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Scorecard for Subsidies

How Utility Subsidies Perform in Transition Economies

Unlike the poor in many developing countries, those in Central and Eastern Europe and the former Soviet Union are highly connected to network utilities. During the early 1990s, it became clear that without subsidies, many households would have difficulty paying their utility bills. Governments started to experiment with various subsidy schemes. This Note describes the main ones, scores their performance, and provides a methodology for governments designing subsidies to decide which scheme is likely to be the best fit for their country.

The scoring system

The performance of a subsidy can be measured in several dimensions. Key is its success reaching the poor, and the amount of purchasing power it transfers to them. However, the evaluation of any subsidy mechanism should go beyond the amount of support provided to the poor. Subsidies have a cost that needs to be financed from somewhere. For a given level of purchasing power to be transferred to the poor, this cost depends on the targeting efficiency of the subsidy mechanism. Some subsidy mechanisms are highly unpredictable (which tends to invite corruption in countries with poor governance). Some subsidies distort price signals and other incentives resulting in the waste of resources. Certain types of subsidies demand sophisticated institutions or technology to administer them while others are simple. Thus the following criteria are used to score the various subsidy schemes:

- The extent to which the poor are being reached (that is, coverage).
- The share of the subsidy that goes to the poor (that is, targeting).
- Predictability of the benefit for the poor.
- The extent of pricing distortions and other unintended side-effects.
- Administration cost and difficulty.

Not all criteria are of the same importance. A financially strapped government may assign top priority to reducing the leakage of the subsidy to the non-poor. Another with limited administrative capacity may value simplicity more. Few mechanisms perform well on all the criteria—for instance, high coverage is usually associated with low targeting. Furthermore, not all subsidy mechanisms are applicable or perform equally well across the full range of utility services. Lack of water meters, for example, may pose a problem for lifeline tariffs. It

Table Scoring subsidies

	Coverage	Targeting	Predictability	Pricing distortion	Administration	Aggregate score ^a
					cost and difficulty	
No disconnection	1	1	0	-2	0	2
Across-the-board price subsidy	1 to 2	0	2	-2	0	2 to 4
Lifeline tariff with 2 blocks	1 to 2	0	2	-1	0	3 to 5
Lifeline tariff with 3 blocks	1 to 2	2	1	-2	0	5 to 7
Lifeline tariff with "floating" blocks	1 to 2	1	2	-1	-1	4 to 6
Pricing discount for privileged consumers	1	1	2	-1	-1	4
Burden limit based on actual utility expenditure	1	0	1	-2	-2	-1
Burden limit based on utility expenditure norms	1	1	1	0	-2	3
Other earmarked cash transfer	1	2	1	-1	-2	4
Non-earmarked cash transfer	1	2	1	0	-2	5

a. Calculated with double weights to first two criteria.
Source: World Bank staff calculations.

is therefore impossible to rank subsidy mechanisms independently of time, place and sector.

It also matters who has to cover the cost of the subsidy. The discussion of each subsidy mechanism below includes a brief assessment of their financial impact on those who will have to pay: taxpayers, non-household consumers (businesses), and the supplier utilities.

The methodology does not cover the interaction between various utility subsidy mechanisms—for example, the combined effect of a lifeline tariff and a burden limit—or between utility subsidies and other sector-specific subsidies.

The variety of subsidies

There are seven main types of utility subsidies in Central and Eastern Europe and the former Soviet Union:

- *No Disconnection.* In several countries in the region, utilities are pressured by governments not to disconnect households who do not pay their bills. Non-payment by residential (and many other) consumers has remained particularly widespread in the Balkans and the former Soviet Union.
- *Across-the-board Price Subsidy.* At the beginning of the 1990s, it was commonly believed in all transition countries that real wages would start growing in the near future. Many governments postponed the realignment of utility prices and costs, hoping to minimize the associated social

costs and political repercussions. Most countries in Central and Eastern Europe have abandoned across-the-board price subsidies by now, but governments in the former Soviet Union have not, although residential tariffs have been brought closer to costs than they were in the early 1990s.

- *Lifeline Tariff.* Restricting the price subsidy to the initial block of consumption (called the basic need level) offers a less costly alternative to across-the-board price subsidies while preserving their politically attractive universal protection feature. Not surprisingly, many governments in the region introduced lifeline tariffs for utility services with metered or relatively easily estimated consumption, such as electricity and gas.
- *Price Discount for Privileged Consumers.* The Soviet Union operated a system of utility price discounts between 25 and 100 percent, not to reduce poverty, but to reward certain occupations (police, firemen, judges, and so on), or to compensate for hard labor, war, or man-made catastrophes like Chernobyl. Afraid of popular discontent, few newly independent republics dared to overhaul this system.
- *Burden Limit.* An alternative to limiting prices is to help selected households to pay their bills—limiting the burden on household budgets. The burden limit typically varies from 15 to 30 percent of income. In Ukraine, for example, the burden limit was set at 20 percent in 1998. The subsidy is calculated on the basis of actual utility bills, and

Box How the scores were determined

The scores assigned to each subsidy mechanism were determined in the following way:

- **Coverage** ratios below 33 percent scored zero, between 33 percent and 66 percent scored one, and higher than 66 percent scored two. A number of subsidy mechanisms scored “one to two,” since the share of the poor who are connected (and can be reached) varies greatly from one utility to another.
- **Targeting** ratios below that attainable by random selection scored zero, above that ratio scored one, and above twice that ratio scored two.
- For **predictability**, no-disconnection, the most unpredictable mechanism, scored zero. Mechanisms that provide benefits with high certainty (across-the-board price subsidy, two-block and “floating”-block lifeline tariffs, and privileged discounts) scored two. The remaining subsidy mechanisms scored one.
- For **pricing distortion**, the two subsidy mechanisms that do not affect the effective price of the last unit of consumption

(non-earmarked cash transfer and the burden limit based on utility expenditure norms) scored zero. Mechanisms that distort the effective price for most households (across-the-board price subsidy and three-block lifeline tariff), or greatly distort this price for the beneficiaries (no-disconnection and the burden limit based on actual utility expenditures) scored two. The remaining subsidy mechanisms scored one.

- For **administration cost and difficulty**, subsidy mechanisms that can be administered by the utilities with little extra effort (no-disconnection, across-the-board price subsidy, and two-block and three-block lifeline tariffs) scored zero. Mechanisms that require significant extra effort (“floating” lifeline and privileged discounts) scored one. Subsidy mechanisms needing a network of offices to administer the income tests scored two.
- Scores for the last two criteria were given a negative sign to facilitate the calculation of aggregate scores.

household income must be verified by employers, the social security office, or the tax authority.

- *Other Earmarked Cash Transfers.* An alternative way to reduce the burden is to provide a subsidy calibrated to ensure a certain level of income after paying for rent and utilities. The Bulgarian government and most Latvian municipalities operate such schemes.
- *Non-earmarked Cash Transfers.* General social assistance payments can also help households to pay their utility bills, even though the money is not designated for that purpose. However, for politicians these payments may lack the appeal of introducing specific relief from utility bills at the same time as utility prices increase.

Findings

The performance of these subsidy mechanisms was analyzed using household survey data and information provided by various government agencies in Central and Eastern Europe and the former Soviet Union. Table 1 sets out the scores for each type of subsidy by the performance criteria. Box 1 describes how the scores were calculated.

All the subsidy mechanisms reached at least one-third of the poor. Two mechanisms—across-the-board price subsidy and lifeline tariff—reached more than two-thirds of the poor, but only for electricity and water, since at least one-third of the poor do not have access to gas, district heating, and sewerage in most countries in the region.

Targeting ratios for the across-the-board price subsidy, two-block lifeline tariff, and burden limits based on actual utility expenditures were below that attainable by random selection. For no-disconnection, the two-block “floating” lifeline tariff, and burden limits based on utility expenditure norms they were somewhat better than random selection. For the three-block lifeline tariff and income-tested (earmarked or non-earmarked) cash transfers they were at least twice that produced by random selection.

Across-the-board price subsidies, two-block lifeline tariff and price discounts for privileged consumers provided highly predictable support to the poor. Burden limit, most earmarked and non-earmarked cash transfers, and three-block lifeline tariff (with a “penalized” third block) had medium predictability. No-disconnection and certain non-earmarked cash transfers were highly unpredictable.

No-disconnection and the burden limit based on actual utility expenditures created large price distortions (by making the effective price of the household’s last unit of consumption zero). Across-the-board price subsidy, and the three-block lifeline tariff created significant price distortions for all (or almost all) households. Two-block and “floating”-block lifeline tariffs and privileged discounts created significant price distortions for the minority of households connected. Non-earmarked cash transfers and the “normative” burden limit created no utility price distortions.

No-disconnection, across-the-board price subsidy, and lifeline tariffs (with the exception of lifelines with “floating” blocks) were very simple to administer. Price discounts for privileged consumers and the “floating” lifeline tariff posed significant administrative challenges since the utilities needed to match meter readings with certain household characteristics. Burden limits and other income-tested cash transfers would have overloaded the administrative capacity of utilities, and required specialized networks of local offices.

How to use the scoring

To find the subsidy mechanism that suits their circumstances best, decisionmakers need to

- Obtain information on the proportion of the poor connected to each type of utility (this will help to narrow the coverage scores of across-the-board subsidies and lifeline tariffs).
- See whether reliable estimation and billing of actual household consumption is possible (this will show whether lifeline tariffs can be meaningfully considered).
- Determine the weights that they assign to each of the five criteria (if neither metering nor estimation of actual consumption is feasible, zero weight should be assigned to the price distortion criterion).
- Calculate the aggregate scores for each subsidy mechanism and for each type of utility service.
- Identify the mechanisms with the highest aggregate scores for each type of utility service.

To illustrate how this can be done, table 1 includes aggregate scores calculated with double weights assigned to the first two (typically most important) evaluation criteria. For utilities with high connection ratios among the poor (for example, electricity and water), the three-block and “floating”-block lifeline tariffs occupy the first and the second place. For utilities with lower connection ratios among the poor (for example, district heat, gas and sewerage), the first place is shared between non-earmarked cash transfers and the three-block lifeline tariff. When no reliable estimate exists for actual consumption (or the billing system suffers from major deficiencies), lifeline tariffs drop out, the criterion of pricing distortions become meaningless, and the top score goes to cash transfers and privileged consumer discounts or the across-the-board price subsidy, depending on the connection rate of the poor.

Funding

In principle, the cost of the subsidies can be covered by the utilities themselves (through decapitalization), non-household consumers (by setting the prices they pay above cost), or the budget (from general taxation). The first option, however, should be used as a short-term buffer only, because it rapidly depletes the working capital of the utilities, undermines their services, and ultimately reverses the poverty alleviation impact of the subsidy.

The second option may also become unsustainable if demand from industrial consumers is highly elastic with respect to price (for example, in the district heating sector). In this case, the surcharge simply drives down demand and fails to raise the revenue needed for the subsidy.

Thus financing of the subsidy from the budget seems to be the best option in most utility sectors and countries. The higher the targeting efficiency of the subsidy mechanism, the lower this burden is going to be. For a given amount of purchasing power to be transferred to the poor, the three-block lifeline tariff and the income-tested cash transfer schemes require the least money. In fact, three-block lifeline tariffs can be designed so that the “penalty” at high consumption levels (in the third block) covers the subsidy at low consumption levels (in the first block).

Across-the-board subsidies cost so much that most governments have phased them out. While at first sight no-disconnection appears to have no impact on the budget, in reality it tends to be so costly for utilities that the budget not only receives lower revenues from corporate taxes, but over time has to finance maintenance and rehabilitation costs and assume responsibility for the accumulated debt in order to prevent the utility collapsing.

This Note is based on a longer paper: “Maintaining Utility Services for the Poor—Policies and Practices in Central and Eastern Europe and the Former Soviet Union,” by these authors, published by the World Bank in September 2000, for the Annual Meetings of the World Bank and International Monetary Fund in Prague.

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