

**AUTHOR'S NOTE**

The statement on Futures Trading in Onions was an exercise in frustration. There was a bill before Congress to prohibit futures trading in onions. I was asked by the Chicago Mercantile Exchange to prepare and make a statement evaluating onion futures trading. I spent spring break 1957 putting together a fairly detailed and somewhat lengthy statement, assuming that the subcommittee was knowledgeable and sophisticated in matters regarding futures trading and its regulation.

At one point my presentation was interrupted by a committee member asking, "Pardon me, professor, but what do you mean by open interest?" I was startled but proceeded with a definition. A short while later another committee member came late into the room and soon interrupted to ask what open interest meant. The chairman said that we had just had a lecture on the subject and that late arrivers should read the record.

The bill had been initiated by a group of growers and had strong political support. It was my fairly well-founded judgment that the growers were speculators who had sold cash onions at strong prices and replaced them, and more, with long futures positions in what turned out to be a drastically falling market. The bill passed, and onions achieved the distinction of being the only commodity for which futures trading was prohibited by law.

## FUTURES TRADING IN ONIONS

### CHAPTER 10

It is my opinion that it would be a grave mistake to abolish futures trading in onions through legislative action. In support of this point of view, I wish briefly to discuss four phases of this matter and attempt to appraise the effect that abolishing futures trading in onions might have. The four topics are

1. Inherent variation in onion prices
2. The evolution and functions of futures markets in general
3. Onion futures as a hedging medium
4. Criticism of the onion futures markets.

### INHERENT VARIATION IN PRICES

The basic price-making facts about onions are very well summarized in a mimeographed publication of the Commodity Exchange Authority entitled *Futures Trading in Onions*, released in December 1956.

From a consumer's point of view, onions are a condiment. We eat them because we like them rather than because of their nutritional value in our diets, although they do have a definite nutritive value. They lend variety and spice. They are consumed as special onion dishes, in soup, on hamburgers, etc. They are not very important in consumer budgets and, at the consumer level, are not regarded as expensive. When we want onions, price is not a major factor. A low price, on the other hand, does very little to stimulate consumption. The demand for onions then is relatively inelastic. It takes a very big change in price to affect consumption.

Onions are perishable. There are early, mid-season, and late onions. The earliest crop is harvested in Texas in March, and the latest crop is harvested in the northern states in September. If we are to have onions in the winter, they must be stored from September until the early harvest.

When early onions become available, the old-crop onions have little value. They degenerate rapidly in the spring. They are not as savory, and they cannot be carried over. The whole of the crop must be used up or thrown away.

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Statement by T. A. Hieronymus, associate professor of agricultural marketing at the University of Illinois, before the House Agriculture Domestic Marketing Subcommittee, May 3, 1957.

These two factors, an inelastic demand and perishability, together with unstable production, confront the onion industry with a very difficult pricing problem. The supply must be made to last, and yet the whole of it must be used up. The supply is not precisely known. The National Onion Association and the USDA make estimates of supplies, and these estimates may differ sharply. And a small difference in supplies makes a big difference in onion prices.

The problem comes closest into focus late in the season. The greatest price changes usually occur late in the crop year. This is why the excitement about onion futures typically occurs in February. The following table showing average monthly prices received by farmers from January 1928 through December 1956 depicts this characteristic of onion prices.

Extreme swings in onion prices were not unusual before futures trading, and they have not been unusual since. They are inherent in the production of onions. We can hope to reduce them through improvements in the pricing system; and the futures market, as a pricing system, affords the best means of improvement.

#### **EVOLUTION AND FUNCTIONS OF FUTURES MARKETS**

My second topic is the evolution and functions of futures markets. You gentlemen are familiar with futures markets, and I certainly do not wish to impose a lecture about theory upon you. But certain fundamentals need to be reemphasized to bring the problem into perspective. Futures markets are systems of transferring the risks of ownership of commodities to people who are best able to carry them and who wish to assume the risks. They are systems of appraising and bringing into focus all of the factors that affect prices so that a price is established. They do not determine prices; rather, they help determine the prices which will move supplies.

Most crops are harvested seasonally. In the majority of instances, the supply must be made to last the whole of the year. Someone must own commodities, and, generally speaking, whoever does is taking a chance on prices. Whether it is the onion grower, the onion dealer, the wholesale grocer, or the speculator in a futures market, someone must carry the risk. Farming is the most risky business there is; and farmers are our most important commodity speculators, not in futures, but in cash commodities. At any one time they own most of the crop in our major commodities: wheat, cotton, corn, etc.

These commodity owners are important in establishing short-run prices. Whether they hold or sell today is a factor in today's price. This is true whether they represent ownership in cash commodities or in futures contracts.

## COMMERCIAL ONIONS FOR FRESH MARKET

Average monthly prices received by growers.<sup>1</sup> United States, January  
1928–December 1956

Dollars per cwt.

YEAR	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1928	1.80	1.90	2.90	3.00	1.60	1.20	1.40	1.70	2.20	2.30	2.70	3.10
1929	3.50	3.80	3.50	2.10	2.20	1.80	1.50	1.60	1.30	1.10	1.10	1.20
1930	1.20	1.40	1.20	1.50	1.40	.60	1.30	1.10	.86	.74	.66	.86
1931	.78	.72	.72	1.40	1.40	1.40	1.30	1.50	1.70	1.70	1.60	2.40
1932	3.10	3.40	4.70	4.10	1.00	1.10	.94	.60	.52	.50	.40	.56
1933	.56	.60	.66	1.00	1.10	1.70	1.30	1.30	1.20	.96	1.00	1.40
1934	1.70	1.60	1.40	1.30	1.00	1.50	1.40	1.20	.94	1.00	1.30	1.40
1935	1.30	2.20	3.30	3.30	2.40	1.70	1.00	.94	1.10	1.10	1.40	1.30
1936	1.40	1.40	.98	.88	.62	.80	.98	1.00	.74	.62	.60	.74
1937	.66	1.30	1.60	1.70	1.40	.86	1.10	1.10	.98	1.20	1.30	1.40
1938	1.90	1.90	1.30	1.50	1.10	1.50	1.10	.82	.84	.98	1.00	1.20
1939	1.20	1.10	1.50	1.40	.94	.74	1.10	.84	.74	.68	.72	.74
1940	.84	1.10	1.20	2.70	3.40	2.00	1.90	1.10	.98	.86	.92	1.00
1941	1.20	1.20	1.30	2.20	2.90	3.10	1.90	1.50	1.30	1.50	1.90	2.30
1942	3.30	3.70	4.20	3.30	1.40	1.50	1.70	1.70	1.60	1.80	2.00	2.20
1943	2.60	3.00	3.60	4.70	3.60	3.50	3.60	3.40	2.60	2.70	3.10	3.50
1944	4.00	4.20	6.20	5.20	3.00	2.70	2.80	2.40	1.90	1.70	1.70	2.00
1945	2.40	2.60	2.00	3.00	3.30	4.70	3.80	3.50	2.70	2.80	3.30	3.50
1946	4.20	5.10	5.30	3.90	3.00	2.60	1.70	1.40	1.10	1.20	1.30	1.40
1947	1.50	1.50	2.30	2.80	2.50	2.60	3.20	3.10	2.90	3.60	4.90	5.50
1948	6.70	9.10	10.20	6.80	4.90	4.20	3.40	2.10	1.90	2.00	2.10	2.00
1949	1.80	1.80	1.70	2.40	3.10	3.10	2.30	2.50	3.10	3.20	3.70	4.00
1950	3.10	1.90	1.40	1.90	2.30	2.10	2.40	2.20	1.40	1.10	1.00	1.30
1951	1.40	2.40	1.90	3.20	4.80	3.20	2.50	2.10	1.90	2.30	3.00	3.40
1952	4.60	4.90	7.20	7.80	5.80	4.30	4.10	3.80	3.10	4.20	4.70	4.40
1953	5.30	6.00	5.20	2.00	2.00	2.20	1.90	1.30	1.20	1.10	1.20	1.20
1954	1.00	.82	.98	2.00	2.70	2.80	3.00	2.30	1.80	1.80	2.20	2.00
1955	2.10	1.80	2.10	2.80	2.80	2.70	2.50	2.10	2.30	2.50	2.60	2.40
1956 <sup>2</sup>	2.20	1.80	1.50	2.20	3.90	6.90	7.40	3.60	1.90	1.70	1.70	1.90

These figures are taken from *Agricultural Prices*, February 1957, of the Crop Reporting Board, U.S. Department of Agriculture.

<sup>1</sup> Monthly prices are weighted averages for the United States and are counted from estimated prices and quantities sold in major commercial states in the months indicated.

<sup>2</sup> Preliminary

Futures markets are used to hedge commodities. Hedging is a process of shifting risks from an owner of cash commodities to a speculator in futures contracts. After hedging, the owner of cash commodities is no longer affected by changes in price; the speculator is affected.

The amount of hedging in futures markets can be measured by the number of open contracts. Generally, hedgers are short futures contracts, and, on balance, futures market speculators are long futures contracts. The number of open contracts is usually larger than the amount of the commodity hedged; that is, there is a speculative long and short position in addition to the speculative long that is opposite the net short position of hedgers.

The open interest builds up as the crop is grown and harvested and hedges are placed. It declines as the crop is taken out of storage.

The open interest is the appropriate measure of the amount of speculation in a market. It measures the amount of risks that are taken and carried by futures market speculators. The volume of trading is not a measure of the amount of speculation. It only indicates the rapidity of turnover of contracts. Generally the volume goes up as prices change rapidly and goes down when prices remain relatively stable. The number of open contracts and the volume of trading are not closely related.

#### **ONION FUTURES AS A HEDGING MEDIUM**

Against this background we can evaluate futures trading in onions as a hedging medium.

Chart I of the CEA publication, *Speculation in Onion Futures*, January–March 1957, shows the orderly buildup of open contracts as the growing and harvesting season progressed and the decline in open contracts at the end of the season. It should be particularly noted that the volume of trading is not directly related to the open interest. The number of open contracts declined as the season progressed, even though the volume of trading went up sharply.

On page 10 of the publication I just mentioned are analyses of the market position on January 31 and February 15, 1957. On both days over half of the open contracts were classified as hedging. Speculators were about two-thirds long and one-third short. Hedgers were almost entirely short; that is, speculators were carrying the inventory risks of the hedgers.

The total of open contracts that were hedges was smaller than is typical of the market. For example, on November 1, 1955, the reporting hedgers were long 2.2 percent of the total open contracts and short 43.9 percent. Reporting speculators

were long 40.5 percent of the open contracts and short six percent. The other open contracts were straddling (both long and short) or not known. Hedgers' positions were 93 percent short and 7 percent long, whereas speculators' positions were 87 percent long and 13 percent short. The aggregate positions of reporting speculators and hedgers were about equal, so that it is clear that hedgers stood opposite speculators.

Near the end of the 1956–57 season, the proportion of the total open contracts that were short hedges declined. On page 15 of the report mentioned above, the following statement is made:

During the important marketing period (November to March) short hedging commitments showed a steady decline and were being replaced by a large proportion of speculative positions. In other words, during this critical period when onion futures contracts were maturing, the market became increasingly speculative.

Offhand, this might give one the impression that there was something sinister in this increase in speculative activity in the onion market. In the case of onions, the hedges are placed early in the marketing period and lifted as time goes on; and, quite naturally, the number of speculators in proportion to hedgers increases. The process is reversed at the end of the season. It is all quite normal and typical.

On October 31, 1956, 64 percent of the open contracts were short hedges of reporting traders, compared to only 35 percent by the same group on February 15, 1957. How does this compare with older, more stable futures markets? I chose the most recent available data for wheat and found that on October 31, 1955 (soon after the end of harvest), 42 percent of the open contracts were short hedges by reporting traders; while on April 15, 1956 (which compares with February 15 for onions), only 20 percent of the open contracts were short hedges by reporting traders. The decline in the proportion of hedges in onions as the season neared its end was less than in wheat.

The decline in the proportion of open contracts that one hedges as the season's end approaches is typical of a futures market. The total amount of speculation declines. The proportion of the open interests that is speculative increases.

The proportion of the onion crop that is hedged is large when compared to other commodities. On January 1, 1957, the total stock of onions was estimated at 15,760 car-lots. Open contracts on that day were 4,810 car-lots, about one-third of the total. On April 1 of this year, there were about 235 million bushels of soybeans; and open contracts in soybean futures were about 75 million, a ratio of about the same as onions. For corn the ratio is about 30 to 1 instead of 2 to 1; wheat, fairly typically, is about 12 to 1.

This comparison indicates to me that the onion futures market is used very extensively as a hedging medium.

In grains and cotton, farmers make little direct use of futures markets. The markets are indirectly beneficial. Farmers sell to merchants, who in turn hedge. The merchants could not buy at as high prices as they do if they could not hedge. There are no comparable processor interests in onions, but indications are that many onion producers hedge.

There are two CEA publications that include data directly bearing on the question of hedging, grower hedging in particular. One is a survey of open contracts on September 30, 1955, and the other is a survey of open contracts on December 31, 1956. Table 4 is the pertinent table in each publication.

On September 30, 1955, there were 813 traders in the market, and of these 125 were hedgers. There were 70 grower hedgers who were long 359 car-lots and short 577 car-lots. There were 53 onion dealers of various kinds classified as hedgers. They were long 320 car-lots and short 3,073 car-lots. These positions indicate that growers made extensive use of the futures market to reduce their price risks, both directly and indirectly. The short positions of the various onion dealers most probably were hedges against purchases of cash onions from growers.

What price could these dealers have paid for onions had they not been able to hedge their positions in onion futures and if they were forced to assume the risks themselves? They sold to the highest bidders, to people who would pay more than onion users and to people who would pay higher prices than those at which the onion dealers would assume the risks of ownership themselves. The futures market offered the best possible outlet for onion growers who wished to sell on September 30, 1955.

On December 31, 1956, there were 765 traders in onion futures, of whom 53 were hedgers. There were 19 grower hedgers who were long 49 car-lots and short 887 car-lots. The 33 onion dealers were long 167 car-lots and short 1,591 car-lots. Here again is evidence of extensive use of futures markets for hedging grower positions and sales.

What would have been the price of onions had the futures market not been available as an outlet? On December 31, 1956, grocer organizations and processors and manufacturers of onion products (both hedgers and speculators) were long 106 car-lots and short 24 car-lots for a net long position of 82. The net short position of hedgers was 2,200 car-lots. Obviously, users were not as willing buyers as were futures market speculators. Without futures markets available to bring in the speculating public, onion dealers and users would have been the primary outlet for growers, and, in my opinion, prices definitely would have been lower.

Additional statistical evidence of the direct use of futures markets by onion growers in hedging their crops is found in the position reports of the CEA. Small-scale traders are not required to report their positions to CEA. In markets generally, small-scale traders are speculators, and they are typically long. The small-scale traders who are short include the grower hedgers. Thus, the ratio of small traders who are long to small traders who are short is some indication of the grower hedges.

During the soybean harvest in 1955, small-scale traders were long in a ratio of 1.5 to 1, indicating, to a degree, that a moderate number of farmers were hedging.

At the end of September 1955, nonreporting onion traders were long in a ratio of 1.3 to 1, indicating a slightly higher proportion of grower hedgers in onions than in soybeans.

By January 1956, the ratio of nonreporting onion traders had increased to long 3 to 1. To me, this tends to indicate rather extensive grower hedging at harvest.

All of the statistics of onion futures trading indicate a quite extensive use of the market for hedging. In a market in which the price is so inherently variable as onions, a hedging medium is especially important. It appears that onion growers can gain price protection from the onion futures market. It is eminently clear from the price variations that they need price protection.

#### **CRITICISM OF FUTURES TRADING IN ONIONS**

Judged by past performance, the onion pricing system has needed improvements, which appear to have been made by the Exchange and CEA. In general, stability in prices is desirable.

The price of onions depends upon the underlying conditions of supply and demand. Stability of prices depends upon how accurately the basic economic considerations are foreseen and bid into current market prices. Two things are involved: complete and accurate information, and accurate interpretation of the meaning of the facts. In addition, a third thing is required for price stability, and that is the absence of control or undue influence by individuals or groups.

Only after markets develop large volume and broad public participation do they become impossible to manipulate or influence with rumors.

In the past years, before CEA regulation, it appears that onion futures were subjected to short selling by a few commercial interests. The best cure for this condition is a large group of well-informed speculators who stand ready to absorb this kind of selling. The public behaves irrationally at times in its market trading, but it offers the best available protection against control of a market, and I know of no one better qualified to establish price than the public.



The increase in the volume of futures trading in onions in recent years is encouraging. Stability will be increased as the quality of speculation improves.

#### **EFFECT OF ABOLISHING FUTURES TRADING IN ONIONS**

What effect would abolishing futures trading in onions have? Would it stabilize prices and enable the producers to get more for their crops? I do not think so. The onion market would be in a state of flux for a short time, but very quickly there would be devised a system for shifting risks and establishing prices that would closely parallel the futures market.

If we look back at our four evolutionary steps, we see that futures trading is nothing more than the codification of existing trade practices. It is refined and supervised, but there is no basic economic difference between futures trading and the systems of forward trading that have developed, commodity by commodity.

If futures trading in onions is abolished, I have already stated that a parallel forward pricing system will evolve. Such a system, if it comes to pass, will have some disadvantages in relation to the present pricing system. First, there will be much less information about trading, prices, and market conditions. Second, there will not be as much financial responsibility toward contracts as is possible through an exchange system. Third, there will be less public participation and a less effective system of hedging. Buyers will be able to sit back and buy at lower prices when they do not have to compete with the speculating public. Furthermore and finally, the market will not be supervised or regulated. It will be much more subject to manipulation and undue influence by a few people.

There is now an open, competitive, public, supervised market that appears to be growing and improving. I do not think it wise to take legislative action that will rob it of its broadening base resulting from the presence of speculators and of governmental supervision.

One must not lose sight of the fact that the buyers who would be in the market after the abolition of futures trading would purchase as cheaply as possible in view of the risks they would have to take. Furthermore, there would be no uniformity of price, since each buyer would strive for an individual bargain, and the government does not furnish enough price information to make up for the loss of price data which would follow destruction of the futures market.

Summed up, I think abolishing the futures market would be a backward step which would injure the producers and the entire onion industry. That concludes my statement. I appreciate very much the opportunity to have been heard.

