

Section 1

Introduction to Hedger Uses of Futures Markets

Introduction to Hedging

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Good afternoon gentlemen! I feel that it is mighty flattering to me to have the banking fraternity for an audience while I attempt to explain something which many of you already know backwards and forwards. Still, I may be able to give you some phases of the hedging operation of the grain trade, which might give you some guidance in your dealings with your grain customers.

I am the president of Lowell Hoyt & Co., which is a member of stock and commodity exchanges including the Board of Trade of the City of Chicago, and which firm controls a subsidiary corporation known as Federal-North Iowa Grain Company. This subsidiary runs about 100 grain elevators throughout Iowa, Illinois, and Indiana, and it has been in the interest of this firm which handles and stores large volumes of grain, that I have spent the most of my life and energies, and have used and learned the principles of hedging which I shall talk to you about today.

I assume that a rather major part of a banker's business world is made up of appraising, making and collecting loans. I also presume that each of you prefers to lend where the risk is least—where the borrower has substantial assets, has proved through the years that he is reputable, and also where his ability to repay is not jeopardized by speculation in changes of value of commodities in which he deals.

Grain men need vast quantities of money and credit when harvests are ending because they, with the help of producers in certain crops to a greater or lesser degree, are going to carry the cereals, the protein and vegetable oil production, and the livestock feed for the entire country, and a large part of the world—until the next crop is produced in another year.

We used to also carry enough to make sure that people would eat if the following year's production were to be a partial failure, but Uncle Sam does

that for us now. Someday the population increase, or bad crop years, or an unusual demand, will carry prices above supports and the grain trade will carry a normal carry-over again, but I can't prophesy when that time will come. I can only do my bit to have some storage space available and to help have you gentlemen in a mood to help us finance the carrying of it.

You don't want to lend high percentages of the value of grain to speculators who might impair the value of their security by a few day's market action. Neither is it possible to keep grain values from fluctuating—and sometimes wildly—as drought, wars, sudden foreign export demand, or other factors unexpectedly enter the picture and give speculators a chance to make personal gain by changes in price.

Now don't misunderstand me to the extent that I criticize speculators, because I certainly do not. They have been in existence for thousands of years. They speculate in cash products of all kinds and they use futures markets when they are available because they do not have to pay out the heavy expense of warehousing the cash article and can put up small margins instead of having to have 100% cash.

They are the people who carry the cash grain trade's risks and allow us to handle commodities on the few percentage points of profits as we do, instead of on the 30%-100% of gross profits which most businesses need. You as bankers, we as grain merchants, and the general public as consumers can be thankful that they exist and operate freely. Since they probably trade 100 bushels to our 1, our market is always liquid, and when we want to sell, someone is always there to buy.

When I said "sell," I was then leading into hedging for the cash grain handler. We have the grain, we have the space, we have the knowledge and the money or credit necessary to put the grain away and hedge it which is not an insurance against price change as some theorists have said, but a sale for future delivery at prices high enough above present prices to pay our expenses and a reasonable profit regardless of any change in price of the product being stored. Your financing of this operation is the safe type of loan to the grain trade if your normal moral factors are also present.

First of all, why do we need to hedge? The country grain elevator is in the most competitive business I know, particularly since the farmer's truck has replaced the horse and wagon. A producer delivering grain, once that grain is loaded into a truck, does not care very much if a haul of a few miles farther is made or if the grain is dumped into the elevator at his nearest station.

The handling margins that local country elevators take on grain is, in most cases of normal volume, insufficient to pay expenses—much less leave anything for profit. Most territories have an average annual volume of about 250,000 bushels per elevator and the average margin is about 3¢ per bushel. The resulting \$7,500 will not pay a manager, taxes, power, insurance, office expense, depreciation and other normal expenses, much less take care of shrinkage, an occasional loss when grain goes out of condition and those other risks which are always involved in every line of business.

This means that the operator must do something else to pay the balance of his expenses and try to realize a net profit when the year is done. His best alternative is to store grain in his facilities for the government or for general use later on. If it is stored for ordinary use by industries and private consumers, it must be hedged if the operation is to be without great risk of price change and make a sure and satisfactory profit each and every year.

Holbrook Working, Associate Director of the Food Research Institute, and professor of prices and statistics, Stanford University, has made the most thorough and academic study of hedging of anyone I know. He and his institute said, "Hedging, we found to be not primarily a sort of insurance, nor usually undertaken in the expectation that spot and future prices would rise or fall equally. It is a form of arbitrage, undertaken most commonly in expectation of a favorable change in the relation between spot and futures prices. The fact that risks are less with hedging than without is often a secondary consideration. The prevalent tendency to regard curtailment of business risks as the main service of futures markets has diverted attention from their probably more important service of promoting economically desirable adjustment of commodity stocks, thereby reducing price fluctuations."

In short, he says hedging is a profitable operation for those who do it, it makes stocks of commodities available at all times and helps to hold down violent price movements.

Let me show you one of the methods we use to guide our hedging operations. These are basis charts (see) they are not records of price levels, but are complete records of the difference between cash and futures prices for the past several years. I'll illustrate my points with soybean charts for the period between October 1959 and October 1961.

We do have soybean basis charts for many more years than this, and we have similar charts for corn, oats, and wheat. Each is brought up to date each day.

I mentioned that hedging is a form of arbitrage—it makes use of the difference between the cash price and the futures price, and is successful when your carefully reasoned estimates of basis movement turn out to be correct.

At the risk of oversimplifying for this group, let me say that the arithmetic of hedging works out in this way. I buy cash grain at a discount under the futures. This discount—the difference between the cash and futures price—is the basis. Whenever the discount narrows, and especially if the cash price goes above the futures price so that basis becomes a premium, the hedge is profitable. Conversely, putting on a hedge when the basis is at a premium, when the cash price is higher than the future, generally is poor business in my area. If that premium narrows, or the cash price goes to a discount, it's money lost. In other parts of the country, premiums may be the rule rather than the exception, and hedgers will act accordingly.

To use a simple and extreme example, suppose I buy grain for \$2.50 and put on a hedge by selling futures at \$2.60. Now the dollar and cent level of the grain price is secondary. Cash grain can go to \$5, and the futures to \$5.10—or it can drop to 90¢ with the futures at \$1, and I will not lose money. But if the basis narrows, I have a profit on the transaction. If the cash price falls to 90¢ and the basis narrows from 10¢ to 5¢, so the futures contract would be worth 95¢, I would have had a profitable hedge. I would have made 5¢ a bushel. Now let's look at this basis movement from a practical point of view.

In the charts reproduced here, the base line in each case is the cash price of No. 2 Yellow soybeans F.O.B. railroad cars in Champaign. I might mention that the cash prices in each community will be different, but I will also tell you that there are few, if any, areas of the country where the prices will not bear a similar relationship to the Chicago futures prices.

On the first chart, beginning with October 1959, the solid black line representing the November futures price on the Chicago Board of Trade was 12½¢ above our cash price on the first trading day of the month. The basis narrowed to just under 10 cents in mid month, widened to 12¢, and, when trading in November futures ceased, the futures price was just 7½¢ above our cash price.

To me this means that cash beans could have been bought and hedged in the November future on the first business day in October at the 12½¢ basis. If I had let the hedge run until the final day of trading—a practice I do not recommend—the basis would have narrowed to 7½¢ and I would have had a 5¢ profit for those six weeks of storage.

You were introduced earlier to a T diagram of a hedge, showing cash grain purchased for \$2.00 while futures were sold against it at \$2.24. When the cash grain was sold, it went for \$1.95, for a 5¢ loss. However, the futures contract was offset by a purchase at \$2.07, for a 17¢ gain, giving a 12¢ net profit on the transaction.

Changing that T account to a form the hedger would use, I would say the grain was hedged when the cash basis was 24¢ under the future (\$2.00 for the cash and \$2.24 for the futures), and when the hedge was lifted the basis was 12¢ under (\$1.95 for the cash and \$2.07 for the futures). The basis had narrowed 12¢ in my favor, so I had a 12¢ profit.

For another example, supposing that in October of 1960, before the soybean harvest was completed, I had contracted with a farmer to buy cash beans at the going country price. Just to make me look good, let's presume I had that a notion late in the month, when the January future, represented by the broken line, was selling at 16½¢ above the cash. I buy the cash and sell an equal amount of beans on a January futures contract. This is a fairly normal operation, incidentally, because the cash price of soybeans will usually firm up after the first of the year. So in late December I sell my cash soybeans to a processor who needs them, and buy January futures to offset my original futures contract. Supposing that it's near the end of December 1960, and the cash beans are selling at 1¢ above the futures, as the chart shows. I've had my basis move from a 16½¢ discount to a 1¢ premium, or I have made a profit of 17½¢, less the normal commissions.

You can see on the charts the way the basis moves—from consistent discounts at harvest to much smaller discounts, and sometimes even to premiums when the delivery month draws near. The pattern is never exact but it is much more predictable than price levels. This is the essence of hedging. The price level itself is disregarded and the hedger finds himself a student of price relationships. The charts of past basis action are not maps to follow blindly, but are effective guides to an alert operator.

I might also mention that I do not sell a futures contract with the idea of delivering on that contract. In the years I have been hedging, my recollection is that I have made delivery on a contract only one time. By hedging, I do secure the protection against drastic price change, but I hedge for a more commercial reason than that. I hedge to make a profitable carrying charge.

As you know, the soybean market was very active in late 1960 and the first several months of 1961. There is a period in February and March of 1961 when the basis widens appreciably. If I had placed my hedge in January, I might wonder about the wisdom of the action—and as my banker, you might, too, when I came to you for more money so I could maintain the margin on the futures contract. But note that by late March I would have had a profitable operation, and I could have even carried the grain into April at a profit. You would have gotten your money back, plus interest, and I would have operated successfully.

If I were a luckier than usual operator, and knew that we were going to have the wild soybean market early in the year of 1961, I would have had my elevators full of soybeans, all securely hedged, in October and early November of 1960. I would have sold them out and lifted the hedge in late December of 1960 for a 15¢ profit, filled the house in February 1961, hedged, and sold out in late March 1961 for another 12 or 13¢ profit. In this year there is really a two-year cycle insofar as movement of the basis is concerned. Another oddity on the charts—note how consistent the November future stays at a 14½¢ basis through May, June, and July of 1961—ample time to put on a good hedge, that could have been lifted in October with an 8 or 9¢ profit.

But let's consider some other grains.

As I sit in my office today and look at my blackboard, I see September wheat at 197½, March at 209¾, and May at 211¾. During June and the early part of July when we were in the wheat harvest, No. 2 Hard wheat was selling at about 10¢ under September. We bought the cash wheat and sold the September. Today cash wheat is 5¢ under September, so we not only made our normal profit from the farmer to the rail price, but made the additional 5¢ for only one month's hedged storage.

Profit will be slower from now on, but we can buy in our September and sell the May at the 14¢ per bushel premium for May, or at that carrying charge as we call it, and we add that 14¢ to our present 5¢ and we have 19¢ per bushel insured for that eleven months operation. We do fairly well on that and our banker always gets his money back.

Let us look at corn. A cheaper crop—not quite so expensive to finance or insure. September corn is 112¼, December 116, May 123¾, and July 126¾.

September is still old corn so it will store without drying, and the government, through its acreage reduction and increase in loan rate for the 1961 corn crop, has made futures prices very attractive.

Cash corn is selling at about 2¢ over September in Chicago or at about 104 track country points which are on railroads which charge 10¢ per bushel to haul corn to Chicago. We know that corn at country points such as the one described which can also go to other markets such as export, Decatur, Illinois, or Ohio River points for examples, will certainly be able to sell corn for at least 6¢ under Chicago July by early next summer. If we have the room and the money, we can buy this 104 track corn from the farmer at about 102 which is our normal mark up, sell the July future at 126 knowing that this means a guarantee of 120 track and put 18¢ per bushel gross profit into our statements to you by next July. The government pays us about 14¢ per bushel storage for a year's corn storage but they finance it.

You can see that we will do alright for ourselves after the government goes out of the grain storage business (if they ever do), and our population will continue to eat well the whole year through if the integrity of our futures markets is preserved, if cash grain handlers are willing to accept good substantial returns and not try to get rich in each year, and if the bankers continue to make available to the trade the credit it takes to make the operation successful.

I would like to add a word of caution to grain elevator operators, farmers, or bankers who use the term *hedging* erroneously. They might conduct an operation just the opposite of hedging, call it "hedging," and believe honestly that they are hedging their grain. I see this very often in my dealings with country elevators and farmers.

An inexperienced operator sometimes believes that he can take in farmers' grain for storage, sell it, ship it out, and protect himself by buying distant futures. Some call this "hedging." This always turns out to be the reverse of the successful hedge, unless the distant future is selling at a discount under the current one and this is seldom the case. They only guarantee for themselves the loss which is inevitable as the cash price of the grain, and the bid on which they eventually settle with their customer, goes to the distant future price as that future becomes more current. In another way of saying it—that elevator operator has paid someone else—by means of the future market—to store the grain for him. If he has not charged his customer the same or more, he is bound to be a loser.

There is another practice which I would like to see disassociated with the term *hedging*. Many times a year a farmer will come into my office, say that he has sold, for example, 5,000 bushels of corn, and wants to buy back 5,000 bushels of some distant corn futures. He says that he is hedging his corn and his conscience is clear because that is a legitimate business term. Now I have no objection to the trade, because he is only holding the corn he raised for a higher market price and paying someone a carrying charge for storing it for him, but it should not be termed a "hedge."

He will lose as often as he gains because the market is as apt to go down as up. If he loses, he decides that hedging is bad and if he is an influential member of

the Board of Directors of a farmers' elevator, he is likely to go to a meeting of that Board and get a motion passed that the manager is forbidden to hedge that company's grain.

The Chicago Board of Trade, educators in marketing, bankers, and all country grain men should combine to stop that kind of thinking. You people who know this subject may think that I place too much emphasis on this false theory, but I have contact with producers and people who should be familiar with grain terms every day and that thinking is prevalent.

I have tried in a brief way to describe the principles of hedging as a sound and profitable business operation, and have tried to show some of the fallacies which misunderstanding has developed.

I deeply appreciate the privilege of talking to such a distinguished group and I hope that I have been of some help to you in your understanding of "hedging". . . .

Soybean basis—Champaign, Illinois, showing basis change with futures prices at the Chicago Board of Trade

The base line is the cash price at Champaign. Each futures price is plotted according to the number of cents that the futures price was above or below the cash price on each trading day.





