SESSION II
Raw Materials

Natural Oils and Fats – Prospects for the 1980s

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ABSTRACT

All fats and oils are more or less interchangeable in varying degrees. Therefore, shortages or surpluses of one type of oil or fat have some effect on the whole supply and demand effect on a freely operating market. The trend in long term for real prices of soapmaking fats and oils is down – because it is projected that supplies are likely to increase faster than global demand. Inflation rates affecting production costs of soybean and palm oils are not expected to be large but probably the most important of any of the fats. The price of coconut oil, as an example, was relatively stable until ca. 4 years ago – 5 years ago it was $200/ton, 3½ years ago it was $1,400/ton, 6 months ago it was $700/ton, and now (August 1977) it is $470/ton. It is projected, for example, that it will be at a level of $750/ton in 1990.

My aim in this paper will be to focus on the price prospects for the soapmaking oils and fats on international markets in the 1980s. There would not be too much credibility in forecasting prices down to the last dollar even as an average for some particular year in the 1980s. But, some meaning can be attached to attempts to assess the general direction and intensity of long run pressures on price levels, and it is these I wish to examine for the soapmaking oils and fats. To judge from the recent past, the range of possible outcomes is quite large – world coconut oil prices are now $470 per ton, 3½ years ago they were at a peak of $1,400 per ton, and 18 months prior to that they were $200 per ton. What follows is one scenario out of undoubtedly a range of possible scenarios for the 1980s concentrating on the fundamental nature of the market, where it has been and is now, to provide the basis for considering where it might be going in the 1980s.

It is immediately apparent that attention cannot simply be devoted to the two basic soapmaking oils and fats, coconut oil and tallow. These are merely a subset of a much larger world oils and fats market. First, however, we should have some concept of the orders of magnitude involved. There is a total oils and fats market of 50.6 million tons made up of three broad categories – the consumer products (butter, lard, olive oil) of 11.1 million tons, industrial type oils (linseed, castor, tung, sperm) of 1.4 million tons, and those described as edible and soapmaking raw materials (soy, sunflower, palm, fish, etc.) of 38.1 million tons. The use in soap is quite small being only 9% of the total in this last category.

The essential characteristic of this market is that all these oils and fats are interchangeable in varying degrees in their wide variety of end uses. More demand for butter, lard, and olive oil means less demand for edible oils for margarine, vegetable shortenings, and other table oils; soy oil substitutes for linseed oil in paint, the permutation of oils used in margarine varies frequently without altering the final product, while lard and vegetable oil residues from refining substitute for tallow in its major end use which is not soapmaking but is as an additive to animal feedingstuffs.

Thus, while in concept prices of these oils and fats including coconut oil and tallow are simply determined by the interaction of supply and demand on a freely operating international market, this interchangeability between oils makes the market, in practice, a complex structure of interacting supplies, interacting demands, and interacting prices. It implies that the price of any individual oil is going to depend far more on how the total market behaves than on its own particular supply. The price of soapmaking oils and fats can fall not because they have increased in supply but because all oils together have become surplus. Of course, supply changes in particular oils are significant for short term forecasting, but the effect is on their relative prices compared with the average for all oils. Thus, a shortage of coconut oil in one year will cause coconut oil to become more expensive than other oils, but it may still fall in absolute terms if the total market is in surplus. In looking at the long term, however, it is the total market movement which will very largely determine future absolute prices for coconut oil and tallow. Compared with this effect, changes in their price relationships would be of minor importance unless really dramatic changes in coconut oil and tallow supplies were envisaged. I need, therefore, to consider prospects for the total oil market and, in essence, the edible oil

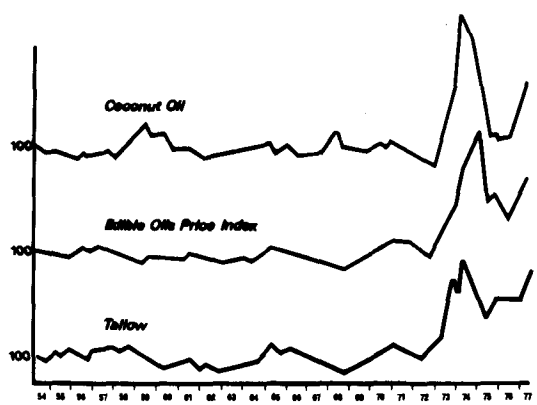

FIG. 1. Price indices.

market – the dominant use of oils is for edible purposes. I have no choice but to do this in very global instead of detailed terms because of the complexity of the market. There are some 120 producing countries, 80 trading countries, and all these individual oils – some from annual crops, some from trees, some from the sea, and most are joint products or by-products.

Figure 1 shows price behavior of the oils and fats market over the past 23 years. There are really three graphs – one is an index of edible oil prices excluding coconut oil, and there are separate indices for the soapmaking oils and fats, coconut oil and tallow. The prices used are money prices and not real prices. The fact that long term all these prices move together is immediately apparent. Second, however, it is clear that the market has behaved very differently over the past 5 years than in the whole of the previous 20 years. For 20 years up to 1972, the market was characterized by low prices, almost constant in money terms and, therefore, falling in real terms after adjusting for inflation, and it was a long period in which prices overall did not fluctuate too dramatically from year to year. These are all the characteristics of structural surpluses in a commodity market – excess supplies both forcing real prices down and at the same time, providing a cushion of stocks to absorb year to year changes in crops.

It has been very different during the past 5 years. There have been high and fluctuating prices indicating that shortage has been the most typical state of the market, and one might easily conclude that a whole new era has been ushered by these years which might set the tone of the market for the 1980s. Before accepting this conclusion, however, there are two points we should note. First, there was no year in the 20 years up to 1972 in which the world production of edible oils failed to rise from year to year. Sometimes the supply increase was not too great, and in other years it was large. But, at least, each year brought more supply. Over the past 5 years, however, world production of edible oils has actually fallen in three of them, whereas population and income growth normally generates an increase in world requirements of an extra million tons of oils every year. The two intervening years, on the other hand, were years of large increases in production. Given such dramatic and unusual supply swings, it is not surprising that the recent past has been one of dramatic and unusual fluctuation in prices. The second point to remember is that one of the three years in which world oil production has fallen is this year. We shall need to avoid looking at the 1980s from a year which is far from normal and from a shortage year in which high prices have induced an increase of 17% in U.S. soybean plantings – the world's most important oilseed crop – while with more normal weather, the U.S. is now harvesting a crop 25% higher than last year.

Rather widespread adverse weather conditions for crops largely harvested toward the end of 1972, 1974, and 1976 have, indeed, had much to do with the unusual behavior of the market over this period. Those who believe in some long term adverse change in world climatic conditions are likely to have a different view about the 1980s than those, such as myself, who prefer to assume a neutral effect from future weather conditions.

Accepting no long term changes in weather patterns, my own considerations of the prospects for all the oilseed crops and oil production and of the prospective growth in the underlying demand for all the oils lead me to conclude that the long term outlook through the 1980s is for a tendency for world supply to increase rather faster than the underlying world demand and, therefore, for there to be a tendency toward structural surpluses and a downward pressure on real prices.

The large number of crops and countries preclude a detailed consideration of the basis for this view, and it would certainly be tedious to listen to a multiplicity of statistical projections. But let me highlight two major and crucial supply areas – soy and palm oil. These oils together already form 42% of the world's production of edible type oils and 53% of world exports. By 1990, they will probably be forming at least 60% of the world's export supply of edible type oils.

Soybeans – comprising 18% oil but 80% of soybean meal – provide a very large part of the world's protein requirements for animal feedingstuffs. Rising consumption of livestock products and, therefore, rising demand for animal feedingstuffs have provided the major stimulus to the increases in soybean crops. In the 1960s, this market was dominated by the U.S. – the crop in 1960 was 15 million tons, but 42 million tons by 1973 – a growth rate of 8.5% per annum. After 1973, adverse weather conditions and grain shortages competing for available acreage halted this trend, but with normal weather, renewed grain surpluses, and acreage shifts into soybeans, a new peak crop of 43 million tons is now being harvested. Since the world's needs for protein can be expected to continue to increase, a U.S. soybean crop rising 54 million tons by 1990 seems a reasonable expectation implying no more than a combination of ½% increase per annum on acreage and 1% per annum increase on yields from this year when about normal yields per acre have been achieved.

Meanwhile, Brazil has also become a major producer of soybeans – production of 11.5 million tons this year compares with only 1.5 million tons in 1970, and expectations generally are for a crop in excess of 20 million tons by 1990. Finally, recent developments in Argentina suggest that this country may also have an explosive potential as a soybean producer, although for the moment its crop is still quite small. But, a crop this year of 1.2 million tons compares with only a negligible crop in 1970.

Undoubtedly, however, the major contributor to the future growth in edible oil supplies will be palm oil. Already, world exports have reached over 2 million tons – a fourfold increase over 10 years – largely as a result of the tremendous expansion in palm plantations in Malaysia. Production in Malaysia was 200,000 tons in 1967, this year it will be about 1.5 million tons, and the Malaysians expect 5.6 million tons by 1990. Even if one were to feel that this particular figure might turn out to be on the high side, there seems no reason to expect other than continued rapid growth through the 1980s. It is an essential ingredient in the Malaysian Government's long term strategy for the country's agricultural development, and the costs of producing palm oil are low. Other countries such as the Ivory Coast and Indonesia have also been expanding their plantations and are intent on continuing to do so. Indeed, palm trees already planted across the world and not yet at the fruit bearing stage and young trees yet to reach their full maturity probably already ensure another million tons of palm oil or 30% being added to world production over the next 3 or 4 years.

The prospects for soy and palm oils provide the main basis for predicting that world edible oil production from now until 1990 will increase at an annual rate of 3¼% per annum – from 34.5 million tons this year to 52 million tons in 1990. It seems unlikely that the underlying demand for edible oils will increase as fast. Increasing demand for edible oils stems largely from increases in population and increases in income leading to higher consumption per head. However, while per capita consumption at first rises rapidly as incomes rise from low levels, there is a level of income beyond which edible fat consumption per head tends to stabilize regardless of any further rises in income. Thus, at best, only slowly rising demand for edible oils may be expected from areas such as Western Europe and North America where incomes are high and population growth is

small. These areas account for 40% of the world's consumption, and while more rapid increases in demand can be expected for the remaining 60% of the world demand in total is unlikely to match the growth in world supplies.

This expectation of long run surpluses in the edible oils market points to a likelihood of declining real prices to encourage more consumption than would result from population and income growth alone. This is a price decline which the soapmaking oils and fats will share unless there really were to be prospects of a dramatic long term reduction in their supply.

In fact, the reverse is true. Since coconut oil and palm kernel oil are very close substitutes, it is their combined supply which is relevant. The sharp expansion in palm oil production expected for the future will, of course, also be associated with an equally sharp expansion in supplies of palm kernel oil and tend to exacerbate the decline in real prices for coconut oil stemming from the behavior of the total market. In addition, the late 1980s might also see coconut oil supplies increasing from the new higher yielding hybrid varieties of coconuts now available. Seedlings are already being grown in the Philippines, and the official replanting program envisages plantings of 200,000 hectares by 1985 and regular plantings thereafter. This is not very great on a total acreage under coconuts of 2.3 million hectares, but as yields are conservatively estimated to be double those of existing trees and as there have been suggestions of fivefold increases in yields, it does at least hint of increasing coconut oil supplies in the long term future.

So long as the world consumption of livestock products continues to expand, there seems little reason to expect other than a continued growth in tallow supplies. Although the growth rate may be quite small, it is likely to be enough to ensure that tallow prices under the influence of the total oils and fats market will also be declining in real terms.

For soapmaking oils and fats, the long run prospect is for prices to decline in real terms. However, this is perhaps too vague a conclusion without some meaning being attached to the concept of real prices and the extent to which world inflation might affect money prices of soapmaking oils and fats. It is clearly difficult to define a world inflation rate for the world oils and fats market – there are too many countries, too many different inflation rates, and too large a permutation of exchange rate movements between them. Perhaps the most relevant inflation rates are those affecting the production costs of the two major oils – soy oil and palm oil – and perhaps inflation rates in the main producing countries of U.S. and Malaysia. Inflation rates are not expected to be high in either country, but with palm oil cost low it is perhaps the production cost of soy oil in 1990 on which money price levels will hinge. But again, problems arise in defining the production costs of a by-product such as soy oil, although an assessment could be made of the future costs of growing soybeans.

Having thought about this market and without retracting an earlier statement about the spurious nature of precise long term price forecasts, I would like to conclude with the following statement. Coconut oil prices 5 years ago were $200 per ton, 3½ years ago were $1,400 per ton, 6 months ago were $700 per ton, and they are now $470 per ton. As perhaps a focal point for discussion, shall we say that in money terms in 1990, they will be at a level of $750 per ton.