

IMF Working Paper

Indonesia: Implementing National
Policies in a Decentralized Context:
Special Purpose Programs to Protect the
Poor

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IMF Working Paper
Fiscal Affairs Department

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Context: Special Purpose Programs to Protect the Poor¹**

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Abstract

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In the context of continuing adjustments in the economy, the Government of Indonesia proposes to bring energy prices closer to long run marginal cost, while adequately compensating the poor. We focus on the constraints on central government policy objectives towards the poor as decentralization takes effect. However, local governments currently lack credible social protection instruments and their objectives usually do not match those of the center, which imposes constraints on program designs. We discuss the suitability of a number of safety net mechanisms in a decentralized context and draw policy implications.

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I. INTRODUCTION

Indonesia is in transition from being one of the most highly centralized countries to one of the most decentralized. A critical difficulty is that local governments (particularly at the district or lower level) currently lack credible social protection instruments. On the other hand, at the central level, there is limited capability to implement or monitor local expenditures. During the transition, there is a possibility of conflicts of interest between the various levels of government. The varying incentives have a direct bearing on the design and efficiency of Social Safety Net (SSN) measures aimed at protecting the poor, particularly from shocks to the economy.

In the context of continuing adjustments in the economy, there has been a move to replace administered with market-based price signals. One such measure is to bring energy prices closer to long-run marginal cost at world prices reflecting a stabilized exchange rate. A key sectoral objective is to reduce relative price distortions between various energy products. Although the decisions on prices are taken at a national level, measures to protect the poorest groups from such price changes often involve lower levels of administration—to identify the poor “losers” and to implement “compensatory” mechanisms. The dearth of compensatory instruments under the control of the center, and potential lack of compatibility between central and subnational objectives, underscore the need for great care in designing policy options. The class of instruments traditionally used for such purposes, including special purpose programs or transfers, are also constrained by the current absence of an effective monitoring capability at the central level.

In this paper, we examine two policy proposals—to increase the price of kerosene and diesel—and examine the feasibility of temporary central “compensatory measures” which might be introduced quickly. Note that the paper does not address “permanent social safety nets” addressing, for example, life-cycle needs or disabilities (see World Bank, 1990 and also Gupta, 2000) that might be established by local governments in view of their own requirements for poverty reduction.

II. DESIGN ISSUES

Under the previous model of centralized governance, the center could decide on a policy measure and use its own staff (or staff acting as agents for the center, known as deconcentrated staff) to implement the measure. However, governance is becoming increasingly decentralized. Under the decentralized model, central government measures often require local implementation. Thus, the center should use incentives in order to ensure that local governments do not succumb to the temptation to “misdirect” the resources received from higher levels (see Ter-Minassian, ed., 1997).

In a decentralized framework, higher levels typically use special purpose grants, often with matching requirements, to ensure that the administering level has an incentive to carry out the specified function. This has the disadvantage that the monitoring requirements are quite stringent, in spite of the matching requirements, since the center’s objectives may not match

those of the implementing administration. In addition, some of the poorer regions requiring the expenditures may not have the requisite matching funds to utilize the grant fully. Under these circumstances, the central government's objectives (e.g., for a national safety net) may be vitiated through limited implementation in the poorest areas—with better off areas receiving the grants—or by a diversion of funds to purposes other than those intended by the center. Thus, in the case of a central government policy action that imposes burdens on poor individuals in several or all local jurisdictions, there is little justification for a matching requirement to accompany a special purpose grant.

The arguments above imply that the center either has to rely on a stringent monitoring arrangement, or that the scheme must possess enough “self-targeting” characteristics to achieve program objectives. Combinations of “incentives” and “monitoring” may be needed in practice.

In this paper, we examine the incentive compatibility of central compensatory options that might be utilized, for energy price changes that would impact on the poor, including prices for kerosene and solar (automotive diesel—the latter affecting the poor through their use of public transport). A matrix of price structure for kerosene and diesel in January 2000 is summarized in Table 1.

Table 1. Indonesia: Oil Price Structure

Product	Description	Weight 1/	Domestic Price		World Price US\$ 2/	Suggested Price Increase In percent
			US\$ 2/	Rp/lit 3/		
MOGAS	Gasoil	22.8	21.2	1,000.0	25.9	10.0
KERO	Kerosene	21.1	5.9	280.0	25.3	16.1
ADO	Automobile diesel	46.9	11.7	550.0	22.3	40.0
IDO	Industrial diesel	2.6	10.6	500.0	21.9	40.0

Memorandum:

The domestic price of 1 gallon of gasoil at the pump is equivalent to US\$0.60/gallon.

Sources: World Bank estimates. All domestic prices at the production stage, around January 2000.

1/ In percent of total oil product consumption.

2/ Per barrel. The world price is defined as the f.o.b. price in Singapore.

3/ Assuming an exchange rate of Rp 7,500 per U.S. dollar.

III. KEROSENE PRICING REFORMS

A. Introduction

In Indonesia, domestic kerosene is of a very high quality in terms of octane ratings, and is sold at roughly 25 percent of the Singapore f.o.b. price. This encourages diversion to other uses, including for industry, and for mixing with diesel (ADO or solar).

In early 2000, the price of kerosene charged by Pertamina was Rp 280 per liter (3.7 U.S. cents), including 10 percent VAT. The price at the wholesale level was fixed by local authorities according to guidelines issued by the central government and varied (depending on transport and other costs) between Rp 350 and Rp 500—the provincial variations in price are shown in Table 2. The difference between the wholesale and the production price (the latter by Pertamina) is essentially lump-sum. End-retailers (Pangkalan) add a small margin proportional to the production price and this constitutes the final price paid by consumers.

Table 2. Indonesia: Average per Capita Kerosene Expenditure

Province	Average Per Capita HH Kerosene Expenditure	Average Price/Liter	Per Capita Consumption by Quintile (liters/capita)				
			1	2	3	4	5
Aceh	960	400	1.03	3.52	1.32	3.13	2.95
North Sumatra	1,534	425	2.38	3.34	3.41	3.74	5.14
West Sumatra	980	400	2.01	1.86	1.84	3.06	3.46
Riau	1,665	375	2.95	3.86	4.84	5.06	5.44
Jambi	1,033	375	2.54	2.50	2.83	3.01	2.90
South Sumatra	1,129	400	1.91	2.27	2.46	3.32	4.16
Bengkulu	793	400	0.52	1.21	2.58	2.73	2.63
Lampung	1,428	375	1.86	3.08	3.87	5.15	5.02
Jakarta	1,838	400	5.18	5.40	5.65	3.64	3.12
West Java	1,964	400	3.24	4.10	5.64	5.52	6.04
Central Java	1,306	350	2.22	2.68	3.85	4.44	5.45
Yogyakarta	1,105	400	1.61	1.95	2.62	3.93	3.59
East Java	1,607	400	2.25	3.43	3.98	4.42	6.00
Bali	1,409	375	2.20	3.97	3.02	3.60	5.83
West Nusa Tenggara	786	375	1.58	1.37	2.06	1.98	3.49
East Nusa Tenggara	605	375	0.70	0.59	2.23	1.26	3.14
East Timur	483	400	0.78	1.45	0.92	0.83	1.88
West Kalimantan	1,018	400	0.99	1.24	1.83	3.31	5.31
Central Kalimantan	1,547	350	2.85	3.41	4.84	4.62	6.21
South Kalimantan	1,223	375	1.50	1.35	3.16	4.67	5.56
East Kalimantan	1,473	500	1.45	3.00	3.31	3.19	3.71
North Sulawesi	1,095	350	1.60	1.01	1.85	4.19	6.98
Central Sulawesi	860	300	0.95	1.37	3.69	3.34	4.90
South Sulawesi	953	300	1.84	2.97	3.03	3.51	4.50
South East Sulawesi	1,073	350	1.02	3.51	2.77	3.63	4.34
Maluku	1,361	350	1.09	1.80	2.79	3.23	9.65
Irian Jaya	1,403	350	2.51	2.61	2.87	4.38	7.53

Sources: World Bank for the expenditure distributions and Ministry of Transport for regional price information.

Without precise data, it is difficult to assess the importance of the phenomenon of intrasectoral distortions. A simple comparison of the consumption survey with production statistics suggests that kerosene accounts only for 70 percent of total production, which leaves 30 percent of the production unaccounted for. A small portion of the 30 percent is believed to be smuggled to neighboring countries and the bulk mixed with diesel oil by large operators. While there is no reason to doubt the anecdotal evidence on mixing and smuggling, the magnitudes implied by these figures should be treated with caution, since comparisons based on household surveys may be subject to considerable sampling and nonsampling errors.

In addition to distributional considerations, the kerosene price increase must be carefully assessed against the risk of environmental degradation induced by fuel substitution (wood instead of kerosene). The result could lead to serious environmental damage, particularly in Java's fragile environment. The household survey data suggests that firewood usage may be widespread—indeed, as shown in Table 3, kerosene consumption is higher in urban areas (possibly because wood is used as cooking fuel in rural areas) than in urban areas (where there is no wood)—see Box 1.

Needed compensation

We assume that the target group for the kerosene price adjustment is the same as for the rice subsidy, OPK (Special Operations for Rice), administered by the national logistics agency, Badan Urusan Logistik (BULOG) which provides support for 13.5 million very poor households, and 1.5 million "food needy" household.

The cost of compensation needed (based on the target group of the poorest 15 million households eligible for the rice subsidy) may be computed by using estimates of kerosene consumption by the poorest quintile of the rural and urban population taken together (roughly 2 liters per person per month). An increase in the kerosene price of Rp 45, assuming other costs are constant, would imply a needed compensation of just over Rp 90 per person per month.² With an average of five persons per poor household, the annual household compensation needed is roughly Rp 6,000. Thus, on an annualized basis, if the target population is the same as that of the rice distribution scheme, the total annual compensation needed would amount to Rp 90 billion. In fact, the consumption of kerosene in the lower deciles in rural areas is much less than in urban areas, and thus the needed compensation should be correspondingly lower, as shown in Table 3 (Rp 67 billion).

Alternative measures for compensation for kerosene price increases include a coupon system, and an in-kind benefit based on the existing OPK rice-distribution network. The former would have to be established from scratch, and the latter would build on an existing facility.

² There may be a slightly greater than absolute increase in the price faced by the consumer, as some of the other costs are proportional to the base price.

Table 3. Indonesia: Kerosene Consumption Patterns and Income Loss

A. Share to Total Expenditure (in percent)

Quintile	Urban	Rural
1	1.94	0.98
2	1.84	1.06
3	1.70	1.07
4	1.40	1.16
5	0.89	1.16

B. Computation of Income Loss for the Poor

	Product Price 1/	Other Costs 2/	Cons. Price	Price Difference to Cons.	Number of HH '000	Average Cons. per HH 3/	Total Kerosene Cons. 4/	Income Loss per HH Per Month	Required Subsidy Per Year 5/
Current	280	120.0	400.0	0.0	15,000	7.5	112,500	0.0	0.0
Total	325	124.5	449.5	49.5	15,000	7.5	112,500	371.3	66.8
Rural	325	124.5	449.5	49.5	7,500	5.0	37,500	247.5	22.3
Urban	325	124.5	449.5	49.5	7,500	10.0	75,000	495.0	44.6

Memorandum: Equal compensation for all HHs (assuming 9 liters per HH)

Total	325	124.5	449.5	49.5	15,000	10.0	150,000	495.0	89.1
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Sources: Susenas surveys.

1/ Production price in Rp per liter.

2/ Including taxes and transport costs. Most of these are specific with a small proportional component.

3/ Assuming 2 liters of kerosene per person per month in urban areas and 1 liter in rural areas. The average size of a household is five persons.

4/ In thousands of liter per month.

5/ In billions of Rp to compensate for lost income keeping kerosene consumption constant.

Box 1. Environmental Considerations

Increasing the price of kerosene may encourage forest encroachment by the poor eager to substitute firewood to kerosene for cooking purposes.¹ The extent to which substitutability induces a high environmental cost and should be socially discouraged (say by keeping the price of kerosene low) depends on the characteristics of the region considered. Java, Bali, and the Sunda Islands have a population to biomass ratio which is much higher than in the rest of Indonesia. This makes the environment more fragile and therefore more vulnerable to encroachment. In general, the argument applies to densely populated areas—although the urban poor have less of an opportunity to directly deflect rising kerosene prices onto the environment, the rural poor near large cities often initiate firewood trading with the suburban areas, adding to the excessive pressure on the environment if the biomass is already depleted.¹

In less densely populated parts of Indonesia, there is less of a case to keep a high subsidy on kerosene for two reasons. First, kerosene and firewood are not perfect substitutes in the kitchen (a matter of taste and utensils required). Thus, the rural poor located near a forest will not in any case use much kerosene for cooking, even when the price differential is large. A large subsidy on kerosene would therefore be wasted. Secondly, the very presence of a large biomass makes forest encroachment considerably less damaging than in more fragile environments. Therefore, the environmental benefits may not compensate for the fiscal cost of a large subsidy on kerosene.

¹ For a study of environmental conditions in Indonesia and the case for an oil subsidy, see H. Dick, 1980, "The Oil Price Subsidy, Deforestation and Equity," *Bulletin of Indonesian Economic Studies*, Vol. XVI, No. 3, pp. 32-60.

B. Compensation Through a Coupon System

A coupon system could be established for compensating poor households for the kerosene price increases. The scheme would be administered by local governments on behalf of the center, and also be based on the OPK list of households used for the distribution of the existing rice system (see below).

At the central level, the proposed coupon scheme would be managed by BAPPENAS in coordination with the Ministry of Finance. The coupons, would have to be printed by the security press,³ and the associated subsidy would be transferred to the 315 district level

³ This may not be sufficient to prevent counterfeiting.

administrations (PEMDA). The coupons would be distributed further to the 66,000 village level administrations (LURAH) for community-level (RT/RW) distribution (see Chart 1 for details). The target population (masyarakat) would use the coupons towards purchases of kerosene from the retailers (pangkalan), who would redeem these from the wholesalers (agen), who in turn would be reimbursed by the designated banks.

Incentive compatibility aspects for local governments

The coupon scheme is akin to a special purpose grant carried out at the local government level in pursuit of central government objectives, and central resources are to be transferred to the local governments for this purpose. Since the local governments are not likely to have the same preferences as the central government, there is a need for strict monitoring, especially when the benefits are provided in “liquid” form, as is the case here.

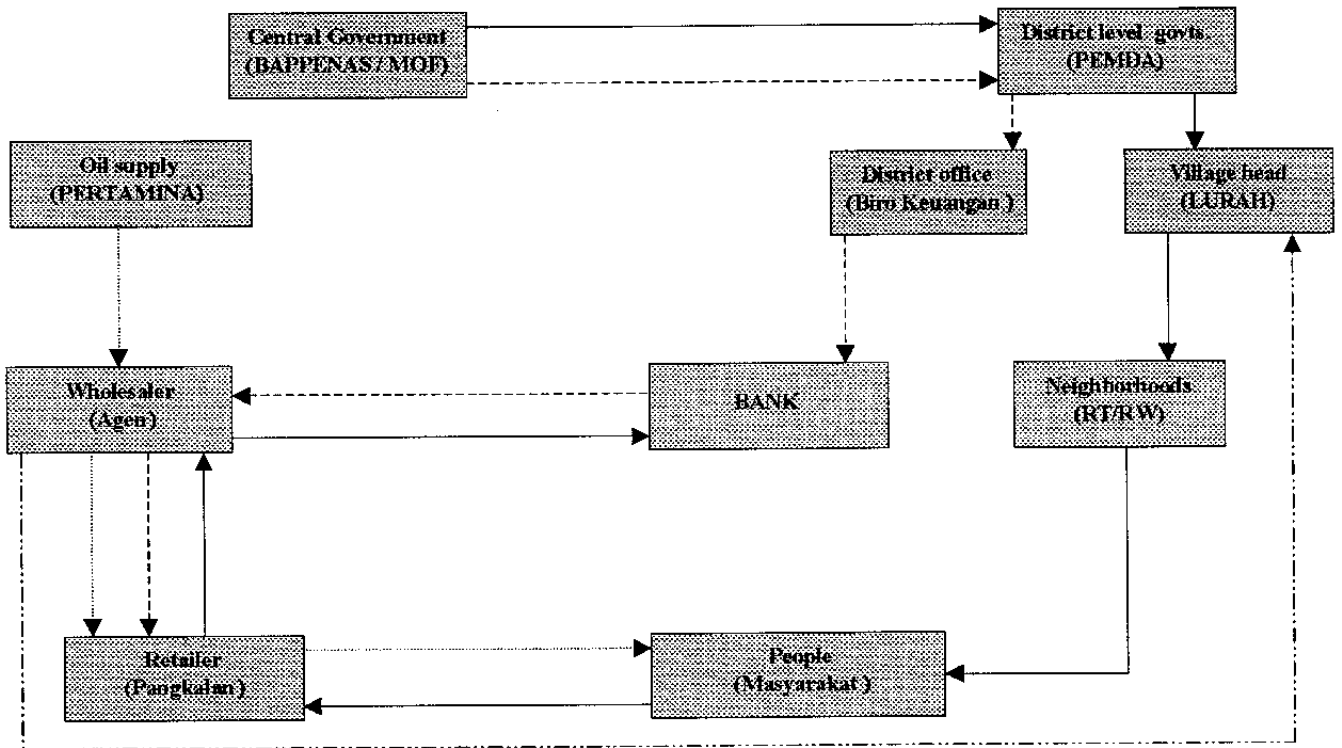
Unlike standard special purpose grants with matching requirements, there is little justification for a local financial contribution in the case of the energy price changes, given that the policy changes are entirely dictated by the center. Also, the center in this case determines the target group. Since the policies are set and the financing provided centrally, but the administration is local, it is unlikely that incentives for the local government would be compatible with the objectives of the center. Fraudulent coupons could also imply an open-ended commitment on the part of the center, as well as possible delays in redemption of generous coupons. Thus, monitoring and enforcement would be needed in order to ensure that the central objectives are met effectively and with minimal leakage.

The compensation could also be provided in cash. This would minimize the risk of fraudulent coupons—but does not guarantee that their intended recipients will receive the benefits. The center would have to depend on local governments for determining eligibility and targeting. The system could function with audit controls to prevent fraud and leakage. Unfortunately, such audit controls are relatively weak at present. If one prefers a system where the center determines the target groups, it may be preferable to rely on a coupon system. The disadvantage, as pointed out below, is that the burden on monitoring, redemption, and reconciliation of coupons increases substantially.

Administrative considerations of a coupon/voucher system

The introduction of any new mechanism, irrespective of the extent to which it uses existing administrative systems, **will** incur additional fixed and variable costs. The proposal to introduce a coupon system for kerosene is no exception. The following discussion outlines the types of design, implementation, and ongoing administrative activities that need to be costed in order to accurately estimate the **total** cost to the state budget (and therefore the taxpayer) of the proposed kerosene compensation scheme. The exact details of the delivery mechanism have yet to be finalized, but the following costs can be anticipated.

Chart 1. Indonesia: Kerosene Coupon System



Source: Indonesian authorities interdepartmental task force.

————> Coupons
- - - -> Money
.....> Kerosene
- . . .> Control

- **Systems design, procedure definition, pilot testing and finalization of the delivery mechanism documentation.** These costs may be small relative to the mechanism's total administrative overheads. However, detailed plans for this phase, including realistic timeframes, are essential for a professional and smooth introduction. Faulty preparation planning together with insufficient resources and too little time can be expected to result in adverse public acceptance of and confidence in the scheme. In this particular case, not

being the first such scheme implemented in Indonesia,⁴ close attention needs to be paid to:

- (a) control of and accounting for the coupons, bearing in mind that the coupon is highly liquid;
 - (b) minimizing the risk of coupon counterfeiting;
 - (c) encashing rules and procedures for the coupons;
 - (d) minimizing rent seeking at each stage of the coupon distribution process; and
 - (e) enhancing capacities of the local governments to administer the program.
- **Marketing and public awareness.** It will be important for the government to inform the public at large and certain elements of society in particular (such as NGOs in the social safety net arena and potential beneficiaries) about the new program. Television, newspaper, and radio advertising expenses should be identified prior to the program's introduction.
 - **Recruitment and/or selection of staff for the delivery mechanism and their subsequent training.** Recruitment costs can be expected for local administrations, particularly as the central government moves forward with the decentralization program. Local governments will consider the kerosene compensation scheme as a **new** program for which they will need to recruit more staff. Training costs are necessary to familiarize all officers, be they new or existing civil servants, with the rules and procedures for the new program. Inadequate training will simply result in a poor implementation of the program, which in turn will reduce the public's confidence in the program and undermine the government's credibility in the design and implementation of social safety net programs.
 - **Purchase of additional office space, office requisites, computer hardware, software, telecommunications services, and security services.** In the case of the kerosene compensation scheme, these costs to the government could be small. However, software modifications to the banks' systems may be necessary and these costs should be reflected in their fees for services (see below).
 - **Printing and distribution of the coupons.** This cost could be quite high if counterfeiting is to be avoided/minimized. Security of the coupons in transit and at the points of distribution will need to be considered. Again, these costs may be small relative to the total costs of the program.
 - **Staffing considerations.** Within the central and local government systems, additional staff may be required, or existing staff resources will need to be diverted to the new

⁴ A previous experiment with coupons in the 1960s was subject to considerable abuse and leakage.

program. Using the flowchart (see Chart 1) prepared by officials the following staffing requirements can be expected for the administration of the program:

- (a) BAPPENAS (national planning agency). Staff will need to be designated to manage, monitor, and report on the national program.
- (b) PEMDA (districts). Staff will need to record and distribute coupons to the LURAH (or directly to the RT/RW). Also at the PEMDA, staff will need to reconcile tendered coupons with issued coupons and acquit claims from the banks. The PEMDA unit is arguably the most important unit in the delivery and management of the scheme, particularly from the financial control aspects of the program.
- (c) LURAH (villages) and/or RT/RW. Staff at this level will need to:
 - (i) review and update their households eligibility list every three months;
 - (ii) ensure any coupons that have already been issued to now noneligible households are cancelled;
 - (iii) store, issue, and account for coupons;
 - (iv) review complaints from clients and if unable to resolve them to document the complaint and forward it to the local complaints tribunal;
 - (v) reissue coupons to households that have lost, burnt or otherwise no longer have in their possession their coupons; and
 - (vi) withdraw or cancel coupons for households that no longer live in their area of responsibility.

It is difficult to estimate (in this note) how many of these staff will need to be recruited from outside the civil service or how many could be moved from their present work commitments within the civil service. The unavoidable fact is that staff are needed to deliver the compensation program and their salaries and additional expenses should be included in the **total cost** of the kerosene compensation program.

- **Bank fees.** The proposed mechanism allows several actors (agents, retailers, and the public) to encash their coupons at specified banks and for the banks to seek recompense from the local governments (PEMDA) for the coupons. Irrespective of how these costs are met, the handling of the coupons by the banks will incur costs. Such costs should be counted against the administrative costs of the compensation program.
- **Auditing.** The program should be audited by BPK, BPKP, and various internal audit units/Inspector Generals. The costs of conducting external and internal audits of the new compensation scheme need to be identified and included in the total cost of the scheme.

Table 4 lists certain costs identified above to provide an indicative costing for the administrative overheads incurred to deliver the proposed kerosene compensation coupon program. Certain assumptions were made in its compilation which, when the details of the

Table 4. Indonesia: Administration Costs of Kerosene Coupons

	Staffing		Total Cost/Year (Rp'000)	Total
	Numbers	Monthly wage (Rp '000)		
A. Admin. Section 1/ district				
Supervisor Level 3	1	1,700	20,400	
Supervisor Level 4	2	800	19,200	
Other staff assistants	4	500	24,000	
Cost per district per year			63,600	
Number of districts	327			
Total yearly staffing costs at the district level (in billions of Rp)				20.8
B. Two assistants at the LURAH (RT/RW)				
Other staff assistants	2	500	12,000	
Cost per LURAH per year			12,000	
Number of villages	66,000			
Total yearly staffing costs at the LURAH level (in billions of Rp) (two persons per LURAH)				792.0
Minimum staffing costs at the LURAH level (in billions of Rp) (one person per LURAH)				396.0
Transaction and Other Costs				
	<u>No. of HHs</u>	<u>Cost per Unit (Rp)</u>	<u>Total Cost/Year (Rp millions)</u>	
Bank fees	15,000	100	18,000	
Printing costs	15,000	50	9,000	
Audit (10 percent of value) 1/		50	9,000	
Training/marketing/system design			10,000	
Total yearly other costs (in billions)				46.0
Administrative costs—grand total (in billions)	[a]			858.8
Value of the gross transfer (in billions) (12 coupons/HH at given price)1/	[b]			90.0
Total cost of scheme [a] + [b] (billions)				948.8
Ratio of administrative cost to total (in percent)				90.5

Note: All data computed on a yearly basis.

1/ Monthly coupon in Rp (2 liters/ HH/m)

The difference between the value of the gross transfer and the income loss is due to rounding of the coupon value to Rp 500 against an estimated value of Rp 495 (assuming five persons/HH and equal compensation to all HHs (urban and rural)).

Old Price	New Price
280	325

system have been finalized, may need to be revisited. The most important assumption is that the coupon scheme is new and its administration cannot easily be “piggy-backed” on existing social safety delivery mechanisms, particularly the rice-for-the-poor program. Roughly 66,000 local staff will be needed to administer the system—at an annual cost of around Rp 400 billion. This rough calculation is based on the assumption of at least one administrator per LURAH, and would double with two staff which might be needed (one as backup and for cross-checking purposes).

The calculations demonstrate that the proposed coupon scheme (and indeed any scheme based on vouchers) is labor intensive and costly. To meet basic financial accountability standards, the administrative system has to be simple, precise, and subject to several controls, verifications and audits. Such costs are fixed and not related directly to the **value** of the total compensation being delivered. As seen in Table 4, the fixed nonstaff administrative costs are likely to be of the order of Rp 85–90 billion. This may not be cost-effective in order to deliver a subsidy compensation of Rp 81 billion. And if the kerosene compensation program is likely to be phased out in a few years then the establishment expenses are difficult to justify.

C. Compensation Through BULOG

The main instrument presently used by the authorities to provide food security to the poor is the OPK, introduced in 1998 as an emergency measure to protect the poor from the recent economic crisis, and administered by BULOG.

The program was designed to meet twin objectives:

- to distribute around 20 kgs of low quality rice at Rp 1000 per kg (well below market prices) to about 15 million poor households; and
- to provide a stable source of income to poor farmers from whom most of the rice is procured.

Targeting

A distinctive feature of the OPK scheme is that the low quality of the rice induces self-targeting. Nevertheless, a list of 15 million households who are the intended beneficiaries of the scheme has been established by the authorities and is updated on a regular basis. In fact, the list was originally developed for a number of purposes (such as family planning and nutritional programs). The list includes about 7 million households in urban areas, another 7 million households in rural areas, and another 1 to 1.5 million households perceived as “needy” on a variety of criteria.

Administrative arrangements

BULOG is responsible for the procurement or import, warehousing, and distribution of the rice down to the district level. The actual distribution process to the intended beneficiaries is assumed by the local authorities, often in association with NGOs. This constitutes, however, only one part of BULOG's activities, which also include other services to government such as general procurement of food items, trading, and logistics.

BULOG's operations have been criticized for lack of transparency, inefficiency, and leakages on a number of occasions, not least in a recent audit report produced by Arthur Andersen (see Ministry of Finance of the Government of Indonesia, 1999). Although the government has reacted strongly to these criticisms, there is some real concern that BULOG's operations require streamlining. As far as the rice scheme is concerned, a figure of 15 percent leakage has been quoted and appears to be realistic (see Tabor and Sawit, 1999).

Some economic considerations

Unlike other government departments, BULOG undertakes **commercial trading operations** on a vast scale—procurement, transport, storage, and supply of a number of essential mass consumption items. It also handles imports of commodities in bulk, maintains numerous bank accounts in commercial banks, and claims multiple subsidies from the government for exchange rate movements and interest payments as well as to defray sale and distribution costs of some commodities to consumers.

The rice distribution network of BULOG only delivers the rice to the district level—with further allocations managed by local authorities or NGOs. While there is some evidence of leakage (in the 15 percent range), the scheme nevertheless appears to work reasonably effectively in that most of the intended beneficiaries receive some rice.

BULOG's activities have the potential to generate substantial distortions in the market. A big expansion of the OPK program may affect rice prices. On the procurement side, in particular, the high import duties constitute a substantial subsidy to farmers and keep domestic procurement prices of food above world prices. Another subsidy is thus required to compensate the poor, hence, a double subsidy is needed in order to make the scheme operational. As in a number of North African countries in the 1990s, Morocco and Algeria, amongst others, a less costly policy in the medium term would be to replace the tariffs by a direct subsidy to poor farmers while concomitantly phasing out the OPK rice distribution program. In the short term, all efforts must be made by the government to improve efficiency, limit leakage and impose strict financial controls as well as operational audits.

BULOG's operations are not transparent, and it is expected that the organization will be phased out in the medium term. Still, a case could be made to further utilize the OPK program as a short-run safety net for the energy price changes.

The case for compensation through additional rice

The OPK supply of rice remains small compared to actual household consumption of rice by the poor. Indeed, the supply of 20 kgs per month per household corresponds to about 4 to 5 kgs per month per person, while the household consumption survey indicates that average rice consumption of rice by the poor is close to 17 to 18 kgs per month per person. Hence, a small addition in the quantities provided is unlikely to induce major distortion in consumption patterns. Finally, the low quality of the rice considerably enhances the targeting aspects of the program.

Table 5 presents the implications of the additional 1 kg compensation delivered through the BULOG arrangement for the OPK rice distribution. Given the magnitude of price changes envisaged, there would be an excess compensation provided by the additional rice to both rural and urban households—this additional support could also cover additional transport costs associated with the use of private transport (small buses) that are not subject to price controls and are extensively used outside Jakarta (see Section IV).

Table 5. Indonesia: Rice Compensation Through BULOG

Analysis of Transfer Induced by an Additional kg of Rice

				Urban	Rural	Total
Number of beneficiary HHs (in '000) 1/				7,500	7,500	15,000
Additional Quality	Market Value 3/	Cost to Beneficiary	Difference (per year)	Marginal Value of Transfer 2/		
				Urban	Rural	Total
1 kg	2,500	1,000	18,000	135	135	270
Impact on rural poor						
Consumption per HH (in liters/month)						5.0
Impact per year on rural HH 4/						22.3
Compensation provided by BULOG (1 kg) 4/						135.0
Excess compensation 4/						112.7
Impact on urban poor						
Consumption per HH (in liters/month)						10.0
Impact per year on urban HH 4/						44.6
Compensation provided by BULOG (1 kg) 4/						135.0
Excess compensation 4/						90.5
Total impact						
Total compensation provided by BULOG 4/						270.0
Total excess compensation 4/						203.2

Note: See Appendix I; also see Table 4.

1/ The size of the average household is assumed to be five persons.

2/ In billions of Rp per year.

3/ The additional transport costs for rice from the market and subsidized rice are assumed equal.

4/ In billions of Rp per year.

Finally, the excess compensation could be seen as an effort to compensate for both the direct and indirect effects on the poor of the price changes (which may be more significant in the case of diesel than kerosene).

A comparison of incentives

Given the greater possibility of leakage with the coupons than the rice distribution mechanism, there are significant differences in the administration of both schemes, as considerably greater controls are needed for coupons. Targeting the OPK lists with “cash” or “coupons” may prove difficult, given that local authorities may have other priorities. A new coupon-based system would need to be designed in order to ensure final delivery to the intended beneficiaries, with considerably more resources required to provide adequate monitoring. Finally, once the infrastructure is in place, it will be exceedingly difficult to dismantle the system.

The additional OPK rice is self-targeting and would not require additional infrastructure. It could be introduced quickly. Also, as import duties are reduced, the rice distribution compensatory mechanism could be easily phased out.

IV. IMPACT OF OIL PRICE INCREASES ON URBAN TRANSPORT AND FERRIES

Compensating for price increases for urban transport users (because of the increase in diesel oil (solar) prices) illustrates the difficulties that the center faces in imposing a uniform set of policies in a large and diverse country with very different local conditions and varying incentives faced by the local authorities. The main problem is that although the local authorities are directly involved in the price setting for transport, they have no particular incentives to set prices according to the wishes of the central government to better reflect economic costs. In addition, beneficiaries of subsidized buses are mainly concentrated in Jakarta, with commuters in other parts of the country largely using market-based transport. This illustrates an often overlooked constraint relating to decentralization: the **divergence that can exist in objectives across local governments.**

In this section, we focus on buses. Subsidized fuel is also used in inter-island ferries, and is briefly discussed at the end of the section.

A. Background

The composition of the bus system in Indonesia is described in Table 6.

Table 6. Indonesia: General Information on the Urban Bus Fleet

Location	Bus		Angkot		Total Size
	Large	Medium	Small bus	MPU	
Jakarta	2,489	3,651	4,935	5,015	16,090
Java	1,089	27	30,807	55,708	87,631
Sumatra	73	1,400	1,835	11,300	14,608
Other	89	133	4,931	28,470	33,623
Total	3,740	5,211	42,508	100,493	151,952
Memorandum items:					
Average ticket price	2,000-300	800	700-500	700-500	
Capacity (passenger per bus)	50	24	13	10	
Subsidy on import tariff 1/	XX	XX	-	-	
Subsidy on gasoline 2/	XX	XX	X	X	
Administered ticket price 3/	X	XX	-	-	
Fuel use ('000 liters/year/vehicle)	24.5	13.6	4.8	4.8	

Sources: Data provided by the Indonesian authorities; and the World Bank and Fund staff estimates.

1/ XX indicates subsidy on imports of parts and material. "-" indicates locally produced material.

2/ Buses operate with subsidized gasoil. Some angkots operate with less subsidized motoroil (X).

3/ There are some price restrictions for deluxe buses. Angkots mostly operate without restrictions.

Buses can be divided into two broad categories: large buses able to carry from 25 to 50 passengers; and the so-called small "angkots" carrying about 10 to 13 passengers. The angkots represent over 90 percent of the total fleet at the national level, and essentially operate under market conditions. Large buses, although representing a small part of the fleet in the country, account for more than 50 percent of the seats in Jakarta. The proportion of subsidized buses in Jakarta (and some other large cities) is markedly higher than elsewhere, mostly because the operation of "angkots" has been limited to reduce traffic congestion and also for pollution concerns. It is estimated that over half of the population of Jakarta travels at the heavily subsidized rates against about 5 percent in the rest of the country (see Table 7).

Table 7. Indonesia: Estimate of Subsidized Bus Travel

Local/passengers	Bus		Angkot		Total
	Large	Medium	Small bus	MPU	
Non-Jakarta					
Number of passengers	62,550	37,440	488,449	954,780	1,543,219
In percent of total	4.1	2.4	31.7	61.9	100.0
Percentage of subsidized rate 1/	2.7	2.4	0.0	0.0	5.1
Jakarta					
Number of passengers	124,450	87,624	64,155	50,150	326,379
In percent of total	38.1	26.8	19.7	15.4	100.0
Percentage of subsidized rate 1/	25.2	26.8	0.0	0.0	52.0

Source: Data compiled from World Bank Report (1999).

1/ Assuming that one third of large buses are A/C deluxe buses operating under market conditions.

Most large buses operate under an administered price well below operating costs. They also benefit from tax breaks for the import of spare parts, an interest subsidy for loans, and the subsidy on fuel. Despite these concessions, buses largely continue to operate at a loss. However, the so-called AC/deluxe buses are profitable since they operate under a loosely enforced higher administered price.

All "angkots" are privately owned and operated, as are about 90 percent of the larger buses. The remaining 10 percent of large buses are publicly owned.

A critical feature is that the constraints on buses are not imposed by the same level of government: administered prices are fixed by the local governments (albeit after consultation with the center), as are quotas on the number and types of vehicles that can operate in a given area. On the other hand, the center grants tax breaks and subsidies. Thus, one difficulty faced by the center is that the variable through which the poor are affected (bus fares) is largely outside its control. This will affect the nature and efficiency of the possible compensatory measures.

An assessment of the fuel consumption patterns reveals that large buses are likely to be inefficient: they consume much more fuel per passenger-mile than the "angkots," and this may explain why they have found it difficult to operate with current administered prices. Their quality has deteriorated to the point where "angkots" provide better service. Hence, large buses can only meet their long-term costs if they improve service. Some buses are transferred into "A/C deluxe," which then allows them to charge a higher price and cover their costs. Other companies try to obtain more subsidies from the government. In order to

meet their short-term marginal costs, bus companies appear to use two main mechanisms (beyond not maintaining the assets): (1) they reduce further the cost of fuel by mixing diesel with highly subsidized kerosene,⁵ which has a damaging impact on the environment; and (2) they occasionally charge higher ticket prices than the official limit (this is officially sanctioned at various time, such as during the Eid-celebrations).

Clearly, bus companies operate under a large number of constraints. While it would appear politically impossible to lift all constraints simultaneously, the authorities should carefully weigh the advantages of protecting the bus sector indefinitely. This would generate intrasectoral distortions, especially for the market-based “angkots,” which would be penalized.

A subsidy to bus companies

One possible option to mitigate the impact of the oil price increase is through a targeted subsidy to bus companies which would allow them to maintain prices at their current level. This option is complicated by the pressing need for a ticket price rise originating from the current difficult financial situation of bus companies and the need to rebuild deteriorating assets. It is likely that bus companies would take the opportunity of the oil price increase to demand an increase of ticket prices by more than the amount necessary to cover the difference in oil prices. In fact, the ticket price is controlled by local governments, whose interests may coincide more closely with those of large bus company owners than the dictates of the central government.

B. Incentive Compatibility Issues

As already mentioned, the problem of subsidized large buses mainly occurs in Jakarta and a few other large cities. In the rest of the country, privately run “angkots” operate under market conditions and carry most of the passengers. The chances are that if large bus companies resort to a price increase needed to recapitalize their assets, the demand for their services will drop if the angkot alternative is available. This reflects the cost-disadvantage of the large buses compared to the “angkots.” Hence, the larger buses operating at the fixed prices would gradually disappear from the market, as already observed in areas outside Jakarta.

This is a typical example of diverging interests between the center and local governments. The natural reaction in local areas, where subsidized buses operate, would be to take the opportunity to adjust bus fares to a level compatible with higher solar prices, and to accommodate needed capital stock rehabilitation (while blaming the center for the full fare increase). As the decision on fares is in the hands of the local authorities, it is not clear how the center in a decentralized world (as opposed to the past, when it could order compliance)

⁵ This may be carried out by bus drivers, who often pay a predetermined rent to bus owners, and have little concern for the long-term viability of the buses.

can design a subsidy program that would induce local authorities to limit the increase in fares to levels deemed appropriate by the center.

This discussion also illustrates the divergence in interests across local authorities, making it even more difficult for the center to devise general incentives for a nationwide policy. There have been a number of instances in the past, where subsidized buses from large cities have tried to service areas where market-based transport accounts for most of the bus traffic. These incursions have met with very stiff resistance from local “angkot” owners, supported by the local government, and intruding buses have on occasion been set alight.

Yet, the case of Jakarta is very important and deserves attention. Although some “angkots” are permitted, buses still carry the bulk of the “vocal lower-middle” class and the poor. This certainly explains the continued existence of low tariff.

Thus, a first possibility would be to allow more “angkots” to operate. The environmental consideration is not really valid as buses pollute a lot through the use of kerosene. However, there may be increased congestion, and the option is not considered viable by sectoral experts.

C. Compensation Proposals

The lack of suitable alternative instruments that could be used by the center to compensate the poor implies that an important component of the scheme that will be adopted must be the magnitude of the administrative and monitoring costs. We first describe the characteristics of a possible compensatory mechanism, in this case based on a coupon system, and then assess its costs.

The compensatory mechanism could have the following characteristics:

- large bus companies would be subsidized for the oil price increases, and fares frozen for an initial period of six months or so;
- additional price adjustments to cover the restructuring of the bus companies would only take place after this period so as to distinguish between centrally determined policy changes and the restructuring of the sector; and
- there would be no compensation to owners of angkots for price increases, and market-based transport would fully reflect the energy price changes.⁶

⁶ Note that most angkots use petroleum rather than diesel, and the petroleum prices are not subsidized as much as diesel. Thus, relatively little increases in petroleum prices are needed from a sectoral perspective—though petroleum (given its distributional characteristics and consumption by the rich) could be a good candidate for additional taxation (see Ahmad and Stern, 1990).

The central government could issue strict instructions to local governments not to allow for a ticket price increase beyond the oil price increase, while we have already mentioned that this may be extremely hard to achieve. If local authorities use the opportunity to increase prices beyond that level, the central policy related safety net could be completely offset.

Coupons for bus owners

The Government of Indonesia proposes a system of coupons made available to the local governments, with a simultaneous transfer of the monetary equivalent to local finance bureaus. The road traffic authority at the local level would provide bus companies with the requisite number of coupons. The criteria used for redeeming coupons would depend on the number and type of buses operated by the company as well as the routes covered.

These coupons would be used at the gas station (SPBU) in part or full exchange for diesel oil (solar). The transaction may or may not require an additional cash payment by the bus company or its agent (the bus driver). The gas station manager will redeem the coupons through banks and received the face value of the coupon. In order to avoid difficulties with the banking system, the government would need to ensure that the money is indeed deposited in the banks at the same time as the coupons are made available (see Chart 2).

Beyond the danger that prices are raised irrespective of the subsidy, the main difficulties associated with this type of coupon system will be to ensure that there is no pirating of coupons and that the fee demanded by local banks to handle the scheme is not excessive. The first concern is standard in this kind of scheme and requires security paper for coupons. The second difficulty could be overcome by ensuring that money is indeed deposited in banks by the authorities in time. It is important to prove that there may not be a demand for such coupons outside Jakarta, since subsidized large buses would undercut the efficient and "established" angkots.

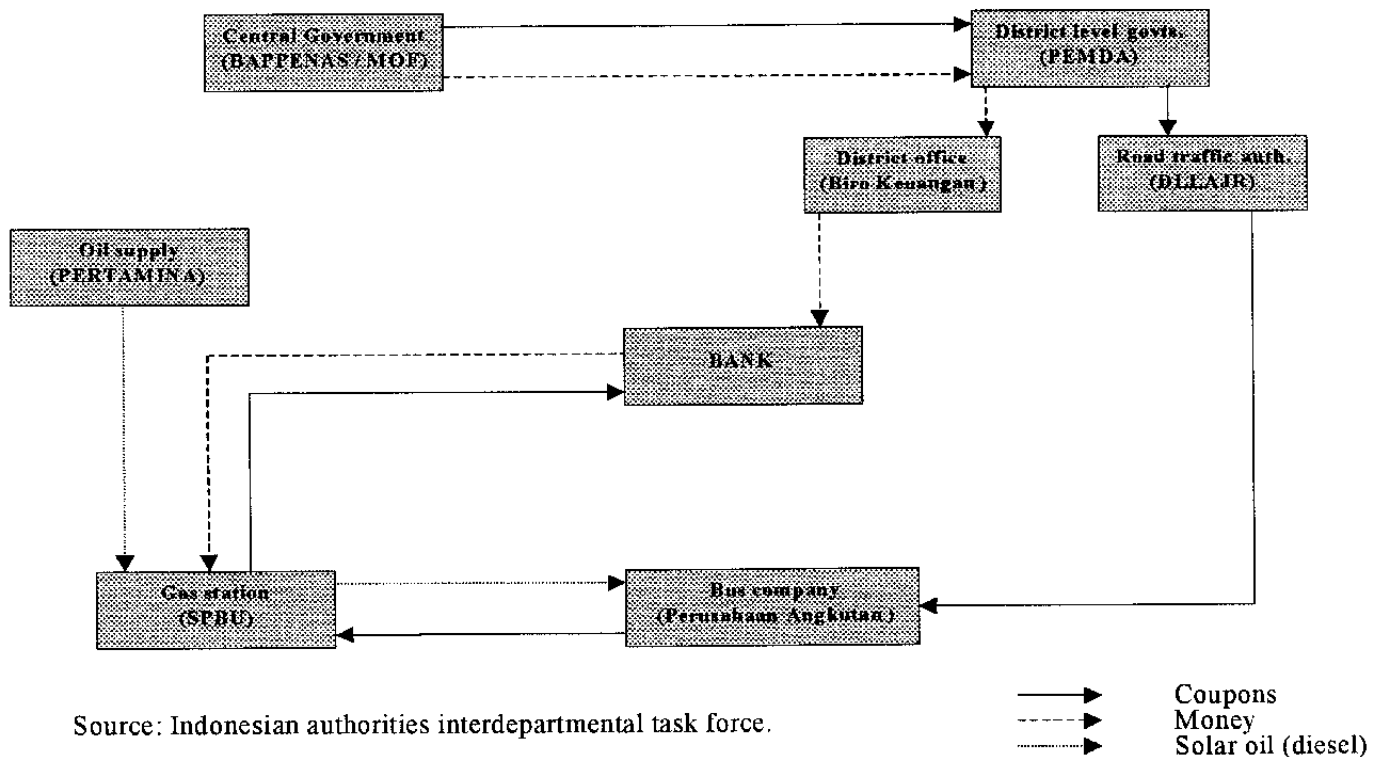
Cost and administration of the coupons

We now turn to the amount required to compensate the urban poor for the impact of the proposed increase in diesel oil prices on bus fares. We consider that it is neither feasible nor desirable to compensate transport operators working under "market" conditions (the "angkots" and the large A/C buses). As an illustration (see Table 7), we assume that the aim is to compensate the three poorest deciles of the total urban population of 70 million people (of which 15 million live in Jakarta and 55 million in other cities).

Consider first the 15.5 million urban poor outside Jakarta. Table 7 shows that only 5 percent of the traffic by bus in urban areas outside Jakarta is subsidized. However, as these deciles are more likely to rely on subsidized transportation than others, we shall consider that 2 million users are affected. This is a very conservative assumption, however, since 5 percent of the whole urban population outside Jakarta amounts to 2.75 million people.

In Jakarta, the limits imposed on the use of “angkots” explain the relative success of buses. The three poorest deciles of the population account for 4.5 million people, and we assume that half of them (as per Table 7) benefit from subsidized fares, that is, roughly 3 million system users. This is on the high side as citizens of Jakarta are richer than in rural and other urban areas. In fact, many of the three lowest deciles in Jakarta should be able to afford the more efficient “angkots” at market prices.

Chart 2. Indonesia: Bus Coupon System



We have assumed that the average urban household undertakes 150 trips per month (50 trips for one worker and 100 trips for other household members). If the full impact of the price increase of diesel is reflected in the bus fare (this is estimated at Rp 40 per ticket and we have rounded it up to Rp 50, since there is no Rp 40 coin), monthly expenditure on bus tickets will increase by Rp 7,500 per household. Assuming that there are five persons per household, about 1 million households would need to be compensated for a total of Rp 7.5 billion per month, or Rp 90 billion on an annual basis.

These numbers are reflected in Table 8 and suggest that an amount of no more than Rp 100 billion to compensate bus operators through a coupon system would be appropriate. We believe that a coupon scheme directly provided to bus operators as described in Chart 2 is much simpler to administer than a coupon scheme to compensate the poor for a kerosene price increase (Chart 1 and Table 4). Nevertheless, as discussed below, the coupon system will need to be properly designed and monitored and may not be appropriate outside Jakarta. The associated cost implications are discussed below.

Table 8. Indonesia: Compensation for Bus Travel

Value of oil price in operating costs (in Rp per passenger per trip)	100
Proposed percentage oil price increase	40
Ticket price increase necessary to cover oil price increase (rounded)	50
Impact on rural poor	
Number of trips per passenger per months	2
Increase in transport cost per month per person	100
Increased annual transport bill per HH (in Rp)	6,000
Total cost to the poor population (in billions of Rp) 1/	45.0
Excess compensation BULOG (in billions of Rp) 2/	112.7
Impact on urban poor	
Number of trips per passenger per month 3/	50
Increased transport bill	2,500
Increased annual transport bill per HH (in Rp) 4/	90,000
Total cost to the poor population (in billions of Rp) 5/	90.0
Excess compensation BULOG (in billions of Rp) 2/	90.5
Memorandum items:	
Estimate cost of direct (coupon) subsidy to buses (in billions of Rp) 6/	100
Estimate operating costs of coupon system (in billions of Rp)	0.5

Sources: Data provided by the authorities; and Fund staff estimates and projections.

1/ Computed for 7,500 households, including travel with "angkots" in rural areas.

2/ Amount left after compensation for kerosene price increase.

3/ For the main bread-earner of the household.

4/ Assuming 150 bus trips per month per household. A household = five persons on average.

5/ See detailed computation in the text.

6/ To compensate bus operators in urban areas.

All figures are based on annual estimates.

Some of the key issues include the following:

- ***Distribution points for vouchers.*** Buses are mainly confined to urban areas and inter-urban routes. Therefore, the number of distribution points for the vouchers could be quite small. Indeed, the distribution of the vouchers could be handled by the Ministry of Transportation from Jakarta through their regional offices. This would be relatively straightforward if the number of bus companies is small and headquartered in Jakarta or other large cities.
- ***Management.*** The management is likely to be simple, and monitoring costs are limited to a few companies and their agents.

We assume that one full-time “level 3 employee” per urban area (or two or three part-time employees) will be needed for monitoring purposes, given the responsibilities involved: receiving the vouchers from the center (either from BAPPENAS or the Ministry of Transportation); account for them; issue and reconcile them when they are returned by banks; reissue lost vouchers; answer questions from bus companies; and handle complaint.

At the central level, the number of staff required to control the issuance and acquittal of vouchers could be limited to one section, consisting of one “level 2” and two “level 3” staff, situated in BAPPENAS or the Ministry of Transportation. It is doubtful that the section could be employed on a full time basis. Thus, an annual estimate of staffing costs yields Rp 407 million on an annual basis.⁷

In addition, there would be some additional transaction costs, such as bank fees and printing costs for the coupons. These costs should not exceed Rp 40 million per year (assuming that 8,000 buses receive 12 vouchers for the year printed at a cost of Rp 50 per voucher and a bank fee of Rp 100 per transaction).

Thus, total administrative and transaction costs for the proposed scheme would remain below Rp 500 million, that is, 0.5 percent of the value of the scheme.

In sum,

- given incentive-compatibility issues of local administration with central financing, the number of bus coupons must be subject to an annual cap; and
- monitoring mechanisms be strengthened to reduce leakage.

However, precautions must be taken as reliance on the bus coupons is a risky strategy for the following reasons:

⁷ Based on one level 3 person at Rp 1.7 million per month in 15 urban areas; one level 2 at Rp 5 million per month and two level 3 at Rp 1.7 million per month each.

- the price increase may nevertheless take place as discussed above;
- it will not be easy to ensure that the coupon scheme associated with the subsidy will be efficient, and may not prevent the deterioration in the quality of large bus-services without an additional subsidy; and
- the subsidies for the large buses would penalize the more efficient uncontrolled sector—the angkots.

An alternative measure: direct support

An alternative measure, that might also be considered in addition to the bus coupon proposed by the authorities, is to provide direct support to vulnerable users of urban transport services—principally students and teachers.

Under this proposal, the students and teachers would be able to purchase subsidized fare cards on the production of their identity cards. The fare cards would be used, along with the identity cards for travel on the buses. The transport owners would redeem these fare cards at the local government sanctioned fare levels, similar to those paid by the general public.

When a similar scheme was tried in the past, the bus companies were forced to redeem the student fare cards at the lower price, thereby carrying the cost of subsidizing the students. Thus, students were turned away from buses, leading to considerable unrest. This difficulty could be avoided if the student fare cards are redeemed at the standard price for tickets.

The ferries

While inter-island traffic is an important aspect of the transport sector in Indonesia, diesel only accounts for a small part of the total operating cost, and ferry companies are well identified. Thus, a direct subsidy appears to present few possible drawbacks and could be implemented at low cost. The subsidy could be extended at relatively low cost to the ferry companies, to absorb any increase in the costs of inter-island ferry travel at this time.

V. CONCLUDING REMARKS AND POLICY ISSUES

In this note, we have tried to focus on the constraints on central government policy objectives as the decentralization process begins to take effect. The debate in Indonesia about compensating for energy price changes provides an interesting illustration of the issues involved.

Given that the energy prices are centrally determined, and it is the center that also determines the target groups for compensation, there would appear to be little justification for requiring local cofinancing (either in terms of defraying administrative costs, or the benefits provided). To ensure effective governance, it is thus critical that the design of the compensation mechanism takes account of diverging interests and includes adequate incentives for local

governments. There is a risk that in compensating for kerosene price increases, “liquid” compensation in terms of cash or coupons could be subject to “local capture” or at best mistargeting. The effectiveness of targeting is enhanced by coupons, but the additional administrative requirements could be daunting in a large and diverse country such as Indonesia—with relatively weak audit and monitoring infrastructure. Thus, measures that build on existing infrastructure, and which have “self-targeting” characteristics, such as low quality rice, may be preferable to setting up an elaborate administration for a short-term shock.

The bus fares case illustrates that the interests of different local governments may vary quite markedly, and the application of a uniform policy throughout the country may be inappropriate or difficult to implement. A coupon system for buses could work in Jakarta since a handful of beneficiaries would be involved. Note, however, that once a mechanism, such as the coupon system, is put in place, it will become entrenched and difficult to remove. It may not have much appeal outside Jakarta.

A key lesson is that when possible new institutions should not be created to compensate for transient shocks. The use of the rice mechanism using the BULOG distribution is attractive in this context. It can be introduced quickly using existing administrative mechanisms. Also, since it is the intention of the authorities to reform the BULOG procurement and distribution system in the short to medium term, as rice prices are reduced (with the reduction of rice tariffs), the BULOG system and subsidy can be phased out.

A second lesson is that it is not necessary to link a particular compensation measure (such as the subsidized rice) to a specific shock. To do otherwise would lead to a proliferation of measures with an opaque overall impact and would also complicate the task of ensuring good governance. In general, the magnitude of the impact of a shock on the poor needs to be assessed, and then the compensation determined in relation to available instruments.

A final issue is that local differences in economic conditions and incentives may be important. Imposing a solution appropriate for Jakarta on the rest of the country may backfire, as has been demonstrated by the response to the bus coupons proposed.

Indonesia: Population and Consumption Data

A. Population

Monthly Per Capita Exp. (in Rp)	Urban		Rural		Total	
	('000)	(in percent)	('000)	(in percent)	('000)	(in percent)
<1,5000	19.5	0.0	252.7	0.2	272.2	0.1
15,000-19,999	89.1	0.1	2,410.4	1.9	2,499.5	1.3
20,000-29,999	2,001.5	2.8	18,859.8	15.1	20,861.3	10.7
30,000-39,999	5,909.1	8.4	29,346.1	23.5	32,255.1	18.0
40,000-59,999	16,137.1	22.9	41,529.5	33.2	57,666.7	29.5
60,000-79,999	13,485.8	19.1	17,665.0	14.1	31,150.8	15.9
80,000-99,999	9,537.7	13.5	7,295.6	5.8	16,833.3	8.6
10,000-149,999	12,840.0	18.2	5,527.3	4.4	18,367.2	9.4
>150,000	10,418.9	14.8	2,199.8	1.8	12,618.7	6.5
Total	70,438.7	100.0	125,086.2	100.0	195,524.9	100.0

B. Monthly Rice Consumption

Monthly Per Capita Exp. (in Rp)	Urban		Rural		Total	
	Domestic (in kgs)	Other 1/ (in kgs)	Domestic (in kgs)	Other 1/ (in kgs)	Domestic (in kgs)	Other 1/ (in kgs)
<15,000	3.19	3.16	2.85	0.72	2.9	0.9
15,000-19,999	3.20	4.30	3.77	2.27	3.7	2.3
20,000-29,999	4.50	3.89	4.85	3.33	4.8	3.4
30,000-39,999	4.91	3.73	5.37	4.13	5.3	4.1
40,000-59,999	5.31	3.55	5.85	4.51	5.7	4.2
60,000-79,999	5.59	3.07	5.91	4.86	5.8	4.1
80,000-99,999	5.93	2.76	5.64	5.24	5.8	3.8
10,000-149,999	5.87	2.60	5.83	5.08	5.9	3.4
>150,000	5.72	2.64	5.28	5.28	5.6	3.1
Average	5.6	3.1	5.5	4.3	5.5	3.9

C. Monthly Kerosene Consumption per Quintile

Quantile	Urban		Rural		Urban Kerosene cons. (in liters per million per HH)	Rural Kerosene cons. (in liters per million per HH)
	Per Capita Cons. (Rp)	Kerosene 2/ (in kgs)	Per Capita Cons. (Rp)	Kerosene 2/ (in kgs)		
1	31,848.8	0.0194	23,251.9	0.0098	1.54	0.57
2	47,952.3	0.0184	9,847.0	0.0106	2.21	0.26
3	50,000.0	0.0170	27,795.4	0.0107	2.13	0.74
4	61,414.6	0.0140	35,000.0	0.0116	2.15	1.02
5	125,000.0	0.0089	90,000.0	0.0116	2.78	2.61

Sources: Data from the 1996 Susenas Survey provided by the authorities; and Fund staff estimates.

1/ Includes prime rice, imported and glutinous rice.

2/ As a percentage of total consumption.

REFERENCES

- Ahmad, E., and N. Stern, 1990, *Theory and Practice of Tax Reform in Developing Countries* (Cambridge University Press).
- Dick, H., 1980, "The Oil Price Subsidy, Deforestation and Equity," *Bulletin of Indonesian Economic Studies*, Vol. XVI, No. 3.
- Gupta, S., 2000, *Social Issues in IMF-Supported Programs*, IMF Occasional Paper No. 191 (Washington: International Monetary Fund).
- Ministry of Finance of the Government of Indonesia, 1999, "Efficiency Audit of BULOG (Badan Urusan Logistik)," (Jakarta).
- Tabor, S., and H. Sawit, 1999, "The OPK Program: Economy-Wide Impacts," Economic Management Services International, September 1999, for the Ministry of Food and Horticulture (Jakarta).
- Ter-Minassian, T., ed., 1997, *Fiscal Federalism in Theory and Practice* (Washington: International Monetary Fund).
- World Bank, 1990, *World Development Report: Poverty* (Washington).