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Implications of Food Aid for Price Policy in Recipient Countries

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Although it is widely believed that food aid distorts incentives to increase agricultural production, detailed empirical country studies conducted in recent years suggest that the disincentive effect of food aid has been overemphasized. An analysis of sixteen developing countries that achieved particularly high growth rates in food production of 3.9 percent during 1961–76 shows that they also received about 80 percent more food aid per capita than the average food aid recipient country.[1] Six of these countries were receiving an especially high amount of food aid over an extended period.[2] While there is no clear-cut negative or positive relationship between food aid and growth in food production, they are not mutually exclusive. Government policy plays a crucial role in this regard.[3]

Overemphasis on the disincentive effect of food aid can be attributed to simplistic theoretical reasoning, for example, neglect of the dual structure of markets in most recipient countries. Von Plocki's in-depth analysis of the Indian case (1979) shows the shortcomings of much of the earlier work. He concluded that an additional 100 tons of food aid to India reduced domestic production by only 15 tons. Food aid in the Brazilian case had a positive effect on government-administered wheat support prices and production, according to Hall (1978). This effect was mostly due to the use of government revenues from wheat imports to support prices to wheat producers. A similar conclusion was reached by Stevens (1978) for Tunisia. For *Egypt,* von Braun (1982) estimated that food aid (wheat) reduced domestic wheat production by an amount equivalent to 4 to 9 percent of total food aid. In this case, the change in wheat production was not equal to

1. The countries included in the analysis mentioned here are Brazil, Colombia, El Salvador, Ghana, Iran, Ivory Coast, Malaysia, Mexico, Morocco, Pakistan, Paraguay, the Philippines, Sri Lanka, Sudan, Thailand, and Tunisia. Bachman and Paulino (1979) studied their agricultural growth and development.
2. These countries were Brazil, Morocco, Pakistan, Paraguay, Sri Lanka, and Tunisia.
3. This chapter deals with cereal aid only. For the specifics of dairy aid see Clay 1987.

reduced farm output because the decrease in production was mainly from changes in acreage allocation toward other competing crops. In Bangladesh, preliminary results of a normative model by Norton and Hazell (1984) yielded a price elasticity of staple food with respect to food aid of only −0.013. This result indicates that food aid had relatively little effect on domestic prices.

Maxwell and Singer (1979) concluded that in most cases the combination of more rapid economic growth and government price supports seems to have led to the maintenance of both relative prices and production. This is supported by the fact that a number of countries which had absorbed large amounts of food aid during rapid growth in food production received significantly less food aid in the 1980s. These included Taiwan, Korea, India, Paraguay, Colombia, and Brazil. Such cases demonstrate that food aid need not lead to long-term dependence.

Taiwan is a particularly interesting case in terms of the relationship between the "disincentive effect" of food aid for a single crop and overall agricultural growth (Lu 1973). The country received high amounts of food aid (wheat) during the 1950s and 1960s, and agricultural output grew at the exceptional rates of 4.6 and 5.9 percent per annum, respectively, in the two decades. However, wheat production increased rapidly during the 1950s but fell back to its earlier levels during the 1960s, when more profitable winter crops replaced wheat. Food aid's disincentive effect may be only part of the reason why wheat lost its comparative advantage. Furthermore, the cheap import supply of wheat (food aid) contributed to high growth in rice exports. Consequently, the country and the agricultural sector obtained substantial benefits from food aid through the resource transfer and reallocation of domestic agricultural resources. The lesson is that "disincentive effects" must not be assessed through a single crop perspective. Production and trade effects for competing crops must be assessed as well. The effects of food aid on demand for foreign exchange and the exchange rate must also be kept in perspective, given the direct effects of exchange rate changes for the structure of incentives.

SPECIAL CHARACTERISTICS OF FOOD AID

To a certain extent, food aid may be understood as a supply of imports to developing countries at a reduced price. In this perspective, it is simply a practical case of what was comprehensively discussed in chapter 4 on the implications of domestic price setting and in chapter 7 on trade and exchange rates. However, some special characteristics of food aid and their particular implications for food price policy deserve consideration here. First, a number of regulations for the disposal of food aid imply that it has repercussions on the commercial food and nonfood trade of the recipient

countries. Second, a considerable share of food aid is not provided on a grant basis but rather as long-term soft loans with related long-term foreign exchange and fiscal implications. Third, concern about the developmental impact of food aid supplies seems to be increasing. Fourth, food aid, as we show below, is an unstable and insecure source of supply. Food aid tends to have an opportunity cost to the donor countries not only in the sense that it results from misallocated agricultural resources but also in the sense that it partly replaces capital aid, which may be used more effectively in development.

In view of these aspects of food aid, recipient countries are continually facing policy dilemmas as to how to optimize the use of available food aid in both the short and the long run and how to adjust domestic price policies, given their economic, and possibly political, costs. This discussion is largely based on the current food aid disposal policies of donor countries. We do not imply that suppliers should not explore policy improvements. Numerous efforts have been made to persuade donor countries to adjust food aid supplies to enhance the potential growth, employment, and nutritional effects in recipient countries. In particular, these adjustments include policies to assure a continuous flow of food aid, viewed as a resource transfer under multi-year commitments, and to provide food aid to stabilize domestic food availability in less developed countries with short domestic production and depleted foreign exchange reserves. However, various exogenous factors, such as protection of agriculture in the United States and Europe and fluctuating international price levels, continue to determine the availability of food aid to low-income countries.

THE SHORT-TERM RELIEF AND LONG-TERM BURDEN OF FOOD AID/CONCESSIONAL IMPORTS

The "market" in which food aid transactions are negotiated is highly regulated and segregated. Complex bargaining among suppliers as well as between demanders and suppliers finally determines the quantity flowing to a particular country in a particular year. It also should be pointed out that political considerations of costs and benefits continue to play a major role in equating supply and demand of food aid (Hopkins 1980).

There are two types of food aid: project aid provided by donors on a grant basis, a large share of which is funneled through the World Food Programme, and program aid on a grant basis or funded by long-term soft loans for which no specific project use is identified. The economic value and costs of the two types to recipient countries are quite different. Huddleston (1984) attempted to compute the "true cost" of cereal imports, which is comprised of the c.i.f. value of commercial cereal imports plus the c.i.f. value of the non-grant component of concessional imports.

According to calculations for 1976–78, food aid reduced the total cost of cereals imports by about one-third for low-income countries but only 2 to 5 percent in other developing countries.

Total grain imports, though growing, are equivalent to only about 6 percent of total export earnings of low-income countries as a group. But Bangladesh and an increasing number of African countries are important exceptions. These countries usually receive a high proportion of food aid on a grant basis, and the share of food aid in total imports is high. Consequently, the reduction in the "true cost" of grain imports is also high.

To the extent that the cost of grain imports is significantly reduced by food aid, it may be misinterpreted by policymakers in recipient countries as secure and everlasting and also viewed as an effective reduction of the opportunity costs of domestic production. Yet the costs of a unit of food aid do not usually represent the marginal import price, which actually determines the opportunity cost of domestic production.

A particular problem arises from the long-term repayment schedules of food aid provided on a soft-loan basis, which usually starts with a ten-year grace period. It seems fair to assume that a period of ten years is far beyond the food supply planning horizons of most governments in low-income, food-deficit countries. Nor is it likely that import planners use a social discounting rate, however constructed, in formulating the demand for concessional imports. In the case of a continuous inflow of this type of food aid, the repayment burden grows exponentially after the grace period is over (Srivastava et al. 1975). Egypt, for example, is currently shifting into this phase, since it has been receiving food aid under P.L. 480 Title I continuously since the early 1970s.[4] A shrinking value of the domestic currency compared to the dollar may further reduce the ex-post perceived benefit of food aid received a decade before if repayments are due in hard currency. This is increasingly the case. Consequently, debate on rescheduling "food aid debts" may become an issue in a number of recipient countries in the 1990s.

IMPORTANCE AND DRAWBACKS OF FOOD AID

Low-income, food-deficit countries (LFDCs)[5] have received about 7.6 million tons of food aid in recent years. This was about 15 to 17 percent of

4. A common agreement on food aid supplied under U.S. P.L. 480 Title I during the 1970s and 1980s has the following terms: initial payment of 5 percent; 31 installments of equal annual amounts; ten-year grace period; initial interest rate of 2 percent; continuing interest rate of 3 percent.

5. Includes all food-deficit countries with per capita income below the level used by the World Bank to determine eligibility for IDA assistance, which, in accordance with the guidelines and criteria agreed to by the CFA, should be given priority in the allocation of food aid. This definition differs from the one used by Huddleston (1984) in the study mentioned in the text above.

total cereal imports. During 1976–78, food aid exceeded 20 percent of total grain imports in one-half of the LFDCs receiving food aid and in one-third of all recipient countries. Although food aid was not very important in some developing countries, it certainly mattered to a number of the poorest. During 1976–78, food aid covered between 6 and 16 percent of total grain consumption in nine low-income countries. It was even more important for the poor in some of these countries because their special food subsidy schemes depended on food aid.

Research at IFPRI has shown that, in the aggregate, food aid supplies are not very responsive to short-term fluctuations in LDCs' import requirements. However, if allocated appropriately over time and countries, the same quantities could significantly contribute to increased food security (Huddleston 1981).

Except for 1974, the year of the grain price crisis, total annual food aid ranged between about 7 and 12 million tons of grain (most of which was wheat) during 1970–83. However, the drop from 10.1 to 5.7 million tons in 1973–74 suggests that food aid can hardly be relied upon to provide food security in severe crisis situations. As long as the food aid commitments of major donors are made largely in terms of fiscal allocations rather than actual quantities, prices will significantly influence food aid supplies.

The instability of food aid becomes even more evident in a country-by-country analysis. During 1962–78, the average coefficient of variation of food aid was 1.25 in LFDCs in which food aid averaged more than 10 percent of grain imports. Clearly, that means that the quantities of food aid received fluctuated substantially from year to year over the time period.[6] Frequently, countries that have been important recipients for some time suddenly face a "blackout" of food aid. Twenty-seven countries confronted this situation between 1965 and 1978.[7] Frequently, domestic and foreign policy events cause the interruptions of the food aid inflow. The time series on food aid shows no diminishing trend in these "blackouts." Food aid remains an insecure and risky source of supply.

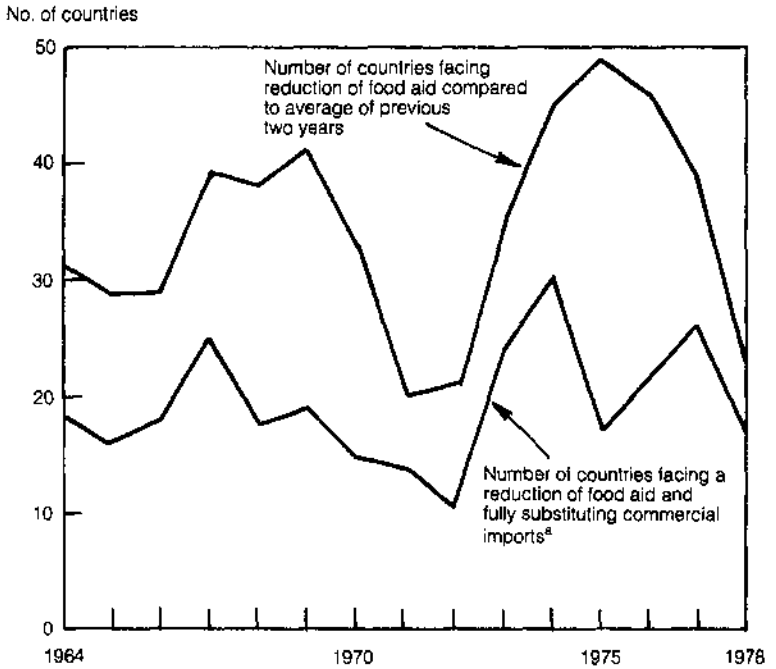
RESPONDING TO UNSTABLE FOOD AID SUPPLIES

During 1964–78 only one-half to two-thirds of all countries facing a cutback in food aid fully replaced the aid with commercial imports in the short run (fig. 15.1). The difference was particularly wide when cuts in

6. The coefficient of variation is the standard deviation divided by the mean value for each country. The 1.25 represents the average over the sample of countries. The individual values for countries ranged from 0.43 (Pakistan) to 2.08 (Mozambique) (computed from IFPRI data bank on food aid by country).

7. Food aid, which had exceeded 15 percent of imports over three years, dropped below 3 percent in the next year in these cases (computed from IFPRI data bank on food aid by country).

Figure 15.1 Fluctuations in food aid and response in commercial imports, 89 countries, 1964–78



Source: IFPRI data bank on food aid.
[a]This group is a subset of those depicted by the upper line in the graph.

food aid coincided with high world prices and related foreign exchange constraints that prevented imports from staying at normal levels. Increase in domestic supplies, which are not accounted for in the data, were insufficient to compensate fully for the incomplete substitution of commercial imports for food aid.

The incomplete substitution between trade and aid is further indicated by the following analysis. We estimated the following simple regression for the 32 biggest food aid recipients: $CIM_t = a + b\,AID_t + \Sigma_t$, where *CIM* is the deviation from trend of commercial imports; *AID* is the deviation from trend of food aid; Σ is an error term; and t is 1962–78 (two-year averages).

For 13 of the 32 countries a negative significant b is estimated, indicating substitution. The average is -0.8 for the significant bs.[8] This means

8. The test for significance was performed for b being different from 0. Most of the other countries showed nonsignificant, though negative, parameters.

that a reduction of food aid by one ton from trend levels increases commercial imports by 0.8 tons in these countries. Obviously, the response is not uniform. Given the simplistic approach, the parameters should not be interpreted with too much emphasis on numerical results. Of course, this is not a monocausal relationship. Commercial grain imports in the medium run are determined by import prices, foreign exchange availability, domestic supplies, stocks, etc., which are not taken into account sufficiently by a trend variable. The estimation results suggest that substitution occurs to a certain extent but that food aid cannot be viewed as either a simple balance of payments support, which would be the case if it substituted completely for commercial imports, or as fully additional. This has direct implications for the price effects of food aid in recipient countries.

Among factors which determine the incomplete substitution between trade and aid, the following seem important. First, it is clear that food aid represents a resource transfer which may allow further expansion of demand for food and other goods and services. To the extent that food aid is channeled into employment- and demand-creating programs, the additional demand requires continuation of at least a fraction of earlier commercial imports to avoid domestic food price inflation. Second, and probably more important, donors regulate provision of food aid so as to avoid reducing commercial imports by food aid. The "usual marketing requirements regulation" (UMR) in the food aid convention is intended to serve this purpose. Although not always enforced, this regulation has at least some relevance for major food aid recipients who also are major commercial importers and reduces the ability of food aid to contribute to balance of payments support. Third, when food aid is used to build up domestic stocks and therefore is received only erratically, its relation to normal imports should be small, and its price effects largely depend upon releases of grain from stocks.

Because of the instability of food aid and the numerous forms of its regulation, trade and price policy must be extremely flexible to avoid its undesirable side effects or even to use it as an incentive. The domestic price effects of food aid depend to a large extent on the degree to which it substitutes for, or is in addition to, trade. An improvement in capacity of recipient country institutions, including physical facilities (ports, storage, transportation, etc.) and less rigid food aid disposal rules such as UMRs, would certainly increase the ability of such countries to use food aid as a source of foreign exchange savings and fiscal support with no disincentive effects on domestic production. However, using food aid just as a general resource transfer conflicts with the concern for its equity effects through raising food consumption levels of the poor (Mellor 1980). As a means of achieving the latter objectives, food aid must be at least partly additive to normal supplies, as is generally the case. The general problem of food aid for price

policy stems from attempts to achieve these conflicting objectives simultaneously with the same instrument. The compromise appropriate for a specific country depends on its ability to channel additional food to the poor and at the same time generate demand-creating employment.

Food aid appears to be inherently unstable and insufficiently tuned to meet shortfalls in domestic food production or to supplement foreign exchange needs. The general instability of food aid matters very much to countries confronted with high levels of instability in food production and severe short-term constraints in foreign exchange reserves and storage capacities. This situation is familiar in many sub-Saharan African countries. To provide effective food security to such countries, it is necessary to eliminate the insecurity associated with the supply of food aid. Donor coordination and improved planning and managerial capacities in recipient countries are required for this purpose. The potential of the IMF cereal import financing scheme can be exploited fully if some of its regulations can be reformed further to provide easier access to low-income countries with emergency need for food supply (IMF 1981).

ENHANCING INCENTIVE EFFECTS OF FOOD AID: AN ISSUE OF THE DOMESTIC MARKET AND PRICE POLICY

Whether food aid has disincentive effects is mainly a question of the market and price policies in a recipient country and its response to changes in food aid supplies. What follows is a broad classification of the circumstances in which disincentive effects may arise and how they may be transformed into incentives. To avoid a distorted perspective other objectives of food aid such as consumption, nutrition, and foreign exchange also are discussed. Three typical cases serve as points of departure (table 15.1).

The first deals with a situation in which food aid substitutes for commercial imports and is not additional to normal supplies (column 1, table 15.1). This would have no effect or minimal effect on domestic prices. In a completely open economy, savings in foreign exchange would tend to increase the value of domestic currency compared to foreign currency, for example, the U.S. dollar, and thus would somewhat decrease domestic prices. Food consumption would hardly change, at least in the short run. Over a longer period, saving foreign exchange may lead to growth if it increases the supply of investment goods. The capacity of the government to increase public investment would result from fiscal resources which are generated when food aid is released domestically at prices above its actual procurement cost to the government. Through such growth effects, the total per capita demand for food would increase over time and would be met by increased supply in an open economy, even though food aid was not additional to food supply initially. The extent to which this process would

Table 15.1 Implications of food aid for selected variables under different price and market policies

Variables	Food aid *not* additional to normal imports (open economy)	Food aid additional to normal imports: Sales on open markets at prevailing prices	Food aid additional to normal imports: Rationed sales below prevailing prices; support of farm prices
Disincentive effect	0	+	0 or −
Food consumption	0	+	+
Foreign exchange saving	+	0 or −	0 or −
Fiscal resources	+	+	+ or 0

Note: 0, no or small effect; +, increasing effect; −, decreasing effect.

actually occur would depend on the use of the fiscal resources and foreign exchange provided indirectly by food aid.

In the second case (columns 2 and 3 of the table), food aid does not replace commercial imports but is additional. The underlying forces which lead to this widespread situation were discussed above (for example, UMR, the concern of both donors and recipients for increased consumption). Foreign exchange is not saved in this case. To the extent that food aid is provided on the basis of long-term soft loans or that the recipient covers costs of shipment, an additional drain on foreign exchange may occur. Food consumption does increase, depending on the extent to which food aid is additional to normal imports, on the one hand, and, on the other, its disincentive effect for domestic production—that is, the induced price depression and consequent supply response. The disincentive effect depends mainly on how food aid supplies are marketed and how the fiscal resources generated from food aid are used.

If food aid is simply injected into the domestic market at prevailing prices (column 2, table 15.1), the negative impact on domestic production may be significant. This case was intensively argued in the earlier debates on the disincentive effects of food aid, but with little empirical evidence. Economic costs result from the induced misallocations of resources within agriculture and among the sectors of the economy (Schultz 1960).

Thus disincentive effects should be broadly interpreted. They are not established just by reduced intensity of agricultural production or diversion of acreage to crops which produce higher private profits yet have lower economic profitability in the long run. Disincentives may also include longer-term costs of induced factor mobility, for example, out of agriculture, and related costs of rapid urbanization, misallocation of long-term

investment, and constraints on institutional innovations. However, such extreme disincentive effects of food aid seem rare. They are not strongly supported by empirical evidence to date.[9]

In most recipient countries, dual structures for grain markets are prevalent. Such structures exist largely independent of food aid. On the consumer side, low-price, quantity-controlled sales occur, and on the producer side procurement policies at fixed prices are quite common. The open market is cleared by the prices determined through total supply and demand, to some extent affected by the factors determining the size of the remaining marketed surplus of domestic producers (column 3, table 15.1). Although such market structures do not assure that disincentive effects are excluded, they provide the potential to reduce them considerably or even transform them into incentive effects. Total demand may be increased by channeling low-price food (aid) to poorer consumers who have a high marginal propensity to consume basic food. On the producer side, existing procurement systems can be used to introduce price support schemes at least partly financed out of fiscal revenues generated from food aid sales.

POTENTIAL ROLES OF FOOD AID FOR DEVELOPMENT

Food aid can play a crucial role in supporting increased employment in the early stages of growth. Mobilization of labor out of low productivity requires an increased supply of food. When labor receives a higher income and spends it largely on food, increased supplies are needed to prevent inflation of food prices and rising wages that would then reduce the demand for labor (Mellor 1983). Food aid can supply a basic wage good needed to back a rapid growth in employment when agricultural growth initially lags and foreign exchange is too scarce to maintain a labor-intensive growth strategy.

Food aid may also play a favorable role in maintaining basic food consumption in the wake of policy reforms for restructuring the economy, which may require drastic measures be taken to cope with debt servicing and foreign exchange problems. A careful connection of food aid to strategies for structural adjustment may make them more acceptable at an earlier stage, thus contributing to their efficiency.

Food aid may relieve the tax burden on agriculture by providing an additional source of government revenues. This may occur in countries which tax agriculture heavily through forced procurement at low prices and export taxes and trade restrictions. Such situations are fairly common in de-

9. Maxwell and Singer (1979), in their survey of nine non-India studies of food aid, cite two countries in which a significant disincentive effect can be identified (Colombia and Pakistan). However, these countries achieved particularly rapid growth in food production during the 1960s and 1970s (Pakistan, 4.7 percent; Colombia, 4.2 percent).

veloping countries. Although farm prices may not rise at the margin if food aid is additional, average farm prices could rise due to increased prices for government procurement quotas, which, in the absence of food aid, are frequently kept low by the fiscal situation. This could improve the overall terms of trade between agriculture and the rest of the economy. Such a relationship between the implicit tax burden on agriculture and availability of government revenues is evident in Egypt, a major food aid recipient (von Braun and de Haen 1983).

Funds generated through domestic sales of food aid in the recipient country may also be used for public investment to decrease costs of food production. Through contractual arrangements with recipients, donor countries try to impose such a use of fiscal resources in order to tie food aid to enhanced food production. The results of these attempts, however, appear to be, at best, mixed.

CONCLUSIONS

Optimal use of food aid to improve agricultural growth and overall incentive structures can only be achieved if effective instruments for channeling additional food to demand-creating employment and for producer price supports are in place. Both require a reasonable institutionalization of dual market channels. These are not free of charge. Once established, bureaucracies managing procurement and distribution cannot easily be dismantled. Setting up such systems for this purpose alone may not be desirable because of the high degree of instability and insecurity of food aid. But in many developing countries such systems are already established, so their costs to the economy are not part of food aid costs. In these circumstances, food aid can provide the means for a more efficient use of dual market systems that will provide price incentives for producers through price support schemes and food for consumers oriented toward employment and equity.

Increasingly donors are attempting to include food aid as an important component of a package program of cooperation (USAID 1982). Given the nature of food aid and current rules for its disposal, some interaction between the parties is certainly required. In order to improve the incentive effects of food aid, recipient countries should focus on efficient systems of dual markets, while donors should emphasize more stable flows of food aid under long-term commitments which do not preclude an effective variable emergency component.