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Defining, Measuring and Alleviating Poverty in an Economy in Transition: The Case of Lithuania 1/

Prepared by Peter K. Cornelius

Authorized for distribution by Adalbert Knöbl

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Abstract

Recognizing that social policy would need to play a critical role in Lithuania's transition to a market economy, substantial efforts have been made to identify the neediest segments of the population and to monitor poverty. However, the social safety net inherited from the Former Soviet Union has remained virtually intact. As discussed in this paper, such a system, where the state assumes responsibility from cradle to grave, appears inadequate in preventing poverty and need. Some policy simulations are presented which suggest the need for far-reaching reforms.

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Contents

Summary

Poverty was for many years a subject of great sensitivity in the former Soviet Union. It was generally assumed that the administratively determined system of wages and transfers would be adequate to meet minimum living standards. However, with economic activity sharply contracting following the dissolution of the former Soviet Union, the Baltic countries, as well as the other newly independent states, are facing a serious policy dilemma. While the number of people needing social assistance has significantly increased, the capacity to finance social welfare services has considerably declined.

In order to maintain popular support for economic reforms, a number of countries concerned have recently begun to take important steps to identify the neediest segments of the population and to reform the comprehensive system of cash benefits, under which the state had assumed responsibility from "cradle to grave." Such a system has widely been perceived as costly and inadequate in preventing poverty and need; however, owing to the lack of data, little empirical evidence has been presented for these countries.

This paper presents some first empirical estimates for Lithuania, where, with technical assistance from the World Bank, the authorities have recently started to conduct monthly household surveys. These household surveys contain important information about the age-sex structure of the Lithuanian population, the sources of income, the consumption pattern of households, and the distribution of income. Based on these surveys, the paper first discusses attempts to define a subsistence minimum and establish a poverty line. Then, it briefly reviews different approaches to measuring poverty and presents empirical evidence about the magnitude of poverty in Lithuania. The paper also analyzes the profile of the poor and discusses the causes of poverty, and examines to what extent poverty has been alleviated by social assistance. Finally, simulations are run to indicate to what extent poverty could potentially be reduced without increasing budgetary resources for social assistance.

The paper contains three principal findings. First about 20 percent of Lithuania's population has an income that falls short of the calculated subsistence minimum, with the poverty-gap ratio amounting to about one third. Second, the current system of social assistance has had only a marginal impact in reducing the extent of poverty. Third, poverty could be reduced to a much larger extent if social benefits were better targeted. These results seem particularly important in light of the authorities' plans to reform the social safety net, which aim at achieving a higher degree of transparency by reducing the number of benefits, coordinating the social safety net with the tax system, and introducing means testing.

I. Introduction

The transition to a market economy is fundamentally motivated by the hope of achieving a higher overall standard of living. However, as the experience in Central and Eastern Europe has shown, initially there may be a decline in general living standards. To maintain popular support for economic reforms, it is therefore crucial to be concerned in particular about minimum standards of living of the poor during the transition period. In fact, this has been recognized by the Lithuanian authorities, and substantial efforts have been made to identify the neediest segments of the population and to closely monitor the development of poverty during the critical period of economic transformation.

However, steps to reform the social safety net inherited from the Former Soviet Union (FSU) have been introduced only recently. The comprehensive system of cash benefits, under which the state had assumed responsibility from "cradle to grave" has remained virtually intact. In fact, most benefits are not means-tested but are based on a categorical approach, according to which benefits are paid to those who fall into certain categories (e.g., being old, having children etc). While social policies do not necessarily aim exclusively at reducing poverty, there is widespread agreement that such a system is inadequate in preventing poverty and need (Ahmad, 1992; Kopits, 1992). This problem appears particularly important for economies in transition, where--with sharply contracting economic activity--the number of people needing assistance has increased while the capacity to finance social welfare services has significantly decreased. However, due to the lack of data little empirical evidence has been presented for the countries of the FSU.

In this paper, an attempt is made to study these issues in greater detail and to present some first empirical estimates for Lithuania. While in most newly independent states of the FSU serious data problems continue to exist, the Lithuanian authorities, with technical assistance from the World Bank, have recently begun to conduct monthly household surveys. These surveys provide detailed information about the sources of income, the age-sex structure of the Lithuanian population, as well as the consumption pattern of households. Most importantly, however, they contain detailed data about the distribution of income, which may be used to measure poverty on the basis of standard poverty indices. They also allow one to study the causes of poverty and to analyze the efficiency of the social safety net in preventing poverty. It is important to note, however, that these surveys can only provide a "snapshot". Given the relatively short period of time for which they are available, a number of interesting questions concerning the evolution of poverty need to remain unanswered. For example, the availability of data does not allow the evaluation of the extent to which inflation due to the liberalization of prices has affected the distribution of income and poverty.

The paper is structured as follows: Section I discusses Lithuania's attempts to establish a consumption-based poverty line to identify the neediest segments of the population. Section II focuses on the measurement of poverty based on standard poverty indices. Following a brief theoretical discussion about how to measure poverty in an aggregate index, this section presents empirical evidence for the first half of 1994 and evaluates the causes of poverty. Section III examines to what extent poverty has been

alleviated by social assistance. Based on some policy simulations, the paper finally draws some conclusions about the efficiency of targeting of social assistance and the need for policy reforms.

II. Defining Poverty

Poverty was for many years a subject of great sensitivity in the FSU as well as in other countries of pre-reform Eastern Europe. While the prevention of wide income differentials was an important political objective, it was assumed that the administratively determined system of wages and transfers would be adequate to meet minimum living standards. Although there has been a long tradition of research on subsistence minima in the FSU, an official poverty line was not established until 1988. 1/ This poverty line, which applied to the FSU as a whole, was based on a representative consumption basket assessed at administered prices. According to this threshold, about 15 percent of the population was considered to be poor. However, poverty in the Baltic countries seems to be have been far less widespread, where only about 2 percent of the population had incomes that fell short of the official subsistence minimum (IMF et al., 1991, vol. 2, pp.154-55). 2/

Having regained independence in 1990, Lithuania's attempts to measure poverty in a single measure or index have continued to focus on essential expenditures, although considerable importance have also been attached to monitoring such dimensions of poverty as health, life expectancy, and literacy. Recognizing that social policy would need to play a critical role in Lithuania's transition to a market economy, the Lithuanian Parliament, the Seimas, passed as one of the first laws after independence the Law on Individual Income Security. 3/ According to this law, the minimum standard of living was defined as

"the sum of monthly earnings of a family per capita per month and guaranteeing to all its members socially acceptable minimal level of needs corresponding to the physiologically acceptable norms of nutrition as well as needs in clothing, footwear, furniture household and sanitary commodities, needs in housing, public utilities, transportation,

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1/ For a review, see Atkinson and Micklewright (1992, p. 178ff).

2/ However, the extent of poverty both in the FSU and the Baltic countries would have probably been considerably higher if the poverty line had been drawn based on the approach employed by the 1990 World Development Report. While the actual subsistence minimum was set at rub 75 per month, the World Development Report used a global cut-off point on a purchasing power parity basis of US$370 per year. At the commercial exchange rate of the FSU, the US$370 poverty line would have translated into about rub 50 per capita per month. At the noncommercial rate, however, the poverty line should have been about rub 180. Thus, a poverty line between rub 100 and rub 150 might have been considered comparable to international standards (IMF et al., 1991, vol. 2, p.155).

3/ This law was adopted on September 27, 1990. Reprinted in English in Parliamentary Record No.12 (1991).

communication services, and services in culture and education."

Initially, the construction of minimum incomes followed the approach employed in the late 1980s for the FSU as a whole. However, with technical assistance from the World Bank, significant changes were introduced, focussing in particular on the composition of the food basket, which was regarded as too high in fat, too low in carbohydrates and fibre, and reflected a diet associated with a significantly increased probability of cardiovascular disease, many forms of cancer, and other chronic diseases. Taking into account the actual consumption pattern of the Lithuanian population as well as recommendations by the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) for daily allowances for energy, protein, and other nutrients, a new subsistence minimum--the *Calculated Minimum Level of Living* (CMLL)--was finally established in 1993 (Table 1). 1/

In order to take into account expenditures for housing, transportation, utilities and other non-food goods and services, the monthly allowances for food were multiplied by a factor of 1.25, implying a share of food and non-food items of 80 and 20 percent, respectively. Indexed to changes in food prices, 2/ the CMLL was initially set at Llt 32.5 per month per head in January 1993 and then gradually raised to about Llt 85 at end-1993 (Chart 1). In the first half of 1994, the CMLL increased further by some 6 percent, reaching about Llt 90 by June 1994. However, since food prices rose less rapidly than consumer prices, the CMLL fell significantly in real terms in 1993. Presumably, this observation was an important reason for reducing the weight of food in the subsistence basket from 80 percent to 70 percent in January 1994. The CMLL also increased less rapidly than average wages.

1/ For more details, see IMF (1994).

2/ Following an approach suggested by Popkin, Mozhina, and Baturin (1992), food prices are taken from the monthly household survey. While food prices vary considerably from income group to income group, minimum incomes are constructed on the basis of the lowest actual food prices paid across different income groups.

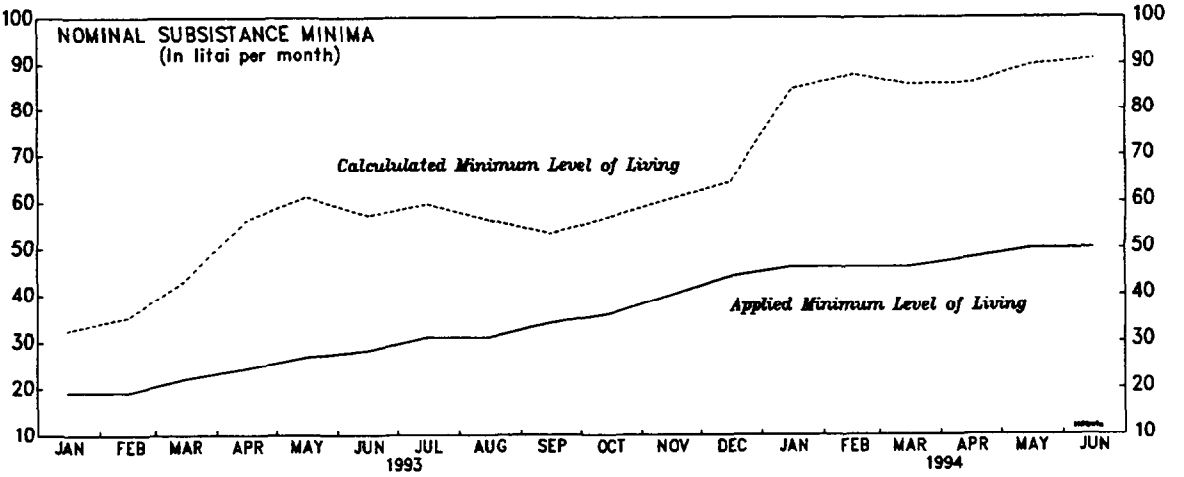
Table 1. Subsistence Minima

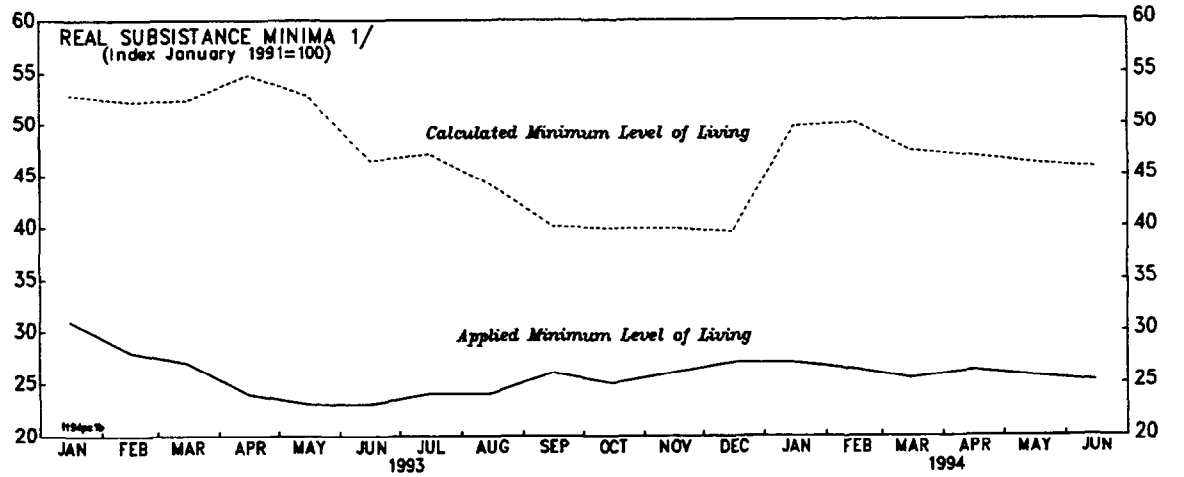
	Minimum Subsistence Level	Calculated Minimum Level of Living
Developed by	Goskomstat\ Goskomtrud	Lithuanian Ministry of Social Security
Date	1988/89	January 1993
Approach	Consumption of specific goods	Consumption of specific food products/total expenditure on non-food products
Food basket (per capita kilos per head per year, except eggs)		
Meat/meat products	54	72.8
Fish/fish products	18	11.7
Milk/dairy products	331	486.1
Eggs	234	271.0
Sugar	25	25.1
Vegetable oil	10	7.4
Potatoes	89	121.4
Vegetables	110	70.9
Fruit	65	50.4
Bread products	97	100.4
Share of non-food in minimum budget (in percent)	55	30 1/
Indexation period	Annual	Monthly
Inflation adjustment based on	Full Consumer prices	Full Specific food prices

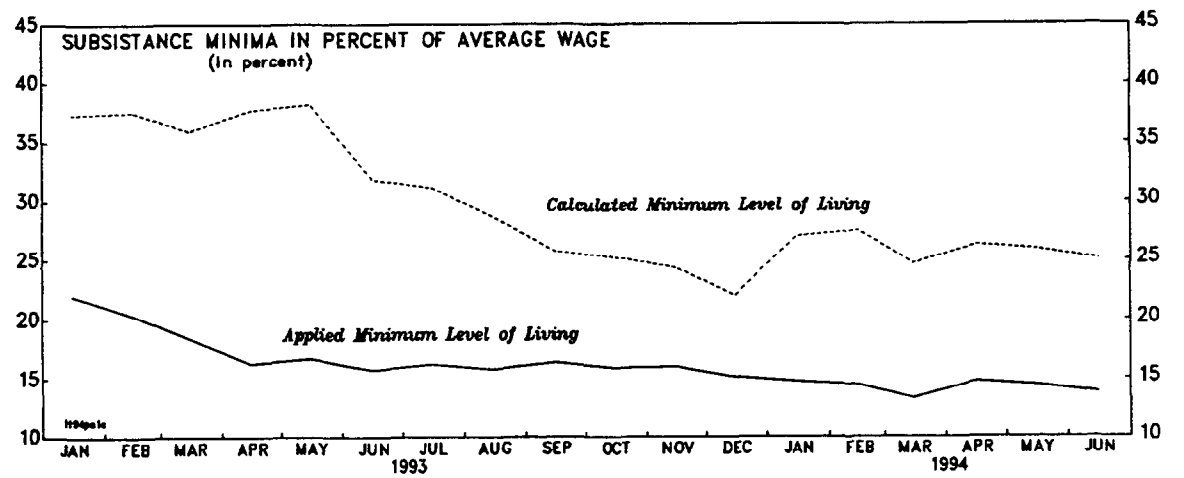
Sources: Atkinson and Micklewright (1992); IMF et al. (1991); Lithuanian Ministry of Social Security.

1/ From January 1993 through December 1993 the share of non-food items was 20 percent.

CHART 1
LITHUANIA
SUBSISTENCE MINIMA







Source: Lithuanian Ministry of Social Security.
1/ Deflated by the consumer price index.

While in early 1993 the calculated subsistence minimum amounted to about 37 percent of average wages, it fell to about 22 percent by the end of the year. In the first half of 1994, however, the CMLL remained relatively stable in real terms, while the gap between the poverty line and average wages narrowed to about 28 percent.

Despite the authorities' efforts to identify the neediest segments of the population based on objective criteria, social benefits have remained linked to the *Applied Minimum Level of Living* (AMLL). This poverty line has been determined on an ad hoc basis, taking into account budgetary resources. In fact, the AMLL has deviated significantly from the calculated subsistence minimum, with the gap between the two poverty lines varying between 50 and 80 percent. While the AMLL was gradually raised from Llt 19.2 in January 1993 to Llt 50 by mid-1994, it has fallen slightly in real terms as well as in terms of average wages.

It remains an open question, however, whether the adoption of the AMLL as the poverty cut-off for social benefits may be treated as the "revealed preference" of the Lithuanian authorities for a poverty criterion. It has to be borne in mind that the determination of social benefits reflects a trade-off with other objectives and that benefit levels may be constrained by considerations of costs and incentives. As Atkinson and Micklewright (1992, p. 187) argue "(a) government may set one target as an aspiration, while recognizing that it cannot immediately be achieved, and it is the aspiration that is relevant to the measurement of poverty." This argument seems to be especially relevant for economies in transition facing tight budgetary constraints, but where the protection of the poorest from possible adverse effects of economic transformation is particularly crucial.

III. Measuring Poverty

Defining poverty by establishing a subsistence minimum is a necessary precondition for measuring the extent of poverty. The choice of a poverty line is, however, a matter about which people can legitimately disagree. But as much as there may be disagreement about how poverty should be defined, there are also different views on the choice of measure of the extent of poverty. A wide range of indices has been developed in the literature, and, as empirical studies have shown, the measurement of poverty may be quite sensitive to the precise index employed. 1/

The computation of most poverty indices require relatively detailed income/expenditure data, which for many developing countries as well as economies in transition are rarely available. As far as the Baltic and FSU countries are concerned, little empirical evidence has so far been presented. Recently, however, the Lithuanian authorities have begun to conduct revised household surveys, which contain valuable information about the distribution of income and the age-sex structure of the Lithuanian population, as well as the consumption pattern of households. On the basis of these data, this section attempts to estimate standard poverty measures,

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1/ For an overview of poverty indices, see Atkinson (1987b).

which are briefly described first. Following the presentation of the empirical estimates, the profile of the poor and the causes of poverty are discussed.

1. Poverty Indices

The most widely used poverty measures are the head count index and the poverty gap ratio. These two measures have been employed, for example, by the World Bank (World Development Report 1990). The head count index (H) measures the proportion of the population with incomes below the poverty line, i.e.,

$$(1) \quad H = q/n,$$

where q is the number of poor and n the total population.

The head count index ignores, however, that poverty is not a discrete condition. In other words, it is insensitive to the actual income levels of the poor. A transfer from the poorest to the least poor, which raises the income of the latter above the poverty line, would reduce the head count. But the average deviation of the incomes of the poor from the poverty line may still be the same, and it can be argued that the extent of poverty has remained unchanged despite the reduction in the head count index. 1/ Therefore, the poverty gap ratio (PG) is generally regarded as the more appropriate indicator, measuring the average income distance of the poor from the poverty line, expressed as a proportion of aggregate income of the poor, i.e.,

$$(2) \quad PG = \Sigma g_i/qz, \; g_i \geq 0, \; i = 1,\ldots,q,$$

and where g_i denotes the poverty gap of individual i defined as the difference between a common poverty line (z) and his or her income.

However, it is important to note that the poverty gap ratio--like the head count index--ignores the distribution of income among the poor, attaching equal weight to the poverty gaps of poorer individuals. 2/ Therefore, more sophisticated poverty measures have been developed, which take into account the relative deprivation of the poor by combining the head count, the poverty gap, and the Gini index of income inequality among the poor. Taking an axiomatic approach, Sen (1976; 1979), for example, proposed that the poverty gap be weighted by the person's rank in the ordering of the poor. However, Sen himself emphasized the arbitrary nature of the rank order assumption, and in the subsequent literature a number of alternatives

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1/ Sen (1976) has shown that the head count violates both the so-called monotonicity axiom and the transfer axiom. The first axiom stipulates that --ceteris paribus--a reduction in the income of a person below the poverty line must increase the poverty index; the latter requires that--ceteris paribus--a pure transfer from a person below the poverty line to someone who is richer, but may still be poor, must increase the poverty index.

2/ Thus, the poverty gap also violates the transfer axiom.

have been developed, which are surveyed in Foster (1984) and Atkinson (1987b). Unfortunately, these more sophisticated indices have been of limited empirical relevance as their estimation requires very detailed data about the distribution of income. Therefore, the head count index and poverty gap ratio have remained the most popular measures despite their theoretical shortcomings.

However, until recently the presentation of official data in Lithuania as well as in the other Baltic countries and newly independent states of the FSU did not even permit the estimation of these less sophisticated poverty indices. As in the case of the household surveys that had been conducted in the FSU in the late 1980s and which had served as a basis for establishing a poverty line, income data remained grouped, i.e., presented as percentages of the total population falling into various income intervals. Moreover, there was no information about the distribution within the intervals; in particular, there was no information about the intra-interval means. Finally, they were doubly censored, with both the lower and upper income ranges being open-ended.

While various approaches have been developed to estimate Lorenz curves from grouped observations (e.g., Kakwani and Podder, 1973, 1976; and Villasenor and Arnold, 1989), 1/ these do not always work well. Most importantly, certain groupings of the data can yield distorted estimates of the Lorenz curve so that econometric results of the parameters may not satisfy the theoretical conditions required of a Lorenz curve. 2/ In fact, this problem has so far prevented reliable estimates of Lorenz curves for the FSU. In a study on income distribution in the FSU based on data for 1988 and 1990, Alexeev and Gaddy (1993), for example, suggested an approach based on minimum Kolmogorov-Smirnov estimators. 3/ In specifying a theoretical distribution, they followed earlier studies on income inequality

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1/ Provided that the parametric form for the Lorenz curve L(p) can be specified on the basis of these approaches, the two poverty measures may be calculated as follows. With μ denoting the mean income, the head count may be obtained using the fact that $x = \mu L'(p)$ is the inverse function of the distribution function $p = F(x)$. Thus, $L'(H) = z/\mu$. This can be solved numerically, employing, for example, Newton's method (Ravallion, Datt, and van de Walle (1991). The poverty gap ratio can then be obtained taking into account that $\mu P = \mu L(H)/H$.

2/ As is well known, a valid Lorenz curve L(p) must be monotonic increasing and strictly convex in the (0,1) interval. Also, it should have the limiting properties that L(0)=0 and L(1)=1.

3/ The minimum Kolmogorov-Smirnov estimator is based on the Kolmogorov-Smirnov one-sample test, which measures goodness-of-fit between the distribution of a set of sample values (here, the observed distribution of income) and a specified theoretical distribution by comparing their cumulative frequency distributions. While the Kolmogorov-Smirnov test aims at finding the largest deviation between the sample distribution and the theoretical distribution, the Kolmogorov-Smirnov estimator looks at the parameters of the theoretical distribution which best fits the observed sample. For more details on the test methodology see Alexeev and Gaddy (1993, pp.34-35).

in the FSU (e.g. Bergson, 1984) that had suggested that the distribution of income is closely approximated by a log-normal curve. While this approach enabled them to estimate summary statistics of income inequality such as the Gini coefficient or Atkinson indices, the lack of adequate data did not permit reliable estimation of the underlying Lorenz curves, preventing an unambiguous ranking of income distributions among individual countries of the FSU. 1/ Any estimate of poverty would thus have been subject to a large margin of error.

However, with effect from January 1994, the presentation of household data in Lithuania was radically changed. Most importantly, income and expenditure data from about 4,000 people living in about 1,500 households have been based on deciles rather than on certain intervals, permitting more accurate estimates of the distribution of income and hence poverty. According to these revised surveys, average income per head per month amounted to Llt 186.5 in the first half of 1994. The head count index, before social benefits, was estimated at about 7 1/2 percent, taking the AMLL as the relevant yardstick. However, if the CMLL had been regarded as the relevant poverty line more than 20 percent of Lithuania's population would have been considered as poor (Table 2).

Table 2. The Extent of Poverty
(1st. Half 1994)

Poverty measure	Poverty Line	
	Applied Minimum Level of Living	Calculated Minimum Level of Living
Head count index 1/	7.56	21.31
Poverty gap ratio 1/	26.12	33.73

Source: Staff calculations.

1/ In percent.

Similarly, the incomes of the poor would need to have been lifted by a significantly larger percentage in order to eliminate poverty. If the AMLL had been the relevant poverty line, the poverty gap ratio, excluding social

1/ Notwithstanding this problem, the authors (Alexeev and Gaddy, 1993, p. 30) conclude on the basis of the estimated summary statistics of income inequality that "...the Baltic and Slavic republics have the lowest inequality, the Christian southern republics fall into the middle, and the Muslim republics show the greatest inequality."

benefits, would have amounted to about 26 percent; however, regarding the CMLL as the relevant poverty line, the poverty gap ratio would have reached almost 34 percent. 1/

These estimates suggest that both the head count index and the poverty gap ratio are relatively sensitive to the level at which the poverty line is drawn, reflecting the distribution of income. Obviously, this has important implications for social policy. In this regard, it is also important to note that the calculated subsistence minimum itself is highly sensitive to changes in the calculation method, in particular the composition of the subsistence basket. For example, if the weight of food in the subsistence basket had not been reduced from 80 percent to 70 percent in early 1994, the CMLL would have been about 10 percent lower in mid-1994. As a result, there would have been about 4 percent fewer people with incomes below the calculated subsistence minimum, while the poverty gap ratio would have been lower by about 2 percentage points. This suggests that even relatively small changes in the structure of the basket may result in relatively large changes in measured poverty.

2. Profile of the poor and the causes of poverty

Summary poverty measures are, however, of little relevance for targeting social assistance. Poverty may have very different causes, which need to be known in order to alleviate poverty efficiently. A distinction is normally drawn between poverty caused by unforeseen interruptions of income, as a result of unemployment, illness, or the absence of one parent; and poverty related to the foreseeable life-cycle of need. Typically, incomes of low-paid workers fall short of defined needs early in their lives when they have dependent children as well as after retirement. Unfortunately, household surveys can present only a "snapshot" at one point in time, and data to measure the continuity of poverty throughout lifetimes or its persistence across generations are generally inadequate.

Nevertheless, the information contained in the household surveys do allow a number of interesting conclusions about the causes of poverty in Lithuania. First of all, it appears that life-cycle factors can explain poverty only to a limited extent. While wage earners living in households

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1/ However, these results may overestimate the true extent of poverty. As the household surveys reveal, household expenditure in some months exceeded household incomes. To some extent, this might be explained by unrecorded intra- and inter-group transfers, in particular between family members, as well as the fact that households may have been able to maintain expenditure by borrowing or drawing on savings. More importantly, however, households might have underrecorded their incomes, possibly for reasons of tax evasion and/or having access to direct income support. These problems are relatively common, and a number of studies have therefore employed an alternative approach, measuring poverty in terms of consumption rather than income. However, since in general expenditure distributions exhibit a lower degree of inequality, the head count index and the poverty gap ratio based on expenditure data may be biased downward relative to income-based measures.

with per capita incomes below the AMLL and CMLL poverty lines tend to be younger than those living in households with per capita incomes in excess of the subsistence minima, the difference does not seem to be significant. For example, about 35 percent of wage earners living in households in the first three income deciles were between 16 and 29 years old (Table 3). In contrast, the comparable share of wage earners living in households in the highest three deciles averaged 29 percent. However, only about 12 percent of low wage earners were 50 years or older, i.e., reached their final stage of their working lives, while the comparable share was 23 percent for those living in households with the relatively highest per capita incomes.

Poverty seems rather to be related to the household size. In fact, the average household size in the first two income deciles was significantly larger than for all other households, with the difference amounting to almost 50 percent. This is largely explained by a significantly higher number of children. In fact, the average number of dependents aged 15 or less living in poor households was almost five times higher than for households with per capita incomes in the highest income deciles. The same observation applies to infants not older than 2 years. However, there was no significant difference as far as children are concerned, who live in single-parent households.

Finally, many households have live-in pensioners, whose relatively low incomes could significantly reduce the average per capita income of a household, possibly below the poverty line. However, this potential effect seems to be of limited relevance in the case of Lithuania. In fact, the highest average number of pensioners was concentrated on households with per capita incomes in the medium range, while the average number of pensioners in poor households was virtually the same as in the case of households in the highest deciles.

While sickness and unemployment may also be potentially important factors for explaining poverty, there is no information in the household surveys. However, unemployment has remained relatively low--even taking into account disguised unemployment--suggesting that this factor has probably played a limited role.

IV. Income Support and Poverty Alleviation

The question arises to what extent Lithuania's social safety net has contributed to a reduction in poverty. With effect from early 1992, a so-called special safety benefit was introduced, which explicitly addresses the issue of poverty by providing basic income support to those with incomes below the AMLL. This special social benefit is income-tested on the basis

Table 3. Household Structure
(1st. Half 1994)

	Income Deciles									
	1	2	3	4	5	6	7	8	9	10
Mean income per head 1/	42.4	78.9	104.4	121.2	151.4	164.6	195.2	236.0	297.4	510.8
Average household size	3.6	3.6	2.4	2.4	2.7	2.8	2.7	2.5	2.6	2.2
Average number of dependents per household	1.8	1.6	1.4	1.2	1.2	1.1	1.0	0.8	0.8	0.5
of which:										
children not older than 15	1.6	1.4	0.6	0.5	0.7	0.7	0.7	0.5	0.5	0.3
children not older than 2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	...	0.1	...
pensioners	0.2	0.2	0.8	0.7	0.5	0.4	0.3	0.3	0.3	0.2
Children in single-parent households 2/	10.8	17.3	9.4	7.9	13.0	8.6	10.8	9.4	6.5	6.5
Age structure of labor force 3/										
16-29 years	31.6	37.0	36.6	22.8	27.8	27.0	29.6	30.8	29.7	26.7
30-49 years	54.7	53.3	49.1	44.2	48.9	51.0	51.8	51.1	42.7	49.7
50-59 years	13.7	9.7	14.3	33.0	23.3	22.0	18.6	18.1	27.6	23.6

Source: Lithuanian Department of Statistics.

1/ In litai; before income support.
2/ In percent of all children living in single-parent households.
3/ In percent.

of household per capita. 1/ However, most social benefits are still based on a "categorical" approach. These benefits, which include, for example, allowances to single mothers, birth grants and child care allowances, and funeral grants, are neither insurance-based nor means-tested. Most of them are linked to the AMLL and amounted to about 75 percent of Lithuania's total social benefits (Table 4). Including social assistance under the special social benefit scheme, social benefits totalled almost Llt 150 million in 1993 or 1 1/2 percent of GDP.

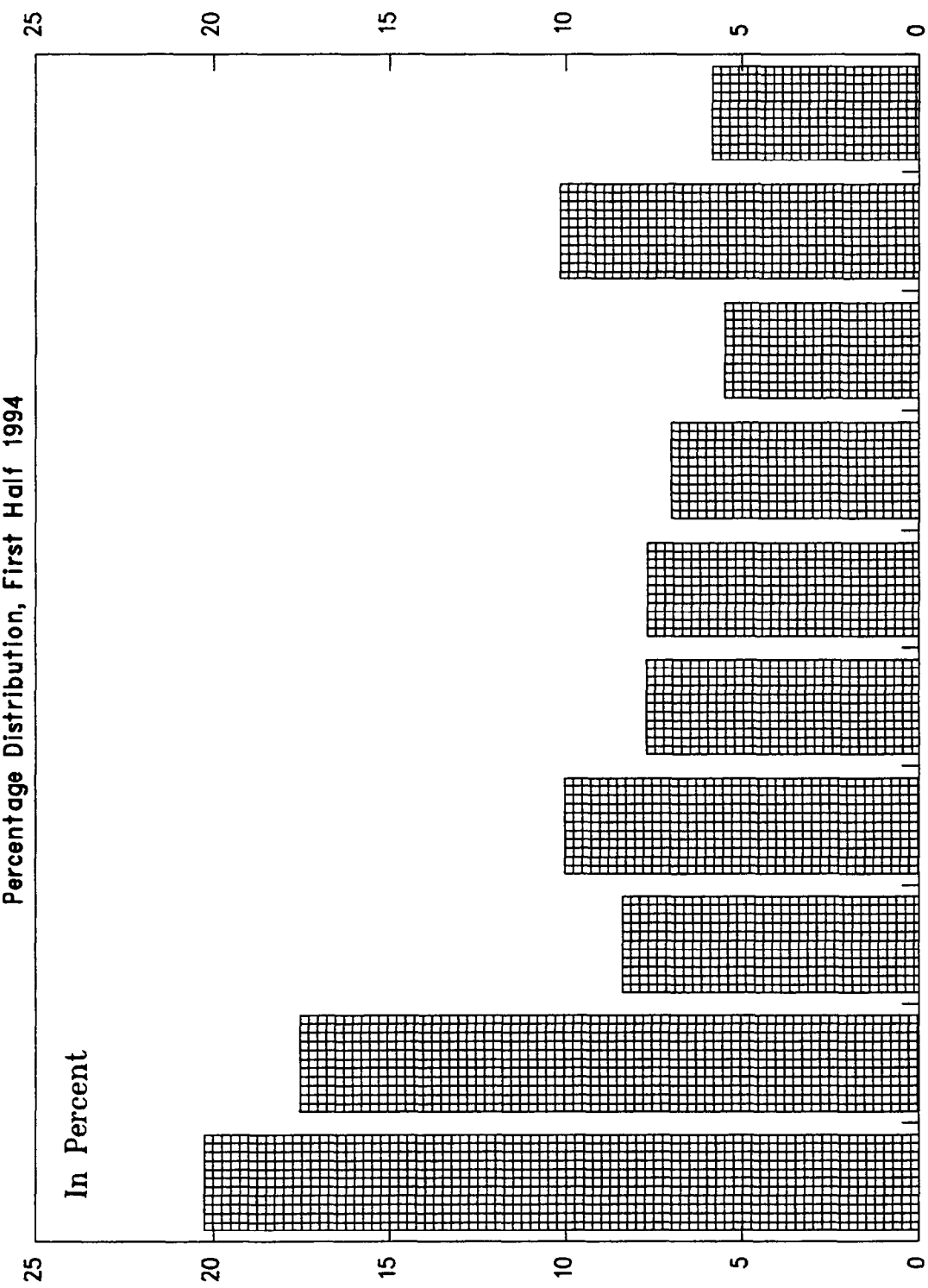
While social policies do not necessarily aim exclusively at reducing poverty but may pursue other important goals such as improving the country's demographics, categorical benefits may nevertheless help reduce poverty, depending on whether poor households show the necessary characteristics in order to be eligible. Given that poverty seems to be closely related with the number of children--as discussed in the previous section--and that child care benefits are the most important categorical benefits, one would assume that Lithuania's social safety net does contribute significantly to a reduction in poverty.

In fact, low income households have benefitted most from social assistance. People living in households in the first two income deciles, who are roughly identical with those considered to be poor according to the CMLL, received more than one third of social benefits paid during the first half of 1994 (Chart 2). People living in households in the first income decile, who would largely be considered to be poor according to the AMLL, received almost 20 percent. Nevertheless, social benefits accounted only for a relatively small share of these households' per capita incomes. As far as households in the first income decile are concerned, this share totalled about 4 percent; for households in the first two deciles it averaged 3 percent.

However, households with relatively high per capita incomes have also benefitted significantly from the social safety net. For example, households in the top three income deciles received about 23 percent of all social benefits paid during the first half of 1994. An important reason for this is Lithuania's categorical approach to social benefits. But given the design of the social safety net and the characteristics of households in different income deciles as discussed in the previous section, the percentage distribution of social benefits appears nevertheless surprising. One possible explanation could be different take-up rates, i.e. the rates at which eligible households in different income deciles actually claim social benefits.

1/ The special social benefit is based on a separate negative income tax scheme. This scheme involves a guaranteed payment and then the withdrawal of payment at a certain rate as specified by the formula given in Table 4. It overlaps with the income tax so that some people receive negative tax supplements while paying ordinary income tax.

CHART 2
LITHUANIA
SOCIAL BENEFITS
Percentage Distribution, First Half 1994



Source: Lithuanian Ministry of Social Security.

Table 4. Social Assistance

Type of Benefit	Rate Formula	1992 Number of Recipients 1/	1992 Amount (Th Llt)	1993 Number of Recipients 1/	1993 Amount (Th Llt)	1. Quarter 1994 Number of Recipients 1/	1. Quarter 1994 Amount (Th Llt)
Maternity benefits		7,578	6,469	3,869	16,491	2,500	6,663
Insured women	Wage						
Students	0.8 AMLL						
Childbirth grant	3 AMLL	4,214	1,698	3,489	3,244	3,300	1,270
Child care benefit	0.35 - 1.0 AMLL	148,051	16,080	137,643	34,096	125,667	12,099
Adoption and foster benefits	1 AMLL	2,216	355	2,828	987	2,700	406
Orphanage child grant	12 AMLL	34	68	16	97	200	24
Single mother benefit	0.4 AMLL	23,571	1,514	27,644	3,743	27,400	1,496
Preschool child benefit		5,248	128	94,114	12,464	204,900	10,680
Military family child benefit	1 AMLL	38	6	93	31	233	33
Alimony child benefit	0.4 AMLL	796	47	1,854	282	2,733	147
Social benefit	0.4 (AMLL-income)	283,372	17,259	565,631	63,798	143,467	6,018
Care of disabled child				1,390	487	1,633	224
Benefit for disabled (housing)	0.2 AMLL			1,265	74	1,000	28
Funeral benefit	2 AMLL			3,637	2,932	8,700	5,568
Child food allowance				29,775	6,578	41,167	4,154
Extraordinary social benefit		161,777	16,977	23,648	4,257	5,333	1,034
Total expenditures			60,602		149,563		49,849

Source: Lithuanian Ministry of Social Security
1/ Average number of recipients per month.

Low take-up rates may reflect various factors. As discussed in Atkinson (1987a), considerable importance has been attached to the stigmatizing effect of receipt. Also, people may not claim on account of the transaction costs involved. Finally, people may not claim simply because they do not know about their eligibility, and the improvement of their knowledge may involve significant information costs. These reasons may have played an important role in the case of Lithuania. In particular, there is reason to assume that the high complexity of the social safety net, which consists of no less than 15 different categories of benefits, has been a major factor in preventing the poor from claiming social assistance. While the household surveys do not contain sufficiently detailed information to calculate the precise extent to which social benefits are currently not claimed by eligible individuals, rough estimates suggest that the take-up rates of poor households probably have not exceeded 70 percent. At the same time, transaction and information costs seem to have been relatively less important for the better-off, whose take-up rates seem to have been considerably higher. This would suggest that the design of the social safety net has been sub-optimal, even taking into account that social assistance does not necessarily aim exclusively at reducing poverty.

To what extent have social benefits reduced the number of those who are considered to be poor according to the AMLL and the CMLL, respectively, and to what extent have they narrowed the gap between the aggregate incomes of the poor and the two poverty lines? In fact, it appears that the effects of social assistance on poverty has been rather limited. Taking the AMLL as the relevant subsistence minimum, the head count was reduced only by less than half a percentage point, while the poverty gap ratio fell by about 2 percentage points (Table 5). In the case of the CMLL, the incomes of about 79 percent of the population exceeded the poverty line, i.e., about half a percentage point more than in the absence of social benefits; the poverty gap ratio declined by slightly more than one percentage point. 1/

1/ It is important to note, however, that these estimates are derived under strict ceteris paribus assumptions. In particular, they do not take into account that the financing of social benefits may have significant macroeconomic implications, which affect different income groups in different ways. For example, to the extent that the financing of the social safety net contributes to inflation, which usually affects the poor more than the relatively better-off, the impact of social assistance on poverty may be even over-estimated. Those effects would need to be studied in a general equilibrium framework.

Table 5. Income Support and Poverty Reduction
(1st. Half 1994)

Poverty Measure	Poverty Line: Applied Minimum Level of Living	Poverty Line: Calculated Minimum Level of Living
Head count index 1/	- 0.44	- 0.55
Poverty gap ratio 1/	- 2.02	- 1.08

Source: Staff Estimates.

1/ Change measured in percentage points.

Notwithstanding these results, it would be premature to draw any firm conclusions about the efficiency of Lithuania's social safety net. Instead, one would need to show that a redesign of the social safety net would result in a significantly larger reduction in poverty within given budgetary constraints. In reforming the social safety net further, the Lithuanian authorities have been considering the following modifications: (i) a reduction in the number of social benefits in order to achieve a lower degree of complexity, while taking into account that poverty alleviation may not be the only goal of social policies; 1/ (ii) the coordination of the social safety net with the tax system and other social welfare expenditures; and (iii) the introduction of means-tested benefits. 2/

While the effects of these measures would depend on their concrete design, one may simulate to what extent social benefits would need to be redistributed from the better-off to those living below the poverty line in order to close the poverty gap. In simulating the effects of reallocating social benefits, a number of restrictive assumptions have been made: First, the redistribution of social assistance is based on the special social benefit that was recently introduced rather than through categorical benefits, which would become means-tested. 3/ Second, take-up rates among

1/ According to a recent proposal put forward by the Lithuanian Ministry of Social Security the number of social assistance benefits would be reduced to eight.

2/ There is general agreement, however, that from the standpoint of health policy maternity benefits should remain a categorical benefit.

3/ Such a scheme would make sure that the poorest gain most from the reallocation of social benefits. Provided that this scheme is closely coordinated with the tax system, it would have the virtue of reducing the effective marginal rates of tax. As is well-known, means-tested benefits may result in a poverty trap, implying that an increase in earnings above the poverty line could actually lead to a decline in total income because the individual would no longer be eligible for social benefits.

the poor rise sufficiently to absorb fully increased social benefits. Third, increased social benefits do not result in disincentives to work, leaving other incomes unchanged. Fourth, intra-household transfers take care of poor people living in households with relatively high average per capita incomes.

Under those circumstances, poverty could substantially be reduced. In fact, a 100 percent redistribution of social benefits currently received by people with incomes above the poverty line could have reduced the head count index to about 2 percent, while narrowing the poverty gap to 4 percent. Even a more moderate redistribution of 50 percent of social benefits would still have reduced the head count index by about one third; in this case the

Table 6. Simulation Results

	Actual Poverty Alleviation	Potential Poverty Alleviation through Redistribution of Social Benefits 1/			
		25	50	75	100
		Applied Minimum Level of Living			
Head count index 2/	-0.44	-1.26	-2.34	-3.67	-5.35
Poverty gap ratio 2/	-2.02	-5.72	-10.23	-15.50	-22.11
		Calculated Minimum Level of Living			
Head count index 2/	-0.55	-0.87	-1.23	-1.66	-2.11
Poverty gap ratio 2/	-1.08	-1.63	-2.22	-2.84	-3.62

Source: staff calculations.

1/ In percent of social benefits allocated to households with average incomes above the poverty line.
2/ In percentage points.

poverty gap ratio would have declined by about 40 percent. 1/ Taking the CMLL as the relevant yardstick the head count index would have dropped to 19.2 percent if social benefits had been fully reallocated. The poverty gap would have narrowed by more than 3 1/2 percent. In contrast, if only one half of social benefits that are currently received by households with incomes above the CMLL had been redistributed the head count index and the poverty gap ratio would have declined to about 20 percent and 31 1/2 percent, respectively.

As a matter of course, these simulations can only be indicative and a number of important caveats need to be taken into account. For example, it is impossible to predict to what extent a higher degree of transparency of social assistance affects take-up rates. If--in contrast to the assumptions made here--take-up rates were not affected at all by the greater transparency of the social safety net, the reduction in poverty could be significantly less than indicated in Table 6. 2/ Also, it is unclear to what extent a better coordination of the social safety net would contribute to budgetary savings, which could then be allocated to low income households. Finally, there is no information about intra-household distributions of income. Thus, even if social benefits became fully means-tested, this would not necessarily imply that households in higher income deciles have no longer access to social benefits. It is quite conceivable that there are people with incomes below the subsistence minimum, who live, however, in households whose average per capita incomes (by far) exceed the poverty line. Therefore, it is unclear to what extent such a measure would result in budgetary savings that could be redistributed to the poor.

Notwithstanding these caveats, the simulation results seem to imply that even relatively moderate reforms could significantly alleviate poverty without allocating additional resources to the social safety net. In fact, a complete elimination of poverty defined on the basis of the AMLL would require only a relatively moderate increase in social assistance. In order to close the poverty gap this increase would need to amount to about 10 percent or less than 0.2 percent of GDP.

1/ These results crucially depend on how social benefits are reallocated. The head count index, for example, would be reduced further if the relatively better-off among the poor gained most from the redistribution. While--as discussed above--both the head count and the poverty gap ignore the distribution of income among the poor, the proposed redistribution scheme implicitly attaches more weight to the poverty gaps of poorer individuals, which would be reflected in the Sen poverty index.

2/ For example, assuming an unchanged take-up rate of 70 percent among the poor, only 35 percent of a targeted redistribution of 50 percent of social benefits currently allocated to households with average incomes above the AMLL would actually be absorbed, with the difference representing a reduction in social expenditure. As a result, the head count index and the poverty gap ratio would decline by about 1.8 and 8 percentage points, respectively, compared with 2.34 and 10.23 percentage points, respectively, if redistributed social benefits were fully absorbed by the poor.

V. Conclusions

Having regained independence, Lithuania has embarked on a comprehensive economic reform program. In maintaining popular support for this program, however, Lithuania has faced an important policy dilemma. With contracting economic activity, the number of people needing assistance has increased, while Lithuania's capacity to finance social welfare services has significantly decreased. Faced with this dilemma, Lithuania has started to take important measures to improve the targeting of social assistance. In particular, significant efforts have been made to identify the neediest segments of the population. However, the social safety net inherited from the FSU has remained virtually intact. Although poverty alleviation may not be the exclusive goal of social policies, this social safety net has proven costly and ineffective in providing adequate support for the poor.

As argued in this paper, the reform of the social safety net should focus in particular on reducing the number of social benefits in order to make it more transparent; coordinating it with the tax system and other social welfare expenditures; and introducing means-tested benefits. In effect, such reforms would redistribute social assistance from those who are perceived as being able to support themselves to those in need. As some simple simulations indicated it appears that poverty could indeed be reduced substantially without increasing budgetary resources for social assistance. In turn, a complete elimination of poverty as defined by the applied subsistence minimum would require only a relatively modest increase in social expenditure if only the poor were to benefit from social assistance.

Undoubtedly, reforming the social safety net is a highly sensitive issue. While some groups will gain, others will lose. However, to maintain fiscal stability during the transition to a market economy it is essential to concentrate support on those who genuinely require assistance, rather than attempt to maintain standards of living of a large proportion of the population through budgetary transfers. Failing to protect the poorest from possible adverse effects of economic transition may undermine the credibility of economic policies so that far-reaching systematic reforms of social policies appear unavoidable.

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