. This represents the percentage of trading days over the 4-mo production period on which the producer could have profitably hedged finished hogs. The distribution of the profit opportunities, aggregated across all months and years is illustrated in Figure 1. For comparison purposes with the distribution of hedging profits, the average cash marketing profit over the 1980 through 1987 period was a loss of \$2.26/head, the standard deviation was \$14.52/head, and the minimum and maximum cash profits were -\$30.59/head and 36.97/head.

As can be seen, frequent profitable hedging opportunities existed, especially during the early 1980's and again in mid to late 1985. In 1980 for example, more than 60% of the trading days for hogs placed on feed from January through June offered profitable hedging opportunities. Notice, however, that the profitable hedging opportunities do not appear to sustain high frequency levels for extended periods of time (more than 6 mo). The results suggest that hog producers adjust production patterns rapidly to meet changing profit opportunities.

Perhaps more important to the hedger than profit opportunities are the opportunities for realizing improved returns by hedging relative to cash marketing. When the futures market is offering a profit, the cash market may end up offering even higher profits. On the other hand, when the futures market is not offering a profit, the loss that may result in the cash market may be more severe. The percentage of trading days that offered improved returns relative to the cash market are reported in Table 2. As can be seen, at least some time during every feeding period over the 1980 through 1987 placement dates, the futures market offered improved returns relative to the cash market, and over a few periods, the percentage of trading days offering improved returns by hedging exceeded 70%. A comparison of this with the earlier results implies that often times the futures market offered a loss reducing opportunity relative to the cash market. However, overall, marketing hogs in the cash market offered higher returns relative to the futures market for the majority of the trading days.

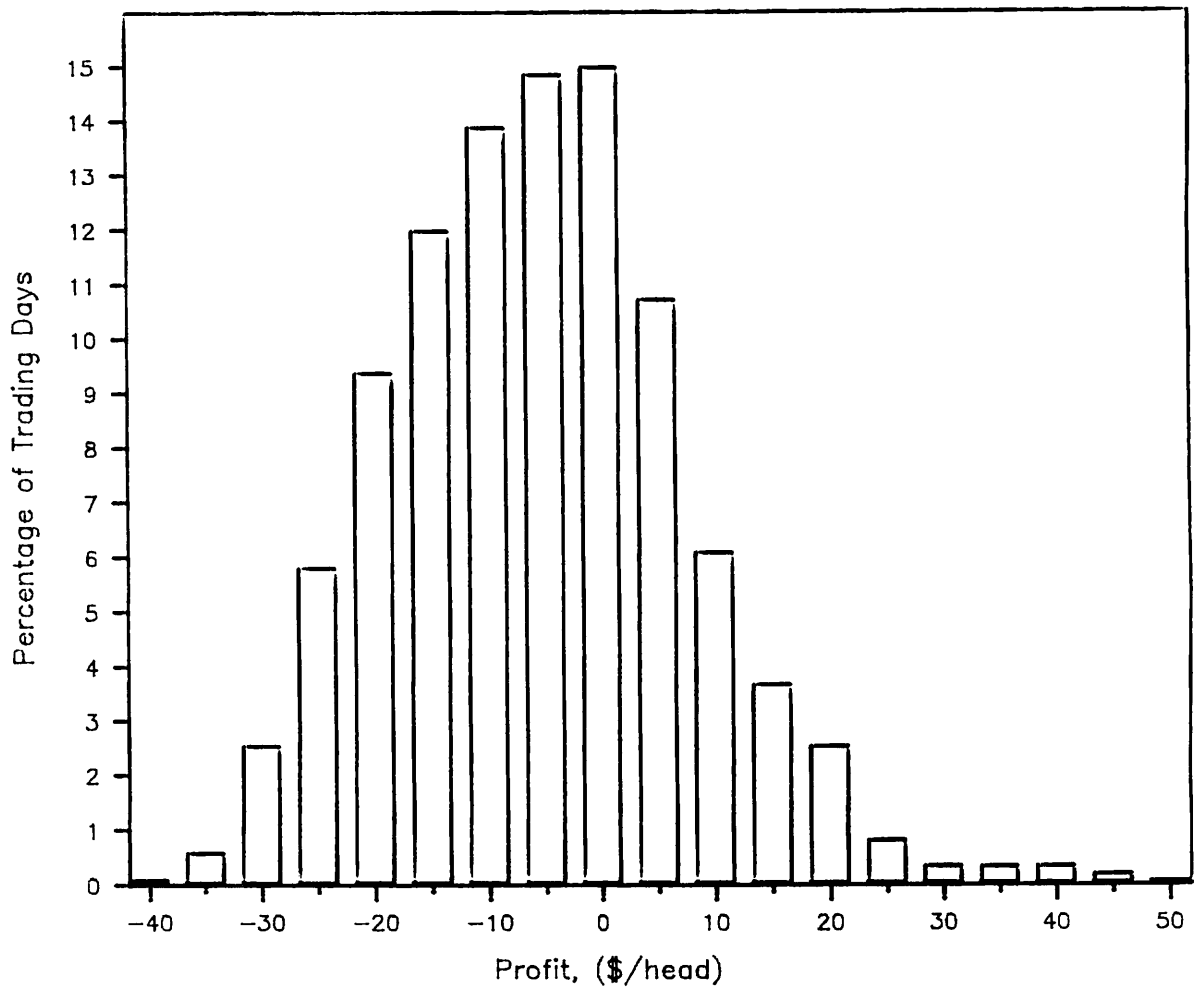


Figure 1. Percentage Distribution of Hedging Profit Opportunities for Feeder Pig Finishers, 1980 through 1987.

Table 1. Percentage of Trading Days Offering a Profit Opportunity Using Live Hog Futures^a

Month Placed on Feed	Year Placed on Feed							
	1980	1981	1982	1983	1984	1985	1986	1987
January	77	2	90	0	0	0	71	19
February	68	0	49	0	0	0	23	17
March	68	32	31	0	0	6	43	26
April	72	13	19	11	0	24	56	30
May	80	12	15	43	15	30	31	30
June	75	4	43	68	24	47	34	27
July	52	33	11	29	30	51	40	0
August	3	39	3	0	44	50	30	0
September	6	85	1	71	13	98	0	0
October	1	81	37	93	37	91	14	66
November	0	83	58	47	8	37	1	13
December	0	87	45	9	14	27	29	71

^aAssumes a 4-mo feeding period.

Table 2. Percentage of Trading Days Offering Improved Returns by Hedging Relative to Cash Marketing^a

Month Placed on Feed	Year Placed on Feed							
	1980	1981	1982	1983	1984	1985	1986	1987
January	75	34	18	57	25	21	23	11
February	72	35	20	59	25	25	22	10
March	89	83	44	72	78	54	42	36
April	80	88	36	62	85	60	40	32
May	59	69	38	45	64	49	30	24
June	59	68	42	47	63	51	34	26
July	30	66	29	7	56	37	23	6
August	31	65	30	8	59	38	23	10
September	57	43	79	74	27	5	36	73
October	60	47	68	57	37	21	49	44
November	55	11	27	17	8	2	8	4
December	54	29	20	22	25	24	22	32

^aAssumes a 4-mo feeding period.