

FOOD SECURITY AND THE INTERNATIONAL
WHEAT AGREEMENTS

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ABSTRACT

The paper examines the issues involved in reaching a workable international agreement on reserve stocks for wheat. The paper is divided into two parts. In the first part, there is an examination of past efforts to achieve greater food security through international wheat agreements and food aid and an evaluation of the extent to which they succeeded until 1969, when the pricing provisions of the agreement broke down. There is a survey of the institutions that were created following the World Food Conference in 1974, an examination of the issues that have prevented the successful conclusion of a new agreement in the 1970's, and a review of the direction of current negotiations. In part 2, the issue of wheat price stability is examined against the background of the objectives of the major participants in the international market. It is argued that the determination of appropriate measures to ensure world food security has been hampered by domestic agricultural objectives of the major trading nations. Even if agreement on a reserve stock could be reached, it is probable that a reserve stock alone would be inadequate to achieve price stabilization without some change in the trade policies of the major trading nations. Since it is unlikely that these policies will be completely abandoned, it is argued that an international code of conduct to limit their harmful effect is appropriate. The outlines of such a code are suggested.

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Wheat is the major internationally traded staple food. In 1978, the 72 million metric tons (MMT) of wheat in international trade was 19 percent of world production. By comparison only 8 MMT of rice, or 3 percent of world production, was traded (USDA). Wheat is the most important traded food for low income countries that import food staples. It is also the major component of food aid.

Between 1960-61 and 1977-78, imports of wheat by the less-developed countries (LDC's) rose from 38 percent to 50 percent of total world trade (Table 1). Of this, some was imported by the richer LDCs who can exploit natural resources or comparative advantage in order to obtain the necessary foreign exchange, but imports into the low income LDCs also rose. These countries have become increasingly vulnerable to changes in the world price of wheat. This vulnerability was particularly observable in the "food crisis" from 1972 to 1974 when the price of wheat and other cereals rose sharply on world markets. High demand and high prices increased the aggregate volume of trade but there were still deficits in some low yield areas, particularly India and the Sahel. Many low income countries were faced with importing food at extraordinarily high prices at a time when they were increasing their foreign debt in order to finance imports of higher-priced petroleum. The volume of food aid was greatly reduced from the levels of the 1960's.

In 1974 the World Food Conference was convened with the objective of increasing food availability, especially in the LDCs. Concern was expressed about the inadequacy of wheat supplies in the short-run, as well as about long-run supply trends. The LDC importers, in particular, were anxious to see the introduction of measures that would increase their security of access to adequate supplies of basic foods at "reasonable" prices, i.e., the achievement of "food security."^{1/} Among other

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^{1/} Food security, in this context, was viewed from a strictly international perspective. Little consideration was given to within country requirements to ensure that each individual would have access to an adequate diet. For an introduction to the issues involved in world food security see Josling (1978) and Weckstein.

Table 1. Trade and Trade Shares of the Major Wheat Exporters and Importers, Selected Years

	1960-61		1970-71		1977-78	
	<u>MMT</u>	<u>%</u>	<u>MMT</u>	<u>%</u>	<u>MMT</u>	<u>%</u>
<u>EXPORTS</u>						
U.S.	18	42	20	36	32	44
Canada	9	22	12	21	16	22
Australia	5	12	10	17	11	15
Argentina	2	4	2	3	3	4
EC-9	2	4	3 ^{a/}	6	5	6
Total 5 Major Exporters	36	85	46	84	66	91
World	43	100	54	100	72	100
<u>IMPORTS</u>						
Centrally Planned Economies	8	18	11	21	22	31
Developed Countries	17	41	17	31	14	19
Less Developed Countries	17	40	26	48	37	50

a/EC-6

Note: Numbers may not add due to rounding.

Source: International Wheat Council. World Wheat Statistics, various issues.

resolutions passed by the Conference was one recommending the creation of an international reserve stock of wheat in order to stabilize prices, and another recommending an increase in annual food aid to 10 MMT. Neither of these goals has yet been achieved.

Negotiations on a reserve stock of grains have been ongoing under the auspices of the International Wheat Council since 1975 as part of an effort to obtain a new International Wheat Agreement (IWA). Wheat prices were regulated through a series of IWA's from 1933 to 1969 but these did not include stock provisions. Participants in the negotiations on a new Agreement are deeply divided on the terms of management of reserve stocks by which it is hoped to achieve greater price stability.

From the perspective of the LDC's, one of the basic objectives of price stabilization is to prevent the price of wheat rising so high that it puts the price of an adequate diet out of the reach of low-income people. In the long-run, the answer may be to raise the incomes of the poorest but in the short-run greater numbers of poor will be able to regularly purchase basic food if a price range can be defended. Even with a stabilized price, there will still be a section of the poorest people in the world's population who require assistance if food security as defined above is to be achieved.

This paper examines the issues involved in reaching a workable international agreement on stocks. The paper is divided into two parts. In the first part there is an examination of past efforts to achieve food security through International Wheat Agreements and food aid, and the terms in which they may be said to have succeeded until 1969, when the pricing provisions of the Agreement broke down. There is a survey of the institutions that were created following the World Food Conference in 1974, an examination of the issues that have prevented the successful conclusion of a new, wider, agreement in the 1970s, and the direction of the current negotiations. In part two the issue of price stability is examined against the background of the objectives of the major participants in the international wheat market. It is argued that the determination of appropriate measures to ensure world food security has been hampered by domestic agricultural objectives of the major trading nations. Even if agreement on a reserve stock could be reached, it is probable that the stock alone would be inadequate to achieve price stabilization without some change in the trade policies of the major trading nations. Since it is unlikely that these policies and the objectives which underlie them will be abandoned, it is argued that an international code of conduct to limit their harmful effect is appropriate. The outlines of such a code are suggested.

PART I

1. The Wheat Agreements, 1933-1971

The first International Wheat Agreement (IWA) was signed in 1933 in an attempt to deal with the persistent world surpluses that had accumulated since 1926 (Law). The agreement included export quotas which

proved unenforceable; the agreement collapsed after only a year. Then followed drought years and the start of the second world war, which checked surplus accumulation for awhile. From 1942 to 1968 there was a series of agreements ratified by an increasing number of countries but often omitting important trading nations which believed that the terms would not act in their own interests. The U.S.S.R. (which was an occasional signatory as an exporter, never as an importer), Argentina, and the U.K. were prominent exceptions at different times due to disagreement over market shares or prices.

From 1949 to 1963, all IWA's involved multilateral contracts (FAO, 1970). A range of prices was negotiated and importing signatories guaranteed to purchase a given quantity or proportion of their imports from members at prices within the range. Exporters, in their turn, contracted to provide specified quantities of wheat at no more than the maximum price. Additional purchases or sales were allowed outside the agreed price and quantity range. The percentage of world sales sold under terms of the agreements varied greatly, but the price was held within the negotiated ranges for wheat sold under the IWA for the whole period, and for all international wheat sales after 1952. In the 1960's, after five years of discussion in the Kennedy round of negotiations under the General Agreement on Tariffs and Trade (GATT), an International Grains Agreement (IGA) was concluded. It came into effect in 1968. For the first time the agreement had two parts: the Wheat Trade Convention covered prices and trade while the Food Aid Convention provided a minimum guaranteed level of foodgrain aid from the developed countries. The Wheat Trade Convention soon became inoperative as prices moved outside of the negotiated range for the first time since 1953. With the accumulation of stocks and low world demand of the late 1960's, exporters ignored the minimum price provisions. There was no machinery to prevent such breaches.

The crucial difficulty affecting the IGA has arisen from the effect on World trade of the national production and price policies in the high-income countries - and the associated problem of controlling supplies. Yet ultimately the negotiators found it impossible to agree on ways and means of bringing this basic issue within the scope of the new Arrangement. (FAO, 1970, p. 28)

When a new IWA was negotiated in July 1971, no price provisions were included. The Wheat Trade Convention became essentially a vehicle for the compilation of statistics, and has remained so ever since. Protracted efforts to negotiate another wheat agreement in the seventies, all ended in failure, and the 1971 IWA was extended several times. It is due to expire in mid-1981.

Before reviewing recent events and negotiations in more detail, the apparent success of the IWA's in holding the price of wheat within the stipulated range until 1969 merits closer examination. The FAO (1970) attributed much of the price stability from 1953 to 1967 to output controls and storage policies of the two major exporters (the U.S. and Canada). There was also surplus disposal (primarily under the U.S.

Public Law 480 Program) and sales to the U.S.S.R. and China. Although these measures were outside the jurisdiction of the IWA its existence facilitated stability by providing a known and largely accepted corridor of prices within which the major exporters were prepared to operate. Only in 1969 did the U.S. threaten to abandon the minimum price provisions of the IWA when Australia began to undercut prices and undermine U.S. exports. The Australians quickly altered their policy but prices fell anyway (Alouze, et al.).

The FAO (1970) also suggested that one of the major failings of the IWA's and IGA was their inability to prevent an underlying tendency toward overproduction. With the benefit of hindsight this can be modified. After overproduction had enticed the exporters to contravene the floor price in the late 1960's, most exporters took a unilateral decision to reduce production and liquidate stocks. The IGA had failed to build a system that would endure adequate reserves to cover periods of poor harvests, despite a tendency towards overproduction. In the 1970's international efforts to create such reserves have been predicated on the concept of internationally coordinated national reserves. Yet hegemony over policy on production and reserves is a sensitive issue. The perceived necessity for compulsory rules of stock management has provided the greatest block to the successful conclusion of a new IWA.

2. Food Aid until 1973

An extensive food aid program was initiated by the U.S. in 1954 under Public Law 480 with objectives that were partly humanitarian and partly concerned with surplus disposal. Through the 1960's donations of foodgrains (mainly wheat) greatly increased. Over 10 MMT of wheat were donated each year, reaching a peak of 19 MMT in the 1964/65 crop year. The large volumes shipped to India in the mid-1960s proved the effectiveness of such aid in controlling starvation (Gupta). In the 1970's there has been much discussion of the problems that can be caused by food aid, such as reduced domestic production within the recipient country, and the creation of dependency (Maxwell and Singer). In spite of the undoubted problems that can occur, there is still a consensus that food aid is a vital aspect of international food security and the prevention of starvation. It can also be useful in aiding development efforts. Recent analyses have tended to concentrate on the improvement of management of the aid while accepting its necessity (Stevens).

During the 1960's, the U.S. and Canada were the only significant donors of aid. Importing countries such as the U.K. tended to downplay the usefulness of food aid. The U.S. made repeated invocations to widen the basis of 'burden sharing'^{1/} (Sinha). This resulted in the creation,

^{1/} It should be noted, however, that food aid is only one part of total development aid. In terms of development aid as a percentage of GNP, the U.S. has repeatedly ranked approximately twelfth (McCalla).

in 1963, of the World Food Program, a multilateral agency for developmental and emergency food aid within the aegis of the UN and FAO and also in the creation of the Food Aid Convention (FAC) in 1967. The FAC is the enduring part of the erstwhile International Grains Agreement. It was an innovation resisted by the European Community (EC), Japan and the U.K., but the U.S. insisted on its creation during the Kennedy Round negotiations of GATT in return for industrial tariff concessions. Minimum contributions were fixed for eleven countries and the EC. In effect, the food aid commitments of some countries, notably those of the EC, were considerably raised, while those of the U.S. were unaffected. Contributions could be in grain itself or grain bought from other signatories of the IGA, made available at f.o.b. prices.^{1/} The original target was for a commitment of 10 MMT of wheat each year, but during the negotiations the goal was reduced to 4.5 MMT of wheat and coarse grain, a level greatly below that actually achieved during the 1960's when wheat donations alone averaged 12 MMT (IWC, Review). Total donations of grains as food aid have, in fact, exceeded the agreed minimum each year since 1967, but they fell to their lowest levels during 1972 to 1974, reaching a minimum of 5.8 MMT in 1973/4. In that year many LDC's were forced to buy grain at high prices. Although a guaranteed 4.5 MMT of grain as aid was to prove inadequate in the early 1970's, the creation of food aid commitments in a multilateral contract aimed at regulating trade showed an awareness that food security was the primary aim of the Agreement, not merely market regulation. In the 1970's, as will be seen, the objective of world food security was widened further still, to include the management of buffer stocks in order to defend a price range. As the objectives of the Agreements have grown wider, the negotiations have become increasingly difficult to conclude.

3. The World Food Conference and World Food Council

Following the food crisis of 1972 to 1974, one hundred and thirty countries sent roughly a thousand representatives to the World Food Conference in Rome in November 1974. There were three objectives:

- (i) to indicate what concrete action can be taken by the world community as a whole to solve the food problem in the broader context of development and international economic cooperation;
- (ii) to provide participants with a forum in which they can work to make food supplies more secure and to improve arrangements for emergency relief;
- (iii) to draft new measures designed to increase food production, consumption and trade in developing countries. (Shefrin, p. 2)

^{1/}F.o.b. denotes "free on board" or valuation at port of origin.

The Conference largely became a forum for acrimonious political dissension. However, it also focused world attention on the problem of food deficiencies in poorer countries. In the end there emerged limited agreement on strategy, and some permanent institutions to direct and monitor efforts to raise production and consumption levels. There were three elements to the strategy:

1. To increase food production in developing countries.
2. To improve world food security by establishing grain reserves.
3. To increase food aid until the developing countries could supply their own needs.

A target was set for 10 MMT of foodgrain aid, to be organized on a three year forward planning basis. At that time such a goal was approximately twice the level of bilateral and multilateral aid, but well below the level of the 1960's, when donations of wheat ranged from 10.5 MMT to 13.0 MMT (IWC, Review).

At the Conference, 83 countries joined an "International Undertaking on World Food Security." The Undertaking was mainly concerned with national policies toward stockholding. It was a statement of intent which the Conference, and subsequent World Food Council (WFC) meetings, hoped would become solidified into a legal mandate through the ratification of a new wheat agreement, embodying terms on reserve stocks and their management. In addition to the annual WFC, a Committee of World Food Security within the aegis of the FAO was also created following the Conference. These two bodies have made repeated calls for urgency in the conclusion of a new wheat agreement within the Wheat Council or GATT. (The USSR is not a member of the FAO.) As Wallerstein and Austin pointed out after the Manila Council in 1977, the debate on world food security illustrated the difficulty of translating rhetoric into action within the WFC. Indeed many of the same countries are represented in both the WFC and the Wheat Council, yet although there is agreement on the necessity for reserves in the WFC, no agreement has been reached on their management by the International Wheat Council, despite protracted negotiations.

Also following the World Food Conference in 1975, an International Emergency Food Reserve was established by special session of the UN General Assembly. By mid-1978, pledges of almost 450,000 tons had been received, and much of this has already been utilized. The WFC recommended that the reserve be put on a continuing basis and replenished annually, instead of being regarded as an interim device awaiting the completion of a new IWA and a world food grain reserve (FAO, 1978). The World Food Program also allocates a certain quantity of its resources to an emergency fund.

4. Issues in the Wheat Council Negotiations in the 1970s

The World Food Conference in 1974 recommended a target of 10 MMT of food aid. This figure has not been achieved. In the period from 1974/5 to 1979/80 an average of 8.7 MMT has been dispensed annually (FAO, 1978; 1980). The Conference also requested that there should be forward planning for aid, with firm commitments and assurance of supply. This has been achieved only partially. Following IWC negotiations a new Food Aid Convention was ratified by nineteen donor countries in July 1980 with commitments on a minimum level of 7.6 MMT of aid. Agreement on a new Wheat Trade Convention embodying reserve stocks has not been forthcoming, however.

When negotiations on the Wheat Trade Convention opened in 1975 the difficult food situation provided an initial urgency to the plan for reserves to increase world food security. The U.S. proposed a 30 MMT reserve of grains (25 MMT of wheat, 5 MMT of rice) to be held equitably between nations, each managing and paying for its own reserve (LDC's would be given financial assistance). The U.S. suggested that there should be quantity triggers based on stock levels and on deviations in production from long-term production trends (Gulick). The quantity trigger was opposed by the EC and negotiations did not continue past the preparatory meetings.

In September of 1977 new attempts began. This time the U.S. agreed that there should be a price range, but would not accept rigid minimum and maximum price levels on the grounds that they would not be workable or equitable.

...we firmly believed that the obligations must be defined in terms of measures which directly affect supply and demand, such as reserve stock accumulation and release, production adjustment, or consumption adjustment (Hathaway).

It is interesting to note how this statement ties in with U.S. domestic policy for grains. The U.S. is interested in keeping prices high on the world market but is also concerned not to lose its market share. Production adjustment would have to be shared internationally if the U.S. proposal were accepted, in order to hold prices at or above the floor price in years of plentiful supply. This could only be arranged through agreement on market shares. At the same time, production control would be shared and world prices raised through preventing gluts, both of which would reduce the cost of domestic farm programs in the U.S.

A second difficulty in the renewed negotiations was created by the EC proposals that the new agreement should incorporate a Coarse Grains Trade Convention, again with reserve stocks and price triggers. No other grain trading country was willing to impose specific obligations on trade in coarse grain. The conference recessed in March 1978.

By the resumption of talks in November 1978, it had been agreed that the coarse grain trade convention would be merely consultative. Other issues remained unsolved through January and February 1979, after

which negotiations completely collapsed. It had been hoped that agreement could be included as part of the Tokyo Round of multinational trade negotiations, completed in 1979. This tended to complicate the issue further. France, for instance, was looking for U.S. trade concessions before agreeing to a reserve (The Inter-Dependent). The link was played down when the wheat negotiations failed.

General agreement was reached on the mechanism by which internationally coordinated stocks were to be managed (FAO, 1979). There was to be an agreed range on an "indicator" scale involving three "action" points in a situation of falling prices and another three for the situation of rising prices. These would trigger consultations as follows:

- I. review of the market situation before reserve action was taken;
- II. agreement on a programme of obligatory accumulation/release of reserves; if no agreement was reached within a specified period, reserve action was to be taken automatically under a programme stipulated in advance;
- III. agreement to a joint programme of measures (e.g., production adjustments) to be adopted in the event of reserve action failing to stabilize the market. (FAO, 1979, p.3)

These trigger points were not envisaged as determining compulsory purchase and supply obligations, so much as providing for consultations on the management of stocks to stabilize the market. Lastly

If stocks were built up and markets still remained depressed because of a persisting oversupply situation (or if stocks were run down and prices continued to rise steeply because of a tight market) and the draft convention proposed that countries should take additional measures to influence supply and demand and thus restore normal market conditions. (FAO, 1979, p.3, emphasis added)

These additional measures were not specified. It seems unlikely, however, that countries were being asked to take steps to allow international supply and demand conditions to be reflected in domestic markets so that there could be full national adjustment to international conditions. This point will be pursued in part two.

Several key issues still remained unresolved. The first concerned the size of reserve stocks. Many countries considered that 25 to 30 MMT of wheat would be necessary to defend a negotiated price range, yet only 18 to 19 MMT of wheat had been pledged by February 1979. Second, substantial differences remain concerning prices. Suggested price levels ranged from U.S. \$140 to U.S. \$130 for the second falling point and U.S. \$160 to U.S. \$210 for the second rising point (FAO, 1979). Third, two areas of conflict remained concerning special provisions for the

developing countries. The LDC's asked for a special reserve fund based on compulsory contributions from the developed countries in order to assist them in meeting their stock obligations, but this was unacceptable to the DC's. The LDC's also proposed that they should be temporarily exempt from stockholding obligations if they were unable to accumulate their full obligation of stocks. The DC's would not agree to the exercise of such options, though they agreed in principle with the objective of preferential treatment for the LDC's.

Other unresolved issues included the provision of assurance of supplies for importers in times of shortage; price revisions to account for inflation or other change in the market; and relief from stockholding obligations by countries suffering production shortfalls or other special circumstances.

Faced with the intractability of finding solutions in these areas of conflict, particularly the issue of the price range, the Wheat Council is now pursuing a less rigid approach. Indicator prices will be used to signify the need for international consultation and probable action, but not to mandate predetermined action on stocks. Consultations may be at the ministerial level. It is hoped that participants will then act according to the dictates of the situation. Stock changes are one possibility that may be considered, as are a series of "other arrangements" which may also be written into the proposed agreement, but which would not be compulsorily invoked. Presumably these will include measures to alter levels of production and consumption in the short term. In addition, a smaller reserve is now proposed. The IMF and IBRD are likely to be the sources of loans to the LDC's to enable them to build and hold stocks of food grains.

It thus appears that, despite problems of implementation on all fronts, the international community has accepted a three-pronged approach to world food security. This is to involve internationally coordinated reserve stocks of wheat which are to be used to defend a negotiated price range for wheat; increased levels of food aid to be made available regardless of the price trend of wheat; an International Emergency Food Reserve of 500,000 tons of grain to be managed by the World Food Program. Significantly, what has not been discussed is the reduction of trade barriers which prevent national accommodation to international supply conditions. Whether stocks could ever successfully defend a price range in the presence of the widespread use of insulating trade policies is the subject of the second part of this paper.

PART II

1. The Effects of National Agricultural Policies on the Stability of International Wheat Prices

It has been frequently observed that agricultural policies are usually drawn up as much for their income and employment effects as for their effects on production (Josling, 1974). The volatility of wheat prices is due in large part to the fact that for many countries trade is

a residual, carried out with little regard to world price levels. The elasticities of excess demand and excess supply are determined by domestic conditions which are insulated by trade barriers from world market conditions. Thus, national agricultural policies affect both the level and stability of international prices for wheat. Price, stock-holding, tariff, and trade policies and the method of trading (whether by state trading agencies or through national or multinational grain companies) all affect the quantity and character of trade and hence the prices at which trade will occur.

In domestic markets the major instruments affecting production are price supports and supply control. There have been government regulations affecting price levels for wheat in all major exporting and importing countries either intermittently or permanently since 1960. Price supports are a useful tool when rural income support and increased production are both objectives, but such goals rarely coincide. Instead, in the developed countries supply control has been a necessary adjunct to price support. In the less developed and centrally planned economies, the objective of raising rural incomes has usually been overridden by the need to increase consumption levels by holding down procurement prices. Effectively, price policy has encouraged production in the developed countries and discouraged production in others. Domestic consumption of wheat has also been influenced by subsidization or by policies which affected the supply and price of alternative commodities.

2. Objectives of the Participants in the Wheat Market

Until 1972, domestic wheat prices in the U.S. were held above export prices. The government issued a subsidy which determined the export price. The objective was to maximize producer revenue and minimize the cost of support, which included export subsidies, stock-holding subsidies, and the costs of enforcing supply control. Since 1972 there has been no direct government export subsidy; the aim has been to maximize total export revenue, subject to preventing an extreme price rise. The state subsidizes stockholding to further these aims in the long term (McCalla).

In Canada and Australia the Wheat Boards act as monopolists, equating marginal revenue with marginal costs (McCalla). They attempt to maximize producer returns. The Australian Wheat Board has less storage capacity so that wheat is priced to clear after its capacity has been reached.

Export policy in the European Community is to subsidize exports of excess supplies of soft wheat over regional needs at supported prices. The size of the export subsidy is a function of the support price, which the producing areas of the Community aim to keep high and the deficit areas hope to keep low. The actual compromise price is much more a political than an economic product. Export objectives focus on the disposal of excess soft wheat at minimum possible subsidy costs.

There is no government intervention in the wheat market in Argentina at present. The aim is to maximize foreign exchange through pricing to clear the market, within the constraints imposed by port and storage facilities.

As a major importer, Japan aims to meet the consumption goals decided by the Japanese Food Agency. Acting as a monopsonist, the Agency aims to minimize the cost of meeting excess demand and to maximize profits from sales on the domestic market. A major concern is to ensure reliability of supply. The EC has somewhat similar objectives for hard wheats in aiming to maximize its variable levy receipts while meeting excess demand at the support price.

The U.S.S.R., China, India and Egypt (as examples of non-DC importers) aim to minimize the cost of imports required to meet shortfalls in production in order to reduce the cost of consumption subsidies on the domestic market. Of these countries, the U.S.S.R. has by far the largest impact on the market since, although relative annual variability in production is not excessively high, this produces large absolute annual variation in imports, since production forms about a quarter of total world production. All the importers also aim to limit their dependency on imports of wheat for reasons of security or because of the need to save foreign exchange. The centrally planned and less developed economies are aiming to achieve self-sufficiency in grains. Japan and the EC are trying to slow the rise in imports. Of these regions, only the EC and India (at present) appear to be succeeding; imports by other countries are rising, on average.

The motives of the multinational grain companies in the wheat market also need to be assessed. McCalla suggests that the companies aim to maximize short-term profits, and are not therefore interested in intraseasonal storage. The five major companies probably modify these aims in order to maintain market shares and limit the entry of new participants.

Most governments have an interest in obtaining some measure of stability of grain prices in their domestic market in order to stabilize consumer prices and to aid planning in industries in which grains are an input. In free market economies completely stabilized prices are not pursued since some price movement provides allocative signals to both farmers and consumers (Robinson). Countries therefore vary in their attitudes to fluctuations in prices. They vary also in the methods employed to deal with domestic or externally created price fluctuation.

Many countries seek to avoid the inflationary impact of increasing food prices. In the exporting nations this is mitigated to some extent by the government savings on farm support programs, and on foreign exchange earnings. Importers, in contrast, always have an interest in reducing the costs of imports; they will be keen to support programs which set a ceiling on international prices. Similarly, exporters have an interest in measures which put a floor on traded prices, or which legitimize collusive efforts to support a minimum price, provided that they perceive market shares to be "fair". In Part I it was demonstrated that International Wheat Agreements since 1933 have succeeded only

because participants perceived that the profits they gave up at one end of the range would be compensated for by reduced losses at the other end. The suspicion remains, however, that wheat prices from 1933 to 1972 would have been much the same on average, in the absence of any formal agreements. Any participant who felt constrained by the price range merely dropped out of an agreement rather than give up immediate gain for long-run stability. Both importers and exporters demonstrated that their major objective was a preference for short- or medium-term gain over long-run security which needed to rely on the continued good faith of other participants. Lastly, while international trading companies have no cause to support moves to stabilize price, they certainly would welcome trade liberalization which would increase the volume of international grain trade. The corporations argue, therefore, in favor of price stabilization through freer trade, but against the creation of buffer stocks.

3. National Policies to Reduce Price Instability

A country can deal with price instability through a stock policy, variation in traded volume, or tariff policies; the choice of method will depend on whether the instability is domestically or externally created and on the position in the market. But, as Josling (1977) points out:

The idea that instability can be hidden is an illusion: a stock scheme translates price instability into variations in the level of stocks.

Similarly, changes in the volume of trade will lead to changes in foreign exchange earnings and the balance of payments, and through trade policy external price changes are converted into changes in tariff revenue or subsidies. A government must balance the security, popularity and expense of the various methods.

In practice, few countries have allowed all fluctuations in world price to be reflected in the domestic market. In the U.S., the non-recourse loan system allows the price to be flexible upwards but limits it on the down side. Until 1972, prices were thus supported above the international trade price so that variable export subsidies were required. The desire to raise farm income overrode the wish to allow international prices to dictate the allocation of resources. Stabilization policies in Canada and Australia also shelter the domestic market from international price changes to some extent, but with much less force than U.S. policy in the 1960s. In Argentina there has been little government interference, except for the period from 1974 to 1976.

The European Community and all the major importers (except India) largely insulate their domestic markets from fluctuations in world prices. In India a large part of the market is sheltered; roughly 10 MMT is distributed annually through "fair price shops" at fixed prices (Gupta). The result is that import demand is a residual, dependent on domestic supply and consumption at the controlled price, and largely unrelated to world supply and demand. Import volume is highly

or completely inelastic with respect to world price. The result is to exacerbate instability abroad. An insulating policy involves

decreasing the protection received by domestic producers when the world price increases, and increasing protection when the world price decreases. (Grennes, Johnson and Thursby, 1978, p. 132)

Using this means (i.e. by maintaining constant domestic prices) individual trading nations by attempting to deal with fluctuations in world prices, themselves contribute to these fluctuations. The volume of trade, instead of varying inversely with price and modifying price movements, is more dependent upon

domestic price objectives which relate to internal domestic political pressures, views of farm costs, and concerns about inflation. (Josling, 1977, p.607)

The strains of such autonomous behavior became obvious in the late 1960s with the accumulation of large stocks. As the willingness to hold such stocks diminished, their function - of allowing basically incompatible trade policies to continue - proved too much of a strain.

The conflicts engendered by the world system of unrelated markets in grains is most acutely seen in the anger of exporting nations at the insulating policies of the EC. In fact, all the major developed importers and exporters, without exception, used consumer and/or producer subsidies and export levies to insulate their markets from the world market during the grain crisis from 1972 to 1975 (Josling, 1979). At the period of peak prices in the 1973/74 crop season, the EC eliminated the variable levy and export subsidies and restricted exports to certain countries. Japan's Food Agency subsidized grain imports by selling them at a loss on the domestic market. Canada and Australia effectively taxed exports through discriminatory pricing policies to keep domestic prices down but raise export prices (Grennes, et al.). Argentina imposed a grain embargo. Even in the U.S. there were effective reductions in producers' subsidies and increases in consumers' subsidies which affected quantities available for trade (Josling, 1979). Josling (1980) estimates that the net effect of such policies was to reduce the availability of wheat by 20 MMT during the period from 1972 to 1975. The impact on prices had to be absorbed mainly by reduced consumption in the U.S. and the third world. The threat of a U.S. embargo of wheat exports in 1974 did much to increase the insecurity in the market that lead to such measures; in general this insecurity fed into policies which further increased insecurity.

The lesson that has been learned by many importing countries is that since the insulating policies remain, they must increase self-sufficiency and reduce their dependence on imports. For many less developed countries a further consequence is that they are deprived of pursuing policies which take advantage of existing or potential comparative advantage. Funds must be channeled into food production at whatever cost to other sectors of agriculture or industry, with the effect

of reducing foreign exchange earnings. It is the low income importers who have the most to lose.

4. Price Stability and Food Security

Until 1969, the objectives of price stabilization in the wheat market were twofold: to aid producers in the exporting countries by preventing prices from falling too low (and thus reducing the necessity of government support to agriculture); and to aid consumers in the importing (mainly developed) countries by preventing prices from rising too high. By the early 1970s new factors had become more cogent: the LDC's were rapidly expanding their imports of basic foods, particularly wheat, and were becoming increasingly dependent on imports for feeding their populations. It was believed, for the first time, that price stabilization should be part of a package of measures aimed at increasing the supply of basic foods to low income countries at prices they would afford. Additionally, all countries were newly concerned with the inflationary pressures of high food prices.

These new reasons for pursuing price stabilization in the wheat market increased the urgency of negotiating a new Wheat Trade Convention but reduced the likelihood of reaching agreement, as indicated by the history of the negotiations. Discussion has been further complicated by the general assumption that price stabilization can, and must, be obtained with the use of reserve stocks. This has raised the issues of the "fair" sharing of costs, the size of reserves, and the possibility of using the scheme as a mechanism for income transfer by having a low price range.

These different objectives not only complicate the negotiations but also confuse the issues of whether reserve stocks would be able to produce price stabilization, and whether price stabilization would be able to produce "food security". Technically, price stabilization is not a necessary condition for achieving food security, which could be obtained by greatly increasing emergency and long-term food aid through monetary transfers or an insurance scheme (Reutlinger). It is necessary, therefore, to view price stabilization and food security as essentially different aims which may, or may not, be consistent. As explained above there are many different reasons why countries are interested in price stabilization, and these have tended to hinder negotiations towards a new Wheat Trade Convention. The negotiations are further hindered by those who believe that world food security would be achieved better through an alternative instrument.

To achieve food security only through the use of food aid would be extremely costly for the DC's when prices were high and would require the low income countries to depend on the benevolence of richer countries. Emergency and long-term food aid, on the other hand, would complement a wheat price stabilization scheme and will probably always be necessary. In the short term, emergency aid will be required after disasters or acute production shortfalls, when normal market channels are disrupted. In the long term, food aid will be required as long as the average incomes of the poorest provide them with insufficient buying

power to obtain an adequate diet. A stabilized wheat price should reduce the number of people to whom this applies if wheat prices are prevented from rising as high as they otherwise would.

An international financial fund, such as that suggested by Reutlinger or Konandreas et al., has not yet seriously been considered.^{1/} Although cheaper to manage than reserve stocks, the fund cannot guarantee that there will be grain available except at high prices in time of need. Although Reutlinger and Konandreas et al., only discuss the insurance aspect which would be called upon in cases of production shortfall, some long-term monetary transfer would also be necessary to raise the incomes of the poorest to that needed to buy an adequate diet if long-term food security were to be achieved. Such a long-term income transfer is likely to be strongly resisted.^{2/}

Thus neither food aid nor monetary transfers alone appear to offer a viable alternative to price stabilization in achieving food security, although both would be complementary to the aims of price stabilization. Monetary transfers may well be complementary in terms of aims but not in terms of operation. For example, an insurance scheme may well tend to destabilize world prices, particularly if those insured account for a large proportion of the world market and their drawings on the insurance fund are positively correlated. Food aid from reserves should counter such destabilization. Internationally, food aid also appears to be more acceptable than monetary transfers. The methods by which price stability may be achieved are discussed in the next section but it should be borne in mind that food aid will probably always be necessary if complete food security is to be achieved.

5. Methods for Stabilizing the Price of Wheat

The methods that have been suggested for stabilizing wheat prices include reserve programs of various sorts, bilateral trade agreements, agreements on supply control and rationing, and trade liberalization. Of these, bilateral agreements provide no international assurance of price stability but are by far the easiest to negotiate. Supply control was included in the first International Wheat Agreement but proved impossible to enforce. Such control is not in the interests of individual exporters since it may reduce their long-run income and does not

^{1/} The FAO has approached the IMF about extending the provisions of its compensatory financing facility to provide loans to low-income countries with balance of payments problems to enable them to import to cover production shortfalls.

^{2/} For the long term neither price stability nor food or income transfers will prevent a deterioration in the world food situation. Efforts to improve food production in the areas of greatest deficit and to raise the incomes of the poorest provide the greatest hope for security in the future. For the shorter term, greater food security for the poorest should further such long-term efforts.

serve to maintain their export markets. Both reserves or trade liberalization would be preferable on both counts, and both would be easier to enforce. Supply control would nevertheless be a necessary constituent of a reserve scheme if the floor price were to be defended over a long period of time. It is possible to argue that it would be easier to coordinate national policies in defense of a floor price when stocks were large than to merely coordinate supply control per se; the threats of stock release would enforce stronger participation in production controls.

Buffer stocks and trade liberalization of food grains are both complements and substitutes (Johnson). They are substitutes in that either scheme would work to the same end; they are complements in that trade liberalization would reduce the necessary size of a reserve stock. It can also be argued that the creation of stocks would reduce the need for insulating policies by the major importers so that trade liberalization would follow. Such causation is debatable. During the 1950's and 1960's, the accumulation of stocks in North America did not prevent the creation (in the EC) or the continuation (in Japan) of insulating policies. Governments in those regions were prepared to sacrifice the interests of consumers in order to support farm incomes. The rural conditions that gave rise to such policies still exist and it can be expected that great domestic as well as foreign pressure would be necessary to change the inertia built into existing farm programs. However, it would be possible to use deficiency payments more widely in place of price supports and so reduce the need for insulation. Moreover, other conditions that existed in the 1960's would now be different. In the first place, stocks would be internationally coordinated which should greatly enhance the perception of their reliability. Secondly, insulating policies were also aimed, prior to 1972, at protecting domestic producers from the low world prices created by U.S. export subsidies. Unless the world price falls beneath the U.S. loan rate for an extended period, such a policy is not likely to be advocated again in the U.S.

Numerous arguments can be cited in favor of price stabilization through the use of international reserve stocks - their superiority to supply control; the possibility that insulating trade policies would be reduced; the maintenance of export markets; as a source for food aid; as a buffer in case of extraordinary demands such as from the U.S.S.R. - however, there are cogent practical and theoretical reasons to believe that an international reserve would not be able, or allowed, to achieve price stability in the wheat market. Stocks are expensive and in order to stabilize prices in most years large quantities will be required. Various estimates have been made of necessary quantities and costs but no method has yet been found of distributing the costs.^{1/} The major

^{1/} In a recent review of the estimates made, Houck and Ryan conclude that 10-15 MMT of wheat and rice over and above working stocks would be needed to guarantee food grain security against most disasters. From 15-80 MMT of wheat and course grains would be needed to achieve market stabilization, depending on the desired reduction in price stability.

beneficiaries, the low income importing countries, are least able to contribute. Another practical problem is the choice of a price band that allows for market expansion, that gives the correct signals to producers and consumers, that can be successfully defended, and that can be agreed upon. These difficulties are compounded by the fact that the stocks have to be cooperatively managed by members of an international body (such as the United Nations) whose members each have the objectives of their national governments in mind. It is unlikely that a supra-national agency of the kind proposed by Sinha will be created, since this would reduce government control of stocks.

Apart from practical problems in the creation of a reserve and its management and funding, there is the theoretical question of whether food reserves could function effectively in a world of distorted markets. The insulating policies of the major importers serve to reduce world supplies when prices are high and increase supplies when prices are low. Such policies would therefore place undue strains on the upper and lower prices of the negotiated range of the reserve. Yet if a stock program is to be able to lead to a relocation of insulating policies, it will have to prove itself in conditions which act against its success. Furthermore, stabilization and emergency reserve objectives are likely to conflict; if stocks are reduced enough to meet an emergency this may be destabilizing to price (Weckstein).

These problems would be reduced if trade liberalization could be achieved. According to neoclassical trade theory, liberalization would, in the aggregate, be costless, and produce gains in efficiency. High cost grain production, such as in Japan and the European Community, would be eliminated while the major producers could operate more often at their "optimal" capacity, i.e., at the minimum point on their long-run average cost curves. Price stabilization and insurance objectives would not be in competition; a price rise would draw more grain onto the market from commercially held stocks (Weckstein). The market would also absorb both surpluses and deficits so that farmers gained from favorable crops. A loan facility would still be possible for low income producers in case of a production shortfall. The risks facing both producers and consumers through changes in demand and supply would be more widely and evenly spread through a well-operating price mechanism than through a stockholding program. The problem with this proposal is that aggregate gains are of little relevance to governments contemplating the domestic political problems in adjusting to new conditions. Trade liberalization would particularly benefit the exporting countries. In importing countries there would be major income and employment effects in the agricultural sector. The magnitude of displacement would probably be too great for any government to take significant trade liberalization seriously. In poorer countries, liberalization would seriously circumscribe the options open to any government in the continuing process of agricultural development (Josling, 1977). A further impediment to trade liberalization in food grains is that however much food justifies special treatment in trade negotiations, importing countries will undoubtedly wish to tie tariff and non-tariff concessions to bilateral agreements with the exporters, requiring them to yield concessions in other areas. Such negotiations have proved long and generally unproductive in the past.

Substantial trade liberalization in food grains is simply not going to occur in the foreseeable future. There is too much inertia built into the agricultural policies of both exporters and importers. The risks of moving to a new and untried system are too high. Price supports are too well entrenched to be quickly abandoned. In spite of the difficulties involved in setting up reserve or buffer stocks they do at least provide a viable alternative. The problem is in creating the conditions that will allow them to operate successfully. If this could be done, it may be possible to break the paradox that a major reconstruction of the market will not occur unless stocks have stabilized the market, but stocks cannot be expected to operate successfully unless there is some restructuring. One solution might be to simply leave the stockholding function to the United States, i.e., return to the situation of the 1960's. This might be feasible since explicit rules for the management of U.S. stocks are known, including the price levels at which they come onto the market. However, being national stocks subject to no international agreement, other countries have no guarantee that the U.S. would not take steps to reduce exports if prices increased sharply or for political or strategic purposes, as in the 1980 embargo on grain sales to the Soviet Union. Reliance on the U.S. for reserve stocks does not therefore seem to be an attractive option, particularly for LDC's, many of whom are especially sensitive to the potential use of food as a political weapon.

This leads to an alternative suggestion. Both D. Gale Johnson and Josling have long argued for a reduction in insulating measures by the developed countries and a common approach to stock holding. The problems with the present system arise as prices move towards the limits of an "acceptable" range. When prices move up due to tight supplies, countries that are able to, tend to invoke measures, deliberately or automatically, that reduce the availability of wheat on the world market. When prices are too low measures are taken to increase exports. The answer therefore appears to be to force countries to adapt their domestic market conditions more closely to world conditions at the borders of the acceptable rice range. What is required is a code of conduct that will prevent countries from taking unilateral actions that exacerbate critical world conditions. Agreements would be necessary to cover the two contingencies of high and low prices. First an agreement by the major exporters would be necessary to ensure that they would not invoke insulating policies during periods of high prices. This would include a commitment not to embargo or tax exports. The EC, for instance, would need to be required never to invoke an export tax if the world price moved above its target price. This would encourage exports and stock reductions. Consumption, in both importing and exporting countries would need to be reduced by allowing domestic prices to increase. In order to reduce insulation, a maximum level for the subsidy for wheat in domestic consumption would need to be fixed in Canada, Australia, Japan and the EC. As world prices rose, domestic prices would also then be forced upwards after the limit to the subsidy had been reached, reducing consumption and tending to encourage the release of stocks.

During the period of high prices from 1972 to 1974 the LDC's, as a group, increased rather than decreased their imports in panic buying due

to fear of further escalation in the price (Sarris and Taylor). It seems unlikely that this would occur again provided that the developed countries which have the ability to wilfully disrupt the market will agree not to insulate their markets during critical world conditions. Certainly with their much greater needs the LDC's should not be asked to import smaller volumes than they require. It is assumed that imports by the PRC and the U.S.S.R. would be sensitive to price, or could be regulated through bilateral agreements.

Legislation to modify the behavior of market participants at low prices should be easier to negotiate. Collusion by the major exporters to limit supplies at low prices could probably be obtained provided that an agreement on market shares were possible. For exports from the EC it would be necessary to enforce a limit on the size of export restitutions, so that the EC export price would not undercut the lower margin of the agreed price range. This would tend to force the EC to accumulate stocks and would also provide pressure to reduce the intervention price over time (which might also favor a move toward direct income support for farmers). Similarly, an upper limit to the size of the variable levy would further encourage a fall in domestic prices.^{1/}

In Japan a lowering of the domestic resale price would exacerbate the overproduction of rice at the support price as wheat was substituted for rice (unless supply control is used), a tendency that the government is trying to control. However, the Japanese government is greatly concerned about the security of supply of wheat when supplies are limited. It may be prepared to increase wheat imports when prices are low in return for the assurance of increased world supplies when prices reach the upper limit of the negotiated range. It is unlikely that the government will agree to alter producer prices for wheat, but since domestic production is low, this need be of little concern.

Such limited agreements on the coordination of price policy can hardly be termed trade liberalization, but would control trade disruptive insulating policies at high and low prices. They would complement a reserve program and reduce the costs of realizing any given level of price stabilization. The presence of the reserves would themselves reduce the likelihood that the terms of the agreements would need to be invoked. Without an international code of conduct, a larger buffer stock would be required to ensure a given degree of price stability. The expense of the stock would rise and the problem of distributing costs increase. It is possible, therefore, that the participants may be willing to agree to measures which do not greatly interfere with domestic policies, but which provide a greater degree of stability. The continuation, within limits, of existing agricultural policy makes the scheme politically feasible, while the necessity for a smaller reserve makes it technically more feasible.

^{1/}The maximum variable levy would be the difference between the lower limit of world prices and the threshold price. The maximum export restitution would be the difference between the same lower limit and the intervention price.

The "food crisis" of the early 1970s was caused in large part by a crisis atmosphere which led governments to take steps which aggravated the price situation on world markets. The very presence of reserves may do much to reduce such a tendency in the future. Agreement on a set of measures to be taken at high and low prices should further ensure that the reserves are themselves adequate to maintain price stability, for it is mainly trade disrupting measures that reduce the efficacy of reserves. Reducing uncertainty in the wheat market should also make food and agricultural planning easier and may indeed, in the long run, allow such regions as the European Community and Japan to alter their agricultural strategies towards more profitable enterprises.

6. Summary and Conclusions

This paper set out to investigate why the major recommendations of the World Food Conference - the creation of reserve stocks of wheat in order to stabilize the market, and increased commitments to food aid - have still not been implemented. It was observed that many countries insulate the domestic market for grains from the world market for reasons of national security, and in order to protect incomes and employment in the agricultural sector. The effect is that the world market is treated as a residual by many of the major traders. Adjustments to the fluctuations in world supplies must be absorbed in a narrower market, which tends to destabilize prices. Until 1972 the U.S., Canada and, latterly, Australia, collectively, had the ability to maintain producer prices above market clearing levels. This resulted in a structural tendency towards surpluses, most of which were held as reserve stocks in North America. The stocks tended to stabilize prices around a declining trend. In the early 1970's, new policies in the U.S. served to reduce stock levels of wheat by 1972 to their lowest point in five years. After the initial price rise, which followed the large Soviet purchases, all the developed countries (with the exception of the U.S.) took action to reduce the impact on their domestic markets by insulating their domestic markets from the world market. These actions caused the continuation of the price rise until early 1974. Many less developed countries were obliged to borrow heavily in order to buy their essential food imports. Food aid reached its lowest level for at least a decade.

Following the World Food Conference, there have been attempts to negotiate a new International Wheat Agreement incorporating, for the first time, a scheme to use an internationally coordinated system of national reserve stocks in order to stabilize supplies and prices of wheat. However, an examination of previous IWA's showed that their apparent success in maintaining prices within the negotiated range until 1969 was closely tied to the actions of the major exporters. Prices were kept within the range because it suited the Canadian and U.S. governments which had the ability to hold them there. The new negotiations on an international agreement are different in several respects from previous ones. The major innovation is an attempt to enhance world food security. The imports of the LDCs have increased greatly since previous negotiations, and many of these countries are heavily reliant on wheat imports for feeding their burgeoning populations. The desire

to prevent another sharp price rise is therefore reinforced by the need to keep the price of a basic diet within the reach of the poor.

A second major difference from previous IWA's is the plan to use internationally coordinated reserve stocks to defend a negotiated price range. There has been no attempt to incorporate trade liberalization into the Agreement, although this would also have a stabilizing effect on world price. It was argued that these two measures are highly interdependent; the greater the degree of trade liberalization in the grains market, the smaller would be the reserve necessary to obtain any given degree of price stability. Furthermore, without some degree of trade liberalization, which would prevent governments taking trade insulating measures at high and low extremes of the negotiated range, larger stocks will be required to ensure price stability. Such stocks would be expensive and would require agreement on the distribution of costs, mainly amongst the developing countries. In order, therefore, for a viable reserve policy to be negotiated, it is essential that a code of conduct be devised which reduces insulation at the extremes of the range.

In the recent Tokyo Round discussions of GATT the need for codes of conduct in world trade was emphasized. For the wheat market, which is unique in its importance for world food security, such a code is vital. It will need to be devised such that it does not interfere unduly with the domestic agricultural policies of the major traders if it is to be politically acceptable. Further research will be required to clarify acceptable terms and to understand how these could be accommodated by countries with agricultural policies as diverse as those referred to in this paper. The basis of the code will need to be an understanding that regardless of their desirability, no country can be expected to rapidly change its established agricultural policies.

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