

Characteristic Variances of Live Animal Futures Contracts

by
Gene A. Futrell
Iowa State University

Being a discussant at a conference such as this is easiest when the main paper presented contains a number of ideas or viewpoints with which the discussant disagrees. Then one can simply play the critic's role and take issue with the other person's views. In the process, it is often possible to get by without offering any constructive commentary of your own. Professor Gray's paper doesn't permit this easy way out. I think it is an excellent paper. I feel it is a realistic discussion of some of the things that seem to influence the relative success of futures markets. And it raises some points that should stimulate further discussion and contribute to better understanding of the live hog futures market.

Since I can find little in the paper to be critical of, and since it would be redundant to simply express accord with what he has already said — there's only one other alternative (actually there's two, since I could stop at this point so that we could proceed with the discussion). This is what I will attempt to do. Perhaps I can also find a few points on which to disagree.

I want to first express agreement with Gray's view that hedging use is a necessity for continued success of a futures market. This is the economic basis for their existence, in my opinion, and is the connecting link with reality, and to the counterpart cash market. Gray has pointed out that hedging use of futures markets has usually somehow been accompanied by "appropriate levels of speculation." I'll take his word on this point, since I haven't studied futures markets in the depth he has. However, I think it is still likely that speculative participation is influenced

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by other factors than hedging use of the market.

Regarding hedging, I've had some feelings that the hedging potential of the new livestock futures markets has been given a great deal of lip service by many brokers and others who have not bothered to become well enough acquainted with the hog or cattle feeding businesses to provide sound hedging counsel, or to know how and when the market can be effectively used for this purpose. I think this situation is changing as more brokers gain familiarity with the market.

Most of my remaining comments will concern three general areas — all of which have been at least referred to by Professor Gray. These are the cost to the hedgers of using live hog futures, the economic need for hedging hog feeding operation, and the live hog contract itself.

It seems to me that Gray's discussion of biased price estimates, whereby buyers or sellers pay too much for using futures markets, is quite relevant to the live hog futures market. For some reason, the cost of hedging or the premium for price protection through live hog futures appears to have been relatively high so far in the market's short history. Ken Egertson, at the University of Minnesota, has tried to estimate the cost of hedging with live hog futures in the following way. He assumed that a producer farrowed pigs each month from March, 1966, through January, 1967 — and subsequently marketed slaughter hogs each month from September, 1966, through July, 1967. The futures market, adjusted for brokerage and interest costs, was high enough throughout this period to cover both estimated variable and total costs of production — if pigs had been hedged by the sale of futures contracts at farrowing time. However, the returns over total costs for the period studied would have averaged \$1.22 per cwt. higher, based on Egertson's analysis, in an unhedged position compared with a hedged position. Thus, the cost of removing the price risk by hedging would have been about \$1.22 per cwt. In only three of the eleven periods included in this comparison did the hedged position yield a higher return over costs. And one of these was by the small margin of 1 cent. This analysis did not reflect any selective use of the market, but rather a fixed pattern of hedging. This is not to say that effective hedges could not have been

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made at other times for hogs on hand. In fact, there have been several periods when selective hedging would have yielded a higher return. There is some evidence that the premium for removing price risk through live hog futures has been relatively high much of the time thus far.

This may or may not account for the relatively light trading activity in live hog futures. I feel other factors have probably been more important. One is that relatively few hog producers have become well enough acquainted with the market to make effective use of it. Another relates to economic motivation for hedging, and to the hog contract requirements.

The degree to which hog producers feel a need for removing price uncertainty under the present size and organization of most hog operations may have limited hedging use. Although hog operations are becoming larger and more specialized, relatively small hog operations still account for a big share of U.S. hog production. For example, in Iowa in 1966, 65 percent of the farms that raised spring pigs farrowed 20 sows or less and accounted for 40 percent of the pigs raised. Only 3½ percent farrowed 50 sows or more — and accounted for 13 percent of the pigs. In addition, hogs have historically been a fairly consistent profit maker for farmers in the cornbelt, even though prices have varied considerably. The investment in facilities, breeding stock (or feeder pigs) is relatively small in most cases, compared with cattle feeding for example. Finally, feed — which still makes up a large portion of variable costs — has been largely produced on the same farm as the hogs and has not required a direct cash outlay. An indication of the relative stability and level of returns from hogs is provided by estimates of returns per \$100 of feed fed to hogs, compared with other livestock enterprises. Iowa data for the years 1960-66 shows an average of \$170 income per \$100 worth of feed fed to hogs. The range for the seven years was from \$138 to \$203. Comparable estimates for cattle feeding operations show an average income of \$126 per \$100 of feed fed and range of \$92 to \$156. This is not in itself an adequate indication of net profit, since it does not reflect other costs. But per unit investment in cattle feeding facilities, for example, would be larger than for hogs; and the non-feed variable costs

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would be at least as important.

Under these investments and profit conditions, most hog producers have been in a relatively good position to carry the market price risk. So the incentive for removing price risk may have been fairly weak up to this point. Individual hog producers are likely to follow an unhedged route — unless the cost for price protection is quite low or there are obviously favorable hedging opportunities present. In this sense, I think the economic need for hedging is probably more limited at this time in the case of hogs than it is in cattle feeding. A possible additional retardant to hedging use of the market so far is that hog prices have been relatively favorable during the period that hog futures has been in existence.

Gray has suggested that hedging use of the market may increase as hog operations change in size and organization. This appears quite plausible. The number of larger, commercial hog operations has been increasing, and further growth is expected. Hog finishing operations organized on a large scale, specialized basis probably have greater incentive for hedging. The year's profits are tied closely to the outcome of this single enterprise. More of the production costs are likely to be of the direct, out-of-pocket variety that are hard to absorb, offset, or conceal in other phases of the farm business.

I would like to turn now to a couple of comments on the live hog contract. It may be that the trading unit of 20,000 pounds of liveweight hog is too large to fit the hedging needs of the majority of hog producers. I do not know whether this is a real limitation or not. Producers, in the 500 head or so per year and down category, might often be in the position of not having sufficient hogs of reasonable uniformity to make effective hedging use of the market.

Present differentials between alternate delivery and the par delivery point in Chicago may not be completely satisfactory. These delivery points are Omaha, East St. Louis, Sioux City, Kansas City, and St. Paul, all at 75 cents per cwt. below Chicago. A fixed transportation differential between these markets and Chicago may not be realistic. Actual differentials may be more or less than this. Differentials are not constant from day to day,

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or week to week.

I think delivery at specified times throughout the delivery month rather than after the close of trading on the contract should also be given consideration.

Two characteristics of live hog or live cattle futures markets that are different from most other markets in which there have been futures trading should be mentioned. These do not necessarily limit the success of the markets; but they do influence the kind of market behavior you should expect, and possibly the *degree* of price protection available through hedging.

One difference is that the new livestock futures markets provide primarily the opportunity to hedge a production process rather than inventory of product. This can also be done with crops, but grain futures have not been widely used in this way. This does, in my opinion, limit the degree of price protection obtainable by hedging — due to the greater possibility of quality departures from the contract specifications. The relatively wide price range that is typical of the cash market for live hogs adds another limitation on the precision of hedging protection.

A second characteristic is that there can be a high degree of independence between contracts for various delivery months. In grain, contracts within a given marketing year are closely and logically tied together. Thus, something that temporarily affects the demand, for example, can logically influence all contracts — since it affects the supply-demand balance for the remainder of the marketing year. The situation in the live hog or live cattle futures market is quite different. Large market supplies or unusual demand conditions in a particular period may have no relevance to later market conditions.

Now some final observations relating to some of the other points raised by Professor Gray. I think his discussion of the influence of previously established futures markets in similar commodities (or the same commodity at a different Exchange) warrants discussion. I think this can be a definite handicap to a new contract. In the case of pork bellies and hogs, however, I don't feel the market for pork bellies is correlated closely and consistently enough to live hog values throughout the year to make this fact in itself a limitation on hedging use. Speculator

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interest could be affected when background knowledge of market fundamentals and trading strategy have already been acquired for the existing market.

In discussing some of the institutional forerunners of futures trading that may influence success or failure, Gray mentions the presence or absence of a "recognizable group whose relationship to growers is such that they are likely to use futures on behalf of growers, or in furtherance of their contractual relationship with growers." The presence of this relationship presumably is a positive factor in the prospects for successful futures trading. It appears that the live hog futures market meets this condition to some extent in the person of meat packers. Thus, packers can potentially use the market to hedge hogs contracted for future delivery or possibly as long hedgers to forward price some of their live hog needs. The other two conditions he mentioned (relative to forward trading and to merchandising) have not been present in live hogs.

This raises a question in my mind about the possible impact of the presence or absence of long hedging interests. Professor Gray mentioned the possibility of a downward price bias due to predominantly short hedging. Would active long hedging in a market such as live hogs offset this influence? What is the potential for long hedging by processors? A limitation for packer long hedging may be the lack of active futures market in pork products other than bellies.

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