Let me assure you that it was not my idea that you be subjected to a double-barrelled attack by me. Regretably this is not the over-and-under type, with two different sizes of barrels—the second barrel is the same large bore as the first. If you have ever hunted rabbits in Illinois you know that a double-barrelled shotgun is a ridiculous instrument anyway—you only get one chance. I feel somewhat the same way about this second appearance; having spent my best ammunition in the first, if I missed the little rabbit the only thing that will get him now is a heart attack. So I'll fire away and hope to frighten him to death.

I don't really know why futures trading succeeds or fails, but if I make some mistaken observations about futures trading I'll be joining a pretty select group of economists. The only thing Schultz has written on the subject was wrong. The only thing Samuelson wrote was evidently so embarrassing to him that he had it published in a German journal, and translated back into English, apparently in hopes it would lose something in the translation. Arrow's only thoughts on the subject were relegated to a footnote by Scitovsky, whose own thoughts were muddled. And Keynes, as we noted yesterday, propounded a mixture of profundity and absurdity in his little essay. The reputations in this illustrious group have somehow survived either despite or because of their lack of understanding of futures markets; and in the area of reputation, I have everything to gain and nothing to lose.

A convenient framework is provided in a somewhat schematic representation of the Rockwell findings to which I referred yesterday. I have taken certain liberties with his results, either because my information about some markets leads me to think that adjustment is in order, or because the period embraced by his study is not entirely suitable to my purposes. But I have not done serious violence to Rockwell's evidence, which showed the rate of return for all markets approximately symmetrical about zero, and for the larger markets
Figure 1. Average Value of Open Interest (in million of dollars)

Rate of Return on the Total Long Open Interest

approximating zero. Very large rates of return, of the order of 10 percent annually or more (disregarding margins), were observable only on the very small markets. With certain exceptions, these are not really successful markets; and to the extent that they are in the marginal zone between real success and absolute failure, may afford us some insight into the reasons for success or failure. Some of these markets are already defunct, including those for middlings, bran, shorts, and lard; while the cottonseed meal market is virtually defunct, and the egg market is in rapid decline. These markets have been very lopsided, which means that one side or another, buyer or seller, has used them at great cost. The immediate reason for failure is then apparent: buyers or sellers stop trading because the expectational bias is so great that it simply costs too much to use the market. But what reasons lie behind this? What makes a market lopsided?

In general, I think there are three classes of reasons. First, the contract may be a poor one—the commodity description or the delivery provisions may favor the buyer or the seller, enabling one side to squeeze the other as the delivery date approaches. I suspect that this was the trouble with the lard market—that the contract gave short hedgers an advantage, which they used sufficiently to ultimately frighten away buyers. This can be a very intricate consideration, and it is one in which I am not particularly well versed. But the kind of billing that goes with delivery stocks, the location of stocks, the availability of deliverable supplies that are not commercially desirable, and a number of...
other considerations can affect the fairness and attractiveness of a contract. I understand, for example, without being fully conversant with it, that the soybean meal contract here has presented a problem related to the billing on tenders for delivery. In Minneapolis a few years ago it appeared to me that one of the problems was that ordinary protein wheat was being priced in the futures contract, but by the time the delivery month rolled around there was rarely anything but better wheat in the market, hence the contract favored buyers. During the era of storage space shortages, the requirement of delivery by warehouse receipt sometimes created a squeeze, as the space commanded a premium. On track deliveries provide some alleviation of this condition. It was alleged at one time, and subject to considerable inquiry, that the procedure of certifying stocks for delivery on the cotton market resulted in an accumulation of certified stocks which had deteriorated, and overhung that market as a depressant. And part of the argument for changing the potato contract to permit deliveries in Maine, at the point of origin, was to avoid the depressant effect of deliverable supplies in boxcars in New York, where they deteriorated rapidly, perhaps before finding a home. In the same market, another allegation was that traders would switch contracts in order to go to the end of the line for delivery purposes.

These various technical situations, or allegations of technical situations, illustrate some of the possibilities of the first cause of lopsidedness. To be successful, a futures contract must be equally appealing to buyers and sellers, which means that it must reflect commercial movement closely enough and broadly enough that price distortion is not introduced by the special features of the futures contract. It follows that a successful market is one in which the interests of all broad classes of buyers and sellers are well represented, so that contract terms are kept under continuous surveillance, and provision is made to alter them as conditions change. It is especially important that commercial firms have an active voice in these matters, because they use futures contracts as temporary substitutes for merchandising contracts, and require that they be close substitutes. If they are not, then hedging loses its value—and no futures market can long exist without hedging. Yet at the same time, if the hedging use is concentrated among holders of inventories who are short sellers, it is important not to allow them to control the contract terms to their advantage, for this will soon deter the necessary speculation.

This brings me to the second general reason for lopsidedness and failure, which is the disposition to use or to boycott a futures market, sometimes in reflection of market power. If the existing forward contracting arrangement is lopsided in reflection of market power, the establishment of futures trading will have to overcome the reluctance, and sometimes the resistance, of those who hold the power and naturally prefer keeping it instead of supporting a competitive market. This is probably the key to the sustained attack upon futures trading in onions and potatoes. Forward contracting had been prevalent for decades, and the many small dealers who earned a living by an arrangement whereby they advanced credit to growers and gleaned a risk premium for guaranteeing forward prices, saw their livelihood threatened by the emergence of a futures market which would spoil the game. Some could use the market to expand volume on smaller margins, of course, just as a small percentage of grocery store operators became proprietors of supermarkets or chains. But not all can do this, and rather than let competition determine success in a new market structure, the tradition of small proprietors is to band
together and resist the new developments politically. This is true of farmers, druggists, grocers, railroad firemen, and all classes of featherbedders. Of course, it is not true of college professors, who don’t care a fig for job security—so long as they have tenure.

The disposition or indisposition to use futures markets may also be partly a matter of habit and of need. The failure of the millfeeds futures markets, judging from price behavior, reflects the greater willingness of the sellers, the flour mills, to use them than was ever engendered among millfeed buyers, the merchants and feed manufacturers. Through a period of high prices the flour mills were willing to sell futures at some price sacrifice, in order to project the prevailing price levels forward. During a subsequent period of low prices, buyers were unwilling to make an equivalent sacrifice, and millers were unwilling to see the low price levels fully projected in futures prices. Mills had long been accustomed to hedging wheat purchases and flour sales in an unbiased market, and presumably would have helped sustain a market for their by-product on even terms. But they withdrew their support of the market when they felt that buyers weren’t supporting it properly.

I have some reluctance to call this an exercise of market power—on either side for that matter. My third general reason for lopsidedness and failure seems to me more relevant to this episode than a market power interpretation—this is a failure to attract speculation. The sales and purchases that hedging firms have to make cannot be expected to sustain a balanced futures market, even when the contract is fair and there is reasonable competition on both sides. One reason for this is that a futures market needs liquidity, which hedging firms do not provide, but a more important reason is that hedging is nearly always unbalanced in favor of the short side. Unless sufficient speculative buying is attracted, the excess selling pressure from commercial firms would nearly always unduly depress futures prices. This results naturally from the fact that crops are produced annually but consumed more or less evenly the year around, so that inventories have to be carried. A major function of the futures markets is to attract the venture capital which will finance this stock carrying at low rates.

Now you might argue that this consideration does not apply to millfeeds, which are not an annual crop but a by-product of a manufacturing process. Yet therein, I believe, may have been the root cause of failure of these markets, in a twofold sense. First, the mills, in order to round out their hedging of wheat and flour, needed to hedge millfeeds in the same seasonal pattern, requiring that their millfeed hedging have the same characteristics as the hedging of stocks of an annual crop. Thus, considerable speculative buying would need to be attracted, just as in corn, wheat, and soybeans. But millfeeds are not an annual crop, and the kinds of information which speculators rely upon in their efforts to estimate crop prices are not applicable to millfeed prices. Hence, speculation was not attracted, and these markets struggled along as hedging markets. It may be too much to expect that commodity speculators, with their emphasis upon supply factors, would turn their attention to a commodity the supply of which is quite regular on a year-to-year and month-to-month basis; but the demand for which is seasonal, erratic, and subject to a host of cross-elasticities. At any rate they did not turn their attention to millfeeds, and I count this the leading reason for failure of those futures markets.
My basic theory, then, is the following. The first prerequisite to the success of a futures market is hedging use. There must be reason for commercial buyers and sellers of the commodity to want to substitute futures contracts temporarily for merchandising contracts. The reason may be financing of inventories, forward pricing, or obtaining shopping convenience. Typically, some combination of these reasons will already have given rise to some kind of time contracts. In order to appeal to hedgers, the contract, delivery terms, months, and locations must all conform closely to commercial movement.

Secondly, the market must attract speculation, chiefly to offset the tendency for short hedging to exceed long hedging. When these two conditions are met, a market can grow to its optimal level and continue over long periods to provide balanced price estimates, as have the larger markets shown earlier in the diagram.

It is appropriate now to say what liberties I took with Rockwell's results, why I did so, and then make further comments about the smaller markets shown in my diagram. I moved the wheat and corn observations onto the line, whereas he showed them very near the line (all less than 2%). This is easy to justify, since the interwar period, which has been well examined, shows this result, whereas Rockwell's results are clearly subject to the loan program influence, which has also been well documented. I also moved cotton onto the line, which he also showed close to the line, on the ground that his study covered a period of very rapid decline in this market, and the price strength occurred while the market was still active. I moved the soybean observations half way toward the line because of the very pronounced bias while this market was rapidly growing—this is the only questionable adjustment which I made. Bran and shorts I combined and moved out to the extreme because these markets first displayed a pronounced downward bias and, subsequently, at higher price levels, a less-pronounced upward bias.

Now, given that the great markets were really great, let us consider the diagnosis and prognosis for some of the smaller ones. I have, incidentally, omitted nine of the markets studied by Rockwell, all of which fall under the tent but some of which, like butter, grain sorghums, and flaxseed, are moribund, dead, or meaningless; and others, like wool and wool tops, don't mean anything to me because I haven't studied them.

The markets for oats and rye are in good shape. The hedging need is there and speculators are willing to lose money accommodating it, hence these markets can grow or decline according to the hedging need. The egg market would be in similarly good health were it not for the fact that the hedging need has all but vanished. If the new breed of egg merchant and processor, now that the seasonal assembler has disappeared, were to recognize other hedging opportunities, the speculative potential must still be there, unless the egg speculators are all speculating in bacon now, as trade in frozen pork bellies would suggest. The potato market has plenty of scope for growth. The hedging need is intense and the speculation is there to absorb it. Only the Congress can stop it—or the unrelenting campaign against it by the Maine Potato Council, whose New England conscience is out to burn a witch.

Middlings, Bran, Shorts, Cottonseed Meal, and Lard are all dead or dying—the first four because of inadequate speculation and the last because speculators got tired of pouring money down a rathole.
Meanwhile, hedgers have voiced some complaints about the soybeans and products markets which, while not very serious, are symbolic. These three have proved slightly profitable to speculators, and this is something that hedgers won't long tolerate. You will note, that apart from these three, only manufactured by-products with erratic demand characteristics lie to the right of the zero line. The message is clear: the diagram, in all its pristine beauty, is really wrong. The correct diagram is shown next. Futures markets survive tenuously or grow rapidly when hedging is favored; they flourish gloriously in their full bloom, when full advantage is taken of the speculative potential; but only in the rare circumstance of trying to run a futures market without speculation do they ever display a significant bias against the short side.

This is in its way reassuring. Merchants and dealers refuse to take a beating—stocks carriers insist upon the legitimacy of their function and find its lowest cost or highest reward. It vindicates the professional speculator, who prefers the great markets or else changes sides in the small ones. It need not embarrass Mr. Rockwell, a young genius who obtained important results without attempting to interpret them in this manner. And it is not nearly so ominous for the future of futures trading as you might think. The really vast potential for futures market, if my thinking is straight, lies with those commodities whose supply is erratic and of which vast inventories must be carried because consumption is fairly stable, and which are only lightly processed prior to consumption. These include sugar, coffee, cocoa, potatoes, onions, pork, and beef, which together could easily provide more futures trading than soybeans, wheat, cotton, and corn—the only markets which in the past have climbed our flagpole.

Another possible interpretation of the diagram, not necessarily inconsistent with but rather complementary to the foregoing interpretation, stems from the fact that the various commodities are not commensurate in economic importance. Futures trading in rye and oats is already as highly developed as that in soybeans, relative to the total value of commercial movement of crops. Does this mean that markets can achieve balance only for the very important crops? I don't think so. Another interesting distinction among the balanced and imbalanced markets shown here is that nearly all the hedging on the imbalanced markets is short, whereas substantial fractions of long hedging occur on the balanced markets. This strengthens part of my earlier interpretation and weakens part of it. Hedgers are not only unwilling to lose money in futures trading, but the long hedgers, where they are of consequence, are sufficiently skilled in voiding losses that they carry the speculators along with them. One of the determinants of success, then, in the markets which I listed as having great potential, may be the extent to which long hedging is done by processors and even retail chains. It may seem unreasonable to suggest that in markets which already overestimate prices, long hedging would be desirable, yet it is not necessarily a contradiction. Clearly, the more hedging on both sides, the closer the reflection of actual supply and demand in futures markets. Successful speculators may study the activities of hedging firms more closely than has been realized.

Other Determinants of Success or Failure

The foregoing general theory does not make mention of some obvious considerations, nor of some often cited. Among the obvious considerations, the most important is the role of government. Cotton was king among the markets, as the diagram shows; but it does not show that the cotton markets
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are now dead. The reason for this is that the government has become the cotton merchant, so the need for hedging has disappeared. A similar fate befell the butter futures market, as governmental acquisitions of butter stocks obviated the need for private interests to carry inventories. The onion market was of course closed by outright prohibitive legislation. Not only do governmental competition and prohibitory legislation affect futures markets, but the manner in which they are regulated may also impair or improve performance. A great hue and cry arose after the De Angelis vegetable oil swindle, demanding tighter regulations. Actually that swindle was primarily conducted through forgery of warehouse receipts rather than futures trading. Undoubtedly the position held on the New York Produce Exchange was manipulative in effect, however, and should have been prevented. Improved regulations may be required and, if consistent with the principles of trading, might well prove salutary; but meanwhile, sight should not be lost of the remarkable record of performance by markets which are largely self-regulated.

I have neglected some of the commonly mentioned considerations because I believe that they may have been overemphasized. The requirement of product homogeneity is one of these. To be sure, a representative commercial grade of the commodity must be describable and amendable to fair grading, but futures markets can be very useful to firms which deal only in other grades, so long as there is a reliable and predictable relationship among the values of
various grades. The practice of specification buying, frequently mentioned as being irreconcilable with futures trading, need not preclude successful use of the futures markets. A supermarket chain that wants only top choice beef can still use a choice contract in its pricing. Similarly, if they wish to buy only beef which they can see, they can still negotiate over the basis, as is done in grain, rather than the flat price. But of course they must want to use the open market.

A second factor, frequently mentioned in opposition to the onion and potato markets, is storability. Storability is not so important as assured availability of deliverable supplies. To be sure, the practice of carrying large stocks helps to assure this.

While I do not insist that my interpretation from price behavior is either correct or complete, I believe that this approach to the success or failure of futures markets offers better prospect of valuable insight than the approach which lists commodity characteristics. The key element is hedging. The firms which must do the buying and selling anyway must be persuaded of the advantages in using futures contracts. Speculators are the next element, and at least so far as the commodities with erratic or seasonal supplies are concerned, speculation seems to be available. In all of this, of course, the strength and resourcefulness and vigor of the market organization itself is an important factor. It will require a great deal of personal effort and dedication to revive some futures markets and build up others, just as in the past it has required such effort and dedication to building and maintaining the great markets.

Discussion

Chairman Pederson: Would you welcome a question or two, Roger?

Gray: I would, indeed.

North: Would you say from your analysis then that the soybean oil and soybean meal markets are doomed to failure as they now exist?

Gray: No. It is true that the soybean oil and meal markets do not attract nearly the speculation in proportion that the soybean market does, and this is a disadvantage, and it does introduce distortions in the pricing, but I think because the price relationship is so close that these markets can survive.

I think if you go back fifteen or twenty years to the period when soybean meal was a by-product, you would have had to say that the augury for that market was poor, but you might have prospects for soybean oil, because essentially soybean oil was the value in the beans.

Now you can't refer to either of these as by-products, and I think that insofar as the speculation has been attracted into these markets, pricing them chiefly as a spread to soybeans, that those markets can survive, in very much the same way that the Kansas City wheat futures market or the Minneapolis wheat futures market can survive.

You've got a well-used and well-supported market to spread against, and I think that these markets will survive in that way, where the bran and shorts markets couldn't, because there was no such relationship between their markets and the price of wheat.
Goldberg: One of the objections that some people in the futures market industry seem to have about some delivery markets is that they complain that the warehouse space available may be in the hands of certain groups or parts of an industry, which may put them at an advantage or in a position to utilize that market more effectively than some other members of the industry.

Do you think there is any element of truth in this accusation?

Gray: Sure, I think there is. I think this is an important consideration. It does become an issue with different urgency at different times, and I think it is important that you have committees of the Exchange that are fair in designating what warehouses shall be regular for delivery.

And you've got to have diverse enough ownership of the space so that one or two factors won't be in a position to control it.

It became quite an argument in Minneapolis as to whether certain large elevators should be made legal for delivery to an advantage over other elevators, and thank God, they didn't ask me to arbitrate that dispute. These are very tough questions, and there is no question but that that particular position gave that particular firm an advantage, if it's regular for delivery on an exchange.

Uhrig: We have various descriptive terms that describe grades of corn; also the grades of cattle. Application of grades to the grain is much easier and more uniform than the cattle contract. Is this a problem from your viewpoint?

Gray: Well, I think first that I agree with you that the descriptions are easier to make in grain which lends itself to more scientific evaluation in grade characteristics, but I think the essential question is—you see, without a futures market, people are still going to have to describe the commodity they're dealing in.

The ultimate consumer in the United States is barraged with advertisements of USDA choice beef; and supermarkets, at least in our area, and I think in most areas, compete on that basis. One or two of them may attempt further product differentiation than that, but the bulk of them don't; the bulk of them say it is USDA choice, and that's it.

Well, if you've got a large enough group of them competing on the basis of USDA standards on the retail level, it seems to me that grading should not be a barrier to futures trading in beef.

Ehrich: You said uncertainty about supplies and supply fluctuations tend to encourage the speculative element, yet the fluctuations in demand tend to discourage it. Would you care to expand on that a little?

Gray: I think that the speculator feels that he has a better opportunity to make price judgments in markets where commodities have characteristically annual crops, about which there is a good deal of public information, about which decisions of large individual firms aren't likely to influence the total supply.
I don't want to overdraw this, but I think at least in the extreme that this must be the reason that speculation was never attracted to the bran and shorts markets.

Speculators are accustomed to trading on the basis of USDA official information, and all sorts of unofficial information about crop prospects and weather prospects and so forth.

Here you had a situation in which you are going to have to develop a whole new way to forecast the price of bran and shorts at the same time that you might well have had the feeling that the milling firms are in too good a position to outguess you on these prices. So I would skip the by-product thing, but I also think, and I am not saying that this is a logical principle—I think it's an historical principle—I think that the speculators have gradually been attracted to commodities, price fluctuations in which occur mostly on the supply side and haven't been attracted to commodities where the price fluctuations come from demand.

Maybe you could develop a whole new brand of speculators. To a certain extent, you have to do this in the soybean meal and soybean oil markets. These are exceptions, but I think they are not complete exceptions in the sense that I believe that the relationship to the soybean products is close enough that what willingness you have to trade in meal and oil stems very largely from the close relationship to beans and their willingness to trade in beans.

Himes: For a critical analysis, would a closing contract price be as good as any?

Gray: It depends, of course, on what question you are trying to analyze empirically, but for the kinds of things that I have been talking about here, where I refer, let's say, to measurements of bias, measurements of fluctuations and so on, random walks, we have twenty years of open, high, low, close; daily corn futures prices on tape, and we checked this out from two standpoints to see whether it made any difference. Since it's on tape, you can easily compute the midpoint of the daily range to see if it would make any difference whether you used midpoints on daily range. It doesn't, so you might just as well use the close since it's more convenient in market analysis. It's right on the tape.

Another thing we checked out was for something like weekly price observations where you don't need to deal with daily changes. We checked out the difference between Wednesday closing prices and Friday closing prices for a long period of time, and found no difference there.

Now, if you are going to try to analyze whether or not there was price manipulation or something like that for a particular time, then you've got to deal with the high, low, close, and range, and everything that happened in between.

But for the kind of thing we have had, closing prices will nearly always do.

Bakken: Could we overcome lack of speculation by reconstruction of the contracts?
Gray: Not, I think in bran and short. You see, speculators by and large want to engage in making price judgments. Speculators had a golden opportunity to make money, if they want to make money, on the basis of observing price behavior that is a market characteristic in a lopsided market.

If a market can be as lopsided as the bran and shorts markets were for eight years in favor of anybody who wanted to take a routine position, and still not attract speculation, it seems to me the best kind of indication that speculators want to make price judgments based on fundamental supply characteristics.

What your question most suggests, Henry, is that if it were true that the bran and shorts contracts were good contracts, then the next question might be how about making them lopsided contracts in order to attract speculators?

I don't think you can attract speculators this way. I think you attract speculators on the basis of forecasting prices, making price judgments based on fundamental supply characteristics, and again, I am speaking only from the historical evidence. This is not a particularly logical interpretation.

Bakken: What about the possibility of some educational drive in the hinterland to interest people who do carry the risks and take the losses to speculate in these commodities?

The reason they fail, perhaps, is because the people out in the doctors' and lawyers' offices and the professors' offices were not attacted to this particular speculative interest.

Gray: Well, I gave it a little bit more of an institutional slant, I guess, than that. I think the reason that doctors and lawyers didn't trade bran and shorts was more likely the fact that commission firms never once touted bran and shorts to them.

Now, if this is the educational campaign you are talking about, I think you've got to recognize that the doctors and the lawyers aren't really the speculators. The speculator is the commission firm, because it is putting out the fliers.

It is true that such firms disassociate themselves from their principals and act as agents only, but by and large what gets traded through commission firms gets traded because the commission firms are touting this particular thing, and I think they behave in their selection of commodities very much like the professional locals behave.

Well, you have seen this kind of situation, for example, where you had a pronounced bias in another market. Merrill Lynch put out a pamphlet that may have gone to umpteen thousands of doctors' and lawyers' homes, showing how you could just sit back and routinely make money in coffee futures, but even then it didn't attract the speculation in the market.

I come back to this point, really, that the important group—the important speculation, I think, for the functioning of a market—is the development of professional locals, and I think this you have got to have.
Well, the third category, that of trading through commission firms, is, in my judgment, not so important and not so likely to be a major determining factor in a market's performance.

**Bakken:** Well, if the professional locals are the ones who carry the brunt of this, and they're constantly fading out of the picture because they lose their shirts, then you have to cultivate a new group of them every so often.

**Gray:** The professional locals don't lose their shirts. There's good evidence of this also in the Rockwell study.

I didn't break it down quite this way, but there is good evidence of it, and the large speculators in these twenty-five commodities do make money, and it's the small trader who loses more than the large speculator makes.

**Brown:** I wondered about the role of the retailer and/or the manufacturer's willingness to change price in making the market, the onions for example; the retailer is perfectly willing to let the price go up and down like a yo-yo. He doesn't much care. He's got a demand. It's relatively safe. Why hedge if you are not worried about price fluctuations? You can pass it on very easily.

**Gray:** Well, I guess I have a somewhat different view of how easily retailers can pass it on. It may be that they don't have a great concern. But I think there is a pretty intense price competition among retail food firms; not that they want it, but I think the consumer forces it on them. And to that extent, they have to be price-conscious in their procurement.

**Brown:** Well, I would agree, but I don't think they are in the markets in potatoes and onions; I think they are in other areas.

Now, maybe as the change gets more and more, I think that bigger companies are less willing to change prices and you might have a reason for hedging.

If you keep a more uniform price throughout the year, then your demand doesn't change.

**Gray:** Of course, I don't think that the immediate goal from the internal firm consideration is to keep the more uniform price necessarily, but to keep the price as low as or lower than your competitors, and this could be the real advantage of intelligent hedging use in the futures market.

**Brown:** I am still not sure of onions and potatoes because of the way they're merchandised as opposed to these others which are primarily industrial goods.

I wondered about this yesterday; I wondered about the role of the industrial versus consumer goods. Is there a possibility for hedging in soybeans as compared to industrial goods in the sense that they are raw material?

**Gray:** Well, I wish that the food chains in general were to use the markets more than they do. It would help to convince me that they are engaged in a very price-competitive area, because I feel that they are, and I think this would be an important manifestation of it.
The only thing to add to that is, of course, some of them do use the markets for some of the commodities, and I think that company policy tends to vary from one firm to another on the basis of partly familiarity, partly prejudice, rather than on the basis of the intensity of competition, or the desirability of pricing the commodities as competitively as possible.

Martin: Your comment that the speculator is speculating on a demand price rather than a supply, really, is speculating on that price, he has to have demand in mind, does he not?

Gray: Yes.

Martin: And don't we have more information on supply, perhaps? I believe your comment was brought out today that we got good reports on supply side, so it seems to me that we are speculating on the demand, where there is going to be—where it's going to intersect this supply for a given time.

Gray: Well, look at the annual crops. I think there is no escaping the fact that the major price determinants are on the supply side. From year to year, there are trends in demands. They are pretty steady and regular. There are few surprises on the demand side.

Now, for certain markets or for certain, say, U.S. commodities, where there is an export demand, sure, then you have to take that into account; with your loan program, the government is a demand factor essentially for crops that are affected by the loan, and there are surprises that can be taken into account. If you go back to the pre-loan program days, and look at cotton and grain which had big futures markets, and they were free markets, I am pretty sure that the most important factor that the successful speculators watch is the supply.

Uhrig: How would you predict the supply of beef when you can market cattle at a thousand pounds and also 1300 pounds? It would make a tremendous difference in the quantity and the supply of beef available six months from now, or a year from now.

Gray: Well, it's certainly interesting that you've got plenty of information from the supply side and the possibility of surprise there; a little bit different from those that are predominantly weather or loan program influences.

I think the important consideration is that speculators can look at this problem and feel that they have access to as much information as the market has, generally, so it is a fair game, and it is a game.

This is to say, it is a situation in which surprises can occur, and everybody has access to essentially the same information and can work out the same system.

Uhrig: On this same line, at the present stage of the cattle cycle, what would you predict for the success and failure in the future as we go out of the period of liquidation?

Gray: That is what futures markets are for, really: To allow prices to go up and down. And I would look at the issues the other way around. I think the market
can have an effect on the cattle cycle, if the market expands to anything like representative use through the trade.

**Uhrig:** During a period of generally rising prices, the number of hedgers is going to decline. They will be a little more willing to carry their own risk.

**Gray:** No, I don't think that follows. It hasn't been true of cotton and grain; that price levels have any particular influence on the disposition to hedge by hedging firms.

The question is whether it is the right price or not, really. Everybody can agree that maybe the price is going to rise, but not everybody agrees by how much.