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Food Prices and the Poor in Developing Countries

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1. Introduction

Food prices play an important role in the well-being of the poor. Poor consumers spend a large budget share on food. Thus, the level of food prices is an important determinant of their purchasing power. Even relatively small price changes for food staples may seriously influence the ability of poor consumers to meet their basic needs, including nutritional requirements. Food prices also influence wage levels and employment within and outside the food sector, and, thus, have an impact on wage incomes of rural and urban poor. Poor food producers are, of course, also affected because the gross incomes from the sale of their marketed surplus is a function of farm-gate prices.

The impact of changes in food prices differs among groups of low-income people and the immediate impact may differ significantly from the impact in the longer run, i.e. after the economy has adjusted to the new price levels. Food prices are manipulated by governments of virtually all countries irrespective of their development strategy and political beliefs. A variety of economic, social, and political goals are used to justify such government intervention. In some countries, low food prices are used to support low urban wages, thus extracting real resources out of agriculture in support of growth in non-food public and private sectors. Cheap food policies are sometimes justified on grounds of social justice to poor urban consumers, or they are enforced simply to avoid social unrest in urban areas. Using a variety of policy instruments, some governments enforce low producer prices in order to acquire public revenues while others subsidize food prices to maintain low consumer prices without a corresponding negative effect on farm prices and food supplies. Yet other countries maintain support prices to elevate and/or stabilize producer and consumer prices, thereby protecting producers while seeking stable food supplies to consumers. Thus, it appears that policy-makers, irrespective of political philosophy and goals, agree that food prices are too important to be left to the market.

In view of the extensive government intervention in food prices, the multitude of goals that governments try to achieve through food-price manipulations, and the large number of policy instruments available, it is extremely important to understand how the various options available to governments – including the option of no intervention – are likely to influence income distribution, resource utilization and growth in the short and long run. As such understanding improves, the choice of policy instruments could become more appropriate and the goals – whether economic, social, or political – could be achieved more efficiently.

Much of the past research and debate on food-price policy in developing countries has focused on long-term production incentives and market efficiency, while the implications of food price changes for the poor have been given much less attention except when sudden food-price changes have resulted in, or contributed to, social unrest including street riots such as those that occurred recently in Dominican Republic, Peru, Morocco, Tunis and Sudan, not to mention the riots in Cairo in 1977.

The importance of food prices for providing supply incentives is not questioned here although, as further discussed in this paper, price policies are but one of many policy instruments available to governments for expanding food production. What is argued here, and hopefully substantiated in the rest of the paper, is that policies which attempt to strengthen incentives to expand food production through higher food prices may result in reduced real incomes and severe hardships for the poor at least in the short run. Although increased food prices in countries where they are kept low by government intervention may contribute to the achievement of accelerated long-run economic growth and food self-sufficiency goals, the short-run welfare implications may be unacceptable, and the political implications untenable, unless the poor are compensated in the short run. Consequently, attempts to increase domestic food prices to provide stronger incentives to farmers while ignoring the implications for – and the need to compensate – the poor, would be to ignore political realities and short-run welfare goals.

The purposes of this paper are to highlight some of the most important relationships between food prices and the well-being of the poor and to discuss the implications of various policy instruments. The relationships between food prices and the urban and rural poor are discussed first. Then follows an assessment of the impact of various policy instruments.

2. Food prices and the urban poor

Low-income consumers typically spend 60-80% of their incomes on food. The relative importance of individual commodities in the food budgets of the poor varies among countries. In some countries, one staple may account for 40-60% of the food expenditures, e.g. rice in Southeast Asia, while in others, e.g. most of

Latin America, no one staple has such overall importance. Contrary to what might be expected, the budget shares going to high-cost calories may be high even among the poor and malnourished. Thus, it is not unusual that the urban poor in Latin America spend more on meat than on any other commodity. Meat expenditures exceeded cereal expenditures among the poorest quartile of the population in five of the ten Latin American cities studied by Musgrove (1978) and was less than one percentage point below in two of the five remaining cities. Thus, it is important to know the commodity mix in the diet of the poor when deciding on price policies for individual commodities. It cannot be assumed that lower prices of the cheapest calorie sources will always produce the largest impact on the purchasing power of the poor.

The importance of food prices in household purchasing power is illustrated in Table 1, which shows the impact of a 10% increase in food prices on real incomes of the poor in selected countries under the assumption of no substitution between food and non-food. The impact on the better-off population is shown for comparison.

Because of the high budget share spent on food among the poor both on the average and at the margin, the negative impact on food-price increases is much more severe among the poor than among the better-off population groups.

The estimates shown in Table 1 are based on the income effect of a price change, and are calculated as the income elasticity times the budget share for food where both terms are specific to the low-income groups. While substitution between food and non-food products may be low, substitution among individual foods is likely to be higher. Thus, estimates of the impact of price changes for individual foods on real incomes of the poor, their demand for individual foods,

Table 1. *Impact of a 10% increase in the price of food on real incomes of low- and high-income population groups*

Country	% decrease in real income		Source ⁴
	Lowest decile	Highest decile	
Sri Lanka	8.5	4.1	Sahn
Thailand	6.0	2.0	Trairatvorakul
Egypt	5.6	1.0	Alderman and von Braun
India	7.3	2.9	Murty
Funtua, Nigeria	7.7	6.5	Pinstrup-Andersen and Uy
Gusau, Nigeria	9.0	5.7	Pinstrup-Andersen and Uy
India ¹	5.5 ²	1.2 ³	Mellor

¹ Foodgrains only.

² For the lowest 20%.

³ For the highest 5%.

⁴ Source of data used for calculations, except for Mellor who reports the estimates shown.

and calories and nutrient consumption, should consider both income and substitution effects.

Estimates of price elasticities (including income and substitution effects) for food commodities by income stratum, e.g. specifically for the poor, are of recent origin and only a few are yet available. Estimates for rice from various countries are shown in Table 2, and parameters for various commodities are shown for Brazil in Table 3. As expected, the poor are more responsive to food price changes than the better-off population groups. Absolute values above one are not uncommon among the poor and it is clear that food price changes cause larger relative quantity adjustments among the poor than indicated by parameters for society as a whole. The utility of income-specific price parameters for policy analysis has been demonstrated in a number of recent studies, e.g. Pinstrup-Andersen, Londono, and Hoover (1976), Pinstrup-Andersen (1977), Pinstrup-Andersen and Caicedo (1978), Timmer and Alderman (1979), Williamson-Gray (1982), and Trairatvorakul (1985).¹

Table 2. *Price elasticity of demand for rice among low- and high-income population groups in selected countries*

Country	Low income		High income		Source
	Percentage	Price elasticity	Percentage	Price elasticity	
Colombia (Cali)	1	-0.43	93	-0.19	Pinstrup-Andersen, et al.
Indonesia	8	-1.92	55	-0.72	Timmer and Alderman
Bangladesh (rural)	10	-1.30	90	-0.83	Ahmed
Thailand	12	-0.74	87	-0.46	Trairatvorakul
Philippines	12	-0.73	87	-0.40	Bojis
Brazil	15	-4.31	90	-1.15	Williamson-Gray
Sierra Leone (rural)	16	-2.16	84	-0.45	Strauss
India (rural)	3	-1.39	96	-0.39	Murty
India (urban)	1	-1.23	92	-0.21	Murty

2.1. *Long run-effects*

Up to this point, only short-run effects have been considered. The longer run impact depends on the extent to which higher food prices will lead to higher wages, and whether upward adjustment in food prices improves the efficiency of resource allocation and utilization and thus generates economic growth and increased employment. In a study of Argentina, Cavallo and Mundlak (1982) found that trade liberalization and exchange-rate management would result in accelerated economic growth while causing agricultural prices to increase faster than non-agricultural wage rates, thus reducing real wages in terms of food. They further demonstrated that compensation could be paid to the consumers in the form of subsidies which would keep food wages constant, at an economic cost considerably less than the gains from trade liberalization and exchange-rate

Table 3. *Price elasticities of demand for selected foods in Brazil, by income group*

Commodity	30% of population with lowest incomes	Middle 50%	20% of population with highest incomes
Rice	-4.3	-3.0	-1.2
Maize	-1.8	-1.1	-0.6
Wheat bread	-2.0	-0.9	-0.7
Root crops	-1.4	-0.8	-0.2
Sugar	-1.4	-1.0	-0.6
Beef	-2.4	-1.3	-0.8

Source: Cheryl Williamson-Gray (1982).

management. Thus, it was shown to be feasible to pursue policies reflecting long-term economic efficiency goals without adverse effects on food wages.

This is an extremely important finding, particularly if it can be generalized to other cases where food-price distortions are hampering economic growth. Taken to its logical conclusion, it implies that current pressures in many developing countries to increase food prices to provide producer incentives need not conflict with short-term welfare goals, because economic gains would exceed the cost of full compensation to the poor. The rate of growth may be lower than if no compensation is made, but the poor would not have to wait for trickle-down incomes to regain their real income level. More research is needed to improve current understanding of the trade-offs between growth rates and short-term compensation, and how compensation is most effectively made.

The extent to which benefits or costs from food-price changes are captured by consumers rather than passed on in the form of lower or higher wages varies among countries, and empirical evidence is scarce. The period of adjustment of wage rates is also likely to vary depending on institutional and other aspects. Pending additional empirical evidence, it may be concluded only that the long-run negative effect of food-price increases on the real incomes of poor wage earners who do not derive their incomes from food production will be smaller than the immediate effects, and may eventually become positive. However, the long-run effects may be of little or no interest to the poor who are adversely affected in the short run. The subjective discount rate for the poor is likely to be very high and uncertain future gains may be insufficient to compensate for immediate losses. Furthermore, a large proportion of the urban poor do not derive their incomes from wages.

3. Food prices and the rural poor

Many countries follow cheap food policies enforced through various combinations of exchange-rate manipulations, domestic price fixing, forced food

procurement, export taxes, and government monopolies in foreign and/or domestic food trade. Combined with similar measures for non-food agricultural commodities, these policies have resulted in the extraction of economic surplus from agriculture for use in promoting growth in non-agricultural public and private sectors, while reducing investment and production incentives in agriculture.

The impact of cheap food policies on real incomes of the rural poor is not easily determined. Different groups of the poor may be affected differently, the most obvious distinction being whether or not they depend on food production for their incomes. Furthermore, the immediate impact may be quite different from the impact in the intermediate and longer run.

The impact of food-price increases on those poor who derive their incomes from food production would be expected to be positive provided the price increase is reflected in higher farm-gate prices. Higher prices would add to revenues obtained from marketable surpluses and labour demand in food production would be expected to increase. However, total demand for rural labour need not increase if the food-price increases cause the substitution of less labour-intensive for more labour-intensive commodities, e.g. substitution of rice for jute in Bangladesh (Ahmed, 1981).

Findings from recent research indicate that food-price increases may be much less favourable for the rural poor than was often expected. Many of the rural poor do not derive a large share of their incomes from either wage labour in food production or the sale of food, and a large proportion are net purchasers of food. Mellor (1978) concludes that the poorest 20% of the rural population in India would lose from increasing food-grain prices. The largest gains, both absolute and relative to the current value of sales, would be captured by the highest income decile. In an analysis of the distribution of benefits from a price increase for rice in Sri Lanka, Sahn (1984) concluded that only 3% of the rural poor² would be better off from such a price increase in the short run, i.e. ignoring any long-term effects on wages and employment.

Results from a study of the implications of increasing domestic rice prices in Thailand show that the rural poor would not benefit greatly from such increases (Trairatvorakul, 1985). Even though many of them are rice producers, the marketable surplus is often small and a large proportion are net buyers of rice. Trairatvorakul concludes that increasing rice prices would benefit primarily larger farmers, and severe hardships may be created among rural as well as urban poor. It is estimated that as a result of a 50% increase in the price of rice in Thailand, the number of urban households below the poverty line would increase from 8 to 13% of the urban population. A slight decrease in the population below the poverty line is likely to occur in the rural areas (from 28 to 27%). However, the proportion of farm workers below the poverty line would increase from 25 to 34%.

The relative impact on the urban and rural poor is further illustrated by Sen's poverty index which increases by 17% in the urban areas, while it decreases by

about 2% in rural areas. The relative income distribution is more adversely affected in rural than urban areas, primarily because large rice producers capture considerable gain. Thus, the Gini coefficient increases from 0.424 to 0.435 in the urban population and from 0.417 to 0.435 in rural areas.

While important in their own right, these effects are expected to be of a short-term nature. In the longer run, increased food prices would increase food supplies and employment in the food sector although, as mentioned above, the net employment impact may be positive or negative.

The long-run impact on the rural poor depends on the supply response and the rural labour market. A discussion of supply elasticities is beyond the scope of this paper, but it should be pointed out that the importance of increased prices in efforts to expand food supplies has been exaggerated in many developing countries. The interaction between output prices and the structure of production and rural institutions is particularly important.

Increasing output prices without technological change in production, improved input markets and better rural infrastructure may have little impact on total agricultural supply, although the commodity mix may change. Similarly, institutional and policy changes may be needed to assure that food-price increases are transmitted to producers, and to facilitate supply responses. Current single-minded pressures from within and outside developing countries to increase food prices to provide added producer incentives tend to ignore the complexities involved, and may result in disappointing supply response while making the poor considerably worse off at least in the short run. What is needed is a multifaceted approach properly tailored to the particular situation in which producer prices are but one of a series of policy instruments. Unit-cost saving technological change plays a particularly important role in such approaches because it facilitates expanded food supplies at equal or lower prices and employment creation in rural areas.

Efforts to improve the efficiency in food marketing and price transmission may offer opportunities for higher producer and lower consumer prices. As illustrated by Ahmed and Rustagi (1984), the marketing margins of staple foods are high and differ greatly among developing countries. Thus, in some African countries, the producer share of the retail or export price of food-grains may be as low as 40%, while it is around 80% in the Asian countries included in the study.

Based on the assumption of supply and demand elasticities of 0.3 and -0.5, respectively, Ahmed and Rustagi estimated that a reduction in the producer-consumer price spread for foodgrains in Africa of 25 percentage points (less than the current difference in the price spread between African and Asian countries, in their analysis) would result in a 49% increase in farm prices and a 13% decrease in consumer prices, thus illustrating the large potential gains to producers and consumers from reduced marketing costs. Regional and seasonal price differences also appear to be much greater in Africa than elsewhere. This may be caused by a variety of factors such as poor rural infra-

structure and resulting high transportation costs, insufficient price information, low volumes, lack of storage facilities and inappropriate public policies.

Seasonal fluctuations in food prices are likely to be more harmful for the poor than for the better-off population because the former are less able to carry over stocks and/or purchasing power from one season to another and because food and other basic needs occupy a larger budget share thus leaving less opportunity for substituting food expenditures for expenditures on other goods during periods of high food prices. Therefore, efforts to reduce seasonal fluctuations in food prices are likely to be beneficial for the rural poor. The impact of reduced spatial price variation on the poor is less clear and could be positive or negative depending on the particular circumstances.

Efforts to provide added producer incentives through higher food prices may also show disappointing results because of a low price transmission. Only a relatively small part of the price increase in the final market may be transmitted to the producers because of market imperfections or government policy (Ahmed and Rustagi, 1984). Thus, while the negative effects on low-income consumers would materialize, positive effects on food supplies may not.

4. Policy options

The purpose of this section is to briefly discuss some of the policy options available to governments for correcting undesirable effects of increasing food prices on the poor. General food-price policies and related subsidies are discussed first. Then follows a discussion of subsidies targeted on specific population groups and/or limited to specific foods or food rations. Alternative means for transferring purchasing power to the poor and compensating for losses associated with food price increases are discussed in the last subsection.

4.1. Explicit general subsidies

In order to maintain political stability, avoid negative impact on the poor, and/or maintain low wages, a number of countries have attempted to shield consumers from the effects of increasing food prices (whether the increase is in real or nominal terms) by driving in a publicly-financed wedge between consumer and producer or import prices. The fiscal costs of such policies can be very high depending on: (1) the size of the wedge, e.g. the difference between government purchase and selling prices, (2) the marketing costs if borne by the public sector, and (3) the amount of food for which the subsidy is applied. The wedge may be large, as illustrated by domestic consumer prices fixed by the government for wheat, sugar, and beans in Egypt, which were 28, 29, and 35% of the international prices in 1980 (von Braun and de Haen, 1983).

The size of the wedge may change considerably over time, either to insulate domestic consumers from price fluctuations in the international markets or

because of a widening gap between international and domestic price trends. Because of its traditionally large price fluctuations, the sugar market provides a good illustration of the former. Thus, the domestic sugar prices to the Egypt were virtually unchanged in nominal terms during the period 1971-81, approximately parity in 1977, 144% in 1978 and back to 29% in 1980 (von Braun and de Haen, 1983). One of the principal reasons for a widening gap between international and domestic price trends in some countries is a desire to maintain constant or near-constant nominal prices for basic food staples in the face of increasing general price levels. Alderman, von Braun, and Sakr (1982) report that consumer prices for wheat and rationed sugar, rice and lentils in Egypt were virtually unchanged in nominal terms during the period 1971-81. As a result, since international prices increased in nominal terms and the value of the Egyptian currency fell, the price wedge increased. In the case of wheat, the wedge increased from 44% of international prices in 1971 to 72% in 1980 (von Braun and de Haen, 1983). Devaluation of local currencies is one occasion when the wedge is often increased to insulate consumers from the effect of higher domestic prices of imported foods.

Unless the subsidized quantity is reduced, a larger publicly-financed price wedge results in higher fiscal costs. If no targeting or rationing is attempted, the costs may be high. The fiscal costs of the wheat subsidies in Egypt which are neither targeted nor rationed increased from 0.05 to 3.5% of GDP during the 1970s (Alderman, von Braun, and Sakr, 1982).

Rapidly increasing fiscal costs occurred for the Sri Lankan food ration shop scheme up through the first half of the 1970s, reaching 15% of total government expenditures in 1975 (Gavan and Chandrasekera, 1979). Changes in the subsidy program during the second half of the 1970s, including a shift to food stamps with a fixed nominal value, rapidly increasing food prices, and the exclusion of about one-half of the population from the program, reduced fiscal costs of the Sri Lankan food subsidies dramatically to the current level of about 7% of total government expenditures. These reductions in fiscal costs have been attained by targeting as well as by drastic reduction in the real value of the subsidy to the poor.

4.2. *Targeted food price subsidies*

Because of the high fiscal costs of maintaining general food price subsidies, efforts have been and are currently being made to target food subsidies to groups of households expected to be particularly vulnerable to high and increasing food prices and to limit the subsidies to specific foods and/or food rations. If the sole goal of food subsidies is to increase or sustain the ability of the poor to purchase enough food to meet nutritional requirements along with other basic necessities, targeting could greatly reduce the costs and still reach the goal, provided that the targeting is politically and logistically feasible.

The cost-effectiveness of explicit subsidies, that is, the government cost of

improving the ability to acquire food among food-deficit households by a certain amount, is positively correlated with the degree of targeting up to a certain level. This is because targeting excludes some or all non-deficit households from sharing in the benefits from the subsidies. However, the administrative costs of operating a food-price-subsidy program increase with increasing degrees of targeting. Thus, there is a point beyond which increases in administrative costs exceed the cost savings from further reducing benefit leakages to non-deficit households.

According to a number of studies, food subsidies have increased incomes and improved the nutritional status among the poor, particularly, but not exclusively, among the urban poor. Thus, a study of the past Sri Lankan food-ration shop scheme 'indicates that the scheme contributed to a better standard of living among low-income groups and a more even pattern of consumption throughout the society . . . At its peak, the ration subsidy contributed the equivalent of 16% of the purchasing power of low-income families in Sri Lanka' (Gavan and Chandrasekera, 1979). Research on the food-ration shops in Kerala, India shows that about one-half of the total incomes of low-income families was accounted for by ration income, and the author concludes that 'the removal of rationing would have a very serious impact on these low-income consumers' (George, 1979). Kumar (1979) found that the rations supplied the bulk of rice eaten by low-income groups and the subsidy scheme 'greatly improved the distribution of income'. She further concludes that the 'subsidy program was effective in raising nutrition and consumption levels of the poorest households and was more effective than other forms of direct resource transfers'.

In a study of the food-ration shop scheme in Bangladesh, Ahmed (1979) concludes that 'rationing has aided the urban poor quite successfully since without it the consumption levels of the poorest 15% of the urban population would have been 15 to 25% lower in 1973-4 than they were'. A strong urban bias was found in food subsidies in Bangladesh. Thus, while most of the poor people reside in rural areas, two-thirds of the subsidized grain were distributed to urban areas.

The Egyptian food-subsidy policies account for 6 to 7% of average consumer incomes (Alderman and von Braun, 1984). The absolute value of the subsidy is virtually constant among income groups. Thus, the poor receive a much larger percentage of total income from subsidies than do the rich. Food subsidies account for about 16% of the incomes of the poorest quartile of the population but only about 3% for the richest quartile. Contrary to common beliefs prior to the study, no urban bias was found for the food price policies as a whole. However, due to higher consumption of wheat bread in the urban areas, some urban bias was found in the explicit wheat subsidy. This bias was offset by a higher rural consumption of explicitly and implicitly subsidized wheat flour. If other agricultural price distortions, such as the protection of animal production, are included, the rural sector received considerably larger net benefits than did the urban.

4.3. *Alternative measures*

Food price subsidies are but one of many ways in which governments may increase the purchasing power of the poor and compensate for losses in real incomes caused by higher general food prices. Tied or untied cash transfers as well as food transfers and food-for-work programs provide another set of policy measures which may be available. Untied cash transfers tend to be less palatable politically than transfers which in some way are linked to food such as food stamps, targeted food price subsidies or food supplementation schemes. Cash-transfer programs are also very difficult to implement, and the cost of the necessary control measures to avoid excessive leakage to non-target groups, and to avoid fraud, is likely to be high. Self-targeting, which may be possible if food subsidies are aimed at less desired foods, is not possible for cash transfers.

Another argument against cash transfers is that food-price subsidy and direct feeding schemes reduce food prices relative to other commodity prices and thus contribute to a substitution of food for non-foods that would not occur as a result of a direct income transfer. This argument holds true only if food becomes cheaper at the margin, which is often not the case because the quantities affected by subsidies or transfers are intra-marginal.

One advantage of cash transfers or food stamp programs is that the actual distribution of food need not be undertaken by the public sector separate from other food distribution as in the case of most ration shop schemes. However, targeted and or rationed food-price subsidy programs may also be based on private-sector food distribution as is partially the case in Egypt.

Finally, in comparing the pros and cons of cash vs. food transfer schemes it should be recognized that food may be available from foreign aid at a cost to governments which is considerably below its market value, thus making food-related transfer less expensive.

In attempts to reduce leakages to non-target households and focus more sharply on improved nutrition, some countries have opted for food supplementation or direct feeding of individuals deficient in calories and protein, usually children and pregnant women. Such programs may assure that leakages to non-targeted households are small. However, intra-household leakages will still occur through reductions in the allocation of food to target individuals, thus reducing household food acquisition from other sources.

In a study that reviewed over 200 reports of past food distribution programs for young children, Beaton and Ghassemi (1979) found that the net increase in food intake by the target recipients was 45-70% of the food distributed. But such leakage benefited the households of which the target children were members through added real household income, and possibly improved the nutrition of other household members. The leakage is merely a reflection of household preferences regarding expenditure and consumption patterns. Nevertheless, if the purpose is to improve nutrition of certain target groups and not

to transfer real income, then these programs have generally not been very successful. Furthermore, administrative costs tend to be large relative to other means of income transfer programs.

NOTES

1. See Alderman (1984) for a review of available estimates of income-specific demand parameters, related methodological and empirical issues, and the utility of such parameters.
2. 'Rural poor' defined here as the poorest quartile of the rural population.

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