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No. 371 | September 2013

Asian Development Bank

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Asian Development Bank

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1550 Metro Manila, Philippines
www.adb.org

September 2013
ISSN 1655-5252
Publication Stock No. WPS135993

Note: In this publication, “$” refers to US dollars.

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ABSTRACT

Many countries adopted safety net programs to deal with the food crisis of 2008. However, such programs are often beset with targeting errors, inefficiencies, and fraud. Despite this, there is no systematic comparative analysis of safety nets. The objective of this paper is to identify generic issues germane to safety net design and their role in determining success. We examine the performance of safety net programs in Bangladesh, India, Indonesia, and the Philippines in terms of people covered, food distributed, and income support provided. These countries spend 1%–3% of their gross domestic product on safety nets—small in relation to developing and industrial economies. We find an across-the-board failure of targeting in the four countries. The reasons range from elite capture, incorrect identification of the poor, their lack of access, barriers to participation, and regional allocation biases. Even if perfect targeting could cover the entire target group and eliminate leakage to nontarget groups, the target groups may not receive the full subsidy due to illegal diversions, operational inefficiencies, and excess costs of public agencies. The success of the safety nets will depend on increasing the participation of the poor and minimizing program waste. Computerization of supply chains to track grain supplies can reduce diversion, and switching from in-kind to cash transfers can cut administrative and other costs of physical handling. The mix of tools would depend upon the economic, political, cultural, and social backgrounds of the country, and its administrative and fiscal capabilities to provide safety net programs.

Keywords: Conditional and unconditional cash transfers**,** in-kind transfers, social safety nets, Bangladesh, India, Indonesia, and Philippines

JEL Classification**:** D60, I38

I. INTRODUCTION

In an egalitarian agrarian society, the level of agricultural productivity would completely determine the extent of food security. However, in less developed and inegalitarian countries today, the poor depend on government safety nets for their food security. A flawed safety net can seriously jeopardize their well-being. Besides promoting equity, safety nets can also promote growth. In a recent survey, Alderman and Yemtsov (2012) sort the pathways from safety nets to growth at the macro, local economy, and individual level. Of these, the individual level effects on household assets, especially human capital and investment are best researched. Whether for these or other reasons, Asian countries have begun to invest in safety net programs at a pace faster than what was historically observed for the rich countries of today.[1]

However, neither the equity nor the growth effects can be realized with poorly designed safety nets. In this paper, we take a close look at the safety nets in several Asian countries designed with the food security of the vulnerable segments of population in mind. Our objective is to identify generic issues that can throw light on how safety net programs can be designed better.

The countries that we examine in this study are Bangladesh, India, Indonesia, and the Philippines—some of the most populous countries in Asia. We look at the commonalities and differences in the types of safety nets involving both in-kind and cash transfers. We try to explore the inefficiencies associated with the various programs such as targeting errors—that is, errors of excluding those who should be included and including those who should not—and fraud. We examine such outcomes with the aim of drawing some lessons for improving the design of safety nets.

One thing to note is that it is poverty that causes food insecurity for the poor. Any income transfer to the poor would help alleviate food insecurity. Therefore, we should not restrict our attention only to the programs involving food transfer. Conditional as well as unconditional cash transfer programs work toward the same end. The other side of the coin is that to the extent that beneficiaries of an in-kind (i.e., subsidized food) transfer can shift their spending to other items, they can make the same choices as under an equivalent cash transfer. A comparison between the two systems would be of interest in determining which system involves less corruption, waste, and leakage.

In Section II, we give a brief account of the main safety net programs in each country. In Sections III and IV, we examine the inefficiencies of these programs beginning with targeting errors, and then the extent of fraud and excess costs. In Section V, we discuss the impact of these programs on the food consumption of the intended beneficiaries. In Section VI we discuss some reservations about cash transfers, and in the last section, we make some concluding comments.

[1] *The Economist*. 2012. Asia's Next Revolution. 8 September. http://www.economist.com/node/21562195.

II. COUNTRY EXPERIENCES

A. Bangladesh

When Bangladesh gained its independence, it inherited a food rationing system from the colonial government. The system involves obtaining supplies through domestic procurement and imports, and distributing them to consumers in rationed quantities and at subsidized prices. In the last 2 decades, however, Bangladesh has moved away considerably from this kind of safety net.

Starting in the early 1990s, Bangladesh shifted food supplies from the subsidized sales channels to food transfers tied to specific programs that target particular categories of households (Ahmed et al. 2010). Subsidized and rationed food sales to the general population have disappeared. Some subsidies are still offered in sales to the armed forces and in open market sales meant to stabilize prices. But nearly half of the food transfers now occur as in-kind wage payments in public works programs, such as the Food-for-Work Program and Test Relief. As the work to be done is manual labor, these programs are expected to be self-targeting.

Other important transfer programs are the Vulnerable Group Development and the Vulnerable Group Feeding programs. The Vulnerable Group Development program is targeted to poor women and provides a monthly food ration for 2 years. This is part of a package of which the other components are training on income-generating activities; information on social, health, and nutrition issues; and instruction in basic literacy and numeracy. The Vulnerable Group Feeding program is a relief program to help the poor during natural disasters. Bangladesh also used to have a Food for Education program under which households received monthly food grain rations if they sent their children to primary schools. However, this has been replaced by a cash-based Primary Education Stipend program. Aside from this, Bangladesh has a school feeding program that distributes micronutrient-fortified energy biscuits to primary school children.

During 2001/02–2005/06, the government distributed 1.4 million tons of rice, of which the bulk, or nearly 1 million tons, was distributed through the different transfer programs discussed above. In 2009, the country distributed 2 million tons as against a production of 32 million tons. Thus, the country distributes barely about 6% of its output. In contrast, in India, the government procures and distributes about one-third of its rice and wheat production. Bangladesh's portfolio of safety net programs, including subsidized sales and other transfer programs, covered about 27% of the population against a head-count poverty ratio of 40%. Even with perfect targeting, about 32% of the officially poor would be excluded from the safety net programs (i.e., 27% of 40%). Yet even such a modest level of spending amounted to 2.8% of the gross domestic product (GDP). Clearly, resources are a major constraint to the expansion of safety nets in Bangladesh.

Bangladesh has used cash transfers either in conjunction with food transfers or by itself in some of its programs. An instance of the former is the Vulnerable Group Development program. On the other hand, the Rural Maintenance Program provides only cash transfers in the form of wages to women participating in training for income-generating activities.

B. India

In India, the central and state governments jointly run a marketing channel called the Public Distribution System (PDS) devoted solely to the distribution of subsidized food grain. At the

retail level, this involves a network of "Fair Price Shops" (FPS) selling subsidized grain not available elsewhere. Usually run by private agents who receive a fixed percentage as commission for their efforts, the FPS is often restricted to sell only subsidized grain and in some places, a few other essential goods. The Central Government is responsible for the procurement, storage, transportation, and bulk allocation of food grains to different states. On the other hand, the State Government is responsible for transporting and distributing the grain within its boundaries through the network of FPS.

Grain sales occur at a fixed price called the "issue price" that is typically lower than the market price. Two conditions govern the sale of subsidized grain: First, the buyer of grain must possess a ration card; and second, household grain purchases are subject to a quota. A procurement operation buys supplies and funnels them to the PDS. Through the Food Corporation of India, the government procures grain at the "procurement price," and then stores and transports it to various locations.

The food subsidy arises from the government procurement and distribution of two commodities: wheat and rice. In the 1970s, the food subsidy averaged about 0.45% of GDP. It rose to 0.54% in the 1980s and was at about the same level (0.52%) in the 1990s. In the 2000s up to 2007–2008, the food subsidy averaged 0.8% of GDP and about 7.5% of tax revenues of the Central Government. It should be noted that there are some states of the Indian Union that offer food subsidies beyond the parameters of the Central Government scheme. The additional expenditure is borne by those states and not included in the food subsidy numbers.

Since 1997, food subsidies have been targeted. Subsidies depend on whether the household is classified as above poverty line (APL), below poverty line (BPL), or poorest of the poor (POP), by the Antyodaya Anna Yojana program. The list of BPL beneficiaries is prepared through a separate BPL census. In the latest census of 2002, households received scores based on 13 criteria.[2] The BPL households were those that fell below a cut-off score decided by the respective state governments. If the total number of BPL households exceeds the Central Government estimate, the subsidy on the excess households has to be borne by the State Government.

In recent years, India's food policy and its institutions have been repeatedly challenged. The stunning growth of the economy in the 2000s has not been accompanied by commensurate improvement in poverty and nutrition indicators. Politically, such dissatisfaction has taken the form of a promise of a "right to food" by the United Progressive Alliance that returned to power in India's 2009 general elections. This campaign promise has now seen the introduction of the National Food Security Bill in Parliament. The run-up to this bill has been contentious, with government advisors, media, and independent experts debating alternatives to effectively deliver the right to food.

Besides the in-kind food subsidy, India has a cash transfer program in the form of public works, called the National Rural Employment Guarantee Act. This program, which is limited to rural areas, is not directly targeted but works through self-selection of the poor. The employment offered is manual labor in various sorts of construction projects such as roads, water ponds, small dams, and watershed projects. However, each household is limited to only 100 days of employment. Cash payments are made through post offices or banks. The program size is

[2] The criteria included the amount of owned land, type of house, availability of clothing, food security, sanitation, ownership of consumer durables, literacy status, and types of indebtedness.

about 0.5% of GDP. A much smaller cash transfer program is the old-age pension scheme, where individuals above the age of 65 belonging to BPL households receive Rs200 per month.

C. Indonesia[3]

Indonesia's Raskin program provides subsidized rice to selected households. The state agency Bulog purchases rice from farmers and delivers it to regional distribution points. Each participating household is eligible to receive a maximum of 14 kilograms (kg) per month at Rp1,600 per kg. The subsidy amounts to 30%–40% of total household rice consumption (35–45 kg of rice), equivalent to about 11% of household expenditure.

In 2010, Raskin supplied 3 million tons of rice to 17.5 million households as against a production of 35 million tons and imports of 3 million tons. Thus, the program accounts for about 8% of total supply.

The rice subsidy program is one of many social assistance and safety net programs in Indonesia. Two other prominent safety net programs have been Bantuan Langsung Tunai (BLT), an unconditional cash transfer program, and Jamkesmas, a health insurance program that provides free in- and out-patient care to households at hospitals and primary health centers. BLT is not an ongoing program; it operates for limited durations to compensate poor households for cuts in fuel subsidies. There have been two rounds of such transfers.

BLT was first introduced for a year starting October 2005 to enable households to cope with fuel price increases or cuts in fuel subsidies. It covered 19 million households in every part of the country, each receiving Rp100,00 per month in quarterly installments through the post office network. Following another round of fuel price increases, the program was relaunched in 2008 for a period of 9 months with a monthly benefit of Rp100,000.

There are several smaller programs such as cash transfers to public school students from poor households, and cash transfers to the elderly, the disabled, and the youth. Among the smaller programs is a conditional cash transfer (CCT) program called the Program Keluarga Harapan (PKH), which provides cash for local health and education services. The cash transfers to households range from Rp600,000 to Rp2.2 million per year depending on the number of qualifying dependents, and are delivered four times a year. Conditions include a mother's attendance at pre- and post-natal checkups, a professionally attended birth, newborn and toddler weighings, and health checks and attendance records of school-age children. In 2011, PKH reached 800,000 "extremely poor" households in 25 out of 33 provinces and 118 out of 497 districts.

Indonesia's expenditures on household-based social assistance programs such as those described above were about 2.6% of all public expenditure in 2010—about 0.5% of GDP. In the years BLT was offered, this proportion was higher, up to 1% of GDP. The average for developing countries is between 1% and 2% of GDP, depending on the definition of social assistance.

In 2010, BLT was not offered and Raskin was the biggest social assistance program, accounting for about 53% of such spending, followed by Jamkesmas. In the years it was offered, BLT was sizeable—60% of social assistance expenditure in 2005, and 40% in 2008. Spending on PKH is small at about 4% of social assistance expenditure. All of these are central

[3] This section draws heavily from Jellema and Noura (2012) and the World Bank (2012).

government programs. Local government spending on social assistance is mainly towards salaries to support these national programs.

The official target population for the largest programs—Raskin, Jamkesmas, and BLT—is households with a per capita consumption below around Rp250,000 per month. This represented 12.1 million households or 21% of all households in 2010. The target population represents more than just the officially defined poor in 2010, as only 12.5% of households lived below the poverty line of Rp233,700 per person per month or $1.19 per day in purchasing power parity (PPP).

D. The Philippines

The Philippines has a long history of government-run social safety net and food programs, partly to reduce the impact of high commodity prices on the poor. In 2009, the country's social protection system comprised over 60 programs implemented by more than 20 agencies. When the food, fuel, and financial crisis struck, the rice price subsidy program of the National Food Authority (NFA), by far the largest food program in the country, accounted for over 70% of the total social protection budget. As a staple food, rice accounts for almost 50% of the average daily calorie intake of the population and over 30% of the annual food expenditures of poor Filipino households. While initially the agency's mandate included the sale of grains and non-grain commodities at subsidized prices, rice is now the major focus of the food subsidy program. This shows the government's emphasis on food as a major means of survival.

Over time, the country became a regular and growing rice importer starting in the mid-1990s. From 0.3 million metric tons (mmt) in 1995, imports ballooned to 2.4 mmt in 2010 before declining to 0.71 mmt in 2011. Over 90% of the rice supplied through the price subsidy program is imported.

In principle, the NFA rice subsidy program is universal. However, its geographic distribution is not sensitive to poverty incidence. The rice is distributed most widely in the National Capital Region (NCR), which has the lowest poverty incidence among the regions (Manasan 2009). The country has launched smaller programs to target deprived groups. The Tindahan Natin Program uses geographical targeting to channel supplies. Store locations are determined by the Food Insecurity and Vulnerability Information Mapping System. Another targeting initiative was to entitle only low-income households in the NCR to the cheaper NFA rice. This initiative came about as a response to the unusual global spike in rice prices in 2008. The country also has school feeding programs such as the Food for School Program, which provides 1 kg of rice to students for each day that they are present in school. The beneficiary households are those with Grade 1 children in public elementary schools or with children studying in accredited day care centers. There are also breakfast feeding programs in selected schools for children in Grades 1 and 2.

The Pantawid Pamilyang Pilipino Program (4Ps) is the country's key CCT program. Beginning in 2007 with 6,000 households, its coverage was rapidly expanded to 666,000 households to address the food, fuel, and financial crisis in 2008–2009, and to 2.3 million households by 2011. To be eligible for the cash grants, a household must meet several criteria (Fernandez and Olfindo 2011):

1. It must be located in a poor area selected by the program.

2. It must be classified as poor. This is done by a proxy means test.

3. It must have a pregnant woman or at least one child aged 0–14 years.

4. Its members must be willing to commit to meeting program conditionalities.

The education cash transfer grants a monthly amount of P300 per child for a maximum of three children during the school year, provided that the children in day care centers and those aged 6–14 years old in elementary or high schools attend at least 85% of the time. The health grant consists of P500 per month for each beneficiary household and is contingent on health clinic visits and deworming pills for children. Households receive their allowance through Land Bank of the Philippines ATMs. On average, the transfers are about 20% of the pre-transfer income of the beneficiaries (Fernandez and Olfindo 2011).

The success of the CCT program is perhaps reflected in the fact that net enrollment rates in kindergarten, elementary, and secondary levels have all increased from 2009 to 2011. To finance the continuation of this program, some 7.5% of the total increment in the national government expenditure program in 2012 went to social security, labor/employment, and other social welfare services. In particular, the budget of the Department of Social Welfare and Development was increased by 44%. A large part of this increase was earmarked to the 4Ps, the allocation of which went up by 86% over its 2011 level to fund an expansion in the number of beneficiary families from 2.3 million by the end of 2011 to 3 million by May 2012. The spending on the CCT together with the rice subsidy program amounted to 0.5% of GDP in 2008 (Fernandez and Velarde 2012).

III. TARGETING PERFORMANCE AND ENVIRONMENT

Most governments intend their programs to reach the poor. In this sense, they would like their programs to be targeted. However, in practice, programs are subject to both inclusion and exclusion errors.

In Indonesia, 71% of the bottom 3 deciles received Raskin benefits, while this figure was 45% for the cash transfer program BLT. Thus, the exclusion error was lower for Raskin; however, the inclusion error is highest for Raskin as well. About 70% of beneficiaries were non-target. On the other hand, the inclusion error in BLT was less than 60%. The targeting errors of Raskin are not just because of errors in design. Even when households are correctly identified, the task of distributing rice is left to local communities. These villages and communities distribute the rice as they see fit, often sharing equally among all or nearly all households. This could be seen as the power of local elites in bending the targeting rules to their advantage—on the other hand, it could also be that local communities believe targeting to be divisive, and therefore prefer equal sharing.

The NFA distribution of subsidized rice in the Philippines is not targeted; thus, we would expect that it would have a high inclusion error and a low exclusion error. However, data from 2009 shows that while the inclusion error is indeed high (65%), so is the exclusion error (52%).[4] The inclusion error for that year was particularly high in the urban areas (81%); correspondingly, their exclusion error was also lower (44%). The reason for this seems to be that the allocation of rice under the program is biased against the poorer regions of the country.

[4] These figures constitute an improvement in the exclusion error since 2006, when it was 75%. However, the inclusion errors have increased from 48% in 2006.

In India, the inclusion error for survey year 1 July 2004–30 June 2005 was 70%, with inclusion errors higher in rural areas. The proportion of poor who used the food subsidy system was low—only about 30%. Thus, the exclusion error was 70%, with no difference between urban and rural areas. Some of the exclusion was due to targeting errors where some of the poor were deemed to be nonpoor, and therefore rendered ineligible to receive subsidies. Only about 40% of the population that were poor according to the official poverty line were correctly identified as poor and eligible to receive subsidies (Jha and Ramaswami 2012). On the other hand, some of the exclusion happened because some of the eligible poor households chose not to participate in the program. This was true for nearly 40% of those who were poor and eligible. Thus, factors other than eligibility—such as the distance to the authorized retail outlet, the business hours of this retail source, and the quality and quantity of grain—have all been barriers to participation.

Bangladesh's food subsidy cum rationing program was targeted to low-income households in rural areas. While no national statistics on targeting errors are available, a survey by Ahmed (1992) of eight villages in 1991 showed that 21% of subsidized rice leaked to households that did not meet the targeting criteria. The same study quotes interviews to document inclusion and exclusion errors but presents no estimates. Ahmed et al. (2010) claim that the heavy leakage to the nonpoor in the rationing scheme was one of the reasons why the program was abolished and the emphasis of safety nets shifted to food transfer programs tied to public works, education, and women. Yet these safety net programs are also characterized by high errors of inclusion and exclusion (Shawkat Ali et al. 2008).

These country experiences are striking in revealing the lack of success of targeting efforts. Is this because of poor design? Could more information and a better database resolve this problem? The application of a better methodology would surely help. However, it may also be that the task of targeting in poor countries is intrinsically difficult.

First, defining the target group in poor countries is a difficult task. This is because of the large mass of the population bunched just above the poverty line. In India, the proportion of the population below the poverty line was 27.5% in 2004/05, while those below twice the poverty line was nearly 80%. Similarly, in Indonesia, while only 12.5% of households lived below the poverty line, 24% lived below 1.2 times the poverty line, 38% lived below 1.5 times the poverty line, and 60% below twice the poverty line.

As the poverty lines measure at best basic levels of subsistence, it is not clear at all whether a person just above the poverty line should be deemed not worthy of support when a person just below it receives support. These dilemmas may be less acute in more affluent countries, including Latin America, where the poor are a small minority. Another problem is that households may drift in and out of poverty. In Indonesia, research has documented high rates of entry into and exit from poverty. According to the World Bank (2012), the poorest 40% have at least a 10% probability of falling below the poverty line in the following year. In the end, fiscal sustainability often dictates the size of the subsidy and the coverage.

Perhaps even more problematic is the identification of the target group. Even if the target group is defined, perhaps according to an income threshold, means testing as done in the rich countries is impossible. Much of developing country employment is characterized by the absence of formal contracts, salary records, and tax payments. Therefore, poverty status depends on proxy indicators of land ownership, habitation, type of housing, and social characteristics. Since it cannot be expected that these would be perfectly correlated with poverty as defined by the official poverty line, proxy means testing would always be subject to

error.[5] The other method employed in targeting is to use community assessments of who is poor to leverage local information. This, of course, makes targeting vulnerable to elite capture.

The Indian case is an illustration of the difficulties of targeting. Of all the households that received subsidized food eligibility cards, 68% in rural areas and 52% in urban areas are not poor. This suggests serious inclusion errors in the distribution of subsidy eligibility cards. However, only 30% of rural households and 22% of urban households with eligibility cards are those with per capita consumption expenditures above 1.5 times the poverty line. Therefore, many of the non-poor with subsidy eligibility are those with per capita expenditures just above the poverty line. A similar finding is reported in the cash transfer program of the Philippines. Here, about 79% of nonpoor beneficiaries are those living just above the poverty line (Fernandez and Velarde 2012).

The problem with targeting in India is not so much that grossly ineligible households have been counted in, but that many deserving households have been left out. Neglecting exclusion errors can sometimes cause misleading assessments of targeting. From a meta-survey of targeted programs, Coady, Grosh, and Hoddinot (2004) conclude that with all its errors, a proxy-based means testing offers significant improvements in targeting. However, this conclusion is based entirely on looking at the share of the poor in the total subsidy as a measure of targeting performance. Such a measure is inversely correlated with inclusion errors. As it does not take exclusion errors into account, a program with sizeable exclusion errors could still do well with regard to the share measure of targeting.

IV. FRAUD AND EXCESS COSTS IN FOOD SUBSIDY PROGRAMS

The leakage of subsidies to nontarget groups is by no means the sole or even the dominant reason why a target group does not receive the government's entire subsidy expenditure.

In his review of the Bangladeshi rural distribution of subsidized food, Ahmed (1992) observed that rice does not reach the targeted group because of claims either from non-targeted consumer households or from other stakeholders in the distribution chain. As rice in the open market is priced higher than in the government distribution channel, gains can be realized by illegally transferring the grain meant for target group households to market sales. In Ahmed's study, such transfers accounted for 80% of rice leakage, defined as the difference between the target group's household entitlement and its rice receipts. The remaining leakage was caused by distribution to nontarget households.

The difference between rice distribution and household purchase is sizeable in other countries, too. In Indonesia, household purchases were only one-half of rice procurement in 2008. It was even worse in 2009 when the ratio dropped to one-third. In addition, the price paid by households in 2009 was approximately 60% higher than the officially stipulated prices. In India and in the Philippines, more than 50% of subsidized grain supplies were lost to illegal diversions in the mid-2000s. Our recent estimate for India puts the leakage at 41%.

[5] Jalan and Murgai (2006) show that the proxy indicators used in India to arrive at a census of poor households in 2002 were unable to differentiate between extremely poor and not-so-poor households. Enlarging the set of proxy indicators to include other household characteristics did not help much, possibly because of the bunching of households around the poverty line.

Jha and Ramaswami (2012) consider an additional source of leakage: excess costs by state agencies relative to the private sector. These excess costs may result partly from government mandate, due to which these agencies may pay more for grain compared to the private sector, or pay higher wages to its employees. They may also result partly from inefficiency. Incentives to control the latter are absent when the government's reimbursement to the state agency occurs on a cost plus mark-up basis. A simple way to measure such costs is to compare the costs of state agencies with a suitable market price.

Jha and Ramaswami also showed that around the mid-2000s, income transfer to all households, including the poor, accounted for only about 30% of subsidy expenditure in India and 34% in the Philippines. The remainder and the bulk of subsidy expenditures were lost to illegal arbitrage and excess costs. Indeed, the bulk of the Philippine rice subsidy expenditure comes from the costs of administering the program. In contrast, the administrative costs of their CCT program averaged 13% of the total subsidy expenditure in the period 2008–2010 (Fernandez and Velarde 2011).

There could be several policy responses to these large losses in subsidy expenditure. One might be to invest in better policing of the distribution chain. Computerizing the supply network and the documentation of grain movement could help. Reforms of this sort have been tried in a few states in India; it is not clear whether this can be replicated in other states. Such policies require sustained political and bureaucratic commitment to the supervision of the supply chain. Another option is to insist on reliable authentication of retail transactions with the use of smart cards and/or biometric identification. Such authentication would make it difficult to divert grain from genuine beneficiaries. A third sort of response, like that of Bangladesh, is to move away from food subsidies and invest instead in other programs directed towards categories such as women and children. Finally, a fourth policy response, like in Indonesia and the Philippines, could be to move away from in-kind transfers to cash transfer programs.

V. EFFECTS OF SUBSIDY ON FOOD CONSUMPTION

A common objection to cash transfers is that they do not explicitly fulfill the goal of increasing the food consumption of the poor. The economics case for cash transfer is that it allows people to make their spending decisions themselves—which is exactly what bothers the opponents of cash transfers. They argue that it is not self-evident that such decisions are made wisely. The goal of food subsidy is to increase food intake and improve nutrition. This is furthered only by the supply of food and not cash, which can be dissipated in various ways.

Paternalistic arguments are particularly appealing when cash transfers are received by men who use it for their self-interest (e.g., for buying alcohol and cigarettes) rather than the interest of their families. There is anecdotal evidence that some of the money from cash transfers is diverted to undesirables such as alcohol. One of the problems in coming up with empirical evidence of this phenomenon is that it is very unlikely that, in surveys, people will report alcohol purchases from cash transfers. However, certain studies have tried to get indirect evidence. In Somalia, for example, a post-transfer monitoring team conducted interviews with *qaat* (a kind of drug) traders to see if there had been any increase in sales following the cash distribution. The team found that "[T]here were no reports at the household level of cash use for *qaat* purchase. Focus group and key informant interviews showed that although there did appear to be a short-lived increase in business for *qaat* dealers, this reflected the circulation of cash among the business community rather than a usage among drought-affected vulnerable pastoralists" (Narbeth 2004).

The overwhelming evidence has been that cash transfer programs work and recipients do spend the cash received on necessary goods (Harvey 2005). Most recently, Cunha (2010) used a randomized controlled trial in rural Mexico to compare the benefits of in-kind transfers with those of cash transfers, and found that in-kind transfers did not result in better outcomes than cash transfers, though they entailed 20% more administrative costs. Cunha concludes:

> Importantly, households do not indulge in the consumption of vices when handed cash. Furthermore, there is little evidence that the in-kind food transfer induced more food to be consumed than did an equal-valued cash transfer. This result is partly explained by the fact that the in-kind transfer was infra-marginal in terms of total food. However, the in-kind basket contained 10 individual items, and these transfers indeed altered the types of food consumed for some households. While this distorting effect of in-kind transfers must be a motivation for paternalism, households receiving cash consumed different, but equally nutritious foods. Finally, there were few differences in child nutritional intakes, and no differences in child height, weight, sickness, or anemia prevalence. While other justifications for in-kind transfers may certainly apply, there is minimal evidence supporting the paternalistic one in this context

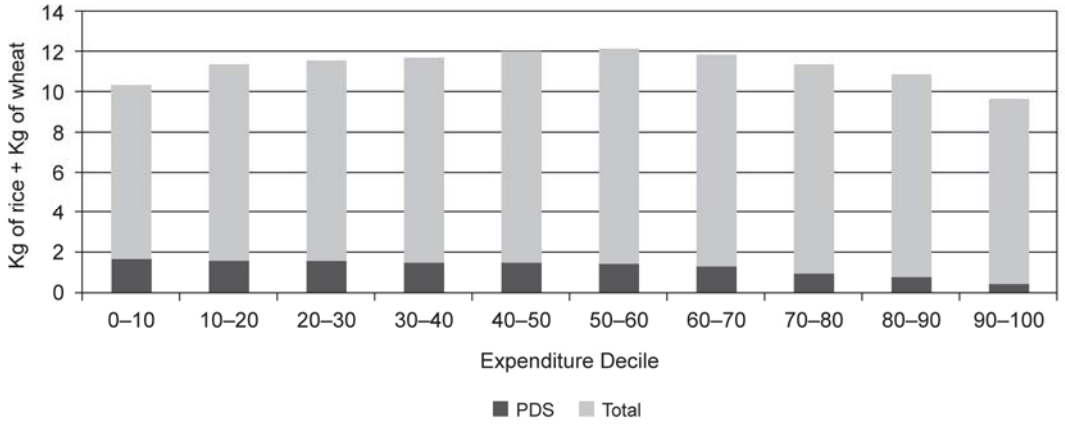
Cunha's findings point to the fact that different ways of directly transferring food subsidy (in-kind or cash) have one thing in common: the subsidy transferred ends up becoming fungible. This contests the assumption of paternalistic arguments that in-kind transfers make people consume more food than they would with an equivalent value of cash transfer.

In economic theory, the paternalistic assumption is valid only if; (i) the in-kind transfer cannot be re-sold, and (ii) the transfer (i.e., the provision of food) is larger than what the household would voluntarily consume in its absence. If either of these is violated, the in-kind transfer is equivalent to a cash transfer in terms of impact on consumption choices. The first condition is obvious: without it, the in-kind transfer would be freely transacted and would be equivalent to a cash transfer.

Figure 1 gives a closer look into the second condition. It shows the monthly per capita consumption of rice and wheat for different expenditure deciles of the population in India. In this figure, 0–10 is the bottommost decile of the population when ranked by expenditure. The average monthly consumption of rice and wheat for every person in this decile is a little over 10 kg, of which the PDS supplied a little less than 2 kg. Similar interpretation attaches to the other bars. It is clear that the second condition is violated.[6] Even if the subsidy transfer were to increase to 7 kg per person (as proposed in the food security bill), it would still fall short of what households purchase anyway. So even though it is an in-kind transfer, households save the money that would have been used to buy food to purchase other commodities. The point is not that in-kind transfers will not increase food intake but that the impact may well be no different from that of a cash transfer

[6] That is, if the subsidy were discontinued, per capita grain consumption would not drop below 2 kg per month.

Figure 1: Per Capita Grain Consumption, PDS and Total, 2004/05

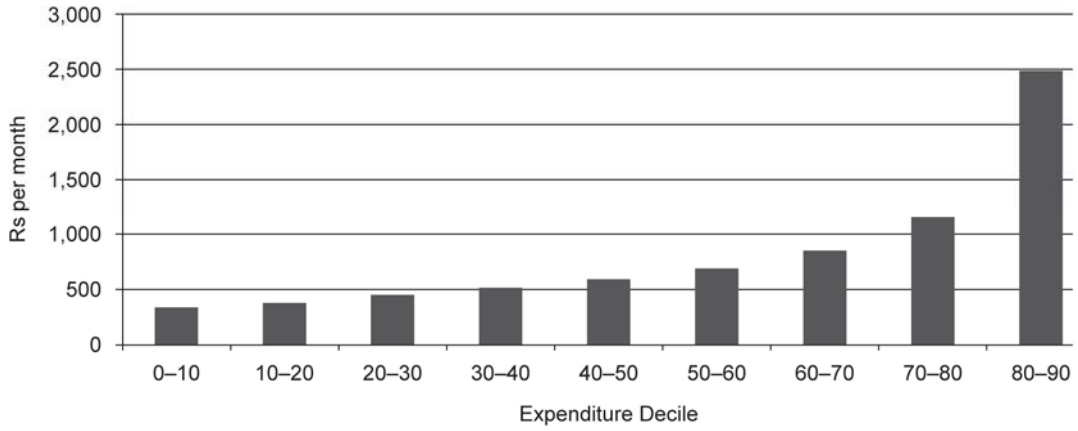


kg = kilogram, PDS = Public Distribution System.

Source: Roy Chaudhuri and Somanathan (2011).

In fact, it is likely that whatever the form of subsidy, the effect on grain purchases will be small. Figure 2 shows the average total consumption expenditure per person within each of these deciles. From both these figures, it is clear that despite wide differences in total consumption expenditure, the amounts of wheat and rice purchases do not differ that much between the rich and the poor. As the poor become better off, the major impact of their expenditures will not be on grain intake but on other food items and commodities.

Figure 2: Per Capita Consumption Expenditure by Expenditure Decile 2004/05



Source: Roy Chaudhuri and Somanathan (2011).

An example of the fungibility of food subsidies comes from the work of Jensen and Miller (2011). In Hunan and Gansu, two provinces of the People's Republic of China, randomly selected poor households were offered subsidies on purchases of the basic staple—rice in Hunan and wheat flour in Gansu—for a period of 5 months. The households were given vouchers that could be redeemed at local grain shops, but they were not permitted to resell the vouchers or the goods purchased with the vouchers. According to Jensen and Miller, there was no evidence that this increased the consumption of the subsidized staple. What happened was

that households altered their consumption patterns to improve the taste of their diets. In response to the rice subsidy, the households in Hunan moved away from the basic diet of rice, bean curd, cabbage, and spinach in favor of fish. In Gansu, where wheat was subsidized, the households did not increase the consumption of wheat but added more edible oil to their diet. The point that even desperately poor people might pass up on buying cheap calories from staples in favor of tastier food and other spending such as on festivals and celebrations is emphasized by Banerjee and Duflo (2011).

The fungibility of transfers means that it is exceedingly difficult to ensure that the poor use the aid they receive for the intended purpose of nutrition. For example, if they are sold food at subsidized prices, it is quite possible that they spend the savings incurred on whatever gives them the greatest pleasure. This need not be a frivolous expenditure. Every household has its own priorities; if a particular household decides to buy a cell phone instead of improving their food basket, it may very well be that they feel a stronger need for the phone than for more calories. In other words, there is a limit to the control that a society can exercise over individual lives (Banerjee and Duflo 2011).

The implication is that both in-kind transfers and cash transfers are essentially means of income support. If this is the case, the task of policy is to find the best mechanism for income support. Paternalism goals are irrelevant because they cannot be achieved anyway.

Between the extremes of in-kind transfers through government procurement and direct cash transfers are other intermediate models. A well-known model is the food stamp system of the United States (US). Here, beneficiaries are given stamps or coupons of fixed monetary value, which can be redeemed in stores only for certain foods.[7] The resale of stamps and their use as general currency is prohibited. The supposed virtue of such "restricted" cash transfer systems is the paternalistic goal of boosting food consumption. However, if such effects are negligible or absent, then the appeal of hybrid models is not clear. Compared to a cash transfer system, a food stamp/coupon model is administratively more demanding, additionally requiring systems of redemption at stores and the reimbursement of stamps by the government. In addition, it would also be necessary to audit and enforce the legitimate use of stamps.

VI. ISSUES WITH CASH TRANSFER PROGRAMS

Poor countries have to deal with three major issues regarding cash transfers:

1. Is it even feasible? Is there an infrastructure for cash payments?

2. Would it be subject to fraud? How can systems be designed to minimize the possibility of theft?

3. Should cash transfers be conditional?

A cash transfer system is constructed on two pillars: a payment system to distribute the cash, and an authentication system to verify that the transaction accrues to the intended beneficiary. Conventional payment systems are brick-and-mortar banks and post offices. By definition, such infrastructure is not well developed in the poor and remote areas of low-income countries. This has been a barrier to the use of cash transfers.

[7] Debit cards have since replaced paper stamps.

The computerization of financial systems and the use of the internet and mobile devices have broken through this impasse. Africa leads the world in the use of mobile phones to transfer cash. This technology has allowed urban migrants to remit money to their families still living in rural areas. Effectively, any retailer is potentially a point for a banking transaction.

In the Philippines, the principal method in the CCT program is direct payment to the Land Bank accounts of beneficiary households. The cash is then accessed through cash cards or ATM cards. In cases where this is not feasible, the cash grants are given through over-the-counter transactions from the nearest Land Bank branch or offsite payment center. Other possible channels are rural banks, the post office, and Globe Telecom remittance centers.

In India, the cash payments for the public works program are directly credited to the post office accounts of the beneficiaries. While post offices have the advantage of reaching even remote areas, they lag in the adoption of automated payment systems. Because of this, payments are often delayed. The alternative being explored is payment via bank accounts. Bank payment systems are faster; however, the distance to banks is a deterrent. Portable ATMs are a way to provide "last-mile" connectivity. A deeper issue is whether such services can be provided at a reasonable cost.

Another objection to cash transfers is that food prices fluctuate, and a commitment to the poor in terms of a certain quantity of food per person cannot be easily maintained. In principle, cash transfers can be indexed. It is, of course, expensive to adjust the subsidy amount too frequently, and the cost of not adjusting it frequently enough will be borne by the poor.[8] The Indonesian education stipend program is not indexed and this erodes its real value over time.

The issue of fraud in cash transfer programs has to be addressed by an authentication system that verifies that transactions are made by the intended beneficiary. Such a system requires verification of the beneficiary's identity. In a digital system, this can be done through a user-supplied numeric code or password. More secure systems rely on biometric identification. India, for example, has a nationwide project to store biometric data about its residents. This can be used in the delivery of public services to verify the identity of the recipient. This requires biometric scanners that are easily built into the portable internet-enabled devices used for recording transactions.

While reliable authentication systems would prevent outright theft, it is not clear a priori that they would prevent tips and other unofficial deductions from the payments to beneficiaries. In the Indian public works programs, it is acknowledged that "small" deductions are the norm. Deductions are also the norm in Indonesia, with 50% of recipients under the second phase of the BLT reporting some deduction (as against only 10% in the first phase of BLT in 2005). Similarly, the median deduction in 2009 may have increased to nearly half the disbursement as against only 10% in the first disbursement in 2005 (Jellema and Noura 2012). These deductions go to the payment intermediaries such as post office agents.

CCTs have been widely used in many Latin American countries. However, the issue of corruption does not figure in the Latin American literature on CCTs, possibly because of good payment systems and higher levels of awareness among the beneficiaries. Here, cash transfers are conditional on attendance in schools and health clinics. Program benefits are designed to

[8] Of course, the shortfall for a given month can be added to the amount sent to the consumer the following month. In addition, the market prices can go down as frequently as they go up, and so over a long time the fluctuations could cancel out.

contribute to long-term human capital development and to immediate poverty relief. These benefits are, in effect, like negative user fees that were paid instead of charged to program participants who attended schools or visited clinics. Evaluation studies suggest that the majority of program benefits accrued to poor families, and that the program made significant contributions to health, nutrition, education, and poverty outcomes. As expected, a major implementation challenge has been identifying target beneficiaries. Another challenge has been in ensuring the timely payment of benefits. Other issues involve the complexity of keeping the list of eligible households up to date, and monitoring the effectiveness and integrity of the procedures used to identify and pay beneficiaries.

Is conditionality necessary? Conditionality can be a useful targeting mechanism, as in the case of food-for-work programs where food subsidy is conditional on the person working at the public works program, or school feeding programs where food subsidy is conditional on the child attending school. The work requirement acts as a self-targeting mechanism. However, this creates a bias against certain segments of the population, especially families with elderly members and children who are poor but not physically capable of working.[9] In the CCTs seen in Latin America, the conditionality is of a different form, relating to the use of social programs of education and health. Whether these conditions can be applied in the Asian context has to be judged with reference to the availability of such infrastructure.

VII. SUMMARY OF FINDINGS AND CONCLUDING OBSERVATIONS

The sustained rise in food prices and their volatility has brought to the fore the need for strong food-based and other social safety nets to protect the poor who are the most vulnerable and the least prepared to respond to food crises and other economic shocks. In this paper, we examined the design and performance of safety net programs such as cash and in-kind transfers, nutrition programs, and public works programs in Bangladesh, India, Indonesia, and the Philippines, with a view to discerning common design elements for success.

The largest food-subsidy programs in Bangladesh, India (PDS), and Indonesia (Raskin) are targeted with fixed quotas for beneficiaries who include different categories of the poor, ultra poor, and other vulnerable classes. The subsidized sale of rice by the NFA in the Philippines is universal and, following the global food crisis, it accounted for over 70% of total social protection expenditure in 2009. Through their second-largest avenue for food-based support, Bangladesh and India also transfer food via public works programs as payment in kind. All the four countries run other food and cash transfer programs as well, which are targeted at poor households or poor regions, women, and school children, among others.

While India's food program secures its supplies largely through domestic purchases from farmers, the Philippines relies mainly on imports, and Bangladesh and Indonesia use a combination of the two. Bangladesh distributes about 6% of its rice output, India procures one-third of its rice and wheat production, Indonesia's rice distribution accounts for about 8% of its total supply from production and imports, and the Philippines procures just about 1% of its output whereas its imports amount to 10%–15% of rice production. All the countries except Indonesia also engage in open market sales to stabilize prices. The spending on these safety nets is close to 3% of GDP in Bangladesh, about 1.5% in India, and barely 1% in Indonesia and

[9] Food-for-work programs are also likely to be costlier to implement than cash transfers because they require management and other resources to create productive work.

the Philippines. These figures are small in relation to those in both developing and industrial economies—19% for the European Union (EU) and 9% for the US.

Whether targeted or not, most governments aim to extend the benefits of safety nets to the poor. Their performance can be viewed in terms of people covered, food provided, and income support passed on through subsidy. Only 45%–70% of the poor access various programs in India, Indonesia, and the Philippines, whereas as many as 65%–70% of the beneficiaries are from nontarget groups.[10] Considering the accrual of program benefits, barely 30–35% of subsidy expenditures in India and the Philippines reach poor and nonpoor households combined. In Bangladesh, the rice subsidy program of the 1990s, which has since been abolished, targeted the rural poor, but over one-fifth of the rice leaked to nontarget groups. In Indonesia, while beneficiary households paid 60% more than the stipulated subsidized price, only half the procured rice reached them in 2008, which declined to just one-third in 2009 as the food crisis hit. In India and the Philippines, close to half the rice allocated for subsidized distribution found its way out of the system.

The across-the-board failure of targeting in the four countries prompts an examination of the underlying factors. The reasons vary across countries. Rice from the Raskin program in Indonesia is equally distributed among households by local authorities who are given the responsibility of distribution—thus providing an avenue for elite capture. The occurrence of targeting errors in India's PDS can be traced to the problem of correctly identifying the poor, and barriers to their participation such as distance to the outlets selling subsidized grains, lack of credit, low quality and unavailability of grains, and the opportunity cost of queuing. More than half the poor in the Philippines could not avail of the benefits of the NFA rice subsidy despite the program having universal coverage. This could be attributed to the uneven allocation of rice with a bias against poorer regions and unwritten quotas employed in practice.

Large informal sector employment in these countries means that household incomes are unstable so that people at the border of the poverty line keep shifting in and out of poverty. In the absence of data on household incomes, non-income indicators are often used to identify the poor and minimize inclusion and exclusion errors. However, errors of estimation due to the concentration of poor and high poverty-risk households around the poverty line create a major problem in identifying the poor. Selecting easily identifiable target groups such as children and women, providing inferior goods, and requiring manual labor are some of the ways to get around the problem. The use of biometric identification and smart cards could also reduce fraud and improve the reach of program benefits to the target population.

Even if food subsidy programs could minimize leakage to nontarget groups and thus be rated successful in targeting, it does not ensure that the entire subsidy will accrue to the targeted population. This is a possibility given the illegal diversions and inefficiencies in program implementation, manifesting in the form of excessive charges by public agencies as compared to those charged in the private sector, and leading to economic waste. The problem of diversion could be addressed by computerizing the supply chain to track grain supplies. On the other hand, inefficiencies in implementation could be reduced by switching from in-kind to cash transfers, which do not entail administrative and other costs of physical handling.

There is scant evidence that higher food subsidies result in higher food consumption or better indicators of nutrition and health. This could be because the quantity of subsidized staple food is often smaller than the household's current consumption. Also, examples from Asia and

[10] Corresponding figures are not available for Bangladesh.

elsewhere show that in-kind transfers are fungible—i.e., the recipients could trade it for other goods or other types of food for more variety, better taste, or higher nutrition.

Such observations imply that cash transfers might be more efficient than in-kind transfers for supporting the poor by eliminating the costs associated with barter trade. Implementing cash transfers would require the development of payment infrastructure such as banks or post offices, especially in rural, remote, and inaccessible areas. The use of modern technology such as computerized financial systems, the internet, and mobile telephony have proved successful for making cash transfers in developing countries. Tying cash transfers to conditions such as attendance in schools and health centers has been shown to develop human capital and higher potential for growth in the long term.

Limited fiscal space, which was eroded by fiscal stimulus packages after the global crisis, necessitates streamlining the food-based programs or replacing them with those that are likely to perform better. Such moves were made in the past by Bangladesh, which replaced its weakly performing subsidy rice program with food-for-work programs and targeted food transfers to the military, the poor, and women and children. Likewise, the Philippines is cutting down NFA rice subsidy and, based on positive results, is rapidly enlarging its CCT program, which piloted in 2007 with 6,000 households, as the key safety net for the poor. The budgetary allocation for the CCT, which is expected to cover 3 million households by the end of 2012, was almost doubled in 2012 compared to 2011.

It is clear that, given limited resources, the success of safety nets depends on the extent to which the programs are able to enhance the participation of the poor as well as keeping program costs, including fraud, low. The first issue requires a serious consideration of the targeting design. Should countries tolerate some leakage of resources to nontarget groups to keep subsidies accessible to the poor? The second issue requires a serious consideration of alternatives to in-kind transfers. Are cash transfers feasible, and can they lower program costs, including fraud? While these are generic issues, the mix of tools to be used in a specific country would depend upon its economic, political, cultural, and social backgrounds on the one hand, and its administrative and fiscal capabilities to provide safety net programs on the other.

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Safety Nets and Food Programs in Asia: A Comparative Perspective

In developing countries, well-designed government safety nets can spell the difference between food security and hunger for the poor, who are most dependent on these programs. However, targeting errors, fraud, and excess costs can get in the way of their success. In this study, Shikha Jha, Ashok Kotwal, and Bharat Ramaswami examine safety nets such as cash and in-kind transfers, nutrition programs, and public works programs in Bangladesh, India, Indonesia, and the Philippines. By comparing these programs, the authors find ways to improve safety net design—and ultimately increase their chances of success for helping the poor..

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