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Analysis of Methods for Poverty Assessment in the Countries of the Commonwealth of Independent States

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Abstract

Interstate Statistical Committee of the Commonwealth of Independent States (CIS-STAT) conducted an analysis of the methods of assessment of poverty in the countries of the Commonwealth. The topic under consideration is especially important due to the fact that in all the countries of the Commonwealth close attention is paid to the poverty reduction as one of the priority development goals (MDGs).

During the preparation of this work materials provided to CIS-STAT by national statistical services of the CIS were used as well as those posted on the websites of statistical services of the Commonwealth countries.

The main objectives of this research are:

- study of the methods used for evaluation of poor population number in the Commonwealth countries;

- analysis of the possibility of making comparisons between countries on the level of poverty. The results of the research have shown that along with common approaches in the assessment of poverty levels there are significant differences among the CIS countries.

Common to most of the Commonwealth countries is that quantitative assessment of poverty is based on microdata from household surveys, which are conducted on a regular basis. At the same time, in some countries such surveys are conducted with different periodicity (once in several years).

For the official estimates of the number of poor population all countries use *the absolute concept of poverty,* which is based on the correspondence of population income (or expenses) with established minimum of means of subsistence. When conducting assessments of poverty, there are significant **differences**.

1. Each country uses the *national poverty line*. The composition of the consumer basket used for cost estimates of the poverty line is defined by national, climatic peculiarities of the countries and their financial possibilities.

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2. In the Commonwealth, there are differences in choosing a measure of well-being, on which basis the ranking of the population is made. Most of the Commonwealth countries use consumer expenditures for these purposes, but some countries use income.

3. For assessment of the average per capita expenses (income) level most of the countries use the practice of non-cash revenues adjustment, however the methods of the estimates also differ in some countries.

4. Some Commonwealth countries use different equivalence scales for calculating average per capita indicators, which characterize the welfare of the population.

The results of the research have shown that the differences in methods used for poverty level assessments make it possible to trace changes in poverty level within each country, but don't allow to make comparison between countries.

It should be noted that the calculation of *relative poverty* in assessing population welfare is not widely spread yet in most countries of the Commonwealth. CIS-STAT plans to monitor indicators of poverty in the future, achieving thus greater international comparability. The collected information is provided to the governing bodies of the Commonwealth countries, mass media, representatives of scientific community, commercial organizations, international organizations and the population

Analysis of Poverty Measurement Methods in the Commonwealth of Independent States[1]

by Valentina Brysseva, Interstate Statistical Committee (CISSTAT)

1. Introduction

The subject matter of this paper is of particular importance because poverty reduction is one of priority development objectives under the Millennium Declaration adopted by the UN General Assembly (2000). Most CIS countries have adopted national poverty reduction programmes and regularly measure poor population.

The CISSTAT collects and analyzes data on living standards with a focus on such phenomena as differences by income and expenditures; poverty and extreme poverty.

To understand the comparability of countries by poverty headcount and poverty rates the CISSTAT has analyzed how poverty is measured by the CIS countries and whether such methods are in line with the international practice.

To prepare the paper the authors used the materials provided by national statistical offices as well as the information available on the Web sites of international organizations (Eurostat, OECD, World Bank).

2. Poverty measurement methods

2.1. Poverty measurement concepts

The CIS countries use, in a varying degree, internationally accepted fundamental concepts of poverty measurement:

- concept of *absolute poverty* based on the extent to which income or expenditures correspond to an established subsistence minimum level. This is the concept which is used by all CIS countries to measure official poverty rates and poverty incidence;

- concept of *relative poverty* based on the extent to which income or expenditures correspond to median levels. Today relative poverty indicators are estimated by only some CIS countries and cannot be used for comparisons, because, for example, relative poverty threshold in Belarus is set at 50% of the median disposable income, in Moldova it is set at 60% of the median consumer expenditures; whereas Ukraine uses for the same purpose 50%, 60% and 75% of the median income;

- concept of *subjective poverty* involves poverty measurement based on subjective views of people regarding minimum income or their well-being. In most CIS countries subjective poverty estimates are based on household surveys being part of regular income and expenditure surveys. The results are mostly used for social studies and not used for national social policies.

Subjective poverty measures may indicate social unrest in a society.

It is problematic to use such measurements for comparisons across the CIS countries; this is due to considerable differences in the living standards and conditions among these countries.

Poverty measures based on subjective approaches may differ markedly from officially published absolute measures estimated based on income or expenditures. For instance, a survey in Armenia (2011) demonstrated that 15% of its population considered themselves poor, whereas according to official statistics 35% of people in Armenia are poor.

The decision on what concept to choose for measuring poverty depends on objectives and real economic capabilities of a country.

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[1] The Commonwealth of Independent States (CIS) was established on 8 December 1991. At present, it consists of 11 member states (Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine).

2.2. National poverty line

All CIS countries use *absolute* poverty lines for official estimates of poor population. Azerbaijan, Belarus, Kazakhstan, Russia and Ukraine use *subsistence minimum* standard as such threshold. Subsistence minimum standard represents the quantities and structure of consumption of basic goods and services at a minimum permissible level required to maintain active physical state of adults and social and physical development of children and youth. The subsistence minimum level is also defined in Kyrgyzstan and Moldova; however, these countries do not use it for poverty measurements.

Most CIS countries also use subsistence minimum standards for:
- analyzing living standards and conditions for the development and implementation of social policies;
- justifying minimum public social and labour guarantees (minimum wage, minimum retirement benefit, scholarships, benefits); and
- providing public social assistance to the poor (Belarus, Kazakhstan, Russia and Ukraine).

The structure of a *consumption basket* for defining a subsistence minimum level is prepared and approved by relevant government and legislative authorities of the CIS countries. Subsistence minimum values are set for the population at large, as well as for specific socio-demographic groups: working age population, retirees, and children of different age groups.

A food basket is based on consumption standards prepared by national Nutrition Institutions in Azerbaijan, Kazakhstan and Russia; by Health Ministry's departments in Belarus, Kyrgyzstan and Ukraine; and by the Institute of Economy, Finance and Statistics in Moldova. Food packages are defined for specific socio-demographic groups. In most countries the consumption standards are developed based on human physiological needs in energy and nutrients recommended by FAO (UN Food and Agricultural Organization) and WHO (World Health Organization).

Some countries where governments are unable to provide financial support to everybody whose income is below a subsistence minimum level, use additional criteria for measuring the poorest population. For instance, Kazakhstan uses a threshold of 40% of a subsistence minimum level for providing targeted social assistance; Azerbaijan annually approves a 'means criterion' (equalling roughly 80% of the subsistence minimum level).

For defining poverty levels some CIS countries (Armenia, Kyrgyzstan, Moldova and Tajikistan) use the indicators based on the World Bank's methodology:

- *extreme poverty line,* which is based on the cost of a food basket that provides the agreed daily food intake per capita: 2,232 Kcal in Armenia, 2,100 Kcal in Kyrgyzstan, 2,282 Kcal in Moldova and 2,250 Kcal in Tajikistan.
- *general poverty line*, which represents minimum consumption including food and non-food goods and services.

2.3. Well-being indicators used for estimating poverty headcount

Statistical analysis of welfare indicators used to measure poverty is based on the results of household budget surveys. Such surveys which are carried out under national programmes have some common principles, but at the same time they are considerably different in sample design, data collection and processing methods.

In order to estimate what share of population has income (or expenditures) below an established poverty line, the CIS countries build distribution series using the following indicators:

Country	Indicator
Azerbaijan	Consumer expenditures
Armenia	Consumption aggregate
Belarus	Disposable income
Kazakhstan	Income used for consumption
Kyrgyzstan	Consumption aggregate
Moldova	Consumer expenditures
Russia	Disposable income
Uzbekistan	Total income
Ukraine	Aggregate income

The analysis demonstrated that for measuring poverty most countries use indicators which characterize the *consumption* of goods and services.

It is common for all countries to use aggregate indicators for evaluating well-being, which along with cash expenditures (income) include *in-kind transfers,* which is important for all CIS countries.

In-kind transfers may include food, non-food goods and services.

The CIS countries have different coverage of goods and services which are included into the evaluation of income (expenditures) indicators:

	Food (subsidiary farming, provided by employer, gifts)	Non-food items		Services as remuneration of labour	Allowances and benefits from	
		as remuneration of labour	gifts		employer	state
Azerbaijan	+	+	+	+	+	+
Armenia	+	-	+	-	-	-
Belarus	+	-	-	-	+	+
Kazakhstan	+	+	+	+	+	+
Kyrgyzstan	+	-	-	-	-	+
Moldova	+	-	-	-	-	-
Russia	+	+	+	+	+	-
Tajikistan	+	+	+	-		+
Uzbekistan	+	+	+	+	+	+
Ukraine	+	+	+	+	+	+

As one can see from the table, it is common for all CIS countries *to take stock of consumed food* produced by households themselves, received as remuneration of labour, received as gifts, etc. However, there are certain differences in the methods applied to evaluate such consumed food: most countries evaluate food items consumed by a household and received without pay at the basis of average prices for such food items estimated based on a survey; at the same time some countries (e.g. Moldova) use self-valuation methods when households valuate themselves the cost of their products.

Unlike other countries, for estimating consumption indicators Armenia and Kyrgyzstan use imputed value of services from the use of durable goods available in a household. For instance, in Armenia this is done by dividing the cost of an item purchased within the last 12 months by a maximum service life, which varies from 5 years for personal computers to 20 years for cars.

Thus, the composition of indicators relating to the value of in-kind transfers is different in the CIS countries. And even similar definitions of an indicator do not necessarily mean that its composition is absolutely identical. This can be demonstrated by such indicator as household *disposable resources*, which is used by Russia and Belarus. Unlike Russia, Belarus include the value of in-kind benefits into this indicator but it does not take into account the value of non-food items received by households without pay.

2.4. Methods to estimate poor population headcount

To estimate poor population headcount on the basis of household income and expenditures surveys the CIS countries construct population distribution series by levels of per capita income (expenditures). All countries, except Russia, extrapolate sample survey results to the overall population by statistical weighting.

Russia constructs distribution series using *simulation modelling* based on a lognormal model. By using this method empirical distribution obtained through a sample household survey is transformed into new distribution series which match the value of a grouping variable in the population, such being a macroeconomic indicator of per capita income.

Per capita income is determined by dividing total income of population by total population. Income, expenditures and savings are accounted on the basis of government statistics, financial and banking statements applied for all major channels for receiving and using financial resources of the people.

For estimating per capita income (expenditures) some CIS countries (Armenia, Kazakhstan, Moldova and Ukraine) use *equivalence scales*, which allow to take into account the impacts of different household sizes and composition on the consumption levels. Such equivalence scales may vary considerably: Moldova uses equivalence scales of 1.0 – 0.7 – 0.5; Kazakhstan applies 0.8 for each second and subsequent household member, Ukraine uses 0.7. Armenia determines equivalences for children below 14 based on the Engel method according to which expenditures for a child are 64.5% of those for an adult member.

3. Poverty indicators in the CIS countries

In most CIS countries the agency responsible for poverty related indicators is the national statistical office. Poverty is measured at the national level, at subnational levels, as well as for urban and rural areas. Belarus and Ukraine conduct poverty measurements separately for cities and towns. In addition, in some countries (Armenia, Belarus, Moldova, Russia and Ukraine) poverty is measured for social and economic groups of population/households. Some additional variables are also used: household size and type, availability of employed and unemployed household members, number of children, etc.

The purpose of poverty measurement is, of course, not just to understand poverty incidence and to help in international comparisons, but eventually to identify reasons of poverty, which should become the basis for elaborating programmes and taking specific poverty reduction measures.

Share of population whose income/expenditures are below national poverty lines in the CIS countries
(% of total population)

	2005	2010	2011	2012
Azerbaijan	29.3	9.1	7.6	6.0
Armenia	…	35.8	35.0	…
Belarus	12.7	5.2	7.3	6.3
Kazakhstan	31.6	6.5	5.5	3.8
Kyrgyzstan	43.1	33.7	36.8	38.0
Moldova	29.1	21.9	17.5	16.6
Russia	17.8	12.5	12.7	11.0
Tajikistan	…	46.7[1]	…	…
Ukraine	12.7[2]	8.8	7.8	9.1

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[1] 2009.

[2] 2007.

The above poverty estimates demonstrate that some CIS countries achieved considerable progress over the last seven years in reducing poverty which is driven by relevant policies: increasing minimum wage,

increasing public benefits, pensions and targeted social assistance.

The national poverty estimates enable drawing some conclusions on the changes, however, these cannot be used for comparisons across the countries.

In addition, recently some countries made significant changes in the ways they measure poverty. Specifically, in 2007 Ukraine introduced equivalence scales, thus it is not possible to compare the data over time.

The analysis of the composition and structure of the population below national poverty lines demonstrates that in the CIS countries the groups at risk of poverty include families with children (especially single-parent families), unemployed, beneficiaries of social pensions and disability benefits.

In most countries rural poverty is still an issue because poverty levels in rural areas are higher than in urban areas:

Poverty levels depending on residence

(% of population residing in a location)

	Share of population whose income/expenditures are below national poverty line	
	Urban areas	**Rural areas**
Armenia		
2010	35.7	36.0
2011	35.2	34.5
Belarus		
2011	5.8	11.5
2012	5.2	9.4
Kazakhstan		
2011	2.5	9.1
2012	1.9	6.1
Kyrgyzstan		
2011	30.7	40.4
2012	35.4	39.6
Moldova		
2009	12.6	36.3
2010	10.4	30.3
Tajikistan		
2007	49.4	55.0
2009	36.7	50.8
Ukraine		
2011	6.2	11.1
2012	7.4	12.6

Poverty estimates are used for analytical reports, press releases, statistical bulletins and digests which meet the demands of various users. Principal users of the data are government authorities of the CIS countries: supreme national authorities, the Government, ministries and agencies, research institutions as well as various non-governmental and international organizations, and the mass media. In addition, for external users poverty statistics are published on official Web sites of the national statistical offices of the CIS countries.

4. Major issues and ways to improve poverty measurement in the CIS countries

There are several areas of poverty statistics requiring improvements in the CIS countries.

On the one hand, there is a need to improve quality of sample household survey data which are used for measuring poverty. In this context the national statistical offices of the CIS countries have the following priority tasks:

- to update sample and its design based on the population censuses of the 2010 round;

- to improve data collection methods;

- to use computer-aided technologies which help to improve efficiency; and

- to improve data processing methods through the development and use of simulation models to improve reliability of subnational poverty estimates.

Another area is related to the use of new survey methods because absolute poverty lines used by the CIS countries for official poverty estimates fail to assess in full the scale of this phenomenon. Today in most countries such term as poverty is determined not only by levels of income and expenditures. It is also related

to the quality of access to health, education, basic utility services such as clean water and adequate sanitation. Therefore the countries set *as one of priority objectives* in poverty studies the elaboration of comprehensive indicators and criteria that would enable assessing overall level of well-being of the population and living conditions.

At present, the CIS countries pay close attention to international practice of introducing new methods for measuring living standards based on subjective opinions about deprivations.

Due to the national specifics and differences in the living conditions the CIS countries cannot use in full the methods for measuring deprivations which are used, for instance, in the European measurements of living standards. At the same time, the use of national criteria results in the issue of data comparability, both across the CIS countries and at the international level.

Conclusion

The results of the study demonstrated that though there are some common principles shared by the CIS countries, there are still considerable differences in measuring poverty.

Most CIS countries measure poverty based on microdata of regular household surveys. At the same time, some countries have different frequencies of such surveys (once in several years).

For official poverty estimates all CIS countries use the *concept of absolute poverty*, which is based on the extent to which income or expenditures correspond to an established subsistence minimum level.

Some considerable *differences* can be found across the CIS countries in their poverty measurements.

1. Each country uses its *national poverty line*. The composition of a consumption basket used for estimating a poverty line is determined by national, climatic specifics as well as financial capabilities.

2. The CIS countries select different well-being criteria based on which the population is distributed. Most countries use consumption expenditures and some countries use income.

3. For estimating per capita expenditures (income) most countries impute the value of non-monetary transfers, however, the imputations methods vary.

4. Some countries use different equivalence scales for estimating per capita well-being indicators.

The results demonstrated that the differences in the poverty measurement methods still enable monitoring changes in poverty levels within a country, however, prevent comparisons across the countries.

The CISSTAT plans to monitor poverty indicators in the future with an aim of enhancing international comparability. The collected data are provided to government authorities, the mass media, academia, commercial entities, international organizations and to the public at large.