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Research on Futures Markets: Discussion

Allen B. Paul

Steven Blank proposes to survey the range of futures research reported for agricultural markets but limits most of his discussion to the "optimal" hedge and to analyses of risk aversion in a CAPM risk-versus-return context. Moreover, he limits his optimal hedge review to the agricultural market literature of the 1980s. Of all the futures markets' topics in the literature, this one has had the greatest development over the decades by agricultural economists. Yet, Blank has embarked on a major task.

The paper is organized around two "basic" questions: (1) Do the markets have social value? and (2) Do they have economic value to individual firms? If by "social value" he means that the benefits of futures markets to society exceed their costs, the proposition probably cannot be judged with statistical data. Our national policy merely requires that before any futures contract can be traded, it must pass an "economic purpose" test—namely, the commodity exchange must show that the contract can be used by some firms for bona fide hedging. Note that even this requirement is unique. The issuers of other tradable claims like stocks and bonds are not required to show an economic purpose before these are offered to the public.

Blank's paper leaves us up in the air as to whether futures markets, on the whole, are efficient institutions. I myself have not taken the widespread use of technical trading systems as evidence of pricing inefficiency. Do we know that these technical systems really pay out? Are not most of the systems in use by successful floor traders simply compensation for their supplying "liquidity services"?

Moreover, the general failure of futures markets to correctly predict the final price of a futures contract does not in itself denote inefficiency.

As Leuthold and Tomek stated in their 1980 survey of the literature on livestock futures, "It seems anomalous that the markets are judged poor predictors, yet they have reduced cash price variability and act as good hedging mediums" (p. 63). My own study of delivery month bias in maturing futures contracts implies that most hedgers probably should avoid carrying their short positions into the delivery month (Paul 1986). Yet such bias may or may not interfere with hedging results.

While Blank should not be expected to cover more ground than he has, it should be noted that the roots of important ideas that now fill the pages of learned journals are embedded in studies that were published when no futures trading in financial instruments existed. For example, Working reported his pioneering studies of the "random walk" hypothesis some 30 years ago and concluded that grain futures prices were "reliably anticipatory" (pp. 255–59). On the topic of optimum hedging levels, Ward and Fletcher and Heifner reported studies in the early 1970s that were forerunners of work reported by other analysts in the 1980s.

This prompts a more general observation. The flow of ideas among actors (researchers, practitioners, and others) in the different sectors of the market economy seems to be a two-way process. Leuthold and Tomek said that "The success of livestock contracts ushered in a new era of futures trading leading to many other contracts most notably foreign currency and financial instruments" (p. 39). Then, as Blank has noted, the start of trading in financial futures has caused certain ideas in the literature of finance to be applied to the study of agricultural futures markets. Yet, the beginning of cash settlement of debt and equity futures contracts in 1982 had as its forerunners earlier attempts at cash settlement of iced broiler and fed cattle futures—products difficult to deliver. Then, the successful use of cash settlements for important financial futures

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contracts, beginning in 1982, encouraged their later trial for potatoes, feeder cattle, and ocean shipping—items whose physical delivery would encounter major difficulties.

There are interesting semantic problems in Blank's paper. One is the definition of hedging, implying that hedging is almost anything that businessmen do in futures markets. But why assert that a hedging ratio above one contains an increased amount of hedging when one could just as well assert that it contains an increased amount of speculation? Surely, the futures broker is likely to call for more margin!

The 1936 Commodity Exchange Act is very explicit on what could be termed "hedging." Yet the 1956 modification of the Act muddied the waters when it recognized "anticipatory hedging" as bona fide hedging. This allowance was a perversion of a 1936 proposal (not enacted) to allow firms that have the equivalent of standing commitments to sell cash commodities at a predetermined price—such as seed catalogue companies—to call a purchase of offsetting futures contracts a bona fide hedge. With this 1956 enactment, a processor could purchase futures to fill out a year's supply equal to its annual processing capacity and call this a bona fide hedge (Paul 1976).

But a large purchase or sale of a futures contract without a simultaneous sale or purchase in the cash market of an equal quantity of the same or similar commodity could have the same impact on the futures price whether or not the trade is done by a hedger or by a speculator. The idea of simultaneity—the lock-step purchase and sale of the same or similar commodity—underlies the traditional concept of hedging (Imel, Hobson, and Tosini). Were bona fide hedging always neutral in its impact on the price level, there need be no restriction on the quantity that any firm may hedge in the futures market. But because simultaneity is missing in "anticipatory hedging," the CFTC not only restricts the amount to fill out one year's processing requirement, but also holds that such hedging must be done in a manner so as not to cause an undue distortion of prices.

Today, there is a crisis in financial markets on this very matter but its name is "portfolio insurance" not "anticipatory hedging." The October 1987 crash of the stock market seems to have been caused primarily by the bunching of "stop" orders on the selling side of the stock index futures market. Unrestrained large-scale selling of stock futures for the purpose of pro-

tecting the current market value of large holdings of securities by funds should not have been allowed. The current struggle between the federal regulators and the large funds is over how free they should be to buy and sell futures as they like. The Brady Commission recommended using so-called "circuit-breakers" to avoid undue distortion of prices (Report of the Presidential Task Force on Market Mechanisms). In essence, the struggle over the proper definition of hedging is at the center of this controversy.

The second semantic problem is in the definition of "basis" which, as given in a footnote of Blank's paper, is "the difference between spot and futures prices, or between prices of two different futures contracts." The first part of this definition is acceptable if by "spot" prices one understands this to mean "cash" prices. But the word "basis" should not be taken to mean the difference between prices of two futures contracts except where the price of the nearby futures is taken as a proxy for a cash price. To do so unduly restricts the terrain for investigation of pricing efficiency in commodity markets. There seems to be little or nothing in Blank's survey of the literature to show that attention is being paid by researchers to the efficiency of cash-futures price spreads. Maybe this is because cash-futures price spreads in financial markets cannot be taken to reflect the price of converting present goods into future goods. Rather, they reflect mostly interest rate phenomena. To repeat a question posed earlier: Do inaccuracies of forecasts of futures prices cause inaccuracies in price spreads for particular services to process, transport, store, or merchandise a commodity?

If we forage out further, we can envision a whole region that academic economists have scarcely ventured into, namely the set of rules that a commodity exchange employs which, perforce, affects the precision of trades and the costs of transactions. The most obvious topic is the cash settlement idea, successfully installed in 1982 for settling Eurodollar futures and stock index futures contracts, which then paved the way for use in 1986 in settlement of feeder cattle contracts. This innovation appears to have improved the stability of the basis for feeder cattle and looks like it could become a genuine forward step in evolving a market of even greater usefulness to cattle interests. Where else might cash settlements be tried?

I will conclude by supplementing Blank's list of directions for future research with five classes of items for investigation: (a) *Contract terms*. Because it is unlikely that more than one futures contract in a given commodity can remain viable, what set of delivery or cash settlement provisions would be best? If cash settlements were possible, how accurate must cash price quotations be in the light of the failure of futures trading with conventional delivery to develop in many high-risk situations where futures trading could be useful? (b) *Market liquidity*. What factors affect the liquidity of commodity markets? How far can commodity exporters rely on futures markets to match purchases with sales when large deals are in the works? (c) *Hedging intermediaries*. What is the role of merchants and processors in offering forward deals to farmers? How do they deal with contract security? How do they deal with lumpiness? What other problems arise? How well do alternative contractual arrangements between hedging intermediaries and farmers (e.g., "call trading," "minimum price contracts") work? (d) *International role of U.S. futures markets*. What current and potential uses do U.S. futures markets in international commodities have in the functioning of centrally-planned and developing economies? (e) *Regulations*. What sorts of regulatory measures would be most useful in the proper functioning of futures markets? What should be the role of the government in such regulation?

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