*Journal of Philippine Development*
Number 38, Volume XXI, Nos. 1 & 2, First & Second Semesters 1994

# TARGETING TRANSFERS TO THE POOR: THE CASE OF FOOD SUBSIDIES*

*Arsenio M. Balisacan*

## INTRODUCTION

Providing safety nets to the poor is a popular call in development policy discussions. The provision is viewed to be even more critical for developing countries pursuing structural and macroeconomic adjustment reforms aimed at bringing an economy to a stable and sustainable growth path. Such reforms often accompany changes which have disruptive effects on the poor's welfare such as sharp increases in the prices of goods and basic services. For instance, when an exchange rate realignment in the form of devaluation is resorted to in an effort to alter the pattern of domestic spending and restore the competitiveness of the country's exports, food subsidies are the common safety nets suggested to minimize the short-run effects of the adjustment on the poor.

A tight budgetary constraint, however, does not permit a generous amount for food subsidies. Two issues stand out: How much of the limited budget should be allocated for food subsidies? Given this amount, how can food subsidies be designed in such a way that a maximum reduction in aggregate poverty is achieved? Put differently, what is the optimal pattern

* This paper draws largely from a report prepared by the author for the Agribusiness System Assistance Program (ASAP) supported by the United States Agency for International Development (USAID). The opinions expressed herein are those of the author and do not necessarily reflect the views of USAID or ASAP.

of food subsidies when the objective is poverty minimization? If the poor can be identified costlessly, "leakages" of subsidies to the nonpoor are minimal, and hence poverty alleviation is achieved at least cost. In practice, the identification of the poor is not cheap: the administrative costs involved in periodically getting information from hundreds of thousands, if not millions, of households are potentially enormous. This paper shows how these costs and other considerations affect the optimal pattern and design of poverty-focused food subsidies.

Food subsidy programs may have other objectives apart from directly providing income transfers to the poor. Such objectives may include food price stabilization in the context of a sharp fluctuation in international prices and domestic supply shocks, the provision of benefits to politically vocal interest groups (e.g., the urban working class), and an improvement in the nutritional status of the population. An evaluation of the relative efficiency of alternative policy instruments in achieving these multiple objectives is desirable, but this necessarily makes the analysis much more complex than the one being pursued here. It bears noting, however, that food price subsidy programs in the Philippines have been justified primarily in terms of poverty alleviation objectives, at least as gleaned from official policy statements (Balisacan et al. 1993). Moreover, since the recent policy discussion regarding macroeconomic adjustment reforms, including exchange rate realignment, recognized the need to cushion the *short-term* impact of these policies on the poor, especially on their food consumption, the design of a food subsidy program is certainly worth (re)examining.

## DEFINING AND QUANTIFYING POVERTY

Assessing the impact of income transfers on poverty requires the proper identification of the poor as well as the aggregation of data on the poor into a single measure of poverty. These requirements have been widely discussed in the literature; no attempt is made to repeat the discussion here.[1]

1. For an excellent introduction to poverty and measurement, see Ravallion (1992).

For our purposes, we use the current consumption of the household, adjusted for differences in household size and composition, as an indicator of the welfare levels of households. From hereon, we simply refer to the adjusted household consumption as per capita consumption. A household is deemed poor if its per capita consumption is less than the predetermined poverty line. There are many ways of arriving at such a line, but for our purposes, we employ the set of nutrition-based poverty lines estimated by the National Statistical Coordination Board's Technical Working Group (NSCB-TWG) on Poverty Determination (TWG 1993).

Most poverty studies in the Philippines have focused on the familiar *head-count index* as an overall measure of aggregate poverty. This is simply the proportionate number of the population deemed to be poor. This index has serious shortcomings. First, it is insensitive to the depth of poverty. A poor person may become poorer but measured poverty will remain the same. Second, it is also insensitive to transfers. An income transfer from a poor person to one who is less poor does not change measured poverty. However, its advantage is that it is easily understood and communicated.

Another familiar measure of aggregate poverty is the *poverty gap*, which is measured as the arithmetic mean of the income shortfall (expressed in proportion to the poverty line) over the whole population. This measure is sensitive to both the number of the poor and the degree of their poverty. One objection to its use, however, is that it is insensitive to the redistribution of income within the poor group owing to the equal weights attached to the various poverty deficits.

Sen (1976, 1981) contends that an aggregate poverty index must convincingly capture differences in the severity of poverty. This concern is captured by the distribution-sensitive index proposed by Foster et al. (1984). The index, hereafter referred to simply as the *distribution-sensitive measure*, is calculated in the same way as the poverty gap index except that the weights are simply the squared income shortfalls.[2] Measured poverty using

2. This measure has been popular in recent empirical work owing to its appealing properties. See, for example, Greer and Thorbecke (1986), Ravallion and van de Walle (1991), and Besley (1990).

this index decreases whenever a transfer of income takes place from a poor household to a poorer one, thereby overcoming the limitation of the poverty gap index. Its drawback is that it is not as easy to interpret as the head-count and poverty-gap indices. Nonetheless, the key point to bear is that a ranking of dates, socioeconomic groups, or policies in terms of the distribution-sensitive index should reflect well their ranking in terms of the severity of poverty. It is not the precise number per se that makes the measure useful, but rather its ability to order distributions in a better way than the alternative measures.

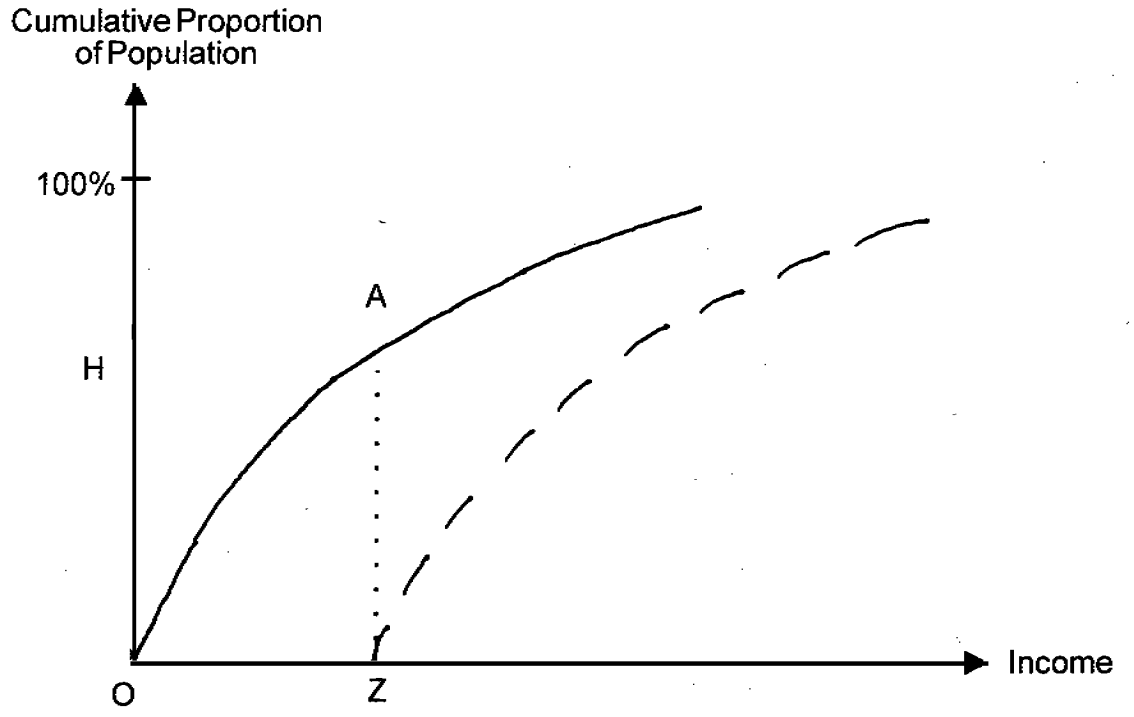
The three foregoing indices are employed in this paper. Depending on the objective of public policy, each one is useful in the design of a food subsidy program.

## THE TARGETING PROBLEM

Where income can be observed correctly and costlessly, and where no incentive effects prevent the government from closing the income gap of the poor (e.g., individuals are prevented from claiming to have incomes below the poverty line in order to exact a subsidy), then the ideal solution to the policy objective of eliminating poverty is to provide each poor individual an amount equal to his income shortfall. This solution is depicted in Figure 1. The total budget required to eliminate poverty is the area *OAZ*. Clearly, this solution gives the least-cost method of reducing poverty.

In reality, however, information about the poor is not perfect and is costly to acquire, and incentive effects are hardly zero. Since it is extremely costly to periodically screen the poor from the nonpoor — especially if this involves hundreds of thousands, if not millions, of households — a generalized (universal) subsidy might be a preferable scheme to alleviate poverty. In such a case, everybody in the population, regardless of income, receives a subsidy. This scheme is also depicted in Figure 1. A universal subsidy of *OZ* for each person in the population "guarantees" the elimination of poverty. Note, however, that the budgetary outlay will be much higher than that corresponding to the ideal solution. This outlay is simply

FIGURE 1
**Universal Transfer and Ideal Solution to the Targeting Problem**

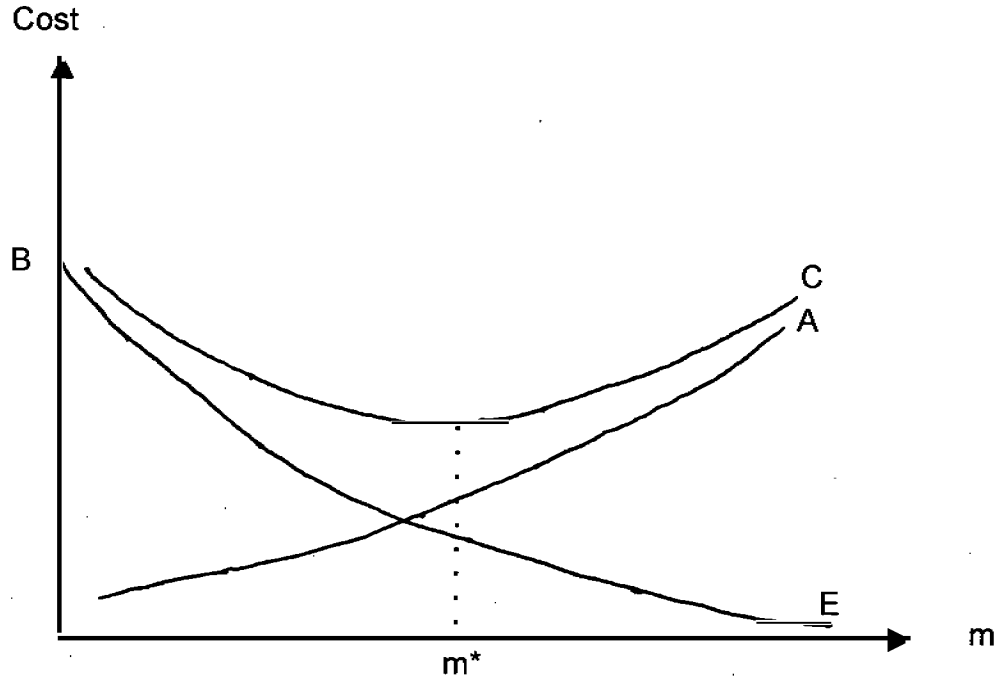


the population size times the poverty line. In imposing a balanced budget, the higher outlay suggests that the tax rate of the nonpoor under this scheme will be greater than that under the ideal solution.

Universal subsidy is thus a costly scheme precisely because of the leakage of subsidies to the nonpoor as well as the excess in the amounts required to alleviate if not eliminate the income shortfalls of the not-so-poor. Acquiring information about the potential beneficiaries' eligibility to subsidies reduces the leakage and, hence, the required outlay. But as more information is acquired to improve the fineness of targeting (i.e., to further reduce leakage), the administrative cost of targeting is likely to rise. For example, the administrative cost of targeting subsidies by area of residence may be relatively low, but leakages of the benefits to the nonpoor in the targeted area may still be considerable. The acquisition of other household welfare indicators (e.g., level and sources of income of household members) will reduce the leakage but only at the expense of rising administrative costs. This suggests that an optimal solution to the targeting problem is likely somewhere between the ideal solution and the universal scheme.

The targeting problem is illustrated in Figure 2. The line $E$ traces the combination of the number of targeting indicators employed in identifying the potential beneficiaries and the remaining external (or social) cost of poverty, given the poverty alleviation budget. Its vertical intercept $B$ is the remaining social cost if the budget is allocated universally, i.e., no targeting indicator is employed. The cost falls as the number of targeting indicators, $m$, increases, possibly reaching zero as $m$ becomes very large. If poverty is measured in terms of the poverty gap index, then $E$ is simply the sum of the income shortfalls of the poor. The line $A$, on the other hand, is the administrative cost of targeting; this cost rises with the number of targeting indicators employed. The problem is how to choose $m$ so that the sum of $A$ and $E$, given by the line $C$, is minimized. Clearly, the optimal solution is $m^*$, determined by the equality of the (absolute) slopes of the $A$ and $E$ lines. This solution also suggests that it is never optimal to completely eliminate poverty through targeting considering the administrative costs involved.

FIGURE 2
**Optimal Targeting**



## TARGETING SUBSIDIES BASED ON EASILY OBSERVABLE CHARACTERISTICS

Given limited information about individual incomes and responses, food subsidies can be given using *categorical* targeting, meaning subsidies are targeted based on easily observable household characteristics, such as place of residence or age of household head. One such scheme uses *ration shops* for food, whereby a certain amount of food is made available to a certain location at a below-market price. If resale cannot be prevented, then all purchasers of this shop, in effect, receive a lump-sum income transfer equal to the ration quantity times the difference between the market price and the ration price. Thus, if the patrons of ration shops are, on average, the socially deserving ones, the scheme serves as a targeted transfer program. The benefits of the program are maximized if ration shops are located in areas or regions where the incidence of poverty is greatest. In contrast to transfer programs that depend on information such as the applicants' incomes and expenditures, the administrative cost under this scheme need not be high.

Kanbur (1987) discusses a targeting rule for a case where the policy instrument is a set of lump-sum transfers differentiated by certain easily observable characteristics. The problem is to target these transfers to (mutually exclusive) population groups so as to minimize aggregate expected poverty, as measured by a suitable index (in this case, the class of poverty measures discussed in the second section, p. 180). It turns out that the budgetary rule is fairly simple: if the objective of public policy is to minimize the distribution-sensitive measure, more of the transfers should be directed towards groups for which the average poverty gap is greater.[3] On the other hand, if the objective is to minimize the poverty gap, the head-count index is the appropriate indicator for budget allocation, with maximum benefit directed to the group with the highest head-count index.

3. Thorbecke and Berrian (1992) provide a generalization of the Kanbur budgetary rule by allowing both direct and indirect effects of an exogenously supplied budget on aggregate poverty. The information required to implement the general rule is, however, much more complex than the Kanbur rule.

TABLE 1
**Priority Provinces for Poverty Alleviation**

| Province | Head-count | | Poverty gap | | EGCDP Priority provinces |
|---|---|---|---|---|---|
| | Incidence | Rank | Incidence | Rank | |
| Abra | 91.66 | 1 | 43.60 | 3 | * |
| Romblon | 89.74 | 2 | 43.79 | 2 | * |
| Ifugao | 88.25 | 3 | 47.26 | 1 | * |
| Davao Oriental | 83.62 | 4 | 37.10 | 6 | |
| Camiguin | 81.77 | 5 | 35.93 | 8 | |
| Zamboanga del Norte | 80.63 | 6 | 35.91 | 9 | |
| Misamis Occidental | 80.07 | 7 | 38.32 | 4 | |
| Agusan del Sur | 79.70 | 8 | 36.99 | 7 | * |
| Bohol | 78.26 | 9 | 33.77 | 10 | |
| Quirino | 78.09 | 10 | 31.33 | 14 | |
| Masbate | 77.66 | 11 | 37.64 | 5 | * |
| Capiz | 77.49 | 12 | 29.57 | 16 | |
| North Cotabato | 77.40 | 13 | 32.14 | 11 | |
| Palawan | 77.02 | 14 | 29.27 | 17 | |
| Marinduque | 76.30 | 15 | 27.36 | 22 | |
| Sorsogon | 75.12 | 16 | 26.17 | 24 | |
| Antique | 74.23 | 17 | 31.64 | 12 | * |
| Northern Samar | 73.66 | 18 | 22.89 | 41 | |
| Oriental Mindoro | 73.47 | 19 | 29.14 | 18 | |
| Samar (Western) | 73.26 | 20 | 26.94 | 23 | |
| Bukidnon | 72.46 | 21 | 31.61 | 13 | |
| Albay | 72.39 | 22 | 28.12 | 19 | |
| Basilan | 71.06 | 23 | 23.57 | 38 | * |
| Sulu | 70.74 | 24 | 21.49 | 44 | * |
| Surigao del Norte | 70.05 | 25 | 24.91 | 29 | |
| Kalinga Apayao | 70.04 | 26 | 25.88 | 26 | * |

TABLE 1 (continued)

| Province | Head-count | | Poverty gap | | EGCDP |
|---|---|---|---|---|---|
| | Incidence | Rank | Incidence | Rank | Priority provinces |
| Surigao del Sur | 68.56 | 27 | 25.34 | 27 | * |
| Negros Oriental | 68.40 | 29 | 27.82 | 20 | |
| Lanao del Norte | 65.67 | 35 | 25.95 | 25 | |
| Agusan del Norte | 64.51 | 37 | 27.60 | 21 | |
| Siquijor | 64.49 | 38 | 29.68 | 15 | |
| Aurora | 60.23 | 44 | 19.81 | 49 | * |
| Eastern Samar | 59.16 | 47 | 24.66 | 30 | * |
| Mt. Province | 56.67 | 50 | 17.81 | 57 | * |
| Southern Leyte | 55.68 | 53 | 14.68 | 64 | * |
| Benguet | 52.79 | 60 | 15.02 | 63 | * |
| Batanes | 40.86 | 67 | 11.16 | 66 | * |
| Tawi-tawi[a] | - | 77 | - | 77 | * |
| Biliran | - | - | - | - | * |
| Guimaras | - | - | - | - | * |

[a]Estimates not reported due to data discrepancy.

Source: National Statistics Office, *Family Income and Expenditures Survey 1991*.

Table 1 shows the top 25 "most depressed" provinces (out of 76) based on the poverty gap and head-count indices. The resulting lists of most depressed provinces are not identical for the two rankings. Four of the 25 "most depressed" provinces based on the poverty gap index are not classified as such under the head-count index. Moreover, the ranking of the provinces varies substantially for the two indices. Abra, for example, is the most depressed province if the ranking is based on the head-count index, but Ifugao acquires this label if such ranking is based on the poverty gap index. Put differently, Abra gets the highest priority for the poverty alleviation budget if the objective of public policy is to obtain from the (limited) budget the highest reduction of the aggregate poverty gap index. If the objective is to minimize the distribution-sensitive measure, then Ifugao gets the highest priority.

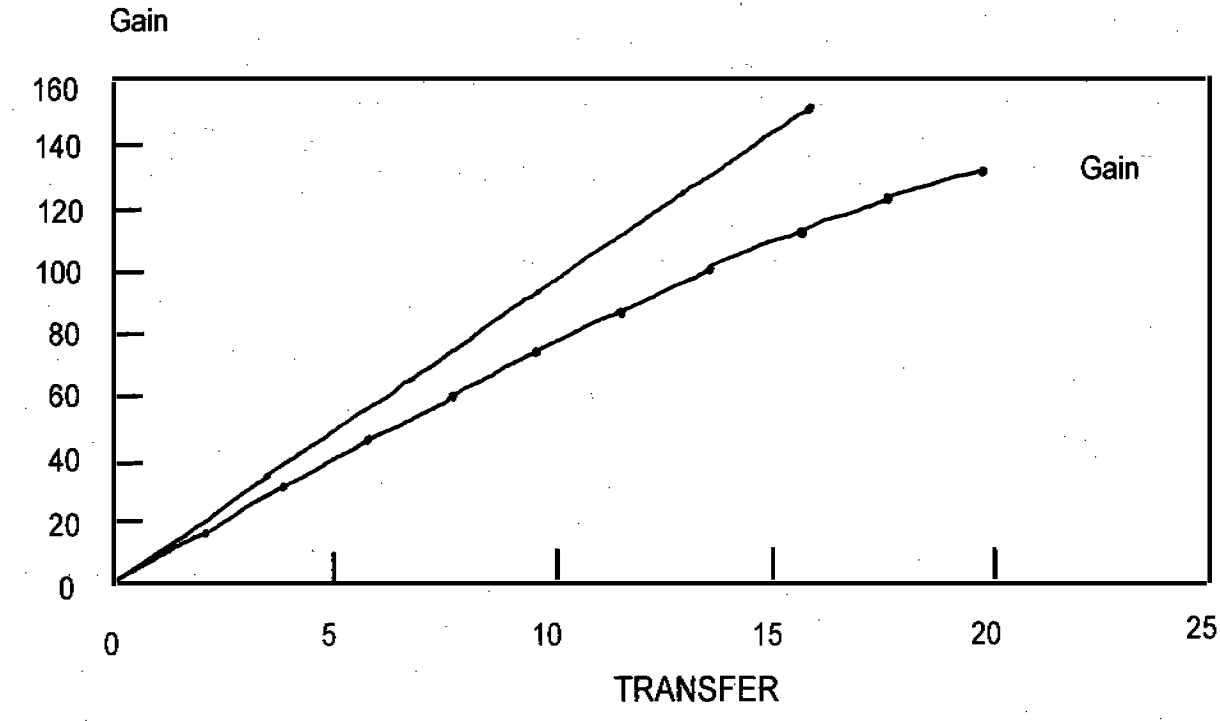
The last column of Table 1 lists the 19 provinces recently identified by the Ramos administration as priority areas under the Employment Generation Through Countryside Development Program (EGCDP). This program is a pump-priming activity aimed at stimulating employment, increasing production, and generating domestic capital and consumption. It is set to run for three years and estimated to cost approximately P23 billion. Out of the 19 provinces, only eight belong to the top 25 most depressed provinces identified using the two poverty-based ranking approaches. Even more noteworthy is that five of the provinces (excluding Tawi-Tawi) included in EGCDP are among those with the lowest poverty in the country.

It is useful to have a *monetary* measure of the gains from categorical targeting. For this purpose, we specify the gains in terms of the additional budgetary outlay required under a universal (untargeted) transfer scheme to obtain the same aggregate poverty reduction as that achieved by categorical targeting.[4] We assume that the objective of public policy is to minimize the distribution-sensitive poverty index.

Figure 3 shows the monetary gains for the case of *regional* targeting, i.e., the only household characteristic used in identifying the potential

4. For this purpose, we follow Ravallion's (1993) extension of the Kanbur approach.

FIGURE 3
**Monetary Gains of Targeting**
**(in billion pesos)**



beneficiaries of the subsidy is the region of residence. For the data used, the gains from regional targeting are very large. For example, a budget of P2 billion, if properly targeted, will achieve the same poverty reduction as that of P18 billion of untargeted transfers, or P16 billion of gain. Note that the gains increase with the size of the budget but at a decreasing rate.

One can take further steps in improving the gains from categorical targeting. For example, in addition to region of residence, information on province of residence of the household can be employed to refine the targeting scheme. The addition of this information increases the monetary gains from targeting since, as shown in Table 1, substantial variation in provincial poverty levels exists. This additional variable should shift upward the targeting gain curve in Figure 3. Measuring this shift is an interesting exercise, but is not pursued here. Even though the only information employed is the household's region of residence, estimates of the gains from targeting are relatively large.

## ADMINISTRATIVE COSTS OF FOOD SUBSIDY PROGRAMS

The administrative costs of a food subsidy program depend on the implementing agency's administrative capability as well as on the type of administrative scheme employed in providing the subsidy. One widely employed scheme requires the use of program personnel to screen each potential beneficiary on the basis of various criteria, such as household income or nutritional status. This is referred to as means testing (alternatively referred to in this paper as income testing). Another scheme relies upon individual decision, leaving the choice to participate or not to the potential applicant. In principle, the program is available to all, but is designed in such a way that the nonpoor are discouraged from availing themselves of the subsidy. The time involved in acquiring the subsidy, the low quality of the food subsidized, or the stigma attached to being dependent on a food subsidy program, are some of the devices used to encourage this so-called self-targeting. In between the two schemes are various types of categorical targeting mechanisms, such as the one discussed in the fourth section (p. 186). The central

feature of these schemes is that eligibility is granted to groups of potential beneficiaries who share some easily identifiable characteristics.

Available estimates of the administrative costs of food subsidy programs are scanty. In the Philippines, the only careful analysis of these costs that we are aware of is that on the Pilot Food Discount Program implemented by the National Nutrition Council of the Department of Agriculture in the early 1980s. This program covered three villages in each of the three selected provinces (Abra, Antique, and Cotabato). Only villages where 25 percent of preschoolers had moderate or severe malnutrition, based on weight for age, were included. All *bona fide* residents of the selected villages were automatically eligible for a ration (discount) card which guaranteed a monthly quota of rice and cooking oil at a subsidized price of 32 and 50 percent of the market price, respectively. The subsidized commodities were elivered through existing retailers in program areas; in return for the urden of seeking for reimbursement of discount value from participating ural banks, retailers received an incentive of 3 percent of the gross sale of ıe subsidized commodities.

The administrative overhead costs of this program covered part of the alaries of the extension workers (who devoted 50 percent of their time to ıe program), travel costs for monitoring officers, salaries for central office roject administration, printing costs for the discount cards, and the cost of ıpplies. These costs amounted to 9.4 percent of the program cost; retailers' ıcentives accounted for another 7.2 percent (Garcia and Pinstrup-Andersen 987: 71). Note that these estimates pertain to a pilot program. It is likely ıat in a national program, several layers of supervisory infrastructure, from ıe central office to the region, province, and villages, would be necessary, ıereby raising further the administrative costs.

Comparative cost estimates based on the experiences of other countries ɔuld provide some indications of the relative administrative cost advantage f a targeted subsidy program. Moreover, intercountry comparison of ‹periences, while not exhaustive, provides an international perspective on ıe administrative cost of food-subsidy targeting in the Philippines. The ɔmparison is, of course, a potentially hazardous exercise since different

countries have different administrative capacities, political and social institutions, and objectives in providing assistance to certain population groups. Nonetheless, in the absence of administrative cost estimates of delivering food assistance to the poor in the Philippines apart from the aforementioned pilot program, the comparison provides a better informed basis for the estimation of the likely gains from targeting food subsidy to certain population groups.

In Latin American countries, for programs making use of individual assessment (including income testing), total administrative cost as a proportion of total program cost ranged from 0.4 to 29 percent (Grosh 1993). In the case of geographic targeting, the range was from 4 to 16 percent. For self-targeting mechanisms, the range was from 3 to 10 percent. The median for these countries was 9 percent for individual assessment schemes, 7 percent for geographic targeting, and 6 percent for self-targeted schemes.

The Mexican milk subsidy program aimed at the urban poor was means-tested. Using complex administrative procedures. Targeting indicators were income and the presence of children under twelve years old or of pregnant women in the household. The program had an administrative cost of 26 percent of total program cost (Kennedy 1988: 150).

Entitlement to the Sri Lankan food stamp program in the 1980s was means-tested. Stamps were issued to households based on income and number of children. Prior to this, Sri Lanka had a universal rice, wheat and sugar subsidy. The administrative costs of the food stamp program were estimated to be only 2 percent of the program cost (Cornia and Stewart 1993). A major factor that contributed to the low cost was the implementing agencies' high administrative competence partly made possible by the country's relatively long experience with food subsidy programs.

The means-tested Jamaican food stamp program in the 1980s had an administrative cost of about 4 percent of total costs (Cornia and Stewart 1993). Another estimate put the administrative cost at around 10 percent of program cost (Grosh 1993).

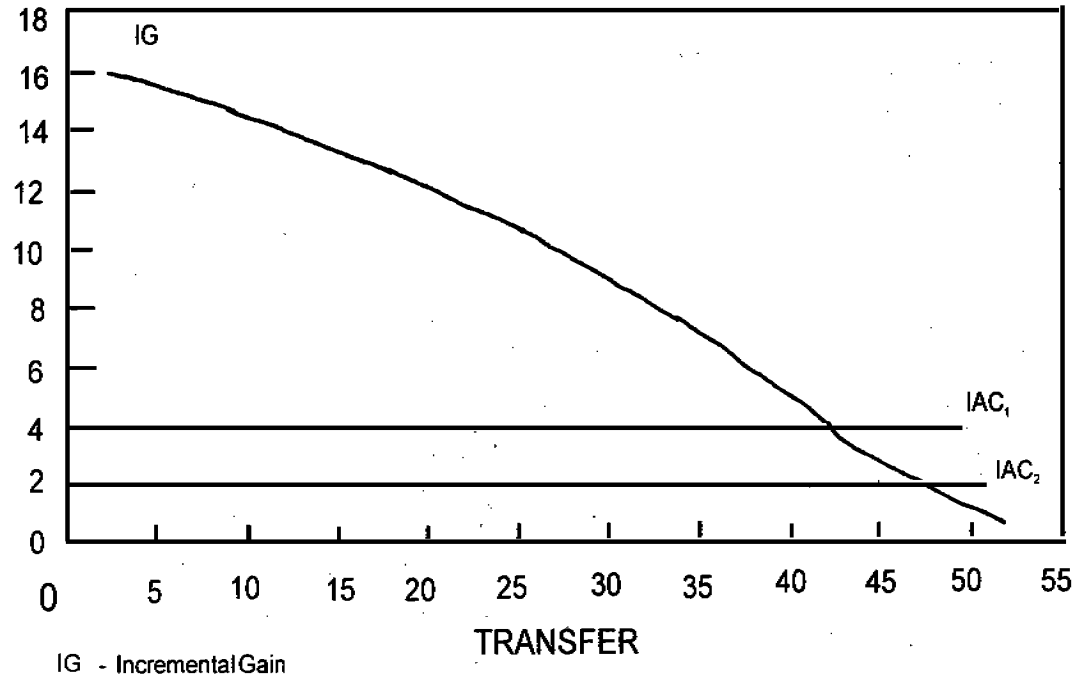
In seven UK programs, administrative cost was about 3.5 percent of program cost for universal programs, but between 5 percent and 15 percent

for means-tested programs. In the US, administrative cost represented about 2.5 percent for universal programs and 12 percent for means-tested programs (Cornia and Stewart 1993). In one extreme case, a targeted US veterans' program had an administrative cost amounting to 95 percent of the benefits transferred (World Bank 1988).

Based on this (limited) evidence, the administrative cost of a targeted food subsidy program is greater than that of a universal (general) program. It also appears that the administrative cost of the pilot food subsidy program in the Philippines was high by international standards, but not so much higher. A similar program implemented nationwide is, however, likely to require much higher administrative costs. Based on other countries' experiences, it is reasonable to assume that a national poverty-focused food subsidy program employing categorical targeting schemes would have an administrative cost of anywhere from 10 to 30 percent of total program costs.

It would require extremely large administrative costs to outweigh the monetary gains from categorical targeting of infra-marginal income transfer programs, at least in the case of the Philippines. Take, for instance, the upper limit of the range of administrative costs given earlier, i.e., 30 percent of total program costs (administrative plus transfer costs). This translates to about 43 percent of the total amount of budgetary transfer. This cost schedule is depicted as $IAC_1$ in Figure 4 which also shows the incremental monetary gain of a regional targeting scheme. Clearly, in this case, the incremental gains of regional targeting are exceeded by increases in administrative costs only if the total amount of budgetary transfers exceeds P48 billion. The optimal budgetary transfer corresponds to about 6 percent of pretransfer total expenditures. Doubling the administrative cost of a targeted transfer program — depicted by $IAC_2$ — reduces but not eliminates the net gains from regionally differentiated transfers. In this case, the optimal budgetary transfer is P43 billion. This amount is huge, representing about 19 percent of the national government budget in 1991. Other considerations, left unspecified so far, are likely to work against a generous poverty alleviation budget (seventh section, p. 204).

FIGURE 4
**Incremental Gain and Administrative Cost of Targeting**
**(in billion pesos)**




IG - Incremental Gain
IAC - Incremental Administrative Cost

## THE CHOICE OF COMMODITY TO SUBSIDIZE

Thus far, the assumption has been that a *fixed* quantity of food is provided at below-market prices. If resale of rations cannot be prevented, the subsidy is, therefore, equivalent to an income transfer to all those eligible for the program. In many instances, however, food subsidy has been provided through a reduction in the market price for every unit that is purchased. The National Food Authority's rice stock management-cum-monopoly of rice trade has the effect of reducing the market price vis-à-vis the world price. In this case, the size of the income transfer to each person (or household) depends on the quantity purchased. Thus, if the commodity is a normal good (i.e., the household's demand for it rises with household income), the subsidies received by the rich are greater than those received by the poor in absolute terms. On the other hand, if the subsidized commodity is an inferior good (i.e., household's demand for it falls with household income), more of the benefits would accrue to the poor.

Kanbur and Besley (1988) have provided budgetary rules for the choice of commodities to subsidize. For the simple case where the objective of policy is to minimize poverty at the national level, the appropriate indicator is simply the ratio of the quantity consumed by the poor to the total consumption of the population. Food commodities that are ranked highest in the list based on this indicator should be prime candidates for price subsidy. We will employ this indicator in examining the likely distributional incidence of food price subsidies.

For our purposes, we characterize the poor according to the severity of their poverty. Denote the food threshold and the poverty threshold set by NSCB-TWG on Poverty Determination as $z_1$ and $z_3$, respectively. Also, denote the average of $z_1$ and $z_3$ as $z_2$. On this basis, the "ultra poor" are defined as those whose per capita expenditures fall short of $z_1$. The "near ultra poor" are those whose per capita expenditures are less than $z_2$ but greater than $z_1$. The "marginal poor" are those having expenditures less than the $z_3$ but greater than $z_2$. Finally, the "nonpoor" are those with a standard of living greater than $z_3$. Based on the 1991 FIES consumption

data, for the whole country, 32 percent of the population are ultra poor, 13 percent near ultra poor, 11 percent marginally poor, and 44 percent nonpoor.

The rice price subsidy has been justified on the ground of alleviating poverty, but clearly, political economy considerations have likewise been a factor. The price of rice, the main staple of the bulk of the population, has become a politically sensitive issue.

Table 2 shows the respective shares of the four population groups in total rice consumption. The consumption of the ultra poor represents barely one-fourth of the national total, while that of the nonpoor comprises about one-half (about two-thirds of which are by the urban nonpoor). The consumption shares of the near ultra poor and the marginal poor correspond to about the same percentages as their respective shares in the total population. Thus, if the objective is to reduce national poverty, then the rice price subsidy is unlikely to do a good job because of the potentially high leakage of the benefits to the nonpoor.

Table 3 shows similar calculations for corn, a staple food for a segment of the population in the Visayas and Mindanao. Unlike in rice, the corn consumption of the ultra poor—mostly from rural areas –represents 62 percent of the national consumption. The consumption of the near ultra poor comprise 11 percent. The nonpoor's consumption represents only one-fifth of total consumption. Thus, on this basis, corn appears to be a good candidate for price subsidy. However, corn price subsidy as a vehicle for poverty alleviation may not receive enough political support since corn is not a staple food for most of the population.

There are limitations in using the "consumption by the poor" ratios given in Tables 2 and 3 to assess the impact of a food price subsidy. First, the assessment has to take account of possible changes in the commodity mix of consumption as a result of relative price changes induced by the subsidy. There are ample evidences showing that the poor are responsive to changes in the relative food prices, even much more so than the nonpoor (Alderman 1986). Second, as shown by Besley and Kanbur (1988), the "consumption by the poor" ratios are strictly valid only if the poverty

TABLE 2
**Shares of the Poor in National Rice Consumption**

| Region | Ultra poor | Near ultra poor | Mar-ginal poor | Non-poor | Total |
|---|---|---|---|---|---|
| Philippines | 23.46 | 12.62 | 10.87 | 53.04 | 100.00 |
| Urban | 9.48 | 5.41 | 5.43 | 32.04 | 52.35 |
| Metro Manila | 0.56 | 1.12 | 1.55 | 12.39 | 15.62 |
| Ilocos Region | 1.18 | 0.27 | 0.19 | 0.69 | 2.34 |
| Cagayan Valley | 0.22 | 0.09 | 0.06 | 0.64 | 1.01 |
| Central Luzon | 0.64 | 0.92 | 0.92 | 3.87 | 6.36 |
| Southern Tagalog | 1.46 | 0.89 | 0.94 | 4.20 | 7.49 |
| Bicol Region | 1.05 | 0.17 | 0.16 | 0.54 | 1.92 |
| Western Visayas | 1.29 | 0.26 | 0.22 | 2.52 | 4.31 |
| Central Visayas | 0.28 | 0.19 | 0.18 | 1.81 | 2.46 |
| Eastern Visayas | 0.32 | 0.09 | 0.06 | 1.13 | 1.59 |
| Western Mindanao | 0.23 | 0.16 | 0.17 | 0.75 | 1.30 |
| Northern Mindanao | 0.50 | 0.48 | 0.36 | 1.08 | 2.43 |
| Southern Mindanao | 0.63 | 0.40 | 0.30 | 1.62 | 2.95 |
| Central Mindanao | 0.84 | 0.29 | 0.22 | 0.46 | 1.81 |
| Cordillera Autonomous Region | 0.28 | 0.07 | 0.09 | 0.33 | 0.76 |

TABLE 2 (continued)

| Region | Ultra poor | Near ultra poor | Marginal poor | Non-poor | Total |
|---|---|---|---|---|---|
| Rural | 13.98 | 7.22 | 5.45 | 21.01 | 47.65 |
| Ilocos Region | 1.08 | 0.86 | 0.34 | 1.60 | 3.88 |
| Cagayan Valley | 0.68 | 0.20 | 0.26 | 1.66 | 2.79 |
| Central Luzon | 0.56 | 0.76 | 0.59 | 3.12 | 5.03 |
| Southern Tagalog | 1.77 | 1.07 | 0.88 | 3.60 | 7.31 |
| Bicol Region | 2.08 | 0.47 | 0.43 | 1.75 | 4.74 |
| Western Visayas | 1.84 | 1.32 | 0.77 | 2.30 | 6.22 |
| Central Visayas | 0.75 | 0.07 | 0.14 | 0.63 | 1.59 |
| Eastern Visayas | 0.89 | 0.61 | 0.48 | 1.53 | 3.51 |
| Western Mindanao | 0.53 | 0.39 | 0.23 | 1.15 | 2.30 |
| Northern Mindanao | 1.05 | 0.51 | 0.43 | 0.69 | 2.68 |
| Southern Mindanao | 0.70 | 0.48 | 0.34 | 1.07 | 2.59 |
| Central Mindanao | 1.57 | 0.25 | 0.27 | 1.40 | 3.50 |
| Cordillera Autonomous Region | 0.49 | 0.24 | 0.29 | 0.50 | 1.52 |

*Source. National Statistics Office, Family Income and Expenditures Survey 1991.*

TABLE 3
**Share of the Poor in National Corn Consumption**

| Region | Ultra poor | Near ultra poor | Mar-ginal poor | Non-poor | Total |
|---|---|---|---|---|---|
| Philippines | 61.74 | 11.26 | 6.96 | 20.03 | 100.00 |
| Urban | 17.36 | 4.21 | 2.59 | 6.18 | 30.34 |
| Metro Manila | 0.04 | 0.12 | 0.11 | 1.21 | 1.48 |
| Ilocos Region | 0.05 | 0.01 | 0.01 | 0.07 | 0.14 |
| Cagayan Valley | 0.10 | 0,01 | 0.01 | 0.07 | 0.19 |
| Central Luzon | 0.03 | 0.06 | 0.04 | 0.46 | 0.59 |
| Southern Tagalog | 0.08 | 0.02 | 0.04 | 0.45 | 0.59 |
| Bicol Region | 1.46 | 0.00 | 0.00 | 0.01 | 1.48 |
| Western Visayas | 0.24 | 0.01 | 0.00 | 0.21 | 0.47 |
| Central Visayas | 5.00 | 1.68 | 1.21 | 2.60 | 10.48 |
| Eastern Visayas | 0.54 | 0.11 | 0.00 | 0.24 | 0.89 |
| Western Mindanao | 1.55 | 0.48 | 0.01 | 0.14 | 2.17 |
| Northern Mindanao | 3.01 | 0.71 | 0.99 | 0.10 | 4.81 |
| Southern Mindanao | 4.95 | 0.77 | 0.16 | 0.55 | 6.43 |
| Central Mindanao | 0.31 | 0.23 | 0.00 | 0.02 | 0.56 |
| Cordillera Autonomous | | | | | |

TABLE 3 (continued)

| Region | Ultra poor | Near ultra poor | Marginal poor | Non-poor | Total |
|---|---|---|---|---|---|
| Rural | 44.38 | 7.05 | 4.37 | 13.85 | 69.66 |
| Ilocos Region | 0.07 | 0.03 | 0.03 | 0.17 | 0.30 |
| Cagayan Valley | 1.84 | 0.18 | 0.02 | 0.46 | 2.50 |
| Central Luzon | 0.08 | 0.13 | 0.03 | 0.37 | 0.61 |
| Southern Tagalog | 0.32 | 0.10 | 0.17 | 0.39 | 0.98 |
| Bicol Region | 0.96 | 0.41 | 0.03 | 0.42 | 1.82 |
| Western Visayas | 1.83 | 1.10 | 0.88 | 1.13 | 4.94 |
| Central Visayas | 14.66 | 1.16 | 1.05 | 3.99 | 20.85 |
| Eastern Visayas | 1.64 | 0.19 | 0.40 | 0.66 | 2.89 |
| Western Mindanao | 5.34 | 0.61 | 0.43 | 1.84 | 8.21 |
| Northern Mindanao | 6.62 | 1.46 | 0.44 | 0.79 | 9.32 |
| Southern Mindanao | 6.49 | 1.46 | 0.80 | 2.09 | 10.83 |
| Central Mindanao | 4.48 | 0.19 | 0.09 | 1.53 | 6.28 |
| Cordillera Autonomous Region | 0.06 | 0.03 | 0.02 | 0.02 | 0.12 |

**Source:** National Statistics Office, *Family Income and Expenditures Survey 1991.*

alleviation objective is the minimization of aggregate poverty gap, and the Engel curves for food show a significant nonlinearity.

In this paper, we employ a simple, yet flexible, model of consumer demand system to further assess the probable impact of food price changes on household welfare. The varied responses of the various income groups of urban and rural households to price changes – based on estimates of Balisacan (1994b) – are incorporated in the model.[5] For our purposes, we have classified expenditures into five groups: rice, corn, other cereals, other foods, and nonfood. Two simulations are performed: one for a 20 percent decrease in the price of rice, and another for a similar decrease in the price of corn. The changes in real income owing to the price change are aggregated at the national level, and then the shares of the four population groups in the total change are calculated. The results are summarized in Table 4.

In the case of the rice price subsidy, the share of the ultra poor in the national increase in equivalent incomes is only about 20 percent, while that of the nonpoor is about 60 percent. The 40 percent share of all the poor combined is even lower than that indicated in Table 2. About two-fifths of the increase in aggregate income is captured by the urban nonpoor. Clearly, a rice price subsidy has substantial leakage to the nonpoor.

Note, however, that while the share of the ultra poor in the total increase in aggregate income is much smaller than their share in population, the average percentage increase in their income level is higher than for the rest of the population, as clearly indicated by the figures in parentheses in Table 4. This arises from the greater expenditure share of rice for the ultra poor and from their greater responsiveness to rice price changes.

The extent of benefit leakage is less for the corn price subsidy. About three-fourths of the aggregate increase in equivalent income accrues to the poor, with the ultra poor benefiting the most. The rural ultra poor who comprise about 39 percent of the rural population, capture 38 percent of the increase. Note also that, as in the rice price subsidy, the proportionate changes in incomes are higher for the poor than for the nonpoor in both urban and rural areas.

5. See Balisacan (1994b) for details of the estimation.

TABLE 4
**Share of the Poor in Total Change of National Consumption**

| | Ultra poor | Near ultra poor | Marginal poor | Non-poor | Total |
|---|---|---|---|---|---|
| *20% Rice Price Subsidy* | | | | | |
| Philippines | 18.17 | 10.67 | 10.16 | 61.00 | 100.00 |
| | (4.90) | (4.10) | (3.52) | (1.24) | |
| Urban | 9.25 | 5.62 | 5.89 | 41.62 | 62.39 |
| | (4.64) | (3.47) | (2.97) | (0.99) | |
| Rural | 8.92 | 5.05 | 4.27 | 19.37 | 37.61 |
| | (5.19) | (5.13) | (4.73) | (2.65) | |
| *20% Corn Price Subsidy* | | | | | |
| Philippines | 51.98 | 11.98 | 8.30 | 27.75 | 100.00 |
| | (1.38) | (0.45) | (0.28) | (0.06) | |
| Urban | 20.05 | 5.57 | 3.76 | 11.19 | 40.58 |
| | (0.99) | (0.34) | (0.19) | (0.03) | |
| Rural | 31.92 | 6.40 | 4.54 | 16.55 | 59.42 |
| | (1.83) | (0.64) | (0.49) | (0.22) | |

Note: Values in parentheses are average percentage change in household expenditure.
Source: National Statistics Office, *Family Income and Expenditures Survey 1991*.

## OTHER CONSIDERATIONS IN ASSESSING THE BENEFITS AND COSTS OF TARGETED FOOD SUBSIDY PROGRAMS

There are other considerations that may weaken the conclusion reached so far about the monetary benefits of categorically targeted subsidy programs. First, there is the possibility that, with the presence of the food subsidy, recipients may not work so hard to earn income (wage), i.e., they may reduce their labor supply. Under the standard theory of household utility maximization over leisure and commodities, a change in exogenous income or in the prices of commodities affects the demand for leisure (i.e., labor allocation) as well as the choice of commodities. If there is a high marginal propensity to demand leisure, work effort will fall with an increase in household income. Thus, if the reduction in work effort is significant, the net impact of a targeted food subsidy program on income-based poverty estimates may be quite different from that given earlier. The disincentive effects are likely to be greater for subsidy programs which impose a "benefit-reduction rate" on the level of work performed, i.e., the benefit decreases when the income of the recipient increases.

No study has yet been made of how food-related income transfers have affected the labor supply in the Philippines, and the same is true with other developing countries. The only empirical analysis in this area is that by Sahn and Alderman (1993) for Sri Lanka. They found out that men receiving a rice ration worked 2.4 and 2 fewer days per month in urban and rural areas, respectively, while the comparable figures for women were 3 and 0.8. This reduction in the level of work effort corresponded to about 50 percent of the value of the subsidy for males, and around 40 percent for females.

The reduction in net benefit of the subsidy program owing to the disincentive effects on labor supply is not necessarily a loss in social welfare. The available evidence in developing countries also indicates that higher calorie intakes result in greater productivity (Gertler and Rahman 1993). Thus, to the extent that the food subsidy increases calorie intake, the program has a positive productivity effect. Moreover, the reduction in work effort may increase the time available for home production activities,

possibly raising home-produced consumption. Finally, to the extent that the household's utility rises with the reduction in work effort, the reduction represents, in a strict welfare sense, an increase in household welfare. Nonwelfarist advocates of food subsidy programs are, of course, more concerned with the attainment of a certain level of food consumption (e.g., to achieve nutritional goals) than with utility per se.

Another consideration in designing a food subsidy program is its funding. It is unrealistic to assume that huge fiscal resources are available for direct poverty intervention programs, especially during a period of macroeconomic adjustment. Program costs may worsen the government budget deficit, which may have been partly the *raison d'être* for an adjustment program. The foregoing estimates of the monetary gains from poverty-focused targeting schemes do not take into account the effects of the program costs on macroeconomic aggregates, including exchange rate, price level, and interest rate. These effects are difficult to ignore once the program costs eat up a sizeable chunk of the government budget.

The social cost of a food subsidy program depends partly on the way the program is financed. If the program's budgetary requirement is relatively small, there may be no need to raise additional revenue; the required budget may be obtained from existing (untargeted) budgetary allocation. A targeted rice subsidy program of P2 billion, for example, may be funded from the budget allocated to the National Food Authority for its various programs. This agency which is vested with too many functions, has not been effective in stabilizing food prices, providing income transfers to palay and corn farmers, and conferring rice price subsidies to poor consumers (Balisacan et al. 1993). Therefore, channeling this amount for food subsidy to the Department of Social Welfare and Development which has the administrative capability for identifying deserving beneficiaries, can considerably improve the poverty alleviation impact of the government's food subsidy program.

As the budgetary requirements of a food subsidy program rise, additional revenues will have to be generated. In a developing country with poor administrative capacity for the collection of real property and business

income taxes, trade-based taxes as well as commodity taxes are significant revenue-raising devices. However, the incremental welfare costs of raising additional revenues from trade-based taxes, such as tariffs, are large and rapidly rising. Assuming an initial tariff rate on import substitutes of 30 percent (roughly the average rate prevailing in recent years), Clarete and Whalley (1987) estimated these costs to be close to P6 per peso of *additional* revenues raised. Thus, a food subsidy program funded by such tax devices is likely to be extremely costly to society.

Finally, one also has to be concerned about the possible displacement of private transfers by public transfers. If private and public transfers are close substitutes, an increase in public transfers could induce a reduction in private transfers, thereby diluting the effectiveness of the public transfer program. For example, if the coverage of rural works programs is expanded, remittances of relatives residing in urban areas may be reduced, so that the well-being of rural households is hardly affected by the transfer program meant for them. Evidence on the Philippines indicates that private transfers are large and responsive to household characteristics that can be affected by government policy (Cox and Jimenez 1993). The evidence further indicates that, while crowding-out of interhousehold transfers by public transfers is not complete, simple analyses that do not account for private-transfer responses to public transfer programs could exaggerate the effectiveness of these programs in alleviating poverty.

## CONCLUDING REMARKS

Food price increases that may arise from a macroeconomic adjustment program are especially inimical to the poor. Food subsidies are commonly suggested safety nets intended to minimize the impact of the program on the poor. Tight fiscal constraint does not, however, permit a generous budget for food subsidies. There is, therefore, a need to design food subsidy programs that maximize, for a given budget, the reduction in aggregate poverty.

In reducing aggregate poverty to a certain level, a universal (untargeted) food subsidy program has substantially higher fiscal costs than a targeted food subsidy program employing readily observable information about potential beneficiaries. The information pertains to household characteristics or categories, such as area of residence and educational attainment, that are correlated with the person's (or household's) standard of living. Resorting to income testing as a means of screening the poor from the nonpoor raises the administrative cost of food subsidy programs.

The simple exercise in this paper has shown that, even when the only information employed in identifying potential beneficiaries is their area of residence, an area-differentiated income transfer program amounting to P2 billion is capable of achieving the same reduction in aggregate poverty as a universal program (i.e., each person in the population receiving the same amount regardless of his or her area of residence) amounting to P18 billion. The net gain per capita represents about 2 percent of average pretransfer expenditure. The gains are less if other considerations are taken into account (e.g., administrative costs, reduction in work effort by the beneficiaries of income transfers, and social costs of raising tax-related revenues for the subsidy program), but they are not likely to eliminate the case for targeting.

A general food price subsidy to effect poverty alleviation, such as the one commonly employed by the National Food Authority (NFA), is not a cost-effective scheme. NFA's rice price subsidy has a substantially high leakage of benefits to the nonpoor whose consumption represents about one-half of the total rice consumption. Subsidizing the price of corn has a greater potential for poverty alleviation. The leakage of the subsidy to the nonpoor and the not-so-poor is minimal in corn since corn consumption of the ultra poor represents about 62 percent of the national consumption while the nonpoor's consumption comprises only 20 percent. In contrast, the share of the nonpoor in total rice consumption is 53 percent, while that of the ultra poor is 23 percent.

The disadvantage of corn over rice as a target for price subsidy is that the former is a production input in the feeds/livestock industry. Leakages of the subsidized corn to this industry may end up benefiting the nonpoor

more than the poor since the share of meat and meat products in the household budget is higher for the nonpoor than for the poor, and the nonpoor are as responsive to price changes of meat and meat products as the poor (Balisacan 1994b). Nutritional considerations also weigh somewhat against corn. It is inferior in nutritional quality compared to rice which has a higher protein content and a decidedly better amino acid content.

Moreover, political economy considerations constrain the choice of the commodity to be subsidized. Since rice is consumed as a staple food by the large majority of the population, rice price subsidy during an adjustment period is a politically attractive proposition, especially when labor unions can exert considerable political influence in policymaking. To maximize the benefits of the rice subsidy to the poor and to minimize the burdensome impact of the program on the government budget (and on the nonpoor), the subsidy has to be properly targeted and the amount involved must be relatively small.

The use of categorical targeting reduces substantially the administrative cost of income transfer as well as the budget needed to achieve a given reduction in aggregate poverty. The efficiency of categorical targeting is further enhanced if the design also provides incentives for the poor to avail themselves of the program's benefits and for the nonpoor not to preempt these benefits. Locating ration shops in areas where the poor live, or tying up the food subsidy to participation in rural work programs (e.g., food-for-work programs), reduces the leakage of the benefits to unintended groups.

Further investigations into the design of food subsidy programs are called for. It is, for example, useful to empirically examine the costs (including administrative and rent-seeking costs) and benefits of alternative poverty-targeted programs (e.g., ration shops, food stamps, on-site feeding, school feeding). The analysis has to move beyond simply describing the static consequences of food subsidy programs to include as well the dynamic responses to these programs. It is not known, for example, how labor supply and private transfers respond to various types of food subsidy schemes.

An assessment of the effectiveness of food policy in reducing poverty is incomplete without also looking at other policy options to achieve poverty alleviation objectives. Is a targeted food price subsidy program, for example, superior to public works programs, schooling subsidy, or investment in public health?

Finally, an analysis of the public provision of social safety nets has to go beyond the economic environment and include as well the political landscape. Past efforts to design, institutionalize, and implement poverty-focused programs have failed partly because of the failure to explicitly consider political economy issues. How do the various food subsidy programs, for example, affect the goals and behavior of various government agencies, rent-seeking by public- and private-sector agents, and opportunities for coalition by program supporters (as well as by opponents)? To what extent does the outward appearance of policies matter? If it matters a great deal, political support for in-kind transfer programs (e.g., food stamps and public works programs) is likely broader than for pure cash transfers to households. Only after political economy issues such as these have been adequately understood can one be confident in the effectiveness of the poverty-alleviation planning effort.

APPENDIX TABLE 1
**Population Distribution by Poverty Type and Region, 1991**

| Region | Population | Population share | Ultra poor | Near ultra poor | Poor | Non-poor | Total |
|---|---|---|---|---|---|---|---|
| Philippines | 63,135,953 | — | 32.24 | 12.85 | 10.68 | 44.23 | 100 |
| Urban | 31,619,220 | 50.08 | 24.68 | 11.76 | 10.64 | 52.92 | 100 |
| Metro Manila | 8,824,076 | 27.91 | 5.98 | 10.94 | 11.47 | 71.61 | 100 |
| Ilocos Region | 1,422,872 | 4.50 | 43.78 | 10.74 | 7.21 | 38.27 | 100 |
| Cagayan Valley | 600,139 | 1.90 | 30.47 | 18.28 | 10.84 | 40.41 | 100 |
| Central Luzon | 3,696,913 | 11.69 | 15.67 | 16.05 | 16.14 | 52.15 | 100 |
| Southern Tagalog | 4,335,606 | 13.71 | 22.54 | 11.07 | 10.26 | 56.14 | 100 |
| Bicol Region | 1,358,006 | 4.29 | 56.83 | 9.72 | 7.49 | 25.96 | 100 |
| Western Visayas | 2,209,088 | 6.99 | 36.43 | 5.80 | 6.64 | 51.13 | 100 |

APPENDIX TABLE 1 (continued)

| Region | Population | Population share | Ultra poor | Near ultra poor | Poor | Non-poor | Total |
|---|---|---|---|---|---|---|---|
| Central Visayas | 2,018,956 | 6.39 | 35.21 | 9.04 | 7.75 | 48.00 | 100 |
| Eastern Visayas | 1,007,099 | 3.19 | 36.33 | 10.15 | 8.90 | 44.62 | 100 |
| Western Mindanao | 1,013,977 | 3.21 | 30.80 | 12.33 | 12.19 | 44.68 | 100 |
| Northern Mindanao | 1,694,613 | 5.36 | 35.58 | 17.37 | 11.37 | 35.68 | 100 |
| Southern Mindanao | 2,070,503 | 6.55 | 34.59 | 13.79 | 8.78 | 42.84 | 100 |
| Central Mindanao | 982,992 | 3.11 | 54.61 | 13.63 | 8.41 | 23.36 | 100 |
| Cordillera Autonomous Region | 384,381 | 1.22 | 24.26 | 8.66 | 17.38 | 49.70 | 100 |
| Rural | 31,516,733 | 49.92 | 39.82 | 13.95 | 10.73 | 35.50 | 100 |
| Ilocos Region | 2,121,535 | 6.73 | 29.98 | 18.38 | 12.02 | 39.62 | 100 |
| Cagayan Valley | 1,803,850 | 5.72 | 38.09 | 10.87 | 11.15 | 39.88 | 100 |
| Central Luzon | 2,686,596 | 8.52 | 12.23 | 15.32 | 13.66 | 58.78 | 100 |

APPENDIX TABLE 1 (continued)

| Region | Population | Population share | Ultra poor | Near ultra poor | Poor | Non-poor | Total |
|---|---|---|---|---|---|---|---|
| Southern Tagalog | 4,074,346 | 12.93 | 29.70 | 15.51 | 12.60 | 42.19 | 100 |
| Bicol Region | 3,140,036 | 9.96 | 54.27 | 9.39 | 6.37 | 29.97 | 100 |
| Western Visayas | 3,495,397 | 11.09 | 32.69 | 20.12 | 15.59 | 31.60 | 100 |
| Central Visayas | 2,483,875 | 7.88 | 68.36 | 4.67 | 3.16 | 23.81 | 100 |
| Eastern Visayas | 2,319,255 | 7.36 | 40.53 | 15.67 | 13.23 | 30.57 | 100 |
| Western Mindanao | 2,212,116 | 7.02 | 46.70 | 9.01 | 7.57 | 36.72 | 100 |
| Northern Mindanao | 2,029,941 | 6.44 | 47.77 | 17.03 | 9.44 | 25.76 | 100 |
| Southern Mindanao | 2,349,674 | 7.46 | 38.40 | 18.63 | 11.96 | 31.01 | 100 |
| Central Mindanao | 1,949,188 | 6.18 | 50.07 | 7.19 | 6.41 | 36.34 | 100 |
| Cordillera Autonomous Region | 850,924 | 2.70 | 38.10 | 19.58 | 17.47 | 24.85 | 100 |

Source: National Statistics Office, *Family Income and Expenditures Survey 1991.*

## BIBLIOGRAPHY

Alderman, Harold. *The Effect of Food Price and Income Changes on the Acquisition of Food by Low-Income Households.* Washington, D.C.: International Food Policy Research Institute, 1986.

Atkinson, A.B. "On the Measurement of Poverty." *Econometrica* 55 (1987): 749-64.

Balisacan, Arsenio M. "Demand for Food in the Philippines: Responses to Price and Income Changes." Paper presented at the Third Workshop on Projections and Policy Implications of Medium and Long Term Rice Supply and Demand, Bangkok, Thailand, 24-26 January 1994a.

_____. "Design of a Poverty-Targeted Food Subsidy Program in the Philippines." Quezon City: University of the Philippines, School of Economics, 1994b.

Balisacan, Arsenio, Ramon Clarete, and Angelita Cortez. "The Food Problem in the Philippines." Final report prepared for the International Food Policy Research Institute, Washington, D.C., 1993.

Besley, Timothy. "Means Testing Versus Universal Provision in Poverty Alleviation Programmes." *Economica* 57 (1990): 119-29.

Besley, Timothy and Ravi Kanbur. "Food Subsidies and Poverty Alleviation." *Economic Journal* 98 (1988): 701-19.

Besley, Timothy and Ravi Kanbur. "The Principles of Targeting." In V.N. Balasubramanyam and Sanjaya Lall (eds.) *Current Issues in Development Economics.* London: Macmillan, 1991.

Clarete, Ramon and John Whalley. "Comparing the Marginal Welfare Costs of Commodity and Trade Taxes." *Journal of Public Economics* 33 (1987): 357-62.

Cornia, Giovanni Andrea and Frances Stewart. "Two Errors of Targeting." Washington, D.C.: World Bank, 1993.

Cox, Donald and Emmanuel Jimenez. "Private Transfers and the Effectiveness of Public Income Redistribution in the Philippines." Washington, D.C.: World Bank, 1993.

Deaton, Angus and John Muellbauer. "An Almost Ideal Demand System." *American Economic Review* 73 (1980): 312-26.

Foster, James E., Joel Greer, and Erik Thorbecke. "A Class of Decomposable Poverty Measures." *Econometrica* 52 (1984): 761- 66.

Garcia, Marito and Per Pinstrup-Andersen. *The Pilot Food Price Subsidy in the Philippines: Its Impact on Income, Food Consumption, and Nutritional Status*. Research Report 61. Washington, D.C.: International Food Policy Research Institute, 1987.

Gertler, Paul J. and Omar Rahman. "Social Infrastructure and Urban Poverty in Asia." Paper presented at the Asian Development Bank Conference on Critical Issues and Policy Measures to Address Urban Poverty, Manila, 1993.

Greer, J. and E. Thorbecke. "A Methodology for Measuring Food Poverty Applied to Kenya." *Journal of Development Economics* 24 (1986): 59-74.

Grosh, Margaret E. "Administrative Costs and Incidence in Targeted Programs in Latin America: Towards Quantifying the Trade-off." Washington, D.C.: World Bank, 1993.

Kanbur, S.M. Ravi. "Measurement and Alleviation of Poverty: With an Application to the Effects of Macroeconomic Adjustment." IMF Staff Papers 34. International Monetary Fund, 1987.

Kennedy, Eileen T. "Alternatives to Consumer-Oriented Food Subsidies for Achieving Nutritional Objectives." In Per Pinstrup-Andersen (ed.) *Food Subsidies in Developing Countries: Costs, Benefits, and Policy Options*. Baltimore: Johns Hopkins University Press, 1988.

King, Mervyn A. "Welfare Analysis of Tax Reforms Using Household Data." *Journal of Public Economics* 21 (1983): 183- 214.

Ravallion, Martin. "Poverty Comparisons: A Guide to Concepts and Methods." Living Standards Measurement Study Working Paper No. 88. Washington, D.C.: World Bank, 1992.

Ravallion, Martin. "Poverty Alleviation through Regional Targeting: A Case Study for Indonesia." In Karla Hoff, Avishay Braverman, and Joseph E. Stiglitz (eds.) *The Economics of Rural Organization: Theory, Practice, and Policy.* Oxford: Oxford University Press for the World Bank, 1993.

Ravallion, Martin and Dominique van de Walle. "The Impact on Poverty of Food Pricing Reforms: A Welfare Analysis for Indonesia." *Journal of Policy Modelling* 13 (1991): 281-99.

Sahn, David E. and Harold Alderman. "The Effect of Food Subsidies on Labor Supply in Sri Lanka." Washington, D.C.: World Bank, 1993.

Sen, Amartya. "Poverty: An Ordinal Approach to Measurement." *Econometrica* 22 (1976): 219-31.

Thorbecke, Erik and David Berrian. "Budgetary Rules to Minimize Societal Poverty in a General Equilibrium Context." *Journal of Development Economics* 39 (1992): 189-205.

TWG [Technical Working Group on Poverty Determination]. "A Monograph for the Estimation of Poverty and Subsistence Thresholds and Incidences." Makati: National Statistical Coordination Board, 1993.

World Bank. *Targeted Programs for the Poor During Structural Adjustment.* Washington, D.C.: World Bank, 1988.

## COMMENTS

Certain propositions in the paper are quite acceptable. Given a simple budget-allocation problem, it is indeed more efficient to target funds for the poor than not to do any targeting at all. Yes, targeting the poor will be more accurate if funds are spent on food rather than on non-food items, if spent on inferior foods than on superior foods, and if spent in places with a high concentration of the poor than in other places.

At the same time, however, one has to realize that the economic-allocation problem is not that simple. One can see that the list of the government's priority provinces in its poverty-reduction program does not quite coincide with the list of the poorest provinces based on the income criterion. The fact that many of the provinces in the list have a relatively high density of cultural minorities is a sign that the poverty-reduction program is actually one of the government's means of responding to the grievances of the minorities and of solving problems of rebellion and of peace and order. In short, poverty-minimization is not the sole objective.

Portions of the study are too concerned with issues that may be important in other countries but are not critical in the Philippines. One is the concern that a poverty-reduction program will foster laziness among the poor. Another is the concern that such a program will crowd out private transfers, i.e., better-off Filipinos will no longer make gifts and donations to the poor, thinking that there is already a government program which takes care of them. These are concerns more appropriate in countries where welfare programs are quite old and have already become over-sized, but not

in the Philippines where the very concept of programs of direct assistance to the poor is only now being seriously considered.

In the Philippines, a much more important issue for any subsidy program is the trustworthiness of the agency that will be tasked to implement the program. The Social Weather Station (SWS) opinion polls regularly find that most citizens are dissatisfied with government efforts to fight graft and corruption. Thus, the design of a system of targeting a poverty-reduction program would not be as controversial as the reputation of the agency (for example, will it be the Department of Social Welfare and Development or the National Food Authority?) in charge of the program.

## TARGETING TRANSFERS TO THE POOR: THE CASE OF FOOD SUBSIDIES

The choice of the National Food Authority (NFA) subsidy program as the subject of the study was a result of the attempts by the government to use the P2 billion NFA stabilization fund for more significant poverty reduction programs similar to those being pursued by the Department of Social Welfare and Development (DSWD), e.g., Mt. Pinatubo Resettlement Program. Government programs are multifaceted and indeed, a public opinion survey may be used to gauge their acceptability. A discussion of their specifics as in case studies would likewise be useful in understanding and evaluating their usefulness.

A study which will look into the impact of NFA on the public, especially the farmers, would be interesting. How many buy or sell from the NFA? The findings might show that the interface of NFA with the small farmers is very small. A public opinion on the honesty and efficiency of NFA may also be obtained. There may be a need to appeal to the media to report the results, whether good or bad, for the NFA.

Two reasons were cited why the NFA was not abolished earlier. First, the government did not know what to do with the NFA warehouses and offices as well as its personnel. And second, the NFA is the frontline agency of the Department of Agriculture (DA) in the field. Thus, without NFA, there must be some solid suggestions to be offered as alternative. The Grains Production Enhancement Program of the DA, meanwhile, seems to be encountering problems with the farmers.

The best instrument perhaps for the DA is the provision of new technologies. The true meaning of technological change must be fully understood by proponents and beneficiaries. Agriculture personnel should not just respond to what farmers enumerate during seminars/workshops as their needs, e.g., roads, irrigation, etc. but must also actively push for real technological changes.

The difficulty, meanwhile, of identifying the target beneficiaries was pointed out. Dr. Gelia Castillo, for instance, said that the best food subsidy she encountered was in the slums of Mexico where the poor have to line up for free *tortillas* because surely, the rich will not line up for *tortillas.* Another significant poverty program is in Bangladesh where the choice of "food for work" or a "food for subsidy" scheme is employed. For the former, one has to render work for food while for the latter, food is given for free. More people prefer the "food for work" scheme because they are able to make demands while the "food for subsidy" scheme is highly politicized.

Individual experiences with a food subsidy program run by a private group were also related. As a result of this scheme, beneficiaries are worse off than before since the subsidy given was in kind and the food provided was not acceptable. On the other hand, credit programs coursed through the NGOs and credit unions seem to be doing well. There is anecdotal evidence that beneficiaries were able to improve their level of well-being.

Finally, a caution against farmer dealers posing as farmer-leaders was raised since some take advantage of the farmers for their own interest.

A suggestion was made to have a joint research among the PIDS, the University of the Philippines-School of Economics (UPSE) and the Social Weather Station (SWS) to answer the queries and issues on NFA and poverty programs.