
Viewpoint



Soybean versus fats and oils prices

The following article was prepared by David Bartholomew, a frequent contributor to JAOCS News, the week the Chicago Board of Trade opened its new trading floor where the world's most significant soybean futures trading occurs. An article on that opening appears elsewhere in this issue of JAOCS. Bartholomew is manager of the oilseeds department, senior soybean analyst, for Merrill Lynch Pierce Fenner & Smith Inc. at the Chicago Board of Trade. In this article Bartholomew discusses how soybean futures prices at the Chicago Board of Trade affect the prices of fats and oils throughout the world.

SOYBEAN VERSUS FATS AND OILS PRICES

The interplay of price relationships between soybean futures traded at Chicago and the cash markets for fats and oils is especially complex and therefore intriguing. It is common sport among those in the business to try to find an easy answer to this riddle, but unfortunately there is none. Therefore, it is expedient to examine the pertinent factors and in the process eliminate others which sometimes confuse the issue. Then maybe it will not seem so complicated after all. Complex though it may be, it does not have to be too complicated.

FUTURES FUNCTION

A primary purpose of the futures market is "price discovery." This means that at any given moment no one can accurately state the precise value of a commodity such as soybeans. Value is established only when a buyer and seller negotiate a trade. But since conditions can change at any time, a value determined one day may not be valid the next. So, the futures market is open every day and moves freely to reflect these changes in value.

Often, these changes are of an international nature. Despite the common criticism of Europeans and others, the Chicago futures market is keenly aware of world conditions. It is not nearly as domestically oriented as popular foreign opinion insists. There could be some justification to such attitudes in the case of a U.S. embargo against export sales, such as in 1973, for example. Chicago values dropped sharply while foreign values moved up even more sharply

for limited available supplies. But that is a temporary dislocation. In a more objective analysis, it is understood that prices were high before the embargo due to restricted supply and then dropped because supply would be extended over a longer period of demand.

In the international sector, a factor watched with keen interest by the futures market is performance of the U.S. dollar in relation to other major foreign currencies. This has important implications for soybeans because of a large volume of international trade. A strong dollar inhibits demand, while a weak dollar stimulates it. The price leverage factor of this consideration is highly dynamic.

The futures market trades in selected months, from current to approximately one year ahead. However, this trading does not establish cash market values. Market value is determined by actual commercial trade in the cash market. The cash price paid for a commodity is the only accurate expression of real value at any given time. The price differentials in futures trading are derived from predictions of interest rates, supply and demand, crop residuals carryover, and other factors.

Cash sales of commodities rarely are made at the same price as futures. Normally cash sales are made at premiums or discounts to futures prices because of the changeability of market conditions. Futures prices reflect a wide array of worldwide conditions. Actual cash transactions reflect specifics of location, date of shipment, quantity, and contingent contract terms.

CASH FATS AND OILS

The relationship of soybean future to prices paid for fats and oils is influenced by a number of factors:

1) Virtually every country of the world has some indigenous supply of fats and oils, and what fills the gap between their supply and demand is mostly soybean oil. Viewed in this light, soybean oil is a residual oil, even though it represents the largest volume of all vegetable oils in world trade and in total consumption.

Some countries export fats and oils when crops are good, and import when crops are not good. Others are regular exporters, and how much they have available for export makes a difference in demand for U.S. fats and oils.

It is standard procedure for countries other than the U.S. to have virtually no supplies of fats and oils or oilseeds remaining at the beginning of the new crop season. Occasionally, Canada will have some rapeseed remaining. Sometimes government inventories of peanuts, olive oil or butter will be held due to non-economic high price-support policies of the U.S., Europe, and other countries. Those inventories are isolated from the market until the burden becomes so great that subsidies are given to dispose of them.

2) Many fats and oils are by-products of the processing of another product. Consequently, production of those fats and oils is not responsive to price. The most prominent example is soybean oil. In nearly all seasons, the rate of crush is dictated by demand for protein meal, with the result that more oil is produced than is needed. (A classic exception was 1974, when the reverse was true.) Usually, the processing of fish is also more for the meal than for the oil. Cottonseed is a by-product of the fiber industry. Producers grow more or less cotton in response to the price incentive for fiber, not cottonseed oil or meal. Livestock production rises or falls with price incentive for meat rather than for lard or tallow. However, the amount of those fats trimmed from carcasses may fluctuate depending upon comparative values of fats and meat. Corn oil is a by-product of the starch and fructose sugar industry.

On the other hand, the production of some oilseeds does change primarily in response to oil value. In this category are sunflower seed, groundnuts, rapeseed, linseed, and castorseed.

Protein by-products of processing also compete with soybean meal and therefore affect the demand for soybeans and, consequently, the production of soybean oil. These by-products include bone meal, meat scraps, blood meal and feather meal, as well as residual protein feeds from brewing, distilling, and the manufacture of starch, sugar, and frozen citrus concentrates. Then there are the protein meals resulting from primary oil-bearing crops such as sunflower, groundnuts, rapeseed, linseed, copra, and palm kernel, which are priced to move quickly into consumption. While the supply variation of these meals has no relation to the fluctuations in soybean supply, it can significantly influence soybean price and, therefore, fats and oils prices.

3) Some oil-bearing crops such as coconut, olive, palm and palm kernel, are perennial and so are not supply-responsive to price changes. The producer cannot alter supply to respond to price. Whatever is produced will be harvested and consumed. The alternative is to allow the crop to decay, which never happens in any significant amount. This phenomenon can have a high-leverage influence on soybeans.

4) Soybeans usually are crushed only to the extent of the demand for soybean meal. Meal normally is not stored for very long because most crushers are not equipped to store more than three to five days' meal-production. Likewise, most feed mixers cannot carry more than three to five days' inventory. Due to these space considerations, soybeans are stored in seed form until product demand spurs processing. Thus the price influence of soybeans on fats and oils is very closely correlated.

5) An adjunct to no. 4 is the crush margin differentials in futures, which compares the futures price of soybeans with the futures price combination of oil and meal. In their hedging activities, crushers may buy soybean futures and sell product futures at times when the differential is considered attractive. Therefore, there is a direct connection between soybean futures and the value of oil and meal.

6) Demand for soybean meal has been artificially exaggerated in European Economic Community (EEC) countries by their pricing system. In order to support grain farmers in these countries, a stiff import duty is applied, especially on corn. As a result, EEC feeders usually can purchase soybean meal at a price below that of corn. Consequently, the animal feed ration contains more soybean meal than necessary (based on protein value).

This phenomenon affects fats and oils prices in several ways. First, demand for soybeans is stimulated, resulting in the production of more soybean oil, and affecting the price paid for both oil and meal. Second, the EEC produces more butter than would otherwise be the case; more than can be consumed in those countries—so the surplus goes into government inventory at high support prices and emerges later at subsidized prices to compete with fats and oils in other countries.

7) Developing countries instinctively want to industrialize primary industries to reduce or eliminate imports of processed commodities. As their livestock programs adopt modern feeding techniques, they learn to utilize meal. Then they decide to establish crushing facilities to produce their own meal. Frequently, these countries cannot absorb the soybean oil they produce, so it is exported and competes with oil from the U.S. and other countries:

Spain—has become the world's third largest exporter of soybean oil so as to protect its olive oil industry.

Portugal—will soon be operational similar to Spain but to a smaller degree.

Malaysia—has two operational soybean plants even though it is the world's largest and leading producer of palm oil.

Philippines—will begin operations this year even though it is the world's largest and leading producer of coconut oil.

EEC—has import duty on soybean oil but not on soybeans or soybean meal. Consequently, it has become a major exporter of soybean oil.

This situation has a considerable impact on the demand and price relationships between soybeans and fats and oils.

CONCLUSION

These are the major considerations in the study of how Chicago soybean futures affect prices of fats and oils. There are some very dynamic forces at work. Rather small changes can have an important leverage on the interplay between the two categories. Keen perception of these changes is necessary to keep them in focus. Even today's advanced development of mathematical elegance is inefficient in capturing all the nuances that are involved. But the intrigue is there for those who enjoy the challenge.