



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

INTERNATIONAL AGRICULTURAL COMMODITIES TRADE

— An Importer's Perspective

Karl-Hugo Schlunk

Problems and perspectives of the international grain trade, prior to the 1970s, were of little if any interest to the general public. The situation changed rapidly when international grain and oilseed prices doubled in a few months during the last half of 1972 and almost tripled within another year. The reasons for this price explosion -- large USSR purchases, sharply reduced anchovy catches (fish meal), crop failures in India etc. -- are well known. Politicians and the news media are now keeping grain markets in the limelight. There is almost constant discussion about grain sales to the Soviets. Obviously, this public discussion of, and attention to, the grain-markets does nothing to reduce market volatility.

Why the increased interest? Not because almost 50 percent of the arable surface of the world is planted with grains. More likely the intense interest stems from the effect grain price increases have on all agricultural prices, farm income, the federal budget and balance of trade. The critical factor, however, is the importance of grain in providing adequate food supplies to an ever-increasing population. Whether or not we will face a hunger-catastrophe towards the end of the century -- as many experts fear -- depends mainly on the availability of grain. After all, about 60 percent of human calorie needs are derived from grain. Or to look at it from a different angle: world population in 1984 is an estimated 4.4 billion people. By the year 2000 an estimated 6.4 billion people will live on this earth, 80 percent or about 5 billion, in developing countries. This means that we need to add to the world food supplies in 16 years the entire 1950 output of all food products, when world population was only 2 billion people. More important than population increases, however, is the fact that arable land per capita is decreasing. There is about 0.8 ha/capita of arable land as of 1984. By 2000 it will be reduced to 0.5 ha on average with only 0.2 ha in developing countries. Not a very bright outlook indeed!

Despite these somber projections, the world food problem can be solved, provided we succeed in: 1) using existing resources and inputs more effectively and more diligently, and 2) increasing food production in the areas of greatest needs, that is, the developing countries.

A short review of the developments during the 1970s and a look at the situation in the early 1980s is needed to better understand the problems facing international trade.

Review of the 1970s

The first thing one notices, when reviewing the data for the 1970s, are the extraordinary price fluctuations. In mid-1972 wheat was offered at \$65.00-\$70.00 per metric ton CIF Rotterdam (1). Soybeans, which determines the market for high protein feed ingredients, were offered at \$105.00 per mt. By the summer of 1973 soybeans reached \$680.00 per mt, by February 1974 wheat had climbed to \$245.00 per mt; about the same level was reached once again by November 1980. These extreme price fluctuations become even more pronounced when based on the changes in Chicago cash prices. An analysis of the bull and bear markets of the 1970s reveals that in addition to fundamental reasons -- supply and demand factors -- these market fluctuations were partly caused by political influences.

The second factor affecting grain prices was the fact that grain production increased by only 25 percent between 1970 and 1980; slightly more than the growth in population. Planted acreages during the 1970s increased by 5.5 percent. Average yields increased from 1.7 to 2.05 metric tons per hectare, 2.0 percent annually. This average yield camouflages the tremendous differences between regions of production. Top yields are in the European Economic Community (EEC) at 4.4 tons/ha, followed by the U.S. with 4.15 tons/ha. Argentina is near average at 2.2 tons/ha, while Australia grain yields are in the range of 1.3 tons/ha. Interestingly enough, percentage shares of total production changed very little. The U.S. share increased slightly from 22 to 23.5 percent, the USSR decreased from 16.3 to 15 percent, shares for China with 12 percent, the EEC 10 percent and Argentina and Australia 2 percent each remained relatively constant.

The third important development during the 1970s was the extraordinary increase in international trade volume. Only 100 million tons of grain moved in international trade at the beginning of the 1970s. At the end of this period, volume had increased by 90 percent to 185 million tons. The share of feed grains in global trade increased from 45 to 55 percent, while the share of wheat decreased in the same proportion. The large increase in feed grain demand was caused largely by higher mixed feed production in Western Europe and Japan, the result of large increases in meat consumption. Combining all high protein feed ingredients including oilseeds into one total figure (equivalent of

soybean meal) is not without problems, but, nevertheless, worth an attempt.

Total international trade volume of all feeds in 1970 was about 35 million tons, of which soybean meal accounted for 40 percent and fishmeal 9 percent (Table 1). By 1980, total volume had increased to 67 million tons, the share accounted for by soybean meal increased to 52 percent, while fishmeal decreased to 3 percent of the total feed market in terms of international trade.

Imports of feeds into the EEC increased enormously during the 1970s. In addition to soybean meal (about 6 million tons) these were mainly tapioca (about 6 million tons, mostly from Thailand) and corn gluten feed (about 3 million tons, almost all from the U.S.). In contrast to grain imports, on which levies are paid to equalize differences between world market and domestic prices, feed ingredients are imported without levies. For example, corn CIF Rotterdam was priced at \$160.00 per metric ton in November 1983, tapioca at \$150.00 per mt and corn gluten pellets at \$186.00 per mt. Setting corn at an index of 100, the relationship becomes 94 for tapioca and 116 for corn gluten. In CIF value, therefore, tapioca was 6 percent cheaper than corn, but corn gluten 15 percent more expensive. Late 1983 levies on corn were about \$46.00, barley \$56.00, and wheat \$75.00 per ton. As a result, Hamburg basis, corn costs \$224.00, barley \$194.00, and wheat \$205.00 per metric ton, against tapioca at \$163.00 (65 percent starch) and corn gluten feed (24 percent profat) \$194.00. Again setting corn at 100, tapioca becomes 73 and corn gluten pellets 87. Suddenly the relationship has changed dramatically, making tapioca 27 percent cheaper than corn and corn gluten 13 percent less costly than corn.

Therefore, it is not surprising that imports of feed ingredients into the EEC increased from 14 million tons in 1970 to about 25 million tons in 1980. Imports of oilseeds, basically the raw material for mixed feeds, increased from 8 to 15 million tons.

Situation of the Early 1980s

Total production and stocks of wheat and coarse grains are estimated to be lower in 1983-84 than in 1982-83 (Table 2). The decrease in production and ending stocks is mostly due to decreases in the United States. A breakdown into wheat and coarse grains reveals the following picture.

Wheat. Total wheat production 1983-84 was almost unchanged from 1982-83 (Table 3). The main producers were the USSR at 85.0 million tons, China 76.0 million tons, U.S. 65.5 million tons and the EEC 58.5 million tons.

The largest exporters in international trade are the U.S. with 38.1 million tons, Canada, 21.5 million tons and the EEC, 15.5 million tons. The USSR imported 17.0 million tons, China 12.0 million tons and Japan 5.5 million tons, accounting for just about 35 percent of total world imports.

Ending stocks are projected at 105.1 million tons in 1983-84, the U.S. will hold 41.6 million tons (39.6 percent). This means that the U.S. is holding one year's export supply in reserve and the world is essentially still looking at a surplus situation in wheat.

Coarse Grains

Coarse grain production is projected to be down in 1983-84 from 1982-83 (Table 4). Primary producers are the U.S. 142.8 million tons in 1983 compared with 255.5 million tons in 1982, USSR 103.0 compared with 86.0 million tons, Western Europe 85.4 compared with 93.6, and China 85.0 million tons compared with 82.7.

World trade is expected to increase in 1983-84 compared with 1982-83. World trade peaked at 107.9 million tons in 1980-81. The main exporters are the United States, 56.9 million tons, Argentina 10.8 and Canada 6.5 million tons. Main importers are Japan, 18.0 million tons; Western Europe, 16.5 million tons and the USSR, 11.0 million tons; comprising 50 percent of total import demand. Ending stocks in 1983-84 will be down compared with 1982-83, with 36.4 million tons or 50.8 percent being held by the United States. Although production will be reduced during 1983-84, the overall supply picture is still adequate.

Conclusions and Implications

The conclusions that may be drawn are:

- 1) World trade depends on the U.S. for an average of 43 percent of its wheat and 64 percent of its coarse grain imports. While these represent major shares, they do not constitute a monopoly as other countries have and will react quickly to changes in world supply-demand, and the resulting price incentives.
- 2) The U.S. is carrying 45 percent of total grain stocks, making the U.S. in effect the granary of the world.
- 3) Three countries, the USSR with a total projected demand of 28 million tons, China with 13.5 million tons and Japan with 23.5 million tons constitute 35 percent of total world import demand for grains and oilseeds.

Fundamentally, this partially creates a dependence of the importers on the United States for a good part of their supplies, and in any case makes U.S. markets, supplies and pricing policies the dominant factor in determining world market prices. The U.S. exporting system is probably the most efficient in the world. At present it is working only at about 60 to 70 percent of capacity. Nevertheless, it is a very finely tuned system, where any interruptions -- such as sudden demand surges, flooding or ice or changing drafts on the Mississippi River -- can have major repercussions on the flow of grain into the importing countries with an immediate effect on world market prices.

The U.S. price support system becomes of major importance, not only as far as absolute

prices are concerned, but also in relation to price levels in other producing countries. Herein lies the real dilemma in U.S. domestic agricultural policies. On one side, sufficient price incentives are required to produce the exportable surpluses needed to cover world demand without, at the same time, unduly stimulating production in competing countries. On the other side of the ledger, the same surpluses are creating pressures on the domestic market leading to more cautious price support policies and, if all else fails, acreage reduction programs. Add to this policy changes dictated by election year politics and it becomes increasingly difficult to reach accurate long term projections about available supplies.

The dominance of major importing countries creates special problems for other importers. More often than not massed purchases will lead to sudden price surges or even shortages of a particular grain during a specific shopping period. While bilateral agreements, especially with the USSR and China, have brought some order and predictability to the market, they are a two-sided sword. About 40 million tons of world trade are tied up with such agreements, 20 million tons alone with the USSR. The overreliance of some exporting countries, notably Canada, on such agreements has effectively shut off their markets to other importers and forced a realignment in traditional market flows. In the final analysis, bilateral agreements favor the large buyers as they often are able to dictate special conditions, for example special restitutions on EEC wheat exports to China.

Increasingly though, grain markets are influenced by political decisions. It started with the soybean embargo in 1973. While there was some justification for it due to the short supply situation in the U.S., it nevertheless, for the first time, cuts across existing contracts establishing some precedence for future embargoes, sales suspensions and similar administrative actions. Cancellation of sales to the USSR and Poland followed in 1974-75, to be topped by the grain embargo to the USSR in 1980. In all cases existing contracts were either partially or totally cancelled undermining the reputation of the U.S. as a reliable supplier in world markets. Importers took the only logical way out of this dilemma: they shifted their purchases to other origins and this established new trade patterns. At the same time, this shift in demand gave sufficient incentives to other producers to increase their production to the detriment of the U.S.

Sanctity of contracts is not just a fashionable election slogan, but a tradition on which international grain trade is based. Not even the EEC, with all its regulations and restrictions, has ever cut across existing contracts. During the Falkland War, Argentina was allowed to ship all contracts in effect to the embargo deadline. If the U.S. is to maintain or potentially increase its share in world export markets it must adhere to this very basic principle of contract sanctity. Hopefully, we have learned our lesson from

history that embargoes, trade sanctions and the like have not worked in the past and therefore are not likely to work in the future. This is especially true for a country that depends on exports of renewable commodities that can be grown by other countries given the incentives.

Much has been said and written about the common agricultural policy of the EEC. Clearly it is politically motivated and demonstrates all the pitfalls of a regulated market. Nevertheless, it is there and it is there to stay. Without it, there would be no common market. The original purposes of the Common Agricultural Policy (CAP) were: 1) elimination of all governmental restrictions, quotas, etc.; 2) management of foreign and domestic trade through price only; 3) opening the grain markets to competitive conditions; 4) prices set to reflect freight costs between areas of surplus and deficit; and, 5) integration of competing manufactured products into the marketing system.

Basically, this is a workable and acceptable concept. But when reality turns out different from the original intent, then it is not the fault of the CAP itself but of political horsetrading and administrative actions that have turned an initially quite liberal concept into a bastion of protectionism. Therefore, if we attack the CAP, we should attack the excesses: 1) high prices that stimulate unwanted production and necessitate high subsidies on exports to get rid of surpluses; and 2) import quotas and restrictions instead of free access for all as originally intended. But most of all, while the EEC should be firm in opposing any new restrictions, it should avoid getting into a trade war. There will be no winners, only losers in trade wars as is the case in shooting wars.

Last, but not least, the most severe problems facing importing countries are financial. On balance, all projections show that long range supply and demand will balance out in world markets. However, surpluses will be accumulated in industrialized countries, and deficits will arise in developing countries, the latter having payment difficulties paying for their imports. It is projected that surpluses in the five major exporting countries will reach about 220 million tons by 1990. Adding the many small exporting countries in Scandinavia, Eastern Europe and Southeast Asia, total available quantities could reach almost 300 million tons against an average of 190 million tons during 1980-83. Developing countries, which overall were net exporters at the beginning of the 1950s, imported about 100 million tons during 1982-83. About 25 percent of this quantity was delivered in the form of food aid or financed with concessionary credits. By 1990, these imports should reach 150 million tons. Considering that the remaining importing countries will require an additional 150 million tons, supplies should be adequate. Problems will arise in the developing countries in storing and transporting the additional quantities.

Financial needs, however, seem to be the one problem almost impossible to solve. Additional credits by the International Monetary Fund, under government programs, can help to solve only part of the problem since loans are preconditioned on the ability to repay. Extending "Most favored nation" treatment to major customers to help them earn needed foreign exchange is another part of the solution. In the final analysis, however, the solution most likely will be found by increasing production in the deficit countries rather than by increasing food imports.

High interest rates and the firm dollar have created special problems for importers during the early 1980s and so far there are no indications that the situation will change very quickly. The former makes purchases for maintenance of reserve stocks prohibitive. Even under normal conditions, it is difficult to recover the costs of storage and financing from the markets. The latter increases prices in domestic currencies to levels that make forward purchasing unattractive. Therefore, both high interest rates and the strong dollar have the same price depressing influence on grain markets and make it extremely difficult for importers to run a normal supply program.

Bringing everything into perspective, we can reach the following conclusions:

1) By 1990, available worldwide supplies will be just about sufficient to cover world demand. Despite today's surpluses, no build up in reserve stocks is projected. On the contrary, short crops could force reserve stocks back to 10 to 12 percent of projected demand, similar to the situation in the mid 1970s.

2) We need additional technological and financial inputs to cover grain demand by the end of the 1980s and early 1990s. This will be necessary to achieve a higher growth rate in yields per unit of arable land and a continuous mobilization of land reserves. Unquestionably, we have production reserves in land and in the genetic material of grain varieties. For example, laboratory tests in Germany have produced 30 tons/ha, while effective commercial average yields are around 4.4 tons/ha. How quickly these reserves can be mobilized depends mainly on the price expectations of farmers in addition to planting methods and adequate supplies of fuel and fertilizer. Given current 1984 price/cost relationships, and disregarding for the moment the special situation caused by the 1983 drought in the U.S., there is no reason to believe, that beyond those acres in the planting reduction program, additional land will be put into production.

3) Our third conclusion therefore has to deal with likely price developments in the future. Experience reveals that the largest production increases resulted from attractive producer prices. From this aspect alone, world market prices should and must follow a trend to higher levels to guarantee increases in production. However, this is a very simplistic view of a very complex subject. Generally speaking, world market prices are equated to the quotations on U.S. future exchanges, mainly Chicago. High prices in the

U.S. have always very quickly led to unsalable surpluses, which, in turn, lead to reductions in production. Therefore, the right kind of price incentives in developing and less industrialized countries is more important. Only production increases in these countries, themselves, will guarantee an adequate supply of grain for a growing population. This humane necessity, however, is tempered by the political aspect of having to keep prices for basic foods as low and as affordable as possible. In addition, higher grain prices are creating increasing strains on the balance of payments of many countries, imposing limits on acceptable price levels.

4) In spite of generally adequate supplies, grain markets most likely will continue to react in a nervous fashion and go through periods of instability. Price fluctuations will be larger rather than smaller, influenced not only by weather but increasingly by outside influences like currency crises, political unrest and administrative actions. We must remember that three countries, the USSR, China, and India, comprise 40 percent of world population and 35 percent of world grain consumption. With very good crops, all three countries could almost be self-sufficient, India might even exceed self-sufficiency. Conversely, cumulative crop failures in these three countries could have very grave consequences on price developments in the world market. In efforts to stabilize prices, worldwide commodity agreements, pricing conventions and the creation of buffer stocks have been repeatedly advocated. Experiences with agreements of this kind have been negative, especially in Agrarian societies.

Examples include the ill-fated wheat agreement and similar agreements regarding sugar, cocoa or coffee. These agreements failed essentially for two reasons: a) Supply and demand were generally dominant factors in determining world market prices, and b) The agreements work only if all important exporting and importing countries participate and undertake to strictly adhere to the agreed rules. These conditions were not met in the past and are not likely to be met in the future.

Even the frequently demanded development of worldwide buffer stocks is probably not the solution to smooth out the peaks and valleys in the marketplace. Too many questions remain unanswered and no really convincing answers are in sight to develop policies that make economic sense and are at the same time practical to administer. Here also, I suspect, time and the markets will eventually find a solution to the problem.

5) In order for the markets to function properly, and expedite international trade to most efficiently supply the best possible product at the most economical price, trade must be free of any undue political interference, restrictions and the like. Most of all agreements once reached, and contracts once signed must be kept.

Karl-Hugo Schlunk is President of Alfred C. Toepfer International, Inc., New York, NY.

(1) Include cost, insurance and freight.

Table 1. World Trade in High Protein Feed Ingeedients (soybean meal equivalent)

Year	Total mil. tons	Soybean Meal - - - - percent	Fish meal - - - -
1970	35	40	9
1980	67	52	3

Table 2. Estimated World Production, Trade, and Ending Stocks of Wheat and Coarse Grains, 1982-83 and 1983-84 Marketing Seasons

Marketing Season	World Production	World Trade	Ending Stock
	- - - million metric tons - - -		
1982-83	1,259.1	187.4	243.9
1983-84	1,164.2	189.0	176.7

Table 3. Estimated World Production, Trade, and Ending Stocks of Wheat, 1982-83 and 1983-84 Marketing Seasons

Marketing Season	World Production	World Trade	Ending Stock
	- - - million metric tons - - -		
1982-83	479.5	98.0	97.3
1983-84	479.4	98.6	105.1

Table 4. Estimated World Production, Trade, and Ending Stocks of Coarse Grain, 1982-83 and 1983-84 Marketing Seasons

Marketing Season	World Production	World Trade	Ending Stock
	- - - million metric tons - - -		
1982-83	779.6	88.7	146.6
1983-84	684.8	90.4	71.6