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Poverty Alleviation Project**

**METHODS AND INSTRUMENTS
FOR POVERTY MEASUREMENT**

Latăcie

Metode și tehnici de evaluare

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This document was elaborated under the coordination of a subcommission of the National Commission for Poverty Alleviation.

It offers a view on a variety of approaches and viewpoints about methods and instruments for the study of poverty in Romania. It recommends one method as being the more appropriate for the present situation of Romania. Its role is to create the frame of a public debate - but also to be the core of the strategy for poverty alleviation in Romania.

The methods and instruments which are considered mostly capture the dimension, tendencies and general distribution of poverty and poverty characteristics in the population.

The Poverty Alleviation Project is fostering the updating of analysis of poverty tendencies, taking into account these methodological points, at the same time that it is promoting analysis of the policy, institutional and operative aspects of dealing with poverty.

The Project Team made every effort to assure compatibility and coherence of significance in the Romanian and English versions.

This report is based on the work of the National Commission of Statistics (NCS), Research Institute for the Quality of Life (RIQL), Institute for National Economy (INE), National Institute for Scientific Research in the field of Labour and Social Protection (NISRLSP).

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Abbreviations

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RIQL	Research Institute for the Quality of Life
INE	Institute for National Economy
MoLSP	Ministry of Labour and Social Protection
NISRLSP	National Institute for Scientific Research in the field of Labour and Social Protection

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CHAPTER 1

Methodological and Conceptual Approaches

Poverty, a phenomenon affecting both developing countries and less developed ones, is still causing a lot of controversies, although the theoretical basis for its study has been evident since the second half of the last century. Despite the substantial progress achieved in the theory and practice of poverty analysis and measurement, the studies having been produced in Europe and all over the world are still being broadly disputed among the specialists in this field.

Studies on poverty have usually been marked by conceptual and methodological ambiguity given the insufficient clarification of the problems to be taken into account when answering certain defining questions for the research of this phenomenon, such as:

- ◆ How is poverty defined?
- ◆ What's the relation between poverty and welfare?
- ◆ How should individual welfare be measured in order to determine whether a person is poor or not?
- ◆ Is it necessary to choose a poverty line? How is it determined and where should this poverty line be placed? Is a single poverty line sufficient?
- ◆ What indicators should be used in order to define poverty? How could these indicators be interpreted?
- ◆ Is it necessary to use a set of indicators or should there be an index¹?

1.1. Concepts and Definitions

The concept of poverty seems to be difficult to define and understand. Nonetheless, poverty is visible and real. The specialists unanimously recognise the existence of poverty even in the most developed countries.

Studies worked out under the aegis of OECD emphasise that new types of poverty and deprivation have affected an increasing number of people. Recent economic and social developments have excluded significant regions and groups from the normal way of life and from the opportunities it provides. If appropriate attention is not paid, this process will continue.

Considered as "new", in order to be sharply differentiated from the "extreme poverty" (characterised by famine and misery) obvious after World War II, the poverty which has arisen since the 80's raises a lot of questions. How is it possible for the poverty to subsist after three decades of sustained economic growth in

¹ An index, or synthetical indicator, is derived from two or more indicators.

wealthy countries having the most developed social protection systems? How is it possible for a society proclaiming the ideas of justice and democracy to accept a population excluded from modern economic, social, cultural and political life?

Many questions and dilemmas have been raised as regards the dimension of this phenomenon: How many poor people are there? Who are the poor persons? What are their demographic and economic characteristics? Which are the vulnerable groups from the economic and social point of view?

If these questions, which have particular features in Romania, are properly answered, it will be possible to determine what should be done for alleviating poverty and for fighting against it, and which should be the target groups of social protection measures. For this purpose it is necessary to reach a consensus regarding the way poverty and its measurement methods are defined, thus providing the appropriate conditions for directing more efficiently the efforts towards well directed social protection measures.

1.1.1. Welfare, Poverty, Social Exclusion

The conceptualisation and especially choosing the means to measure poverty begin with its very definition. Unfortunately, experts use an insufficiently defined or ambiguous notion of poverty. There is no direct method for identify "poor people" deriving from a universal accepted meaning for the term poverty. Thus, studies on poverty usually begin by introducing the criteria considered in its definition and more precisely the various methods used in determining the related indicators.

Although there is no consensus in this respect, definitions utilised at the international level have a common feature, namely they associate individual needs or standards of living to a welfare indicator. **It is said that within a certain society there is poverty if one or several people do not reach that level of economic welfare considered as a reasonable minimum according to that society's standards /31/.**

Studies under the auspices of EUROSTAT (EU Office for Statistics) within an ample programme on statistical research concerning poverty in EU countries, start from a definition adopted by the Council Decision on 19 December 1984, that states: **"The poor are those persons, families and groups whose resources (material, cultural and social) are so scarce as to exclude them from a minimum standard of living acceptable in the states they live in" /24,26/.**

This phrasing defines poverty in terms of lack of resources. For practical reasons, it hasn't been possible to extend the definition of poverty to explicitly include the cultural and social components, so that the definition considers only material resources. Basically, the bigger the individual resources, the more the household and its members are inclined to spend for meeting higher level needs (including those of a cultural nature).

It is then obvious that poverty is defined in relation to welfare. This means that for measuring poverty, namely for identifying what persons are poor and how poor are they, one has to evaluate economic welfare.

One of the main indicators utilised for that purpose concerns the total consumption expenditure, calculated on the basis of the household current consumption.

Consumption and consumption expenditure are adequate indicators for describing the standard of living, but relevant aspects of welfare may also be highlighted by using other indicators, e.g. income. To make sure indicators are relevant, their scope should be large enough so as to cover, food, non-food items and services (for expenditures) and all sources of earnings: wages, independent income, social protection benefits etc. (for income). Consumption expenditure should include both cash expenses for procuring goods and services and the amounts equivalent to products from the household's own production (self-consumption) and imputations of household maintenance expenses over time. Similarly, total incomes should include those in kind.

In general, all evaluation methods start from the idea that poverty is a consequence of the lack of resources (economic, cultural or social). The lack of resources assumes a **social exclusion**. Nowadays one talks about "excluded", socially handicapped and "marginalised" more than about poor /25/. But who are the persons exposed to this scourge? What is the relation between poverty and exclusion?

The definitions of poverty by the Centre for Studies on Incomes and Costs (CERC) in France provide answers to those questions. **In CERC's vision poverty combines three pre-requisites: a level of living under a certain "acceptable minimum", a loss of autonomy that places the individual in a situation of dependency on the environment he/she lives in and the perception of a no liberation from a given situation** /24/.

Poverty and exclusion have become inter-related, while poverty and exclusion had to be fought on all levels: economic, social, cultural and political. **Dealing with these should follow correct evaluations, involving clearly defined and well constructed indicators and relevant analyses.** The need and importance of measuring this is not disputed, since poverty alleviation is generally accepted as a central economic and social policy objective. What differ are the view points on how to achieve these objectives, which in turn are related to the major discrepancies as to the phenomenon's size and nature.

The interest showed in studying the possibilities of measuring poverty comes from the experts' conviction that poverty is not just a consequence, but a unfavourable factor against economic growth. **An over-estimation of poverty would lead to a resource allocation (by means of transfers) for a population**

not entitled to benefits, while an under-estimation means the allocation of insufficient resources and excluding a certain share of the population from social protection.

Sociologist Jean Labbens highlights 3 dimensions of poverty: income, power and social status /24/. Since poverty expresses the strong link between economic resources and social status of individuals and/or families they live in, it goes without saying that evolution and analysis of this phenomenon cannot be limited just to calculating income or expenditure thresholds. **“Poor is not the one who gets less than others ...”** explains Serge Milano /17/ **“... but the one who does not participate, or participates in an imperfect way, in social life ...”** His/her **existence is marginal in relation to the global society**”. According to the French sociologist Robert Castel, “the poor is a victim to a double exclusion: exclusion from the labour world and socio-familial exclusion” /24/. Economic difficulties appear as a cause but also as a consequence of other deficiencies (social, cultural etc.) and of other forms of social exclusion.

The term **“precariousness”** is used to define a nuance of the poverty status. It expresses the sum of certain risks which individuals are not prepared to face and which could lead them to poverty for a certain period of time.

The relationship existing between precariousness/marginalisation and extreme poverty/social exclusion should draw the attention to the fact that when elements of precariousness grow in number and living conditions become unbearable, those affected run the risk of going beyond a point whereby returning is possible only with huge efforts. Once the status of extreme poverty reached, people lose control over their own existence.

Studies on poverty also utilise the term **“vulnerability”**, that indicates some serious shortages in terms of social protection or labour market. Poor people who appeared in the beginning of the 80's are a perfect illustration of the vulnerability. In general, low skilled individuals (and as a consequence not equipped with sufficient economic and social means) get excluded from the labour market and then from modern society.

Peter Townsend uses the concept of **“deprivation”** for defining a way of living that corresponds to poverty and defines, at the same time, social exclusion. “People are considered to be in a deprivation status if they do not enjoy the type of nutrition, clothing, dwelling, environment, education, work and social conditions, activities and entertainment, that is considered as usual or largely encouraged and approved by the society they live in” /40/. **The multi-dimensional approach on poverty got developed on the basis of this concept.**

Recent opinions show that “poverty is characterised not only by the lack of monetary resources but also by the ensemble of lacks and handicaps cumulated over a person's life. Poverty is a structural phenomenon tending more and more to

introduce a mechanism that excludes a certain share of population from the economic and social life and from participation within society. Poverty is not a new reality, the problem having to do not only with inequality between bottom and peak on a social scale but also with the gap between members of the social corps and the marginalised" /30/.

The phenomenon of marginalisation and social exclusion is more and more approached by the specialized literature /24/: "The extreme phase of the marginalisation process is social exclusion, whereas individuals or groups of individuals find themselves characterised by the disintegration of labour, family and social relations".

1.1.2. Different Approaches in Defining Poverty

In order to assess whether in a certain society and over a certain period of time there is poverty and for identifying the persons in such a situation, it is necessary to measure the welfare and to establish the criteria according to which individuals can be considered poor. These are actually the practical challenges in measuring and analysing poverty, and for having them sorted out there are alternative approaches. The conceptual approach which is adopted represents a theoretical framework for understanding the practical problems in assessing poverty.

The various methods utilised in practice for measuring poverty start from its definition, most of them establishing a border line (poverty line) below which persons or families are considered as poor. Debates on the ways of measuring poverty got based upon three concepts defined by Hagenaars and De Vos /46/ as follows:

- **absolute poverty** - "incomes below an absolute minimum set in an objective manner";
- **relative poverty** - "incomes lower as compared to others";
- **subjective poverty** - "incomes lower than those considered as necessary for covering one's own needs".

All definitions of poverty take into consideration these three concepts, each of them utilising different operational & measuring methods. One should bear in mind that the magnitude and profile of poverty, namely the number and structure of population considered as poor, differs significantly depending on the approach & measuring method used. This has been emphasised in several studies produced on the basis of data coming from them same source, but under different methods.

Absolute poverty is defined as to an absolute subsistence minimum set depending on the basic needs (food, clothing, dwelling, etc.), the aggregate cost of goods and services meeting those needs being considered as the border line when identifying poor people (poverty line).

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Absolute poverty is usually associated to the notion of subsistence. It is defined as the lack of means required to maintain human life. In a report by the ECC it is stated that "Absolute poverty cumulatively encompasses deprivation of vital goods as: food, dwelling, clothing, health care" /29/.

The approach in absolute terms requires that universal standards be put together to allow measuring of poverty amplification or alleviation. Still, definition of these standards is quite relative because the "fundamental needs" they are based upon vary depending on the social/cultural needs of the community.

In defining absolute poverty, Rowntree considers as poor those persons "whose total income is insufficient for getting the essential goods that would allow them to maintain a purely physical health"/34/. As Rowntree admitted and as Townsend (1954), Rein (1971) and others also thought, the absolute standard of subsistence generates conceptual and methodological difficulties both in determining the minimum necessities or the essential needs and in their quantitative evaluation.

The concept of essential needs goes beyond the "purely physical" needs, including "conventional" needs, both correlated to the social, moral, religious and economic standard of each country. As a consequence, **the definition of poverty is specific for each country.**

There are [also] many difficulties related to the quantitative evaluation of the minimum necessities. For instance, it is difficult to assess the consumption need in calories and nutritious substances depending on the individuals age, gender and type of activity. The minimum needs for clothing and dwelling depend on the local circumstances. The minimum needs for fuel and lighting depend on type of dwelling and on climate. Hard to set are also the standards in the matter of education and medical services. **As a consequence, one can say that minimum needs for subsistence are dynamic and specific to the type of society, while the concept of absolute poverty is essentially normative¹ because it refers to a certain scale of values associated to the life style, which makes it somewhat relative.**

The most vulnerable aspect of the absolute approach is indubitably the arbitrary nature of selecting what [really] is a fundamental need, disadvantages being much more obvious when it comes to international comparisons.

Many countries use the approach in absolute terms for officially defining the minimum income /10/, i.e. for identifying the level below which families become eligible for income support programmes. The social assistance system in Germany as well as Austria's social programme are built upon the concept of absolute

¹ The ways to set normatives may differ from a strictly administrative and voluntaristic sense, specific to central-planned economies, to one tending to a maximum possible objectivity.

poverty that takes into account a detailed "basket" of goods considered as necessary for subsistence. "Poor are those individuals or households whose incomes are insufficient for allowing their access to a certain minimum of goods and services", German analysts say.

In the USA, the level of absolute poverty is set by multiplying by 3 the costs of food items deemed as indispensable. Some European countries think of the level absolute poverty as being the legal level corresponding to the minimum income guaranteed by the state. This is the case of Denmark, Belgium, Holland, Ireland and the UK. In France, the notion of absolute poverty led to the setting up in 1988 of the IMI (insertion minimum income), an income meant to ensure all individuals' vital minimum. France concomitantly operates with the notion of relative and subjective poverty, developing also a qualitative method based on the multi-dimensional approach of poverty. Actually, most countries use alternative methods for measuring poverty, even if the results are quite different.

Relative poverty is a concept according to which poor people are identified by means of comparison to entire population's welfare. Poverty approach in relative terms requires comparison of each individual's situation with the community he/she lives in.

The first comment on the relativity of poverty belongs to Adam Smith: "when it comes to necessities, I don't understand just the requirements indispensable for living but also everything else that, according to that country's customs, respectable people, even from the lowest category, would normally possess". **So, relative poverty is defined as "the inexistence of the minimum level of resources that ensure a normal functioning of the person/family in a given social/cultural context" /29/.**

Certain works produced by UNESCO experts note that those in a poverty status are the individuals or families whose incomes, or other resources (especially those of education and vocational training, living conditions and cultural patrimony) are under the average level of the society they live in.

A definition of poverty that refers to the "habits" (traditions) of a certain country starts from the idea that the average or median income (or consumption expenditure) is the economic indicator corresponding to the dominant lifestyle. This vision is useful in correcting the attempts to conceive and measure poverty only in absolute terms, because it implies that the poverty line tends to increase as living conditions improve.

The two concepts altogether express deprivation conditions in a certain society; "**absolute poverty**" as such refers to the simple non-meeting of the essential necessities, while "**relative poverty**" highlights the discrepancies between the most disfavoured party and the rest of the "social pyramid".

Relative poverty highlights disparities between population having the fewest resources and the rest of the social pyramid. The **relative concept** represents a way **to correlate poverty with inequality and inequity**, which raises larger and more complex issues. Inequity in terms of opportunities and social welfare is not the same as inequality. Inequality is two-fold: a component that's socially justifiable and acceptable and a second one, including unacceptable and unjustifiable elements, one of which obviously is inequity. Measuring inequity is a complicated and extremely difficult operation since it is impossible to quantify and assess all of its social components. An usual and practical way to overcome this difficulty is to measure inequity by means of inequality in income and expenditure even if - as previously underlined - inequality isn't a precise enough measure for inequity.

Relative poverty makes it possible to analyse standard of living discrepancies in a given social/economic context. Since it is practically impossible to consider all elements that define the standard of living, the measurement is limited to the material aspects of poverty.

According to some experts, **subjective poverty** should be defined starting from psychological criteria.

The subjective approach is based upon the public opinion on the level of income considered as sufficient for meeting basic necessities.

So, measurement of subjective poverty is achieved through the individuals' perception on their own living conditions. But evaluation by these means raises the problem of the arbitrary selection of basic necessities. Several methods have been developed for approaching poverty in subjective terms, among which: GPL (Goedhart poverty line: Van Praag et.al.), CSP (Centre for Social Protection/Antwerp University), LPL (Leyden poverty line, Van Praag, et.al.) and the method of social consumption (Piachaud, Walker, Mack and Lansley) /41/.

In general, research in Europe on the basis of subjective evaluations results in estimated minimum levels which are higher than those calculated through absolute or relative methods.

1.1.3. Choice of an Approach and its Effects

The optimism of the 60's regarding the possibility of eliminating poverty was replaced by increasing pessimism in the 70's and 80's, and this resuscitated debates not only on defining the concept, but also in the social policies field, fighting "precariousness", which is a status underlying poverty. In this way, definitions of poverty multiplied. Industrialised countries and international bodies with an economic vocation (OECD, CE) do not deny existence of this scourge, **but they haven't reached an unanimously accepted definition**. In Europe, there are as many definitions as countries - or even more -, each and every country

having its own perception on poverty. "Poverty (...) is hard to define and even harder to quantify", concluded experts of the ECC at the beginning of the 80's. As a result of the lack of a clearly defined concept and of a consistent approach, figures describing poverty vary and evaluations are, most of the times, contradictory and unreliable. Actually, **estimates on the number of poor and the structure of the population in a status of poverty may vary a lot depending on the approach, measurement methods and - last but not least - sources of information.** The effects of using one option or another are to be found in the estimates. In this respect, one should give a single example: for identifying poor people Hagenars and De Vos /46/ used eight definitions of the minimum standard using information from the same source (a household survey run in the Netherlands in 1983). Out of those definitions, four are based upon the absolute approach, three on the relative approach and one on the subjective one. The general poverty rates calculated under these circumstances ranged from 5.7% to 33.5% from the total population /25/.

In such a situation, it goes without saying that one should choose the most appropriate approach. But what is that? **Absolute poverty, synonymous to "big poverty", that means each individual needs a "vital minimum"?** **As long as human needs are relative, determination of this minimum becomes extremely difficult. From this perspective it seems more appropriate to go for the concept of relative poverty applicable by reporting to a minimum acceptable in a certain society.**

Each of the three concepts previously defined present advantages and disadvantages for facilitating the evaluations of their practical application. Ultimately, making any of them applicable is possible once a standard of living is set for identifying the poor persons or families. Adoption of a certain concept defines the way of determining this standard (poverty line).

The concept of **absolute poverty** is extremely contested, although it is being used by very developed countries that have a long lasting experience in measuring and analysing poverty.

From a technical point of view, absolute poverty is difficult to quantify: vital minimum depends on individuals, place and time. The arbitrary nature of selecting the so-called basic needs represents the main and most significant limitation of the approach in absolute terms. Moreover, changes of the basic needs cause difficulties in making comparisons (over years) at the national level. On the other hand, excepting the third world countries, poverty is dealt with more in terms of social rather than physical survival.

In this sense, the notion of **relative poverty** looks more pertinent since it is defined as related to a given social/economic context, and to a society's consumption and welfare standards.

Relative poverty is the concept both OECD and EU utilise, but with different calculation methods. This doesn't mean **that it is a less contested approach**. Figures are questionable, experts say, because they measure income inequality rather than poverty. Relative poverty remains an imperfect notion also for the fact that, being tied to the evolution of incomes at the national level, it does not allow comparisons over time. In times of crisis, reduction in the standard of living and deepening of disparities in income distribution may lead to an under-estimation of the poverty rate, while in times of economic growth one can notice a reversed trend. Still, relative poverty remains the most appropriate approach for international comparisons. Nonetheless, it should be mentioned that recent UNDP reports on human development use the concept of absolute poverty.

The concept of **subjective poverty** looks very attractive through the self-evaluation proceeding it involves. But the option for this approach should take into account that subjective standards vary in time, from one country to another, and even within the same country from individual to individual. Under such circumstances, subjective evolutions are inconsistent over time and useless for comparative studies.

From what's been aforementioned it is obvious that different approach methods lead to different estimates on the number of poor. **One cannot talk about the best approach as well as one cannot talk about the best measurement method**. When opting for a certain approach and for a method for measuring poverty one should start from the objectives of the analysis and from the information available and usable. Not least of all, it is necessary to keep in mind one of the most important conclusions of the study produced by EUROSTAT on the trend of poverty and inequality in 11 EU Member States over 1980-1985 ... **"poverty is first of all a national problem and, by consequence, it requires a national solution" /8/.**

1.2. Poverty Line Measurement Methods¹

In general, measuring poverty requires the definition of certain well defined levels of the standard of living - called **poverty lines** - that a person (household, group of people, etc.) should reach in order to not be considered poor. It is obvious that there are levels of consumption of various goods (food, clothing, dwelling) below which survival is endangered, although it is quite difficult to say what are these levels for each person (in part). Beside these, in most societies, even in the poorest ones, the notion of "poverty" goes beyond reaching the minimum needed for surviving. Indeed, one does not deny the existence of the poverty line, but there is debate on how to posit and interpret it.

¹ The terms "line" and "threshold" are used rather interchangeably in this document.

The poverty line plays - in poverty measurement process- the role of a **hallmark or border line that helps classify the surveyed population as poor and not-poor**, count the poor and assess how serious their poverty is. Obviously, such a **dichotomous separation of the population is a formalism to some extent**, being influenced by the measurement's exigencies and by the particularities of the instruments used in a cardinal type measuring. **One can not say that a person/family just below the poverty line finds itself in a difficult position while another one just above the poverty line is in a good position.** For this reason, some studies - for instance, those focusing on poverty dynamics - consider a zone around the poverty line when analysing the passage from the poverty status to a non-poverty status and the other way round. There is also a trend that denies the cognitive value and the need of using a poverty line, proposing instead ordinal type methods for assessing poverty /15/.

The poverty line is also taken into consideration by the **social protection programmes that function on the basis of the selectivity principle, which sets the threshold level of income or resources that makes individuals or households eligible for a certain social benefit, and the level up to which family resources are supplemented by means of social aid programmes, respectively.**

In general, **the poverty line is a level of income or expenditure for a household of a certain kind** (by size, structure, residential environment, etc.) **for a person or consumption unit** (for instance, per adult equivalent). Income or expenditure of all households is compared to this line to determine which should be considered as poor and for calculating the indicators of poverty's incidence and depth.

Determination of the poverty line is one of the most controversial subjects when it comes to the poverty measurement methodology. This is because the level of the line has major importance in determining the proportion of poverty and on the magnitude and structure of the social programmes, even though none of the scientific methods has been proven able to set "the best line".

Depending on the way poverty is defined, there are several methods to determine the poverty line, each one with its advantages and disadvantages and different potential of utilisation depending on the poverty evaluation context and purpose. These methods may be grouped in **3 categories**, corresponding to the three concepts used in defining poverty, namely: **absolute, relative and subjective.**

1.2.1. Absolute Poverty Line

The absolute poverty line derives essentially from assessing the fundamental human needs and represents the minimum level of expenditure needed for meeting those needs. It defines the minimum limit of resources

necessary to ensure the existence of a person or household in a narrower sense, the resources to ensure physical survival, or in a wider one, the resources involved in people's existence as members of a society. In an under-developed country, resources absolutely necessary for people's existence as members of the society are relatively close to those strictly related to the physical survival.

A core feature of the absolute poverty line consists in the fact that it requires the **invariability of the physical consumption volume deemed as the necessary minimum, i.e. quantitative parameters that are constant over a period of time and in a geographical space which is relatively homogenous from the economic and cultural point of view.** Another characteristic derives from **its normative component, related to the linkage of the absolute line to at least a physical parameter of the minimum necessary consumption, set in an exogenous manner as a standard to be reached by each person/household in order to be considered as non-poor.** Obviously, the normative component - whose significance differs depending on the method of determination of the line, is enhanced by a statistical component which contributes to the specificity of the consumption model in each country.

Determining the absolute poverty line means, ultimately, the expression in monetary terms of a certain level - considered as compulsory - of meeting the fundamental needs of the society members. It is required for **defining needs and the level of their basic satisfaction, for identifying the goods and services needed for this purpose and for calculating the minimum consumption expenditure necessary for purchasing the goods and paying for the services.** Such a way of determining the poverty line could be considered the most practical.

Its adoption faces an extremely difficult conceptual problem. This is the lack of objective criteria for setting the "necessary minimum". In determining the poverty line, it is well known that nutrition, clothing and dwelling needs as well as the need for hygiene, health and rest, education and participation (in the society) have been defined as fundamental. It is hard, and even improbable, to establish for sure the minimum level of meeting these needs; it is also difficult to select, from a variety of goods and services on a growing market those that form the most adequate combination to ensure, for a minimum expenditure, the satisfaction of that minimum.

Only in what concerns the nutritional needs, some standards have been recommended - as a result of scientific research in the field of nutrition - for ensuring a good health condition and for covering the energetic needs implied by the carrying out of a certain activity or by a normal child growth. Such food consumption standards have been recommended by FAO-OMS for large areas of the globe, in calories per day, depending on age, gender, weight and type of activity. Research performed in our country by the Institute for Hygiene and Public Health has established the population's nutrition needs by age group, gender and activity. The consumption standards are expressed in calories and

nutritive factors (protides, lipids and glucides), in vitamins and minerals as well in main groups of food stuff, given as daily average quantities for one person.

Of all the methods used in determining the absolute poverty line, those receiving most attention in Romania have adopted as a main anchor the food consumption standards recommended by nutritionists. Methods differ depending on the way they transpose those norms in minimum food consumption expenditure as well as on the way of estimating the minimum non-food consumption or expenditure (goods and services).

Two methods have been used for estimating the minimum expenditure required to ensure the food consumption, both of them based upon the food consumption basket. For the first method, the basket contents was set in a normative manner, taking into consideration the recommendations on the level and structure of consumption by groups of food items. The **second method** uses a basket whose **contents has been set on a statistical basis**, having in mind the actual composition of the food consumption basket that is typical to the households in the lower part of their distribution according to the level of income/expenditure.

In what concerns the relations of food and non-food consumption expenditure, there are three evaluation methods: the caloric method, the method of the food expenditure weight and the normative method.

The **caloric method** asks for setting-up an energetic threshold (in calories) and for determining the level of the consumption expenditure needed for reaching this limit. This threshold can be estimated using a regression function, the caloric amount being the variable that depends on the consumption expenditure or on income. The core of the method is that it defines poverty line as being the total consumption expenditure expected for one person to feed him/herself according to the specificity of the society he/she lives in. This method includes in the total consumption expenditure an amount for the non-food consumption (non-food goods and services).

The **method of food expenditure weight** also starts from a pre-set caloric threshold and estimates in a first place the cost of a food basket ensuring this amount of calories. That threshold can be seen as a minimum cost for meeting the nutritional needs for the existing prices. The poverty line is then calculated by dividing the previously estimated food basket cost to the weight of foodstuff in the total consumption expenditure for a group of households considered as poor.

The **normative method** supposes that certain standards of minimum non-food goods and services consumption - appreciated as necessary or indispensable - be set by various means.

In practice, beside the above three methods there are others, too, but these are just hybrids deriving from one of the three or from their combination. Experts say that a combined method, that links the poverty line to a nutritional need which is pre-set according to the country, and that incorporates to a certain extent non-food expenditure which is characteristic for poor people, leads to a more consistent evaluation of poverty.

Studies on poverty produced in our country have used two methods for setting the absolute poverty line: a variant of the food weight developed by Ravallion and applied in a report by the World Bank /43/ and the normative method or basket and minimum consumption method used by the Institute of National Economy (INE), Research Institute for the Quality of Life (RIQL) and the National Institute for Research and Studies on Labour and Social Protection (NIRSLSP) /21, 32, 44/.

1.2.1.1. World Bank Method

When estimating the poverty line, the WB reports use a combination between the caloric and food expenditure weight methods /31/.

In a study on poverty in Romania, World Bank experts start from estimating an average food basket on the basis of actual consumption by the poorest households (first 30% of households - in an ascending order - by consumption expenditure per person). The selection of households in the three 10% lowest is motivated by the need to take account of the poor population's behaviour, since those people usually buy cheaper food. This creates the possibility of finding a combination of food products that minimizes the cost of meeting caloric needs. This way of setting the average basket is similar to the one used in the normative method, the only difference being that the former is based upon the actual level of consumption in households, so that mutations both in food consumption and in those products prices can be easily highlighted. In this manner, one eliminates the subjective and artificial aspects induced by the utilisation of a pre-set diet and one can take better account of the nutritional habits of a population in a certain country.

The food basket determined in this manner comprises the daily average food quantities consumed by one person as well as the calories equivalent to this consumption. Each element of the basket is then corrected by a coefficient representing the ratio between the minimum caloric amount necessary and the one calculated on the basis of the food basket. The minimum calories amount necessary for one person - for Romania, as considered by the WB experts - was of 2,425 calories/day. The adjusted food basket is assessed on the basis of actual food units consumed in the households used as reference. The average value obtained is the **food poverty line** (Z^F) that is the monthly minimum amount necessary to one person for ensuring a caloric consumption of 2,425 calories/day.

The minimum necessary to ensure subsistence includes, beside food expenditure, part of the non-food expenditure necessary for meeting the consumption needs of the respective households. In WB studies two ways are utilised for determining the non-food expenditure comprised in the poverty line calculation. These lead to identifying two figures, an upper and a lower line.

In order to determine the lower poverty line, one has in view the households whose total expenditure per person (in average) equal the food poverty line (Z^F).

On this sub-sample, one estimates the average food expenditure weight in the total expenditure, by means of a regression function as:

$$S_i = \alpha + \beta \log(X_i / Z^F) + \epsilon_i \quad (1.1)$$

where:

- S_i - weight of food expenditure in the total ;
- X_i - total expenditure of the household i;
- Z^F - food poverty line;
- α, β - parameters that are to be estimated

α estimates the average food expenditure weight for those households that can afford to spend in a month per each member a sum equal to the food poverty line, namely those whose $X_i = Z^F$.

The lower poverty line (Z^L) is described by:

$$Z^L = Z^F (2 - \alpha) \quad (1.2)$$

ie. it is obtained by adding to the food poverty line the amount allocated by households comprised in this sub-sample for non-food goods and services.

The upper poverty line (Z^U) is determined by adding to the food poverty line the non-food expenditure by households whose food expenditure per member equal the food poverty line.

Its value is obtained by using the formula:

$$Z^U = Z^F / S^* \quad (1.3)$$

where:

- Z^U is the upper poverty line;
- Z^F the food poverty line;
- S^* the weight of food expenditure in total [expenditure] by households that allocate for food stuff an amount equal to Z^F .

The food expenditure weight (S^*) in the total [expenditure made] by households that allocate for food an amount equal to Z^F is determined on the basis of a regression function like:

$$S^* = \alpha + \beta \log (1 / S^*) \quad (1.4)$$

Approximating $\log (S^*)$ with $S^* - 1$, the first estimate for S^* is:

$$S_0^* = (\alpha + \beta) / (1 + \beta) \quad (1.5)$$

A more precise estimate can be made using Newton's method; starting from $t = 1$, the t^{th} iteration is determined according to formula:

$$S_t^* = S_{t-1}^* - ((S_{t-1}^* + \beta \log (S_{t-1}^*) - \alpha) / (1 + \beta / S_{t-1}^*)) \quad (1.6)$$

By reporting then the food poverty line to the estimated food weight, one can obtain the upper poverty line, figure that represents the monthly average expenditure necessary to one person that allocates for food the amount needed to meet the basic food need.

1.2.1.2. Normative Method

This method is based upon establishing and evaluating a minimum basket of goods and services required for meeting a family's basic needs. It's been used by Rowntree in his trail-opening works in the field of research on poverty and constituted the base of reference in the setting of social benefits level within the social assistance programme initiated by Beveridge /33, 34/. Later on, their **developed country gave it up in favour of the relative method**¹. However, it's been used in our country and the other EECs for determining the minimum [standard] of living /1, 12, 21, 32, 39, 42, 44/.

According to this method, the minimum is determined for standard types of households, by establishing a basket of goods - food and non food items - and services deemed as indispensable and by assessing the minimum expenditure necessary for purchasing those goods and paying for those services.

When establishing the food component of the consumption basket, one has in mind:

- the consumption need, assessed by nutritionists by age, gender and type of activity of the household's members;
- the actual levels of food consumption and the features of households' consumption behaviour (especially those located at the poor end of the distribution of income);

¹ It is, anyway, considered that any "absolute" definition in terms of caloric consumption or other indicators aiming at physical survival would be anachronical in Europe /38/. However, prestigious research institutions in England issued in 1993, under the auspices of the Joseph Rowntree Foundation, standard budgets for a "modest but appropriate" living and for a "cheap" living (low cost budget) using a method similar to those based upon defining the absolute poverty /3/.

- the comparative prices of food products.

Non-food goods and services, for which there are no such "objective" determinations, are included in the minimum consumption basket according to the researcher's intuition, common sense and experience as well as to a judgement on the actual level of consumption or on the households' endowment. Obviously, this implies a margin of subjectivity and arbitrariness, causing inevitable discrepancies between various evaluations run on the basis of this method. The researcher's perception on what's absolutely necessary for normal living can also lead to an over-estimation of some of the basket's components and of the minimum budget as compared to the standard of living of the majority population.

A feature of the implementation of this method in the Eastern European area is the relatively generous perspective on what are fundamental needs and minimum level of meeting them [actually] mean, deriving - to some extent - from the impact of the neighbourhood to developed countries on the collective conception concerning the normal standard of living.

Under these circumstances, the levels of the minimum of living defined in a wider manner - namely requiring **minimum resources necessary for a decent standard of living in normal conditions** - have always been relatively high as to the general standard of living, to the resources most of the households had at their disposal.

During transition, purchasing power has decreased and the standard of living has dropped dramatically. As a consequence, a significant part of the population quickly reduced their standard of living. Utilisation of a decent standard of living points to a real phenomenon - an increase in the incidence of poverty, i.e. the fact that a large share of the population lives under a standard deemed by a certain consensus to be normal for the society's level of civilisation.

It is a standard that the economy cannot yet sustain in the present situation, so that it's become inoperant as a benchmark of poverty¹; only part of those [living] below it can be helped through social protection programmes.

Identification of those being in the worst situation has called for the definition of the most severe forms of poverty, setting-up of narrower poverty lines that determine a range of needs relate to survival, mainly the physical one. **The subsistence minimum has been evaluated in this manner as the severe poverty line².**

¹ As M. Orshansky - who was the one to determine the first poverty line in the USA - states, the poverty line should not select a group so small as to the entire population as to make it unnecessary for any special program meant to fight against poverty /23/.

² This term, too, has a content that varies from one evaluation to another, becoming more restrictive as the general standard of living decreases. A study on poverty in Russia states, for instance, that what the Government set as being the subsistence or physiological minimum is actually in the vicinity of starvation (starvation poverty) /12/.

Even if it cannot be an instrument objective enough for a precise identification of the poor, **the subsistence minimum determined on the basis of a basket of consumption goods and services may constitute a reference for analysing poverty over time** (poverty defined as the impossibility to cover the expenses implied by the access to goods and services included in this basket) **taking into account territorial differences**. Given its operative adjustment to the prices' evolution, it can also serve as point of reference when judging upon the various components of the social protection system. The subsistence or decency minimum assessed on the basis of the consumption basket has the advantage of being more explicit to the observer than a monetary standard, and its significance for the person is more concrete. This permits the identification of what "goes" into a budget, of the elements of consumption that can be covered for a certain income level, under the hypothesis of a rational behaviour of households experiencing a severe diminution of the resources available.

The method of the consumption basket and budget can be of use in poverty assessment, at least as a complementary method, for checking and confirming the results obtained through the other methods. Unlike the developed countries, where this method has been abandoned due to difficulties in selecting for the consumption basket (from an extremely large range of goods and services meant to contribute at covering certain needs) those able to ensure coverage of the needs under rational circumstances, in our country putting together a minimum basket raises the problem of selecting the needs that can be met. For those who use the subsistence minimum of living in fundamenting the social protection measures it is important to focus not only on the its level but also on its concrete contents.

As to the **normative method used by the RIQL**, the poverty line is based upon consumption standards, taking into consideration what people think they should consume in order to ensure for each member of the household to preserve health condition and participation to the life of the community he/she lives in. Consumption standards are issued on the basis of research in the matter by experts and take into account the consumption model defined according to the requirements of a healthy diet, the geographic and climateric circumstances of the country, the features of life in the Romanian society as well as the community cultural status.

This is an analytical approach and results in a basket of products (both food and non-food) and services. This basket is expressed in equivalent lei, the corresponding amount representing the poverty line. **Two different poverty lines have been used: a subsistence line and a decency line. All those whose total expenditure income are below the subsistence line are considered to be poor.** Persons whose total expenditure/income are below the decent [poverty] line are exposed to the poverty risk (potentially poor).

The poverty line is calculated by reference to the household. To this purpose, have been selected two types of households meant to allow for the

estimation of the basket of products and services and of the scale of equivalence, namely:

- household consisting of four people, out of which 2 are active adults (male and female) and two are children (one over 14 years of age and the second one between 4 and 14)¹;
- household consisting of two persons over 60.

Annex 1.1. presents in detail both the justification of the methodological option and the analytical approach.

The **food basket** includes the quantity and variety of food products that ensure to each member of the household (taking into account age, gender and nutrition habits) the calories, proteins, glucides, lipids, minerals and vitamins needed for preserving health.

In order to estimate a food basket, one has started from the **consumption standards** elaborated by nutritionists² that observe the balance between the core features of a correct diet, differentiated by age and gender (calories required per day and daily quantities for large groups of food products). The value of the food basket is then related to a careful reconstruction of real food intake by the two types of household, based on the Integrated Household Survey data, and then the corresponding expenses are estimated, and a comparison is made with the standard for decent food consumption.

For the subsistence level, the value obtained for the integral food basket has been reduced by 20%. The premise was that the food consumption structure can be maintained by using lower purchasing prices. Practically, the level of subsistence is that limit (line) at which individuals can ensure for themselves a right nutrition, under the circumstances of buying food products for prices lower than the median. The 20% is justified by the fact that the minimum purchasing prices amount in average to some 40% of the median prices. The reduction has not gone beyond 20% for controlling - to the extent possible - the zonal price variations and the little probability that the individual be able to purchase the entire range of products for minimum prices.

Unlike the food basket, **the non-food and services basket** has been put together starting from certain groups of non-food products and services deemed as strictly necessary within the context of the present society. On the basis of this basket have been determined the following expenditure categories: **dwelling maintenance** (water supply, heat, electrical energy, housing hygiene, dwelling equipment, phone, radio-TV subscription, etc.), **transportation, personal hygiene and health condition of the members of the household; clothing-shoes; children school supplies; cultural activities.**

¹ In 1994, the 2 children were under 14, including one boy and one girl.

² Experts from the Institute for Hygiene and Public Health.

In constructing the basket, two major types of expenditure were dealt with distinctly. The first one has to do with **inelastic expenditure**, deemed as compulsory, theoretically impossible to avoid, for instance, maintenance expenses, electric energy, phone, transportation. The second one concerns **elastic expenditure**, strongly depending on the household's level of economic resources available. In the normative model adopted, inelastic expenditure amount to over 50% from the total non-food and services basket. Elastic expenses, although more depending on the level of the economic resources, are deemed as being necessary even when issuing a subsistence line, to the extent it refers not only to physical survival but also to participation in social life.

The result of all of this are the subsistence and decent lines for each of the two types of households, and utilisation of the scale of equivalence led to those two lines set for each adult equivalent.

The - decent and subsistence - poverty lines have been constructed so as to be applicable at national level. It is obvious that in the same society "the minimum necessary" differs significantly from one residential environment to another, from region to region and even from one household to another. Nevertheless, the line set is applicable at the national level, and is considered as offering a first image of the minimum necessary in the Romanian circumstances, an image that is to be adjusted and corrected through following studies. Possible distortions due to non-differentiation of the poverty line by geographical area and residential environment have been tolerated for the moment in favour of this single version's functionality as a general standard. This first image of the poverty phenomenon should be complemented by studies focusing on categories of target population of certain specific social policy measures or programmes.

In putting together the basket and setting the lines, the emphasis has been on not missing the poor (to have a large inclusion power), even if it risks not excluding all of those who are not poor.

The **normative method** has been used by the **NISRLSP** in two variants. In 1992, it issued a methodology for estimating the **minimum for decent living**, defined on the level of expenditure required for meeting the minimum food, non-food and services consumption needs. Later on, based upon comments and recommendations by the MLSP experts, they issued a methodology for estimating the **survival minimum**, starting from the decency line reduced by the correction of the PIB evolution since 1989. In this way, the results of the method provide for a better reflection of the national general economic situation.

These lines consider:

- the food expenditure;
- the housing expenditure;
- other expenses.

The **food standard** corresponding to the decency line was set on the basis of a food basket, having in mind the quantity and nutritional quality of the food consumed most frequently, in order to cover the needs of adult people carrying out a moderate activity. When putting together the food basket, consideration was made of the specific nutrition full days consumption in each of the 4 seasons. Complete daily menus were elaborated for each season, including different dishes for the three meals of the day (breakfast, lunch consisting of 3 dishes, and dinner) and two snacks. These menu options were thought so as not to have a dish repeated and have as many food stuff as possible included in the menu. 40 different daily menus (10 for each season) have been created in this manner. Afterwards one started to assess the gross food quantities needed to prepare those menus. The next step was to optimise the composition of the daily food basket depending on the nutritional amounts considered by specialists as normal from the point of view of caloric load and of nutritive factors content (proteins, glucides and lipids). Optimisation by nutritional criteria was ensured by substituting various food products while maintaining the number of daily meals and the number of dishes per meal. The calculation led to an average food caloric content of 2,715 calories in the following nutritive structure: 122 g proteins (out of which 49 g are of animal origin), 107 g lipids and 418 g glucides. The aggregate daily quantities for the 4 seasons has led to a yearly average food basket. This one ensures an acceptable food diversity, that corresponds to the norms issued by the Institute for Hygiene and Public Health.

The nutritional elements are diminished down to proportions of 0,783 for the children under 14 and to 0,882 for the elderly over 60 (based on observations of the quantities consumed by these categories of population, in research on family budgets and from recommendations by nutritionists).

In what concerns the **housing expenditure**, elements deemed as strictly necessary and compulsory for ensuring and maintaining the dwelling's functional status have been taken into account, as follows: rent, electric energy, gas, central heating and other common services; fuel; construction and maintenance labor and materials; taxes on lands and buildings; and insurance fees on goods and people.

The estimations of the expenses corresponding to the aforementioned elements were made from data of the single data source available at that time¹. When setting the basket of housing expenses, the calculation was made by type of household (depending on the economic welfare of the head of family, the residential environment and the number of family members), excluding the households having an income over the average as well as those from the lowest income group. Expenditure norms were established this way for households headed by active working persons from urban and rural areas as well as pensioners. Global amounts set this way got then indexed on a monthly basis with the Price and Tariff Index for those products or services.

¹ The results of family budget survey for 1991 and the second half of 1992 were used.

All other expenses not included in the previous categories got into the “**other expenses**” category, that covers clothing, shoes, hygiene objects, chemicals, house-keeping materials, health care products, sport & tourism equipment, school supplies, licor, cigarettes, etc. The calculation procedure was the same one used for expenditure with housing, namely determination based upon family budgets, of the goods and services expenses. Calculation was performed for various socio-professional categories of population, by age and the two residential environments. The global amounts obtained got then indexed with the PTI for those goods and services.

The main **advantage** of the method is the modeling of the types of expenditure by categories of population (children, active adults, pensioners) that allows determining the decency line for any type of household in both residential environments. Another advantage is the calculation updatedness, the estimates on the decency line being performed on a monthly basis.

1.2.2. Relative Poverty Line

The concept of relative poverty gets operational through the **relative poverty lines, that are estimated as a proportion of the average or median material resources of an entire population (poor and non-poor)**. Definition of these average material resources can be made in terms of income and expenditure; for measuring poverty and identifying poor people one uses a series of alternative instrumental variables: income per capita or per adult-equivalent, household consumption expenditure per capita or per adult equivalent. The relative poverty lines are set in function of the instrumental variables used.

Using consumption income or expenditure for setting the poverty lines has got advantages and limits linked to the validity of the data sources on the basis of which they are calculated and to their comparability over time. In general, one says that expenditure offer a better reflection on the availability of resources - declared or not - of the low income groups, since their inclination towards saving money is practically inexistent. There are also other important arguments for using expenditure as an instrumental variable in measuring and analysing poverty. First of all, expenditure is considered to be a better indicator on the so-called permanent incomes. Second, this indicator measures the extent to which consumption needs are met and not the potential to meet them. And third, expenditure reflect better than income the formal and informal resources of households. In order to gather advantages and avoid - to the extent possible - disadvantages, experts recommend that poverty analysis be based on more than just one instrumental variable, but - to the extent information is available - use a series of variables.

The relative poverty line is determined on the basis of the statistical distribution of population (households) depending on an instrumental variable. The core idea in interpreting relative poverty is that people and households below the line are in a worse situation than the others.

Relative poverty line can be determined in various ways, as follows:

- ◆ The simplest way is to set *a priori* a certain percentage of households considered as poor from the total number of households. In this case, the relative poverty line shall be the figure of that percentage in the distribution of the instrumental variable (income or expenditure) used for measuring poverty. The most widely spread method in this category is the **10% lowest method**, that requires for the households to be ordered down-up by income or expenditure. Households in the 10% lowest (10% of the total member of households) are considered as poor. In this case, the poverty line is equal to the upper margin of the income or expenditure interval in the 10% lowest. If from the total number of households, 20% are considered as poor, the poverty line shall be equal to the upper margin of the bottom quintile.
- ◆ More widely used are the poverty lines assessed as **a fraction of the position parameters, mainly the average or the median of the instrumental variable's distribution**. There are no clear arguments for choosing one percentage or another (40%, 50% or 60%), but setting up several lines based on different levels of it is of a special importance in issuing and assessing social policies. Utilisation of the average or median is also questionable. As mentioned before, the real state of a poor person, by this method, will be considerably different depending on the general trend of the economy.

Usually, distribution of households/people by income or expenditure is asymmetric to the left. For this reason, the average is higher than the median and, as a consequence, the poverty rate calculated on the basis of the average is higher.

EUROSTAT has utilised both methods for measuring and analysing poverty in EU member states. The study in 12 EU member states pointed out that poverty rates were lower for the poverty line calculated as 50% from the average median than for the line of 50% from income average.

The advantages of using the average have to do with simplicity of calculation, comprehension and interpretation. It has the disadvantage of instability, being particularly sensitive to changes occurring in the upper part of the distribution. The fact that median is a more stable measure to the central trend is its advantage when it comes to using it for setting the line. However, when the asymmetry to the left increases, utilisation of the median leads to underestimating the poverty rate.

- ◆ **The Beckerman method** is another way to calculate poverty line. For a 2 person household, the poverty line is at the level of the income per capita. For other types of household, the line gets multiplied by a coefficient corresponding to the scale of equivalence utilised. Letting aside the arbitrary of the choice, the poverty line and rate depend on the number of household providers (earners). Experts say the method does not offer results sufficiently coherent and credible results /41/.

International comparative studies have traditionally used relative methods for assessing poverty. It has been the case of the ILO, OECD and EUROSTAT Studies.

OECD experts have used several variants of the relative methods. One of those defines the poverty line as a proportion of the average net income per person and uses a scale that allots various weights to households, depending on their composition (0.66 for one person, 1.00 for two people, 1.25 for three, 1.40 for four, etc.).

Studies produced by the ECE under the European Programme for fighting against poverty also use a variation of relative poverty. The third programme on poverty, officially launched in 1990, was planned to be an extension of the previous *communautaire* initiatives (1975-1980 and 1985-1989). They used consumption expenditure as an instrumental variable in setting up the relative poverty line. In analysing poverty in the EU member states, one has determined three lines (40%, 50%, 60% from the average consumption expenditure) and several scales of equivalence have been used: the OECD scale, the modified OECD scale and the subjective scale.

Studies recently run by the OECD Secretariat in certain transitional countries used the same method.

1.2.3. Subjective Poverty Line

The method used for determining the subjective poverty line is based essentially upon the perception and self appreciation of the individuals as to the income needed to cover their own needs. Several methods of measuring and analysing the subjective poverty line have been developed.

The **subjective poverty line** (SPL) introduced by Goedhart is based upon the answers to a question referring to the minimum necessary income: "what level of income do you consider as absolutely minimal? Or, in other words, the level below which you wouldn't be able to meet your needs any more" (Kapteyn et al 1988, quoted by Ravallion /31/).

The studies that attempted to assess answers to this question have highlighted the fact that between actual income and income deemed as minimum necessary there is a relation as the one described by Diagram 1.1. Point z on the graph is an empirically derived poverty line. People with an income over z think their income is appropriate and tend to over-evaluate the minimum which is necessary, while people under z think their income is inappropriate and have the opposite tendency, namely to under-estimate the necessary minimum.

This method has been used in different options in some European countries but apparently never in a developing country.

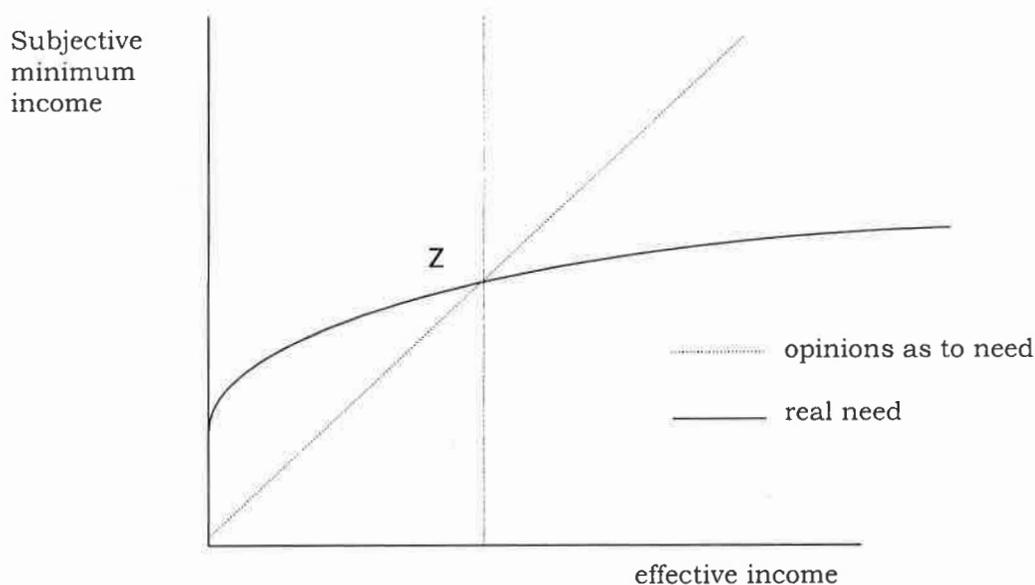


Diagram 1.1. Subjective poverty line

Leyden Poverty Line (LPL), too, assesses the subjective poverty line starting from a question on income. It differs from the previous method by the fact that it asks for the interviewee's opinion on six income levels corresponding to the following standards of living: unacceptable, bad, insufficient, sufficient, good and very good.

The typical question is: "Would you indicate the income that - in your opinion - should correspond to each of the following categories: ..."

The poverty line is determined with a regression function as applied to the aggregation of the answers (by each person) to all the six levels of that question.

The method of the Social Policy Center (CSP) issued by Deleeck, et.al. (1980, 1989, quoted by Van Praag /41/) is also based on an evaluative question: "Considering your household's actual income, can you cover your needs?" Answers are inscribed in a six option grid: very hard, hard, pretty hard, pretty easy, easy and very easy.

The line is assessed just on the basis of the income declared by people who consider themselves as facing some material and financial difficulties. This is actually the big difference as compared to the other methods. Deleeck assumes that the level of the line should be set only in relation to the answers of people living in poverty vicinity and, as a consequence, face poverty problems directly. In the case of the other methods, a certain income is determined to be sufficient or not, based equally on answers of the poor as well as of those who don't live in poverty.

The **RIQL method** asks the question on the minimum income (SPL). It uses a battery of questions (e.g.: For the time being, do you consider yourself as being poor? Are you happy with your family's present income?, etc.) that allow assessing the welfare through a population self-evaluation.

Since the poverty lines would be determined by the very population they refer to, conclusions of the studies based on subjective measuring, run both in Europe (Deleeck van der Bosh, 1989) and in the USA (De Vos/Garner, 1989) show that the lines determined this way are above those calculated with absolute or relative methods. The "deprivation feeling" is not independent from the "deprivation conditions". The population's consumption needs evolve continuously under the influence of aspirations and desires. A working hypothesis on this is that of rising expectations.

Reflection on Methods

Out of what's been said comes out that the poverty line's level differs from one approach to another and from method to method.

In the EUROSTAT report produced in 1992 by the RI on Demographic Econometrics in Rotterdam, they emphasise that the concept definition and the poverty line setting should meet the following criteria:

- ◆ The poverty line and its derived indicators should have the informational quality able to allow clear identification of the poor and a correct poverty measurement;
- ◆ The poverty line should be coherent, flexible, sound and not influenced by errors caused by the data collection system utilised on its construction;
- ◆ The poverty line and its derived should be intuitively credible;
- ◆ Data collection cost should be low and the information collected as updated as possible.

A method used for distinct analyses on poverty consists of setting and utilising at least two lines - **the dual lines**. The lower one can be interpreted as a maximum poverty line or as an "ultra-poverty line". People whose consumption expenditure or income go under this line are exposed to a serious risk of subnutrition. Dual lines can be applied to any of the three approaches. It is known, for instance, that normative evaluations of poverty in Romania are based on two lines: one corresponding to the decent minimum of living and the other one to the subsistence minimum. At the same time, evaluations through relative methods frequently use lines set at 40%, 50% and 60% from the average or median level of the instrumental variable (income or expenditure).

1.3. Scales of Equivalence

Household income or expenditure are used to compare the standard of living among households. These indicators do not take into account the differences related to the size and structure of households and their needs. Having the same income level, a two-member household has a better life than a six-member household. A way of reflecting such differences is the use of average income or expenditures per each member of the household. The disadvantage of this method is the fact that it does not take into account the demographic and economic features of the household members, considering that each person needs the same expenditures in order to have the same standard of welfare. In addition, in the household consumption the **economies of scale**¹ (resulting from its size) are not taken into account.

In order to compare households that differ in respect of members' number and features, they should be adjusted so that they would become comparable. Let's assume, for example, that as a result of certain researches, it is found out that in order to cover the needs of a child, the expense amount to only 50% of the ones required for an adult person. In this case, a two-member household (an adult and a child) shall not be considered as a household with two persons, but with 1.5 conventional persons, defined as "**adults equivalent**".

Households are adjusted to a **households equivalent**, therefore comparable, taking into account the main features that might influence their relative needs. This adjustment is based on the **scales of equivalence**. These are instruments by means of which a certain weight coefficient is assigned to each member of the household. By this procedure the household expenditures are represented by expenditures per adult equivalent, taking into account the size, structure and the economies of scale of the household. The expenditures of each household are adjusted based on their own weight coefficients, resulting from the scale of equivalence. In general, they could never be higher than total expenditures or lower than average expenditures per member of household. They shall range between the two amounts and be the same as these in case of one-member household. In case of several member households, the adjusted expense range more or less next to the two limits based on the scale of equivalence used. Using different scales - let's call them different weight systems - for the adjusted expenditures will have as a result different amounts.

Gentle scales, having high weights (almost at the level of the household head) starting with the second member of the household, shall make the larger households look poor; the higher these weights, the more these households will be strongly "pushed" to the area of those having a higher probability to be considered

¹ The economies of scale define the trend to diminish the constant and conventional-constant expenditure per person when there is an increase of the number of persons within one household. The expenditure for housing purchase and maintenance, rent, heating, as well as for long term use goods, which are used for a comparison of welfare levels, do not depend directly or solely on the number of persons within one household.

as poor. On the contrary, the abrupt-sloping scales of equivalence, having low weights for the additional members of the household, besides the household head, will aim at minimising the needs of a multi-member household. Therefore, **the choice of the scale of equivalence is a major problem when measuring poverty.**

1.3.1. Formulation Methods of Scales of Equivalence

The speciality literature has specified five classes of scales of equivalence based on the modalities of definition: normative, empirical, related to social security, based on consumption and based on welfare direct measurement. Those shall be distinguished on the basis of the following features:

- a. **Normative** scales of equivalence are based on consumption standards established by experts. They determine minimum baskets of products required for different sized households. The composition of baskets and price of chosen products differ from a country to another, therefore the resulting scales of equivalence will be different.
- b. Scales of equivalence determined on an **empirical** basis result from the surveillance of household behaviour and needs. Examples of such scales, introduced for statistical analysis purposes, are the ones worked out by Oxford University, currently known as OECD scales.
- c. Scales of equivalence used in **social security** programmes arise implicitly or sometimes explicitly from the social protection regulation, especially regarding social assistance.
- d. Scales of equivalence **based on consumption** are built on the basis of information on expenditures arising from household surveys. In order to determine a scale of equivalence from this category, it is essential to compare the welfare among households of different types and sizes in order to respond to questions such as: How much would a household with three children spend in order to reach the level of welfare, in relation to distance from the poverty line of the average household with two children? Within this category various methods are being used, including the following:

Efficiency maximisation or cost minimisation method, where by the scale of equivalence is determined by choosing a particular function of efficiency or cost, by means of which there shall be estimated the factors which influence each component of consumption. The average weight of the factors of equivalence determine the scale of equivalence.

By means of **budgeting method**, the scales of equivalence shall be determined from the household current expenditures, without using a micro-economic theoretical model. For the purpose of this method, the household expenditures shall impute the collective expenditures separately for adults and children. All the expenditures related to the presence of children shall be highlighted in the scale of equivalence so that the adult persons' expenditures

would remain at the same level, no matter if they have children or not. Each person is assigned his or her marginal cost.

Method on income allotment in households is based on the idea that expenditures cannot be divided in expenditures for adults and expenditures for children. In order to estimate income allotment, the method has been based on the following assumptions:

- each adult is entitled to the same quantity of resources within the household;
- each child is entitled to the same quantity of resources within the household;
- the presence of children does not influence the rate of expenditures meant for adult specific goods;
- the family shall use public goods in the same proportion as private goods.

The resulting scale of equivalence is $A + \beta C$, where A is the number of adult persons, C is the number of children and β the ratio between the adult related expenditures and the children related ones.

Food expense weight method developed by Engel is based on the idea that households having the same food expense weight have the same standard of living. A recent application of this method is Van Ginneken scale, to be explained below.

- e. Subjective scales of equivalence that are based on **welfare direct measurement** developed by Van Praag /41/, represent an alternate estimation and consist of a comparison of well being and not its deduction by way of consumption. They have been frequently applied for the last 20 years. The method is based on a household welfare measurement survey, comparing the income level of different types of households estimated as necessary, in order to meet the same welfare level. The method allows for the consideration of certain aspects that other methods cannot highlight. The presence of children, for example, generates facilities for parents who may change the structure of consumption when the children are born, without necessarily recording a welfare diminution. The resulting scale of equivalence is generally more gentle than the consumption based ones.

1.3.2. Scales of Equivalence Used in Poverty Measurement

For the purpose of measuring the poverty one may have recourse to a broad range of scales of equivalence, starting with the one that do not imply any adjustment, using the household income as a standard of living indicator, and up to the ones that use income per person. Scales of equivalence that shall be taken into consideration are part of the area ranging between the two extremes.

The classical use of a scale of equivalence depends on the differences existing in respect of the household size and type. These scales are meant to represent as well as possible the cost regression taking into account the number of persons. A couple, for example, does not need an income twice that of a single person in order to have the same standard of living (expenditures such as rent or house heating do not take into account the household number of members).

Since the very beginning of the century, the charts of equivalence have been used for converting different types of households in consumption units. A normative scale, which become a classical one, is the Rowntree's one:

Table 1.1. Rowntree-York scale of equivalence, 1936

Household type	Coefficient of equivalence
1 single man	1.00
1 single woman	0.84
1 couple	1.25
1 couple + 1 child	1.50
1 couple + 2 children	1.70
1 couple + 3 children	1.87

The modern type of this scale of equivalence is the scale used by OECD and European Community. It provides the weight 1 for the first adult of the household, 0.7 for each of the next adults and 0.5 for each child. The modified OECD scale is more gentle providing lower weights for the next adults (0.5) and children (0.3). This scale is an additive one, easy to be used for each type of household.

Table 1.2. Scale of equivalence used by OECD

Household composition		Coefficient of equivalence	
Adult persons	Children	OECD scale	Modified OECD scale
1	0	1.0	1.0
1	1	1.5	1.3
1	2	2.0	1.6
1	3	2.5	1.9
2	0	1.7	1.5
2	1	2.3	1.8
2	2	2.7	2.1
2	3	3.2	2.4

Firstly, the limiting values of this scale arise from the fact that they envisage beforehand all the food expenditures. For the third family member and the next members the same importance is paid as for the second member, not taking into account the effects of the economies of scale. Secondly, each household member's age is not taken into account. Thirdly, granting a lower weight in case of children than in case of adults is questionable.

A more subtle approach is the one used by Van Ginneken. Building the scale of equivalence is based on the idea that the share of household expenditures

meant for food is a significant indicator for the standard of living, therefore the households having the same weight of food expenditures will be considered as having the same standard of living. The resulting scale of equivalence is not an additive one.

Table 1.3. Van Ginneken scale of equivalence

Household size	Coefficient of equivalence
1	1.00
2	1.75
3	2.42
4	3.02
5	3.58
6	4.11

This scale has been criticised even for the concept that it was built upon. "If somebody is satisfied with the assumption that households having the same food expense weight have a similar standard of living, then I have no reason to see why they would have problems in building a scale of equivalence for estimating poverty and welfare. The food expense share is a sufficient information" /31/.

Deaton and Muellbauer demonstrate that scale of equivalence based on food expense weight are too abrupt and for this reason they lead to overestimation. In many cases the food consumption is not sufficient for measuring the standard of living. For example, in high inflation countries, even for short-term, if the income is not increased in the same proportion, the food expenditures may be drastically influenced by inflation, up to the point where they contradict the arguments that the same food proportion is corresponding to the same standard of living /41/.

A quite widespread method in contemporary speciality literature has been developed within the University of Leyden. Leyden scale has the advantage to allow an easy extension by introducing new variables, other than the simple ones represented by family size.

Table 1.4. Leyden scale of equivalence

Household size	Coefficient of equivalence
1	1.00
2	1.30
3	1.51
4	1.68
5	1.83
6	1.95

Based on consumption standards recommended by Romanian food specialists /20/, the NCS has developed a particular scale of equivalence. It is a normative scale based on the caloric requirements that differ based on age or sex.

In this case, coefficient 1 is assigned to the person with the highest need of calories, in contrast to other scales where the coefficient 1 is assigned to the head of the household, for which reason the coefficients for the other members are sub-unit ones, irrespective of their needs.

Table 1.5. NCS scale of equivalence

	Necessary caloric units	Coefficient of equivalence
Boys (16-20 years old)	3600	1.00
Men (21-65 years old)	3500	0.97
Boys (13-15 years old)	3100	0.86
Women (21-56 years old)	2900	0.81
Girls (13-20 years old)	2800	0.78
Children (10-12 years old)	2500	0.69
Children (7-9 years old)	2100	0.58
Men (over 66 years old)	2100	0.58
Women (over 57 years old)	2100	0.58
Children (4-6 years old)	1700	0.47
Children (2-3 years old)	1300	0.36
Children (0-1 year old)	1000	0.28

A limiting value of this scale arises from the fact that it doesn't take into account the economies of scale from the households. It does consider the calories required for the children to be "more expensive" than the ones for adults, and the non-food expenditures they require as also relatively higher. Given that food expenditures have a very important share in the overall consumption expenditures, the use of such a scale is considered justified.

On the basis of the same consumption standards recommended by food specialists and having regard to the household non-food expenditures, the RIQL has developed its own scale of equivalence. The way this scale was constructed is shown in Annex 1.2.

Table 1.6. RIQL scale of equivalence

	Coefficient of equivalence
First adult under 60 years old	1.0
First adult over 60 years old	0.8
Next adults under 60 years old	0.7
Next adults over 60 years old	0.6
Child over 14 years old	0.8
Child under 14 years old	0.6

In summary, poverty measurement and study require the acceptance and building of an integral poverty concept, assuming the establishment of a threshold and choice of an equivalence scale applicable in an heterogeneous environment. Thus, after defining the way of approaching poverty and the method of establishing the threshold, the next step is the choice of a scale of equivalence. But what are the criteria for making this choice? Some of them have particular significance,

including the following:

- ◆ It is desirable to use a scale of equivalence resulting from empirical research, built on a sound **theoretical basis**, instead of one based on random standards.
- ◆ It is recommendable to introduce the scales with an empirically derived **measurement of estimation errors**. Being familiar with and highlighting these errors would minimise the danger of estimates which are unknowingly influenced by them.
- ◆ The scale of equivalence introduced should provide the **international comparability** of data related to poverty amplitude and profile. It shall not be understood that the same scales of equivalence will be applicable in all countries. The solution is to reverse this: scales of equivalence specific to each country will be calculated on the basis of the same methodology.
- ◆ The scale of equivalence used should be built by means of a **methodology that it is easy to be implemented**. Using a pragmatic criterion of equivalence, the implementation of a scale of equivalence will not be impeded by methodological or calculation restrictions.
- ◆ It is desirable that the scale of equivalence which is introduced would be based on an **accessible** methodology. Such a methodology has the best chances to be accepted. This criterion is very important for the areas where the scales of equivalence may or might have an immediate practical significance (for example decisions influencing social benefits or child allowances).

1.4. Poverty Indicators

First of all, poverty is measured taking account of the calculated poverty line, used as a reference based on which any dimension of this phenomenon has sense. After establishing the threshold, the phenomenon is measured on the basis of the indicators measuring the incidence, gap and depth, and severity. The main indicators of poverty measurement are the following:

- poverty rate - reflecting the coverage or dimension of the phenomenon;
- average income gap - reflecting the average poverty level of those individuals who are below the poverty line;
- average income gap index - poverty gap and depth - aggregated measure of the total income gap as to the threshold, therefore of the poverty level as to total population;
- Foster-Greer-Thorbecke indexes - reflecting the poverty severity, by reference to the poverty distribution among the population below the threshold;
- Sen index for poverty severity;
- pauperisation index - taking account the differential significance of a rate of depending on the income level of the household.

1.4.1. Specific Indicators for the One-Dimensional Approach

1.4.1.1. Poverty Incidence

The most simple poverty indicator is the **poverty rate (head-count ratio)**, representing the proportion of population having income/expenditures below the poverty line. Poverty rate measures the dimension of the phenomenon and is calculated on the basis of the following formula:

$$RS = q / n \quad (1.7.)$$

where:

- RS - poverty rate;
- n - population size;
- q - number of persons/households whose income or expenditures y_i are lower than poverty line z .

Poverty rate is a simple indicator, easily understandable, but insufficient for the analysis of the phenomenon and development of policies meant to fight against it.

Besides the proportion of poor persons out of total population, an essential problem for poverty analysis envisages the amount of the poor population's income gap, by reference to the poverty line, which points to the poverty level.

1.4.1.2. Poverty Gap and Depth

The poor persons' income gap is the amount of added income which would be necessary so that each individual would reach the poverty line.

The amount of the additional income (VS) that necessary for the individuals who are below the poverty line in order to overcome this situation is calculated on the basis of the following formula:

$$VS = \sum_{i=1}^q (z - y_i) \quad (1.8)$$

Using the poor persons' average income (\bar{y}), formula (1.8) becomes the following:

$$VS = (z - \bar{y}) \cdot q \quad (1.9)$$

Income gap index is calculated on the basis of the following formula:

$$I_{\Delta V} = \frac{(z - \bar{y})}{z} \quad (1.10)$$

The poverty severity concept can be represented by an indicator of its combined gap and depth. This is the **poverty gap and depth indicator (PS)**, which calculated as the ratio between the poverty eradication minimum cost (VS) and maximum cost calculated on the basis of the hypothesis that the overall population is provided with an income at least equal with the poverty line (zn). In this case, the gap and depth indicator is calculated on the basis of the following formula:

$$PS = \frac{VS}{z \cdot n} = \frac{(z - \bar{y})}{z \cdot n} \cdot q \quad (1.11)$$

which could be also written as:

$$PS = I_{\Delta V} \cdot RS = \frac{\sum_{i=1}^q (1 - \frac{y_i}{z})}{n} \quad (1.12)$$

As a result, the poverty gap and depth indicator can lead to an estimation of the extent in which the poverty eradication related expenditures may be theoretically cut down by perfectly targeting the transfers towards the population which is below the poverty line, taking into account the position that each poor person has as to the threshold.

The poverty gap and depth index does not provide any information on poverty distribution. It reflects the aggregated gap rather than the individual gaps. Two different populations may have the same poverty rate and dimension, but without having the same income distribution for those persons who are below the threshold. As a consequence, it is necessary to introduce an additional estimation, also including the welfare (or poverty) distribution effect: indicators of poverty severity.

1.4.1.3. Poverty Severity

Poverty severity indicators are sensitive to the way the income are distributed, as well as to the poor population's income gaps by reference to the chosen threshold.

Some of the most used poverty severity indexes, due to their simple structure, are the ones belonging to Foster-Greer-Thorbecke class. Their generic formula is the following:

$$FTG_{\alpha} = \frac{\sum_{i=1}^q (1 - \frac{y_i}{z})^{\alpha}}{n} \quad (1.13)$$

FTG_{α} - is the α degree Foster-Greer-Thorbecke index.

The poverty severity indicators are practically the ones where $\alpha \geq 2$. As it may be noticed, for $\alpha = 0$ the result is the poverty rate (q/n) and for $\alpha = 1$ the result is the poverty gap and depth indicator (PS).

In order to have an intuitive picture about the information provided by this type of indexes, it is useful to refer to a particular case, the most used one, namely the Foster-Greer-Thorbecke square index.

$$FTG_2 = \frac{\sum_{i=1}^q (1 - \frac{y_i}{z})^2}{n} \quad (1.14)$$

Unlike the poverty gap and depth index, this indicator makes use of a weight amount of individual income gaps. A higher gap will have a higher weight, and a lower gap will have a lower weight. Although it is difficult to interpret, it practically provides a more sensitive criterion for sorting the individual poverty gaps. This permits the comparison of several distributions, reflecting the effects of different alternative policies meant to alleviate poverty.

The weight of the poorest persons in the income gap aggregation will increase as long as the value of α is increasing. When α tends to infinity, this indicator will only reflect the poverty of the poorest person /31/.

Another indicator for poverty severity measurement, whereby the aggregation is not based on the addition of individual components, is the Sen indicator, calculated as follows:

$$ISS = RS [I_{AV} + k (I - I_{AV}) \cdot G^S], \quad k = q / (q + 1) \quad (1.15)$$

where:

- ISS - Sen poverty severity indicator;
- RS - poverty rate;
- I_{AV} - average income gap indicator;
- G^S - Gini inequity coefficient calculated for poor population (see Section 1.4.1.4.).

If there is no inequity among the poor population and therefore G^S is zero, then Sen index becomes equal with poverty gap and depth indicator. Although this indicator takes into account the income distribution, it is not an additive one, therefore does not result from the aggregation of the individual income gap estimates. This is a disadvantage while building the poverty profile and especially in case of a comparative analysis among individual.

Another important indicator is the pauperisation rate that envisages the pauperisation process, namely the increase of the poverty level (developed by the RIQL). This indicator "measures" the household pauperisation level associated to a downward change of its income. According to the philosophy underlying this

indicator the income diminution has different effects on the pauperisation process, depending on the original income level. The poorer a household, the greater the significance of the increase of the poverty level associated to a given income diminution. This indicator provides a diagnosis indicator for the poverty risk the member of the community is exposed to due to a income diminution; it is an estimate of the income gap, associated to a certain income level, starting with a reference situation for the concerned community, namely the decent standard of living for a normal family.

The poverty level values represent a geometrical series having a more pronounced increase of the poverty when next to the decent standard of living or below it and they are calculated as follows:

$$GS = 2^k / 10, \quad k^1 = 2(5 - \text{venit} / ND) \quad (1.16)$$

where:

- GS - poverty rate;
- venit - concerned household income;
- ND - level of income required for a decent living of a standard household, consisting of 2 adult persons earning 2 average wages.

Thus, a diminution of the very high income is associated with a lower increase of the poverty level, and an equal diminution of low income is associated with a higher increase of the poverty level.

1.4.1.4. *Income Distribution Disparities*

The way population incomes are distributed is a problem of major interest both in equity terms and poverty severity analysis.

A classical population income (or expense) distribution disparity estimate is the Gini inequity coefficient. It ranges from 0 to 1: when the coefficient is 1 it indicates that one or more persons share equally all the income and the rest of the population has no income. When the coefficient is 0 it indicates a perfectly equal income distribution, each category of population getting a percentage from population total income that is equal with the group weight in total population.

The Gini inequity coefficient is also used when calculating poverty severity estimates. For example, the inequity coefficient of the poor population income is taken into account when calculating Sen poverty severity index. A decrease of poor population inequity by way of social transfers leads to a certain extent to a decrease of poverty severity.

¹ k formula is established on an **empirical** basis, so that GS would be inside a poverty scale, where value "0" describes the limit situation of an "absolute abundance" and value "100" describes the limit situation of an "absolute poverty".

The coefficients of concentration are also inequity estimates, indicating the concentration of different income sources in total income. These coefficients reflect the sort of correlation between a component of income (for example the income from children allowances) and total income.

The coefficient of concentration ranges from -1 to 1; a negative value means that between the concerned income source (for example children allowances) and total income there is a reversed correlation; a high value of the coefficient of concentration indicates a transfer more focused towards the group of poor persons, in case it is a negative one, or towards the group with high income, in case it has a positive value. A certain level that is focused on the group of poor persons and which has a high negative correlation with the total income, therefore a coefficient of concentration that is negative and has a high absolute value, will tend to reduce the original inequity.

The difference between the coefficient of concentration of a social transfer and the Gini population inequity coefficient before the transfer is practically the progressivity coefficient of the concerned social transfer. In contrast to the latter, the coefficient of concentration does not depend on the original distribution of income among the population and it is a very good estimate as such when analysing on a comparative basis the distributive effects of various social transfers (among various populations, between certain points in time).

In summary, the coefficient of concentration, with the particular use of the Gini inequity coefficient, is a good tool for measuring the efficiency of a policy aimed at fighting poverty.

1.4.2. Multidimensional Synthetic Indicators

During the late 70's there were approached new methodological concepts for poverty measurement. Thus, in 1979, Townsend initiated in his paper "Poverty in Great Britain" /40/ the multidimensional approach, as an alternative to the traditional poverty measurement methods.

Cerioli and Zani, quoted by A. Lemni /15/ in "Fuzzy and Relative Methods for Poverty Measurement" (1990), also chose a multidimensional approach.

Poverty's multidimensional nature is also highlighted in "1997 Human Development Report" /28/, where it has been proposed and calculated a poverty index on the basis of three fundamental life dimensions: longevity, education and standard of living.

1.4.2.1. TFR Method. Theoretical Basis

A multidimensional statistical poverty measurement method was proposed by Professor Achile Lemni from University of Siena - Italy, together with a group of

researchers. Method theoretical support is based on the theory of fuzzy and relative multitudes. It was called "TFR Method" from "Totally Fuzzy and Relative" and is based on a set of living condition indicators, identified for the whole population covered. The method is considered as:

- ◆ totally fuzzy in order to avoid the use of thresholds whose choice is made on a subjective basis;
- ◆ totally relative because poverty measurement synthetic indicators are calculated on the basis of distributions from the sample, thus being in line with the relative poverty concept.

The method was implemented and developed within a research conducted in Poland on the basis of family budget data. One of the important conclusions of this research was that the implementation of the method is an adequate one for studying population poverty level in case of countries in transition to the market economy.

According to authors' opinion, separation of population in poor and non-poor, made on the basis of traditional methods, represents a rough simplification of the reality, excluding all the comparison levels between the two limiting values. They emphasise that the poverty cannot be looked at as an element that describes an individual in terms of presence or absence but rather as a fuzzy element that describes different levels of this phenomenon. In the light of this criterion, a poverty measure should indicate a certain degree of affiliation to the poor persons group for each statistical unit (usually household or individual).

A large advantage of this method is that it permits the bringing together of monetary with non-monetary indicators, therefore the distribution of poverty can be identified on the basis of a global indicator.

While the poverty line, established by means of any of the traditional methods, defines a variable whose value places the household below or over the threshold, TFR method proposes the definition of a continue function having values within the range [0, 1], based on which it is highlighted the level of affiliation of the total population or certain categories of population to the poor persons group.

The technique can be described as follows: giving the multitude G and g a random element belonging to G , any sub-multitude S belonging to G may be defined as a fuzzy and relative multitude as follows:

$$S = \{g, f_s(g)\} \quad (1.17)$$

where:

$f_s(g)$ is called **function of affiliation** to the fuzzy and relative multitude S and has as field of values the range [0, 1].

The value $f_s(g)$ indicates the level of affiliation of element g to S . Thus, $f_s(g) = 0$ indicates that g does not belong to S , while $f_s(g) = 1$ indicates that g is totally included in S . In the same time, $0 < f_s(g) < 1$ indicates that g belongs to a certain extent (given by $f_s(g)$) to S .

Adjustment of this new general theory to the development of a poverty measurement method had as a result the TFR method. We consider multitude G as the sample of n households monitored during a one-year period within HIS. The poor persons fuzzy and relative multitude S is structured as follows: the situation of each household may be evaluated on the basis of an m variable vector, X_1, \dots, X_m . The value of the function of affiliation of a household g to the multitude s of poor is calculated as the weight average of the values $h(g_{ij})$, ($i=1, \dots, n$ and $j=1, \dots, m$) of a function of frequencies h , assigned to each characteristic feature j and household i taken into account:

$$f(g_i) = (\sum h(g_{ij}) w_j) / (\sum w_j) \quad (1.18)$$

where :

w_1, \dots, w_m represents a generic system of weights calculated according to the method.

Values 0 and 1 will indicate a state of richness or poverty. The intermediary values will indicate a certain level of affiliation to this multitude, called fuzzy and relative. For example: a) 0.89 indicates a high level of poverty for the studied population, which means 89% from a maximum value (which might be called total poverty); b) 0.14 indicates a low level of poverty or a low affiliation of the surveyed population to the fuzzy and relative multitude of poor persons, which means 14% of the maximum value; c) 0.30 indicates a moderate level of poverty for the surveyed population, namely 30% of the maximum value.

The characteristic features, which are basis when measuring the values of the function of affiliation, represent indicators considered as influencing the surveyed population's poverty (the so called "**risk indicators**"). Thus, the major difference between TFR method and traditional ones consists in the fact that the first one, which is a multidimensional one, places poverty measurement within a framework based on a lot of indicators, not only monetary ones, reviewing the so-called "**social and economic poverty**", while the traditional methods, which are one-dimension methods, refers only to monetary variables (income or expenditures), thus measuring only the "**economic poverty**".

The essential elements of the relative multidimensional poverty measurement are the following:

- ◆ establishment of risk indicators;
- ◆ use of data relevant for the surveyed population;
- ◆ establishment of a scale of equivalence for monetary and non-monetary variables;

- ◆ implementation of a method of aggregation which will have as a result synthetic indicators.

For each household of the sample it will be recorded the information regarding a set of features that influence its welfare and/or poverty - risk indicators. These indicators may be divided in two major categories:

Effect type indicators, expressing the effective welfare and poverty, namely:

- Living conditions;
- Possession of long term use goods;
- Total consumption expenditures;
- Subjective estimation.

Cause type indicators, indicating the risk of becoming poor or, in other words, expressing the potential poverty.

In NCS estimates the following indicators have been used:

- ◆ **Living conditions:** current water, warm water, electricity, toilet with current water, bathroom, central heating, natural gas for kitchen, habitable surface per person;
- ◆ **Possession of long term use goods:** gas stove, refrigerator, washing machine, vacuum cleaner, TV set, telephone, as well as possession of properties (land);
- ◆ **Total consumption expenditures;**
- ◆ **Cause type indicators:** educational level of the head of household, sex of the head of household, existence of at least one unemployed in the household.

1.4.2.2. Poverty Measurement Indexes (Synthetic Indicators)

When using TFR method the result can be a different value of the function of affiliation to the multitude of poor persons for each household and for each risk indicator. In order to get synthetic indicators for poverty level measurement, there should be taken a few steps for the aggregation of these values in order to determine successively:

- a synthetic indicator for each risk indicator;
- a synthetic indicator for each risk indicator group;
- a global synthetic indicator as an overview of the whole population's poverty level.

This global indicator (mentioned hereinafter as P) shall be defined as the arithmetic average of the poverty indicators measured for each household, as follows:

$$P = 1 / n \sum f(g_i) \quad (1.19)$$

The global synthetic poverty indicator determined on the basis of this method ranges between 0 and 1. Limiting values represent either the non-existence of poverty (0) or the fact that all households are very poor (1). Taking into account of these meanings of poverty multidimensional synthetic indicators, one can notice their particular importance, namely:

- when **comparing** the poverty of various types of households **at a given time**;
- when **comparing in time** the poverty of the whole population or of various types of households;
- when **identifying the categories of population** that are to become the target groups for the **poverty alleviation policies**.

An obvious advantage of the multidimensional method is the possibility of reviewing the poverty conditions together with the non-poverty ones, which is practically impossible according to the traditional approach where examined statistical population is separated by a poverty line.

CHAPTER 2

Data Sources for Poverty Study

Irrespective of the conceptual or methodological guidelines that are to be chosen, the issue concerning the provision of data required for poverty measurement and study is present in all pertinent research. It is natural because, no matter how effective the measurement methods or review models would be, the inappropriate quality of data used may completely annihilate the positive effects of their performances. Therefore, the provision of useful data required for the study of poverty in Romania is approached herein from the perspective of a general evaluation of the data sources used in similar studies carried out in other countries. A particular attention shall be paid to the measurement of performances and sampled household surveys which are undertaken in Romania, with resulting estimates that can be used for the implementation of various poverty study methods.

2.1. General Data Source Assessment

As regards the data sources used for poverty studies, it is obvious that the specialists sometimes tend to favour a certain source. For example, M. Ravailon said, "Household surveys are the only important data source for poverty comparisons ... " /31/. In other words, other data provided from administrative sources or surveys among employers are not particularly significant in this field. In our opinion, poverty is a particularly complex phenomenon having multiple causes, typologies and consequences. Therefore, the contribution that certain data sources, in addition to household surveys might have cannot be and shouldn't be omitted, when analysing such a complex phenomenon.

At the same time, poverty analysis is not a purpose in itself, but rather should have as its own goal the fight against this calamity by means of adequate policies. But these policies cannot be structured appropriately without information on poverty causes, its distribution within the territory, the possible contribution of different types of enterprises to the fight against poverty, etc.

Based on this approach, we shall try to assess hereinafter the importance of each category of data source.

2.1.1. Administrative Sources

Data existing in different components of local and central public administration belong to this category. Producing, processing and disseminating such data are essential requirements for the operation of the public

administration. Most of these data reflect the relations between inhabitants or households and public administration. Therefore, they can be inserted in the statistic flow and used for the study of poverty.

Poverty data from administrative sources should satisfy three of the criteria developed by B.M.S. Van Praag and R.J. Flik /41/: data accuracy, low cost and updatedness. The central or local public administration requires for its operation significant data flows.

Using data from administrative sources for poverty studies has several advantages, such as:

- ◆ They are not influenced by errors in the same way as results of the statistical surveys. For example, there are significant differences in France /13/ between the family budget surveys and the fiscal system as to the relative poverty lines determined on the basis of original (gross) income and the disposable income (excluding taxes). Thus, if the threshold is calculated as half of the average disposable income (excluding taxes) for fiscal purposes, then it is 37% lower than the one calculated on the basis of the original average gross income; if using the family budget survey results, the gap is less than 14%.
- ◆ They have an exhaustive nature. Therefore, on their basis, poverty can be measured for small territorial entities. Thus, the existence and normal operation of a system for the **overall taxation of individual income** would allow very detailed estimates for poverty intensity. Based on these data, a future micro-survey system for determining the poverty areas can also be structured more properly.
- ◆ Data will be rapidly updated as a result of the operation of the local and central public administration components. As a consequence, there will be less risks that conclusions regarding poverty will be incorrectly based due to the rapid obsolescence rate of the data.
- ◆ The out-of-pocket costs for collecting and processing these data are very low in comparison with the ones resulting from special statistical researches. Most of these costs are covered by the local and central public administration.

It should be mentioned that using data from administrative sources for the study of poverty is a particular attribute of developed countries, especially the Nordic ones (Denmark, Sweden, Norway and Finland). Even in case of these countries, **data from administrative sources can be provided only for a low number of variables** by means of which it is not possible to pursue a detailed study of certain complex phenomena such as poverty. Therefore, data from administrative sources are to be used for the implementation of relatively simple poverty measurement models, usually the one-dimension ones (for example, when determining the poverty line as half of the median- or average income, if data are provided by the fiscal system). For countries in transition, such as Romania, the use of administrative source data is also restricted by some other causes, namely:

- the terminology and classifications which are used are not sufficiently adapted for general use (they are too particular to the specific needs and considerations of the agency);
- there is a low degree of automation in the public administration and networking of the information systems belonging to its agencies;
- it is impossible that the administrative agencies introduce in their statistic data on individual inhabitants or on households, delivering most of the time aggregate data which cannot be used for the desired poverty measurement;
- many departmental statistical systems are in an incipient stage of development, etc.

The aforesaid restrictions should not be interpreted as being insurmountable. For example, a range of useful data for poverty study in Romania can be processed at the level of very small territorial entities with relatively reduced efforts by local or central public administration. This is the case of registered unemployment, poverty related diseases, urban infrastructure, etc. Such data have a complementary role to the ones resulted from special statistical researches.

2.1.2. Employer Surveys

In many developed countries (with a market economy) many data related to the use and remuneration of employees, used for poverty study, are incorporated into the administrative statistic network. In the case of Romania, such an information network does not function as yet. Rather, the annual statistical research programmes include enterprise and establishment surveys related to the number and distribution of employees based on different features, wage earnings, labour size and structure, etc.

This type of statistical research provides estimates that may be used for the study of certain issues which are directly or indirectly related to the poverty problem, certain examples being relevant from this point of view, namely:

- ◆ The research on employees, classified by wage earning groups, allows for the highlighting of imbalances occurring between sectors of activity as regards the distribution of employees. Data related to wage earnings which are delivered by enterprises and institutions are obviously more reliable than data from household surveys.
- ◆ The negative effects of the inflationary processes on the population's purchasing power cannot be measured without the results of the regular statistical surveys on these processes. The trend of monthly wage earnings and their purchasing power, can partly explain the gradual deterioration or improvement of the standard of living. This may be seen in the results of such statistical research.
- ◆ The contribution of employers to the social protection funds, and implicitly to the funds meant for the compensation of short-term effects of the poverty aggravation, can be deduced only from survey results that have as main purpose the determination of labour level and structure.

Data provided by employers might be used with priority when developing policies for combating poverty.

Is it really productive to study poverty without identifying the means of fighting against it? It is obviously not. Therefore, one considers fully justified the option that all possible data sources which can be used both for poverty measurement and as policy guidelines should be adequately identified.

2.1.3. Household Surveys

As regards the use of household survey results for poverty study, a range of various guidelines have been developed in practice. All of them have the same denominator, namely the approach of poverty issues in line with the complex nature of this phenomenon.

It is difficult and less efficient to achieve an inventory of these guidelines. It is much more useful to identify and to reveal certain extreme situations to be used as reference when estimating the extent to which the household surveys in Romania provides the pieces of information required for approaching poverty in its entire complexity.

At one extreme, there are countries where data from administrative sources are in addition to the results of a great number of independent household surveys. France has been in such a position. According to M. Glaude /13/, the poverty and social exclusion problems have been approached on the basis of Ministry of Social Affairs statistics concerning the social action beneficiaries, namely from administrative sources, and of the results from the multi-objective surveys called "Disadvantaged situations". These data are enriching the traditional ones collected by means of other independent surveys, such as the ones referring to family budgets, nourishment (food consumption), income, housing, acquisition of long term use goods, health, leisure and so on.

Such surveys, which are being supplemented with data from administrative sources, are also pursued in some other European countries, having both advantages and disadvantages. The most important advantages are the following ones:

- the surveys provide, with errors that might be supervised by way of mathematical means, estimates that are required for the study of certain important aspects of social life;
- independent aleatory samples, and avoiding excessive information requests to the households, favour the quality of the results;
- they satisfy various information requirements and they are not restricted to the ones concerning the poverty study;
- if different surveys are compatible at the conceptual level of definition and classification, their results may be used for more complex studies, including those related to poverty, etc.

Disadvantages concern especially the following major issues:

- ◆ The number of household variables that build up a sample is relatively reduced and describe only certain aspects of social life. Therefore, using poverty study multidimensional models is restricted and even risky. The risk comes from the fact that the model doesn't accept all variables closely related to poverty.
- ◆ It is not easily possible to establish direct connections between the sampling variables studied by means of different surveys. The independent survey on "marriage" is carried out at the level of concepts, definitions, classifications and drawn conclusions. Each aspect of social life is accurately studied, but the aggregation of conclusions drawn from the results of several independent surveys in studies such as the one referring to poverty is a very difficult task.
- ◆ Several independent surveys carried out at national level are more difficult, even impossible, to be approximated at the international level. For this reason, it will be much more difficult to work out international comparisons on poverty. Probably the current context explains the design of the EU standard method based on a single criterion. This could be further argued by the fact that at the European level there have been initiated several projects, financed by PHARE programme, which aim at approximating (up to questionnaire level) certain surveys on health issues, leisure, etc.
- ◆ The total cost of the independent surveys is higher than the cost related to a complex survey integrating (at the questionnaire level) all variables that are essential for poverty study. This total cost is justified by the broad use of the independent survey results.

At the other extreme, there are the complex surveys which have been carried out and which offer a great number of variables that are essential for the study of poverty. In this context could be mentioned the **European Household Panel** where all the EU Member States participate, each of them with their own aleatory sample extracted on the basis of common principles. The goals of this West-European project (including Greece) envisage:

- to obtain the individual information at the level of inhabitants and households for a complete set of variables common for all the countries participating in the project with a view to measuring, based on the same criteria, poverty in its entire complexity;

- to make use of the same poverty indicator calculation methods, so that they would be provided with a full comparability within the European Union;

- to include in national and Community studies new aspects concerning the poverty persistence, the capacity of households that are below the poverty line to overcome this situation, etc. The achievement of this last objective is possible only by means of a panel survey collecting data concerning the modification in due time of household behaviour. Especially in the context of such an objective, there should be appreciated the advantages arising from the design and implementation of the **European Household Panel**.

Insertion of a high number of variables at the questionnaire level is also specific for the conceptual and methodological framework promoted by the Cornell University experts, especially for poverty study surveys used in developing countries. But the testing plan and the survey logistics significantly differ than the European Panel ones.

In case of both aforesaid examples, there should be highlighted the following main disadvantages:

- ◆ For a given size of the sample, the variables for which the estimates are affected by serious errors are much more numerous while the number of variables integrated into the questionnaire is increasing. Such particularly complex questionnaires allow especially for the study of the connections between variables, and the promoters of these types of surveys put emphasis on the knowledge of these connections and pay less attention to the accuracy of estimates.
- ◆ Household overload due to high amount of information collected and exaggerated duration of interview also negatively influence the quality of data collected. It will increase the risk of having a high rate of total and especially partial non-answers, the rate of abnormal values, which finally provides a lower reliability of the outcomes.
- ◆ The difficulties of implementing an up-to-date method of sorting out the non-answers, the abnormal or missing values, as well as the ones envisaging the improvement of the quality of data collected are gradually increasing, as the complexity of the questionnaire is higher. During the stages of the process meant to carry out the multiobjective surveys, one may be faced with a lot of difficulties generated by the exaggerated amount of information. No matter how well trained the surveyor is from the professional point of view, extending the duration of the interview beyond a pre-set limit and due to the amount of information that he has to work with will make it impossible for him to rigorously observe the pre-set rules and he will be forced to accept an increasing number of compromises.

Due to the risks that they incur, both extreme guidelines are vulnerable. **The ideal solution would probably consist of a maximum use of data from administrative sources, seconded by a coherent survey system. The central pillar of this system should be the family budget survey, with traditional modules and with new ones required for the quantitative poverty analysis. The other surveys, conceptually and methodologically approximated one to another and with the family budget survey, might contribute to the achievement of the qualitative analysis in order to explain the causes and effects of the poverty trend as well as the way this particularly complex phenomenon is taking place.** For example, the European Union statistical system development strategy for 1993-1997 provides, besides the European Household Panel, a family budget survey approximated at the European level, as well as many other surveys referring to health, leisure, working conditions, etc. In other words, **the conception based on the operation of a coherent survey**

system, to be used as data sources for poverty study, is shown to be a valid one. For the time being, each country makes use of the existing data sources for the study of poverty, which are more or less effective.

2.2. Household Integrated Survey - Main Data Source

Romania is currently placed somewhere between the two mentioned extremes, being very close to the second one. This is the consequence of the household survey system development for the last decades. Because the household survey system development in the 90's has had certain consequences for the possibility of using the results for dynamically analysing the poverty, the main changes that have taken place in the system structure and operation will be presented here. By reference to these changes, the household integrated survey (HIS) performances and limits as the main data source for poverty study in Romania can be appreciated.

Household type	Coefficient of equivalence
1 single man	1.00
1 single women	0.84
1 couple	1.25
1 couple + 1 child	1.50
1 couple + 2 children	1.70
1 couple + 3 children	1.87

2.2.1. Why HIS?

During almost half a century (1950-1994) the only statistical household survey that has been used was the family budget survey (FBS). From this point of view, in the statistical fields there has been accumulated a substantial expertise in organising and carrying out relatively complex surveys. The family budget survey had a monitoring programme equivalent with several other household surveys from UE Member States, including modules regarding essential aspects for the study of poverty, such as: household composition by age group and sex; the level of income and the way it is built up; expense level and destination; purchase of goods and services; food product balances in natural units; consumption of main food products; procurement of long term use goods, etc.

In 1992, the Romanian Government agreed with the World Bank to be granted a loan for designing and implementation of a new social protection system. The loan was conditioned on the existence of useful information allowing for the study of living conditions, the measurement of social exclusion and poverty phenomenon, and the knowledge of household behaviour during the period of transition.

On this occasion, the results of family budget surveys were considered as incomplete and not feasible enough because:

- they did not cover certain important areas of the social life;

- a survey plan was used that didn't allow for estimates for the whole population affected by controllable errors, of the levels of variables that had been studied. In fact, three independent¹ sub-samples that covered three types of households were used, neglecting others, namely: for the employees, structured by branches of national economy and extracted on the basis of information existing in enterprises and concerning the individuals; for the peasants, where it was used as a survey basis the agricultural register, the only one that contained information on households, providing the concordance between the survey unit and the monitoring one; for the pensioners, which was extracted on the basis of information on individuals available in the state social insurance system;

- the sample had been used for research for several years, leading to the gradual distancing its structure from the changing structure of the population from where it was extracted (Chart 2.1.). Therefore, the design and implementation of a multiobjective method was chosen, that will provide the information required for the operation of the new social protection system.

Table 2.1. Comparisons between FBS/HIS sample structure and the population one (Census '92)

Head of household Occupational status	Sample		CENSUS '92* ¹
	FBS (1994)	HIS (April '94-March '95)	
Total households	100.0	100.0	100.0
out of which:			
-employees	63.7	42.4	48.5
-peasants	30.0	7.2	7.3
-employers	-	0.4	3.0
-non-agricultural self-employed	-	1.9	-
-unemployed	1.9	4.4	-
-pensioners	4.4**)	42.2	37.4
-another status	-	1.5	3.8

*) Population and housing census of January 7, 1992

***) Only state social insurance pensioners' households

Because HIS has been operational since 1995, it was a serious "break" of the data range. That's why the dynamic analysis of the poverty since then should be based only on the HIS delivered information. The results of FBS may be used on an informative basis, but distinctively only for the three types of households that have been surveyed for independent sub-samples, avoiding their aggregation.

2.2.2. Setting up the Single Basis Survey

In order to avoid FBS sampling proceedings dysfunction, as well as to provide the proper conditions for using aleatory survey plans or the whole household survey system, a single survey basis has been established including the design and implementation of the territorial areas multifunctional sample

¹ Due to the fact that a single survey basis was not available, different survey plans were used for each of the three categories of households.

(EMZOT). The information support for implementing this objective comprises the documentation and results of the population and housing census, which took place on January 7, 1992.

The 260 towns and 2688 villages (including around 13.000 hamlets) were divided in 93.037 census sectors with 80 to 100 households each. The multitude of census sectors was homogenous enough, they having been sized taking into account the registration capacity of a surveyor during the census 7 day period. According to the UN Statistics Division, the census sectors or a census section including five territorial census sectors may represent "artificial" areas, which as a whole represent a very well grounded survey basis, which may be used for extracting a representative sample for all surveys that make use of equal probability and two stage survey plans.

On the basis of 1992 Census documentation, there were extracted samples of 400-2500 sectors. Based on the review of results concerning the number of buildings, households and inhabitants it was calculated that a sample consisting of 500 "artificial" areas offers estimates at the level of first survey stage having errors of up to 2% for the three aforesaid variables. As a consequence, it was extracted a 501 census section sample that are in fact the 501 centres of research from the current structure of EMZOT.

This hypothesis was confirmed thereafter by processing and extending the census data from the 501 EMZOT centres, the results having been compared with the ones of the exhaustive processing of data collected by way of 1992 Census. The hypothesis was verified for the variables from the census questionnaire referring more to high and medium frequency occurrence events and less to ones occurring now and then. The population age group and sex structure estimated by EMZOT was also compared to the base (from 1992 Census results) by making use of the χ^2 , without showing significant differences.

Within the 501 EMZOT centres there had been identified 257.000 houses that were subsequently included in the survey basis used for extracting all the samples required for the households surveys. The information on these houses is administered as a database under ORACLE, being annually updated by means of a micro-census type survey. EMZOT has been used until now as a basis for yearly surveys (1994 and 1995) and for the quarterly ones (starting with 1996) on the workforce from the AMIGO type households and for the HIS, the latter becoming functional in 1995 and substituting the obsolete FBS.

2.2.3. HIS Features

This permanent and particularly complex research has a multifunctional nature, **the main purpose of HIS design and implementation being the information on the main aspects of** Romanian population living conditions, namely: the size and structure of households taking into account the economic

and social features of their members, the way the income are earned and used, the consumption level and structure, the living conditions and the acquisition of long term use goods, the rate of employment of household members in various lucrative activities, school and occupational training, the opinion of household members on their state of health, etc. As a result, **HIS may and should be nowadays the main data source for poverty study.**

The design of the survey plan, of necessary tools (questionnaires, manuals, IT products, etc.) and of survey logistics was carried out between May 1993 - March 1994 with technical assistance from U.S. Cornell University.

The **survey plan** used is a complex one and has the following features:

- ◆ It is a two-stage survey, the first stage being EMZOT and the second a 36.072 households one. The second stage sample provides estimates with errors below 3%, guaranteed by a 97% probability, for all variables that have a dispersion coefficient of up to 262.6%. By cumulating with first stage errors, there can be provided estimates that are acceptable from the statistical point of view, but the proper samples are representative only nationally. They are sized in such a way that they would allow the processing at the macro-regional level, on the condition that there only the estimates concerning variables will be used which dispersion coefficient is low enough in order to provide an appropriate feasibility of regional level information.
- ◆ The second stage sample consists of 12 monthly independent sub-samples. A single sub-sample cannot provide estimates with accepted reliability for a reduced number of variables referring to events with a high occurrence frequency. Therefore, it is required for data to be processed for a group of 12 successive monthly sub-samples.
- ◆ During a one-year period each of the selected households is reviewed only for one month. Half of the households from a monthly sub-sample are introduced again in order to be surveyed in the next year's corresponding month. In case of samples from two different years there are always 18,036 households that repeat the same calendar month, which allows for a dynamic processing and review.

The main component of the survey is the questionnaire. In the original version, developed together with the experts from Cornell University, it was extremely complex and included certain modules, which were given up after the first months of research (fertility and anthropo-metric measurements). Certain modules were also simplified starting with the version used in 1996. Nonetheless, the questionnaire is a large document (33 pages) and particularly complex, comprising 19 modules with 2,500 variables.

When the questionnaire was designed, use was made of the statistical experience which had been acquired in data collection field. The balance sheet method had been applied based on interviewing by the surveyors of the adult

persons and on the self-recording method (writing down the current events in the household log by its members). This manner of collecting data was used with very good results under the old FBS, when households were being surveyed during several years, recording all events that took place in the life of the household during one year and controlling for the effects of seasons and occasional activities on the data.

This mixture of old data collection methods with a two-stage aleatory survey plan had certain achievements of HIS, but also certain problems which were very difficult to sort out. The main achievements consist of:

- increasing the number of variables which data are collected for, covering new and important aspects of the social life;
- avoiding the **“rigidity and obsolescence”** of the sample and consequently the existence of distortions between its structure and the structure of the population on which basis it was collected;
- increasing the estimate accuracy due to the fact that 36 thousand different households are surveyed each year as compared with 9 thousand in case of the old FBS;
- reducing the risk of influencing the behaviour of households and of their members due to a very long survey;
- reducing thrice the costs incurred by the payment of household and surveyor work, because for the old FBS 108 thousand month long registrees for households were surveyed as compared with 36 thousand in the case of HIS.

In order to process and make use of the data collected in the HIS, it was necessary to sort out the new problems that occurred due to the combination of the survey plan with data collection methods specific for the old FBS, this combination producing the major difficulties that the members of the research team were faced with. **Firstly**, it should be mentioned the negative effects on the quality of income estimates. Because the household survey starting month was still used as the data reference period, it couldn't provide information on the inputs from the previous months as regards the food and non-food goods produced by themselves, purchased and stored or provided from other sources, but which were used during the concerned month. For this reason it was necessary to forego the calculation of total income by means of the simple aggregation of the cash income with the cost of goods produced by the household members and introduced in their consumption. Rather, the emphasis is on expenditures, accepting as income components the cash receipts and the amount of consumption from their own resources that have been declared in the month when the household was surveyed. But it was not possible to totally avoid the negative effects of the distortions produced by the influence of seasonal factors. At the same time, the inflation trend during a year was producing elements of non-comparability between the monthly incomes, being necessary to deflate the incomes in Lei and operating with effective incomes and not with nominal ones. Therefore, the incomes cannot be considered as the basic variable for describing the households' economic potential.

Secondly, it was necessary to give up to the classical definition of the concept of self-consumption. In Romania there are certain customs related to procurement, storage and consumption of goods, especially in case of non-food products. The investments to households in certain months (especially between September and December) have as a consequence stocks that are gradually consumed during the next periods. Therefore, it was introduced the concept of **one's own resource based consumption** during the month when the household was surveyed, as well as the quantities from its own production of that month.

Thirdly, when studying poverty it is not recommendable to operate with total income or total expenditures, because their level is influenced by seasons. Therefore, it is considered as **basic variable the consumption average expenditure** and not the average income. The consumption average expenditure includes only the cost of food products consumed during the reference month, also adding the expenditures for purchasing the non-food products and the ones for the payment of services. In order to make possible for the comparison between stages, the data referring to consumption expenditures have been deflated with the consumer price index, being expressed based on the prices of the first month from each year of reference. This way, the negative effects due to the influence of seasonal factors and inflation have been mainly diminished.

Last but not least, the rate of total non-answers (11.2%) in 1996, although not too serious, introduced distortions of estimations making necessary for a readjustment of samples. It should be noticed that for the time being the rate of non-answers is far below the one recorded in other countries in case of similar surveys, and its effects in case of HIS are counteracted to a significant extent by means of the important number of cases surveyed.

As described in the next paragraph, it should be mentioned that data resulting from HIS may be used for the study of poverty, the conclusions formulated on their basis being fully in line with well known aspects of the development of social and demographic structure of Romania's population and the behaviour of its various components.

2.2.4. Premises for HIS Data Use and Interpretation

The differences in structure and behaviour can be studied by identifying certain clearly defined social groups. And such groups can be identified by referring to a standard (model) representing the distribution of all households or of the persons covered by the sample depending on different variables. Of course, the structure and behaviour of these groups are structurally and behaviourally different, more among each other than with the standard. But a correct identification of these groups is not possible without making a comparison with this common reference. Otherwise, a similar reference is necessary to be also used for identifying the disfavoured social groups, the household categories placed below a standard of living considered as the poverty line.

From this perspective, the **volume of 1996 HIS sample**¹ was high enough to provide, on the one hand, acceptable estimations valid for the whole. On the other hand, the number of cases analysed in each main section of the Romanian society is high enough to allow the drawing up of relevant conclusions at the level of each of these strata. The correct reflection in the sample of certain well-known situations confirm its validity. Some conclusive examples supporting this statement are presented below.

One of these examples is a **more rapid ageing of rural population** as a consequence of forced collectivization in agriculture and industrialization processes during 50's and 60's (Table 2.2.). These processes provoked a massive emigration of young rural population to the urban areas. Therefore, the fact that the share of elderly (60 years and over) is much higher than the share of children (0-14 years) is not surprising, while the shares of the two categories are more balanced in urban areas.

Table 2.2. Distribution of persons in the households analysed by age groups and by areas

- % -

Age groups	Total persons	Persons living in:	
		Urban areas	Rural areas
Total persons	100.0	100.0	100.0
out of which aged:			
- below 5 years old	4.4	4.0	4.9
- 5 - 14 years old	14.5	15.9	13.1
- 15 - 24 years old	15.9	16.7	15.2
- 25 - 44 years old	26.9	32.2	22.0
- 45 - 59 years old	18.3	17.1	19.4
- 60 years old and over	20.0	14.1	25.4

In addition, a high member of rural inhabitants have left agriculture, becoming commuters engaged in non-agricultural activities. Together with the former Agricultural Production Collectives (ACP) members, they made the Romanian villages a "pensioners' world" and not a "peasants' world" (table 2.3.). Otherwise, according to the occupational status declared by the persons from the households analysed, the peasants have become a minority in their own natural environment.

Table 2.3. Distribution of persons in the households analysed according to their occupational status

- % -

Occupational status of person	Total persons	Persons living in:	
		Urban areas	Rural areas
Total persons	100.0	100.0	100.0
out of which:			17.6
- employees	27.0	37.3	
- employers	0.3	0.4	0.1

¹ The data used in this paragraph refer only to 1996.

Table 2.3. continued

Occupational status of person	Total persons	Persons living in:	
		Urban areas	Rural areas
- self-employed in non-agricultural activities	1.4	1.3	1.5
- peasants	11.3	1.1	20.8
- unemployed	4.5	5.2	3.9
- pensioners	23.4	18.8	27.7
- pupils, students	17.8	21.9	14.1
- housewife	5.0	5.4	4.7
- other status	9.1	8.5	9.7

The share of employees has remained high in rural areas but is slightly lower than peasants' share, even if the agricultural lands have become again private properties. **Maybe just this socio-demographic and occupational mixture of rural population explains its lower standard of living in comparison with the urban population.**

Another example is a fair reflection in the HIS sample of the structure of population by nationalities and in the territory. For instance, the Hungarian nationality inhabitants represent almost 7% of the total population in the households analysed. The same percentage was registered by the '92 census and on occasion of 1990, 1992 and 1996 elections. Even the territorial distribution of Hungarian nationality persons is correctly reflected in the sample, namely that 98% are living in Transilvania.

A third example refers to certain estimates based on the 1996 HIS sample. Thus, if sample percentages are taken into account and applied to the total population of Romania, this would mean that in our country there were some 6.1 million employees in 1996, almost 5.3 million pensioners, etc., estimates which do not differ significantly from the data obtained from other sources. Therefore, we can draw the conclusion that the data obtained from HIS can be used in order to identify certain social groups subject to poverty and social exclusion risks.

The data referred to in Table 2.4. show that a conventional framing of households in different social categories based on the occupational status of the head of household would not lead to homogenous social groups. That is to say, the distribution of occupations of head of household does not reflect well the actual distribution of the occupations in the population. In this regard, the old ABF structure with only three social categories has proved to be an even more important restriction for the statistical analysis of the standard of living of the population.

Table 2.4. Distribution of persons in the households analysed according to their occupational status, by household categories

- % -

Occupational status of person	Total Persons from the households analysed	Persons of households with head as:				
		Employee	Employer	Peasant	Unemployed	Pensioner
Total persons	100.0	100.0	100.0	100.0	100.0	100.0
out of which:						
- employees	27.0	47.2	20.4	5.8	11.0	10.9
- employers	0.3	0.1	30.0	0.0	0.1	0.0
- self-employed in non-agricultural activities	1.4	0.4	0.6	0.6	0.8	0.5
- peasants	11.3	4.7	1.4	57.0	5.4	8.8
- unemployed	4.5	3.6	3.4	2.8	37.8	2.6
- pensioners	23.4	2.7	2.2	3.7	2.4	60.7
- pupils, students	17.8	25.8	25.6	14.7	24.5	7.2
- housewives	5.0	5.1	5.5	3.4	5.6	4.5
- other status	9.1	10.5	10.9	12.1	12.5	4.7

The composition of households is not made up only in relation with the occupational status of the head of household. Earning supplementary income in different activities, as a result of the occupational status mixture of household members, is a natural trend. It's not surprising that almost 20% of the persons earning income from the households whose head has an employee status earn income from activities other than wage related activities, having another occupational status. For employer households the percentage is more than 48%, for peasants is more than 18%, unemployed 34%, for pensioners is more than 27% etc. Moreover, only some 32% from among the unemployed are living in families with unemployed, and a bigger share live in families with employees (almost 37%) and the share of those living in households with pensioners is not low (almost 21%). That's why the **conclusions regarding poverty and social exclusion of certain social groups made up based on the occupational status of the head of household shouldn't have a peremptory nature.**

Household distributions by quintiles depending on the average consumption expenditures per adult equivalent¹ for different social groups confirm the necessity to avoid drawing peremptory conclusions, especially in case of heterogeneous social groups.

For instance, one can say that the rural population is more exposed to poverty risk since from the total number of the households analysed 23.3% are situated in the first quintile of consumption expenditures corresponding to households with the lowest living means, in comparison with only 16.4% in case of

¹ The NCS scale based on the caloric consumption set out by the Romanian experts in nutritive field was used in order to calculate the average expenditures/adult equivalent.

urban population. But the rural households are heterogeneous, which explains that 18.5% of the rural households are situated in the last quintile, namely "rich population".

It has been stated, sometimes with too much insistence, that the situation of households with pensioners is precarious (taking into account the status of the head of household). This situation does not result from Table 2.5. Excluding employers category, the households with pensioners category has the lowest percentage regarding the exposure to poverty risk. This doesn't mean that there are no poor pensioners. In other words, a generalized conclusion must be excluded.

The households with an unemployed household head are the most exposed to poverty risk since, in general, just the person having the main role in earning income is considered the head of household. The fact that most unemployed are living in households whose head has another occupational status is also an example supporting the necessity to avoid making general statements regarding the social group of the unemployed. Above, it was mentioned that the peasants, also among the poorest of household heads, do not have this same leverage.

Table 2.5. Household distribution by quintiles¹, according to the occupational status of the head of household

- % -

	Total households analysed	out of which situated in quintile				
		1	2	3	4	5
Total households	100.0	20.0	20.0	20.0	20.0	20.0
out of which with:						
- employees	100.0	20.1	23.0	21.8	19.0	16.1
- employers	100.0	5.4	12.9	17.3	22.3	42.1
- self-employed in non-agricultural activities	100.0	37.1	21.5	17.0	10.7	13.7
- peasants	100.0	38.8	23.6	16.0	11.9	9.7
- unemployed	100.0	49.4	25.9	13.9	6.1	4.7
- pensioners	100.0	13.1	16.4	20.0	24.0	26.5
- other status	100.0	40.8	19.3	16.1	12.4	11.5

On the basis of the same data one can say that, in the present stage of transition to a democratic society and to the market economy in Romania, the households with self-employed in non-agricultural activities, and households with other status are quite exposed to poverty risk. The paradox is that they have relatively low chances to avoid poverty, despite having also taken into their own hands their life and are not waiting for solutions to their problems from the "providence State".

¹ Set according to monthly average consumption expenditure per adult equivalent (NCS scale).

Some more peremptory conclusions could be drawn on the basis of the distribution by quintile of different types of households depending on the number of their members (Table 2.6.). As one can deduce, less than 15% from the single person households are situated in poverty risk "zones" (the first two quintiles), namely the ones who didn't take upon themselves family responsibilities. On the contrary, the households consisting of 6 persons and more, situated in the first two quintile in a percentage of almost 82%, are the most exposed to that risk.

Table 2.6. Household distribution by quintiles, by categories according to the number of members

- % -

	Total households analysed	out of which situated in quintile:				
		1	2	3	4	5
Total households	100.0	20.0	20.0	20.0	20.0	20.0
out of which composed of:						
- 1 person	100.0	5.5	9.4	16.3	27.2	41.6
- 2 persons	100.0	9.9	17.4	22.2	25.5	25.0
- 3 persons	100.0	19.8	22.7	24.0	19.6	13.9
- 4 persons	100.0	28.3	28.5	21.1	14.3	7.8
- 5 persons	100.0	42.4	28.1	16.1	8.7	4.8
- 6 persons and more	100.0	59.7	21.8	11.0	5.0	2.5

Household distribution by quintiles depending on the average consumption expenditure per adult equivalent outlines social groups with different behaviour, reflected in the structure of expenditures (Table 2.7.). As a matter of fact, the data provided for in the Table 2.7. point out, on the one hand, different behaviour of household consumption depending on their economic resources. On the other hand, the consumption laws, (worked out by a statistician-Engel-last century), according to which the higher economic potential of household, the lower weight of expenditures for food and the higher weight of expenditures for purchasing non-food products and for paying services, have been confirmed

Table 2.7. Structure of consumption expenditures for households analysed, by quintiles

- % -

	Total households analysed	out of which situated in quintile:				
		1	2	3	4	5
Total expenditures	100.0	100.0	100.0	100.0	100.0	100.0
out of which for:						
- food products	57.7	71.8	65.4	61.3	56.9	44.0
- non-food products	31.0	21.7	25.8	28.3	31.6	40.5
- total services	11.3	6.5	8.9	10.4	11.5	15,5
out of which for:						
- health care	0.7	0.2	0.4	0.5	0.7	1,2

Since the weight of food expenditures could be considered an absolute poverty index and that index is directly correlated with the average consumption expenditures per adult equivalent, it comes out that the latter index could represent a criterion for dividing social groups in poverty studies.

It's obvious that the identification of the social groups differently exposed to poverty and social exclusion risks has also a territorial component. The chances are far to be equal on the entire national territory, due to several reasons (pedoclimatic conditions, soil and subsoil resources, economic and socio-cultural development level, etc.). The identification of such social groups needs a deep processing of HIS results at territorial level, together with testing the validity of estimations which are possible to obtain at the level of certain macro-regions.

CHAPTER 3

Poverty in Romania

The conceptual and methodological framework has been outlined in the previous chapters and the data sources available for implementing different poverty analysis methods have been presented, showing their performances and limits. The available data and the methods which have been mentioned make it possible to formulate some preliminary poverty assessments in Romania. Why preliminary? Because the objective of these assessments is to select those poverty analysis methods which correspond best to the specific conditions of our country.

In order to interpret as correct as possible the results of implementing different methods, it is necessary to take into account the trends having occurred in the evolution of the Romanian society and of the national economy over the 90's, trends reflected by several indexes. That's why the presentation of the results of implementing different poverty assessment methods is preceded by a presentation of the general context of macroeconomic evolution and the dynamic of certain significant demographic indexes. On the one hand, the present standard of living could be explained taking into account these trends. On the other hand, the evolution of indexes could confirm or invalidate the results of implementing different preliminary poverty assessment methods.

3.1. General Context

3.1.1. Before the Revolution

Since the early 80's, it has become clear that the Romanian society has been entering a structural crisis whose evolution was irreversible in a centralised administratively-managed economy. After a period of slowing-down of growth in that decade, especially reflected by the diminution of industrial production, the Romanian economy entered a pronounced decline. Formal data show that the GDP has started to decrease gradually since 1987 and in only two years the decrease was 6.4%. The reimbursement of the foreign debt, main objective of the government of that time, was achieved mainly by diminishing consumption, especially imported products but also from the domestic production. A quasi-total elimination of some raw materials, new equipment and spare part imports isolated Romania from other countries with modern technologies. If we also add that the standard of living permanently decreased during the 80's, demonstrated by the increase of weight of food consumption expenditures, one could draw the conclusion that the present poverty has its main origin in the crisis of long duration which the central-planned economy faced especially in the last decade preceding the December 1989 revolution.

3.1.2. Macroeconomic Developments

The first years of transition have been marked by new difficulties. The loss of traditional markets and the transition to a competition - based system have been the main features of the evolution over that period. In addition, since this kind of transition was absolutely new in the world, many of the measures adopted have had opposite effects than the expected ones, contributing this way to strengthening the economic decline. The 1990 enterprise decapitalization was followed by negative interest rates in the banking system between 1991-1992. Since the industry was mainly state-owned, this measure doesn't lead, as one would have expected, to economic relaunching by way of enterprise capitalization. The credits have mainly been used to pay wages, increased artificially due to social tensions, reinforcing this way the inflation pressure. The effects have been felt on many levels: postponing growth stabilization and relaunching, bank decapitalization and virtual devaluation of the population's savings have probably been the most visible ones.

Table 3.1. Evolution of the main macroeconomic indexes

	1989 = 100						
	1990	1991	1992	1993	1994	1995	1996
GDP	94.2	82.2	75.0	71.1	79.1	84.7	88.2
Industrial output	76.3	58.9	46.0	46.6	48.1	52.6	57.4
Agricultural production	97.1	97.9	84.9	93.5	93.7	97.9	99.7

The industrial output as the main GDP source, has recorded a dramatic decline during the first years of transition, reaching a minimum level in 1992 (46.0% as to 1989). The end of the decline in 1993 and the ascending trend over the following years, while maintaining the preponderance of State ownership and in the absence of basic restructuring, could be seen as results of the recovery of the central - managed economic system rather than signs of surpassing the crisis period. That's why the standard of living continued to decrease over those same years. The data regarding the real income evolution suggest a continue deterioration of the standard of living in 1993 and 1994 and a slight relaxation in 1995.

The agricultural production has recorded a relatively constant evolution. Excepting 1992, when the climatic conditions were unfavourable, the agricultural production varied between 93.5% and 99.7% as to 1989.

The rapid decrease of economic performances along with the 1990 general increase of income has caused the coming out new phenomenon for the Romanian economy: unemployment and inflation.

The number of **unemployed**¹ increased from 337.4 thou. at the end of 1991 to 1,224 thou. at the end of 1994, when the unemployment rate reached 10.9% (Table 3.2.).

Inflation sky rocketed in November 1990, which coincided with the first stage of price liberalisation, not only represented an expression of the price adjustments on a natural basis, but also the cumulative effects of other destabilizing factors:

- the hidden inflation gradually accumulated up to 1989;
- the dramatic decrease of production, which should have inevitably been reflected in real wage decrease, through a more rapid increase of prices than of income;
- the artificial wage increases as a consequence of socio-political pressures, and not related to increases in output.

The evolution of unemployment and inflation, both during the pronounced economic decline and especially after 1993, confirms once again that the crisis period is far from being surpassed. Normally, in an economy where the period of a low aggregate demand is prolonged there is the trend to diminish the inflation rate. But there has been a negative correlation of the inflation rate with the unemployment rate (Phillips Curve).

Table 3.2. Inflation and unemployment evolution

	- % -						
	1990	1991	1992	1993	1994	1995	1996
Inflation rate	5.1	170.2	210.4	256.1	136.7	32.3	38.8
Unemployment rate (as of 31 December)	-	3.0	8.2	10.4	10.9	9.5	6.3

The economic decline from the first years of transition has been reflected in a rapid deterioration of living conditions due to the changes occurred in three sets of variables, namely: income level and distribution, expenditure level and structure as well as the types of transfers made by the State through the social protection system.

3.1.3. Population Income and Expenditures

After a spectacular increase in 1990, the real household income has substantially decreased during the following years (Table 3.3.).

Wages have the highest share in household income. The erosion of wage income, pensions and other social protection benefits occurred as a consequence of inflation caused the intervention of certain mechanisms which compensated, to a certain extent, the negative impact on family income: increase of the share of other income earning activities and a substantial increase of consumption from the households own resources. Although the income earned from ownership, profit

¹ The number of unemployed registered with the Employment Offices.

and other self-employment activities have rapidly increased over the last year, their share in total income has been relatively low, so that this increase hasn't been able to counterbalance the substantial fall of real wages and pensions.

Table 3.3. Level and structure of household real income

	1989	1990	1991	1992	1993	1994	1995	1996
1) Monthly total income by household, in prices for 1989 % from the total:	5270	6531	5739	4759	4082	3968	4154	4356
a) Cash income	86.2	81.9	81.1	81.1	78.3	79.8	72.1	68.9
- wages	62.8	57.1	61.3	60.8	56.6	58.3	43.8	41.7
- social protection benefits	11.7	10.7	7.9	7.5	7.0	7.5	15.9	15.6
- other income	11.7	14.2	12.1	12.8	14.7	14.0	12.4	11.6
b) Consumption value from self-production	13.5	17.9	18.6	18.7	21.5	20.0	27.6	30.7
c) Value of benefits granted free of charge or with discount	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4

Source: Family budgets between 1989-1996
HIS for 1995-1996

The real income diminution between 1991-1996 and the continue increase in prices have entailed changes in expenditure structure, especially the increase in food expenditures share. After decreasing from 54.7% to 53.1% in 1990 as to 1989, the data show a rapid increase of this share since 1991, reaching 57.5% in 1996.

Since the family budgets data (FBS) and household income (HIS) cannot be compared (see Section 2.2.1.), a precise assessment of the changes occurred in 1995 as to 1994 is not possible, but the evaluation over the last two years does not show substantial changes in consumption expenditure structure.

Income distribution is an important explanatory factor for the deterioration of living conditions. It was expected that the transition to the market economy would lead to income disparities. Several factors have influenced this trend:

- a higher disparity in wages;
- increase of the share of self-employment and property income in total revenues, which present, in general, a more unequal distribution than the other types of revenues;
- the transfers made through social protection mechanisms tend to have the opposite consequence, being oriented towards income redistribution for disfavoured categories. Therefore, these transfers tend to increase income uniformity. But this source has a relatively low weight in household income.

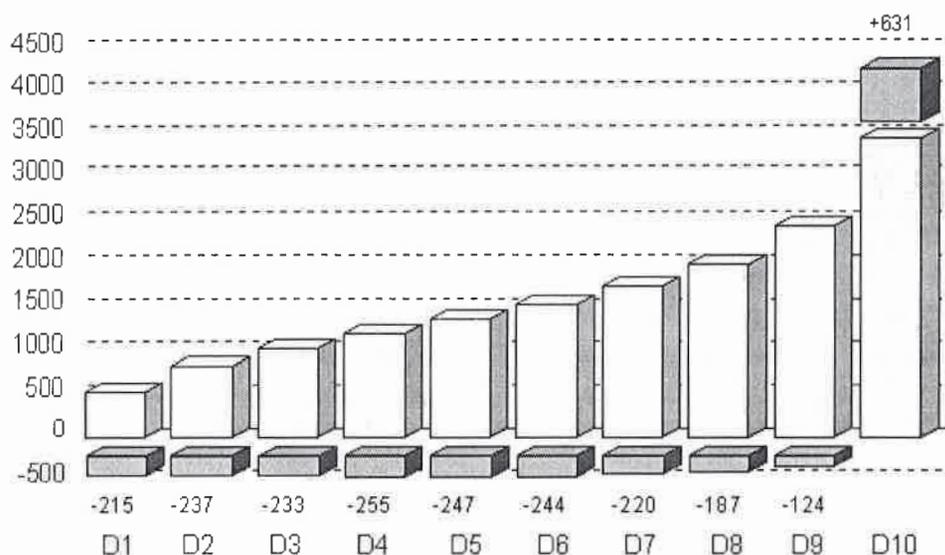


Diagram 3.1. Real income/one person (in prices for 1989), by decile, in 1989 and 1996. The black sides represent the differences between 1996 and 1989.

Diagram 3.1. shows that a general diminution of income has occurred during the period analysed; an increase was registered only for the richest families, situated in the 10% highest. This shows that the general decline of income was accompanied by further disparities in their distribution, including further deteriorations of low income categories.

The income decrease in absolute volume is slightly lower for the families situated in the first 30% lowest than for the following 30%. This can be partly explained by the effect of social protection measures but also by the extreme situation these families find themselves. The substantial diminution of income has stimulated this category, more than the other ones, to find compensatory activities and especially to increase the consumption from their own resources.

3.1.4. Demographic Trends Influenced by Standard of Living Degradation

Income diminution does not automatically and proportionally entail standard of living degradation. This could be counterbalanced, to a certain extent, by mobilizing individual and collective capacities to improve the efficiency of utilising the available resources, and to identify alternative resources. The individual and collective reaction capacity to a crisis situation could be indirectly estimated, taking into account the effects of economic crisis on certain fundamental aspects of life quality (life duration, family set up, health status, nutrition) and also the degradation effects of certain fundamental indicators of individual and collective welfare: education, culture, criminality, insecurity.

It's obvious that the abrogation in early 1990 of the legislation in favour of giving birth will lead to a **rapid decrease of the birth rate**. It has been reducing year after year, 34.4% lower in 1996 than in 1989, reaching 10.2 live birth/1,000 inhabitants in 1996 as compared to 16.0 in 1989.

This fall is more striking if we take into account the fact that between 1989-1995 the share of women having the most fertile age (20-29 years old) has been increasing due to the demographic wave from 1967 and the following years. The data clearly show the existence of an economic effect which tended to coincide with abortion liberalisation: economic insecurity and standard of living degradation have contributed to the diminution of marriages, and to a rapid diminution of the birth rate.

A brief analysis according to the rank of the new-born child between 1989-1996 reveals that the number of the first born children decreased only with 8% (as compared with a 37.4% decrease of total births). Thus there were fewer cases of renouncing the first child or postponing his/her birth, while many more couples renounced second born and subsequent children, reflecting an option of the couple for small families.

If the fertility has substantially decreased, **marriage and divorce** rates are demographic phenomenon which, somehow surprisingly, haven't suffered major changes since 1989.

The **marriage** phenomenon has been positively influenced in the last years by the dimension, gender and age structure of the population aged between 20-30 years old, which account for 80% of the marriages which have been contracted. The slight diminution of the number of marriages, although not very significant from a demographic point of view, reflect socio-economic insecurity. The boom of the unemployment rate among young persons has increased the economic insecurity, negatively influencing the decision of youngsters to set up a family. In addition, the deepening of houses crises affected especially young people.

As regards **divorce**, this phenomenon has been stable to a level which could be appreciated as moderate: some 35 thou. divorces each year, representing some 20 divorces/100 marriages and 1.5 divorces/1,000 inhabitants, respectively. Although divorce formalities have been simplified substantially over the last years, it seems that this fact hasn't had a major impact on the evolution of this phenomenon.

Such a dynamic could be anticipated. Economic crisis often has a negative impact on the setting up and stability of families, generating both economic and emotional problems: low self esteem, alcoholism, interpersonal conflicts and violence. It seems that the reverse reaction is predominant in Romania, namely the protection reaction. Family cohesion generates a support for the difficult effort to face the difficulties. At the same time, the family represents a form of

consumption which is more efficient than in case of individuals. From this point of view, the increase of family stability is a healthy reaction of the collectivity.

Population mortality is the most complex demographic phenomenon as regards the short and medium term evolutions, the internal mechanisms which determine its level including all the factors influencing the quality of life reflected with a particular inertia materialized in a certain difference of time as compared to the moment of changes in socio-economic factors. This explains the evolution of the phenomenon after 1989.

The increase which can be seen since 1991 refers to adults and elderly, the mortality by age groups showing a substantial increase of mortality to these ages that is not a consequence of the population's age structure.

Analysing the causes of mortality one can see, especially regarding adult males (20-59 years old), that deaths have been provoked by heart and circulatory system diseases, while heart diseases prevailed among the elderly. This leads to the conclusion that the continuing degradation of the standard of living, which affected the whole population but was felt especially by the elderly, was accompanied by stress, job uncertainty, and depression caused by job interruptions, factors which have affected especially the adult males.

The excessive mortality, which is not due to population increase or ageing, could be directly connected with the degradation of socio-economic conditions which accompanied the transition period.

Taking into account the different factors which originate mortality and health status, the traditional risk factors have lost more and more their significance, while new factors, strongly connected with the transition period, have become decisive. Stress is more and more recognised as a main factor, with a direct or indirect influence in increasing the number of deceased caused by heart disease, ulcer, cirrhosis, alcohol psychosis, suicides, accidents and murders. It seems that stress increases when the individual has to react to a new, unexpected, situation and he doesn't know the appropriate methods, solutions and behaviour to face it. The mortality increase caused by stress was influenced by several factors with an ascending evolution during the transition period, such as:

- family instability and conflicts;
- internal and external migration has substantially increased, in most cases in very unfavourable conditions, being necessary to redefine the survival strategy;
- emotional difficulties such as rage, depression and increased individual insecurity;
- decrease of real income;
- job insecurity and unemployment threat, low wages, delay in wage payments, hyper inflation, price instability, social disparities, etc. These phenomenon, through their incidence, are producing a substantial stress to a population used to live in stable conditions, with a certain welfare base, in a relatively equitable society.

As a consequence of natality decrease and mortality increase, **the number of population decreased since 1990**, in the context of a negative balance of external migration, accompanied by a rapidly decreasing natural growth. It's sure that maintaining the present socio-economic context will lead to a further deterioration of the demographic situation, while an eventual economic and social recovery, by creating a new reproductive option-based model of young couples, does not imply a demographic recovery. The solution for coming back to a positive natural growth is rather the mortality decrease, which has substantial possibilities.

From the analyses of the demographic developments could be drawn a series of more general conclusions:

- all analyses show demographic developments with negative effects for short, medium and long term, to which a special attention should be paid;

- an absolute decline of population, as far as is produced by a birth rate decrease, leads to population ageing and to the deterioration of **old/active population dependency rate**;

- the alteration of gender ratio within reproductive age groups, determined by a higher mortality and emigration of males, makes the setting up of new families more difficult; in addition, there is the decreasing trend of marriages due to economic difficulties and uncertainties;

- the substantial decrease of birth rate generates an increase of the share of families with one child. Relationships with other children are thus reduced which, added to a lower participation in pre-school education, might signify substantial deficiencies in society integration;

- the increase of number of children born by very young or single mothers is causing the increase of number of children exposed to the risk to be abandoned, placed in institutions or to be raised in poverty;

- emigration could lead to an important flight of human capital and intellectual resources from the country.

3.2. Preliminary Outcomes of Poverty Measurement

The preliminary nature of these outcomes is also generated by their limited scope. In this document, efforts have mainly been oriented towards the determination of the poverty line by way of different methods in order to provide the decision-making information elements in selecting the most appropriate methods for Romania. The intention is not that of a proper study on poverty which would support the working out of the policies for fighting against poverty.

3.2.1. Absolute Poverty Incidence

Most approaches to poverty in Romania are based upon the absolute poverty concept. Furthermore, these approaches have generated the greater part of the controversies in the national literature in this field. The causes of the controversies come from a comparison of the results of two different methods.

The first one is the method **promoted by the World Bank experts**, whose results are presented below. It is based on a food basket (Annex 3.1.), taking into account the consumption structure of the Romanian population as presented in the HIS. Consequently, the method is adopted to the specific conditions of our country. For instance, the method itself is based on the fact that population's behaviour is known. Such methods take into account the consumption patterns and the flexibility of expenditure and consumption depending on income.

According to the data presented in Table 3.4. and detailed in Annex 3.2., almost 25.4% of the Romanian population were situated below the upper poverty line¹ and 19.6% below the lower² line in 1996.

Table 3.4. Absolute poverty rate according to the World Bank method

- % -

	Year	Poverty rate for:			
		lower line		upper line	
		households	persons	households	persons
Total sample	1995	13.9	19.4	18.4	25.0
	1996	13.9	19.6	18.4	25.4
Urban	1995	10.3	14.6	14.3	19.5
	1996	11.7	16.1	15.7	21.3
Rural	1995	17.4	24.1	22.4	30.3
	1996	16.0	22.7	20.9	29.1

According to the results of this method, the standard of living has deteriorated as compared with the previous year, both for total population and for urban population. In turn, the rural population's standard of living has been improved. Anyway, the rural population's poverty rate is much higher than the urban population's poverty rate.

The results of certain social groups are relatively stable in time. There are not substantial differences between the two consecutive years as regards the situation of each social group as compared to the standard represented by the general status of the statistical population. For instance, the households with unemployed maintain their nature as the most exposed to poverty risk and social exclusion. Similarly, the relation between the family size and the risk to be situated below the poverty line has a reverse correlation.

If a survey procedure in independent monthly stages is used for HIS, the stability in time of the outcomes of this method is significant. This means that the combined World Bank method and HIS survey method are controlled for systematic errors, which is a very important fact.

¹ The households situated below the upper poverty line have a food expenditure level equal to the value of the food basket.

² The households situated below the lower poverty line have a food expenditure level equal or lower than the value of the food basket.

Of course, the validity of this method in Romania's case is questionable since it was conceived for developing countries and successfully implemented in these countries. In our opinion, as long as the income of households are mainly destined (almost 58%) to satisfy food needs, the implementation of this method will be justified. But it doesn't mean that the results shouldn't be compared with the results of other methods. For example, according to certain similar calculations made on the basis of the experimental HIS data for 9 months of 1994, 22% of Romanian population were situated below the poverty line /43/. The HIS data analysed in the method show that the share of expenditures for the food basket increased or were maintained to a high level in 1995 and 1996, reflecting a dynamic anticipating the results of this method.

Another example confirms the validity of the method. As per Diagram 3.2., the correlation between the share of households, situated below the upper poverty line and the number of family members is almost similar with the correlation between household size and the share of households situated in the first quintile established taking into account the average consumption expenditures/adult equivalent.

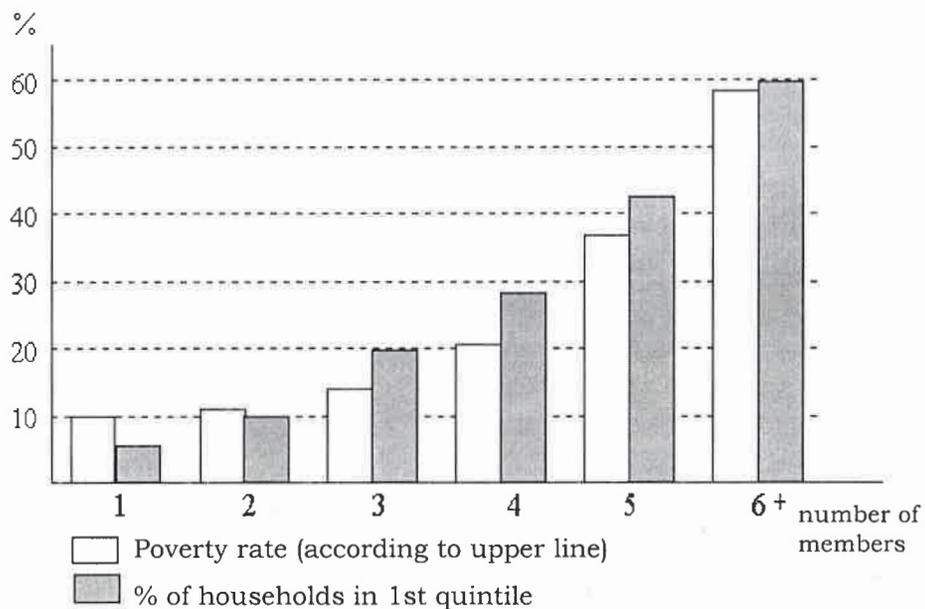


Diagram 3.2. The relation between poverty rate and the share of households from quintile 1, by categories, depending on household size

It has to be specified that **the World Bank method** is based upon a model which includes as independent variables the household size and the number of children, without taking into consideration a specific scale of equivalence. On the contrary, the distribution of households by quintiles has been made depending on the average consumption expenditures/adult equivalent calculated by utilizing the NCS scale of equivalence, based upon the caloric need.

Also, the manner in which the food basket was estimated, as a starting point for the implementation of this method, **does not significantly influence the results**. For example, in the World Bank Report on Poverty in Romania /43/, the share of the persons situated below the poverty line does not significantly differ from the one calculated for 1996. Also, for 1996 the basket was estimated on the basis of the food consumption of the first 30% of the households which have the lowest food consumption. At the same time, the results of the calculations from the first World Bank Report are based upon a basket which resulted from the consumption structure of the first 40% of the households.

The second method is **the normative method** implemented by the RIQL. Following the implementation of the method on the 1995 HIS data, one can see that the absolute poverty rate ranges between 26.4% and 28.7% from the total number of persons covered by the sample. This variation comes from the implementation of poverty lines for different indexes of welfare.

Table 3.5. Poverty rate according to the RIQL normative method (1995)

- % -

Variables used	Poverty rate for:			
	subsistence line		decent line	
	households	persons	households	persons
Total income (without taxes)				
- including loans, amounts withdrawn from the Savings House and banks	20.6	26.4	42.0	48.9
- excluding loans, amounts withdrawn from the Savings House and banks	22.1	28.2	44.0	51.1
Total expenditures (without taxes)				
- including lease, deposits and loan reimbursements	21.5	27.3	43.4	50.0
- excluding lease, deposits and loan reimbursements	22.7	28.7	45.4	52.2

The differences between this method and the other methods, presented in this paper, are highlighted only in a certain extent only by comparing the poverty rates. It should be emphasized that, despite the relative closeness of the highest and the lowest poverty rates in Romania (for 1995), the implementation of the normative method generally leads to a higher rate of poor people as compared to the other methods, which naturally arises from the type of approach which is adopted.

It should be specified that out of the two lines used, the **subsistence line represents a more appropriate measure for a compared analysis of the outcomes of different methods. The usefulness of the decency line is meant to identify those population groups who are situated over the subsistence line but are however exposed to a relatively high risk to fall below it due to the lack of resources necessary for a propulsion towards a decent standard of living.** From the perspective of social policy measures, these groups should represent a target for long-term social policy strategies.

Since the main purpose of this paper is to identify some poverty measurement methods as appropriate as possible for Romania's situation, several aspects relating to the implementation of all the methods presented should be clarified. These aspects refer to a higher incidence of poverty in rural areas and in certain specific types of households, such-us:

- households with unemployed;
- households with self-employed in non-agricultural activities;
- households with peasants;
- households with many members.

All methods highlight these aspects, despite sometimes significant quantitative differences.

Table 3.6. Absolute poverty rate according to the RIQL normative method by residential areas (1995).

- % -

Variables utilised	Poverty * rate for:			
	subsistence line		decent line	
	Urban	Rural	Urban	Rural
Total incomes (without taxes)				
- including loans, amounts withdrawn from the Savings House and banks	18.6	24.4	40.9	45.8
- excluding loans, amounts withdrawn from the Savings House and banks	20.6	23.6	42.6	45.4
Total expenditures (without taxes)				
- including lease, deposits and loan reimbursements	18.5	22.6	39.9	44.1
- excluding lease, deposits and loan reimbursements	20.2	25.2	43.7	47.1

* Calculated for households

3.2.2. Relative Poverty Incidence

The outcomes of implementing the methods specific to relative poverty concepts are significantly influenced by the scale of equivalence utilised. We shall come back later to that aspect. For the time being, it's useful to compare the outcomes of the method taking into consideration the poverty line as 60% of average consumption expenditures/adult equivalent, using the NCS scale of equivalence with the outcomes of the World Bank method.

The data presented in Table 3.7. show that the shares of poor people did not change substantially from 1995 to 1996 either for the whole sample or urban/rural breakdown. Therefore, the results are compatible. The improvement of the standard of living in rural areas is more obvious. Most notably, the trend of deterioration in time of the standard of living for total population and for the urban population is not confirmed. This is contrary to the trend which is derived from the caloric method.

Table 3.7. Relative poverty rate, for total sample and for areas

- % -

	Year	Relative poverty rate*	
		households	persons
Total households analysed	1995	17.7	25.2
	1996	16.3	23.4
Urban	1995	13.5	19.3
	1996	13.2	18.6
Rural	1995	21.8	30.9
	1996	19.1	27.7

* The poverty line represents 60% from the average consumption expenditures/adult equivalent, NCS scale.

However, it is very important that two completely different conceptual approaches lead to so close results. Of course, both approaches take into account, explicitly or implicitly, the caloric or monetary food consumption.

The differences between the outputs of OECD scale of equivalence, on the one hand, and of NCS scale and of the World Bank method, on the other hand, are significant (Diagram 3.3.). The Modified OECD scale implementation fundamentally changes the hierarchical poverty risk order of certain social groups, a hierarchy set out by the other two methods¹.

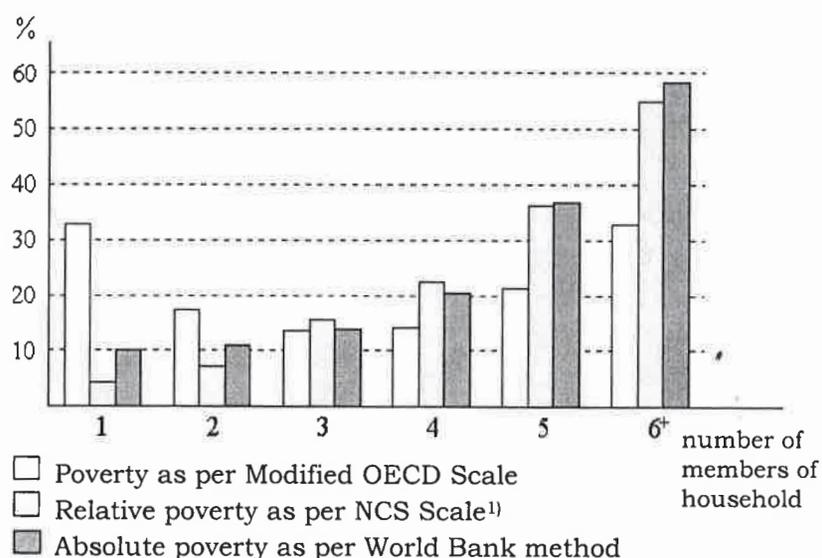


Diagram 3.3. Comparisons of poverty rates resulting from utilising three different methods

An explanation would be that the modified OECD scale is designed by relating all household members to the head of household and the head has the coefficient 1. On the other hand, the NCS scale gives coefficients to each member,

¹ In Annex 3.5. are also presented the results utilising other relative poverty rates (40 and 50% of the average consumption expenditures per adult equivalent, respectively) with modified OECD and NCS scale, as well as per natural person.

depending on the caloric needs differentiated by age groups and gender. At the same time, as previously mentioned, the model implemented in case of the World Bank method utilizes as independent variables the household size and the number of children. There is a certain compatibility between the caloric method outcomes and the implementation of the Romanian NCS scale of equivalence in order to measure the relative poverty by categories which are established depending on the socio-occupational status of the head of household (Diagram 3.4.).

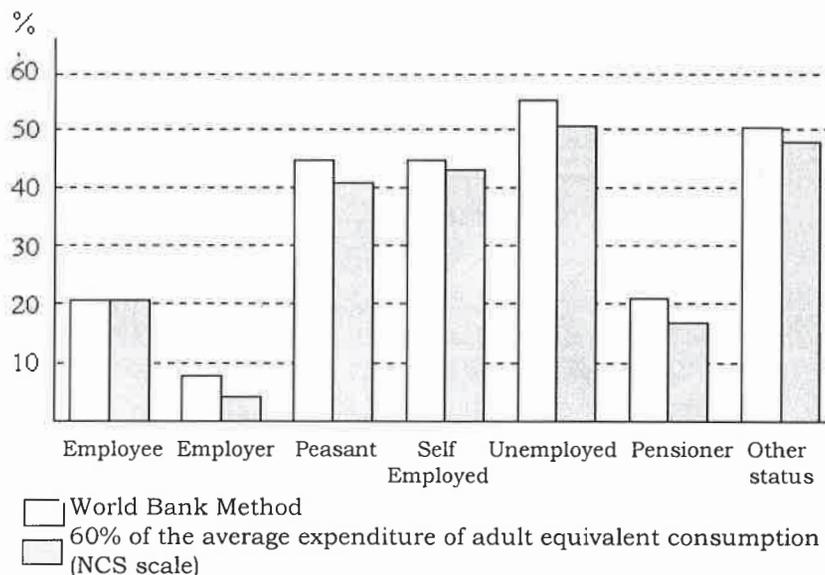


Diagram 3.4 Poverty rate depending on the occupational status of the head of household

In general, the hierarchies according to the World Bank method are similar with the relative poverty concept implemented by utilising the NCS scale of equivalence. The Modified OECD scale of equivalence significantly changes these hierarchies.

The compatibility between the two methods - World Bank absolute method and the relative method based on the NCS scale of equivalence - could represent an important argument in the process of selecting the methods for a thorough research of poverty in Romania. The absolute method is adapted to consumption expenditure structure of the Romanian population and, consequently, may provide information elements essential for working out policies for fighting against poverty. The implementation of the relative method and of the NCS scale of equivalence has similar results. In addition, the relative approach has the same conceptual basis as the standard method used in EU countries.

The implementation of the Modified OECD scale would lead to a poverty line of more than 119 thou. lei for 1996, with almost 24.1% higher than the poverty line according with the NCS scale (Annex 3.5.).

3.2.3. The Level of Multidimensional Synthetic Indexes of Poverty

The significance of the outcomes of implementing the multidimensional model for poverty research differs with the traditional methods since it represents an assessment of the poor population characteristics in the total population, and is not a poverty rate meant to clearly divide the poor and non-poor people. The multidimensional global index actually represents a generalisation of poverty rate, represented by the degree of each individual membership to poor population which is 0 (not at all poor) or 1 (total poor). According to the TFR method, the poor population being an diffuse population the global index could also be interpreted as a diffuse percentage. Therefore, a comparison between the conclusions regarding the scope of poverty following the implementation of TFR method with the conclusions of other methods is justified. In this case, if one considers that 100 is the total poverty of the whole population, then a index value of 27.9 (Table 3.8.) doesn't mean that 27.9% of the total population are poor but the degree of global poverty in all the population reaches 27.9 from the maximum value. The values of indexes at group of variables level have the same meaning.

Table 3.8. Poverty multidimensional synthetic indexes

	Year	Grade of poverty characteristics of the population		
		Total sample	Urban	Rural
Natural person (per capita)	1995	27.9	17.5	38.4
	1996	27.0	17.8	35.4
Adult equivalent according to the: - NCS scale	1995	27.9	17.5	38.3
	1996	27.0	17.9	35.3
- Modified OECD scale	1995	27.7	17.9	38.2
	1996	26.6	17.4	35.1

The outcomes of the multidimensional model and those of traditional methods have substantial gaps at the level of certain social groups. Thus, if the share of poor population is almost 50% higher in rural areas than in urban areas according to the World Bank method or to the relative method, the poverty index is double in rural areas according to the multidimensional method. The explanation of these gaps is just the fact that in this last method a series of welfare and/or poverty features are introduced which have a different importance in the two areas (for example: running water supply in public network, existence of hot water installation and telephone lines, etc.).

According to the multidimensional indexes of poverty there are also important differences between household categories depending on the number of their members (Annex 3.6. and Annex 3.7.). On the other hand, regarding the total consumption expenditures (expenditures also used in poverty measurement

through the relative method) and other variables, the outcomes do not significantly differ from one method to the other. This is a third argument supporting the implementation of methods based on more objective criteria resulting from the study of population behaviour.

It should be emphasized that the outcomes of the multidimensional method are also very stable in time, meaning that there are no substantial changes in the short term, not just the phenomena with a high inertia degree (as is also poverty). According to these outcomes, one could also draw the conclusion that the standard of living would have been improved in 1996.

The multidimensional model utilisation is also important due to the following reasons:

- it is possible to be mainly used as a **poverty analysis model**, allowing the identification and assessment of the contribution of the main causes generating this scourge. That's why this model is complementary to the other ones in a thorough study on poverty;

- in the short term, only the outcomes of the model can be used starting from those variables (especially monetary) which currently have the same importance for all social groups. Therefore, these outcomes are useful in formulating **short term social protection policies**;

- the very complex problem of fighting against poverty needs to be approached from a wider perspective and for the long term. For example, one can assume that for the next two decades, most variables taken now into account shall approximately have the same importance for all social groups. Therefore, the outcomes of this model, expressed through the **global index**, can be utilised in working out a **long-term strategy** meant to alleviate or even to eliminate the gaps between the residence areas or between different social groups.

CHAPTER 4

Conclusions and Possible Options

The members of the working team, as specialists of the main Romanian institutions which are performing activities in poverty research field and are providing the necessary relevant data, have analysed the outcomes of implementing different methods for poverty measurement. As a consequence of successive analyses, several essential conclusions have been outlined regarding the approach of such a complex issue, such as:

- the reflection of poverty and social exclusion issues in the specialized literature is still disputed and, not in few cases, includes political overtones. However, the identification of models and methods for poverty research is still important, compatible with the present situation of the Romanian society and the national economy as well as the opportunities to make operational the methods at national level;

- the main source of data for poverty research in Romania remains the household integrated survey, involving ample research which provides estimations with an accuracy necessary for the objectives of the research. Since poverty is a complex phenomenon, it's natural to call for other data sources, with an exhaustive nature or test survey types. The latter have, at least in the current situation in Romania, a complementary role;

- the outcomes of several methods for poverty measurement, implemented by teams working independently but utilising the same data sources, have the lowest and the highest limits which are relatively close. Thus, despite the use of different methods, the subsistence poverty rates in Romania range between 23% and 33%. Of course, there has been a broader spreading of estimations varying between 20% and almost 80% for different categories of threshold, due to the different approaches, and the heterogeneousness and the reliability of different data sources utilised;

- the significant differences between the outcomes of various models based on the same data sources are generated in part by the scales of equivalence which are utilised. For certain normative approaches as well as for those specific to relative poverty and multidimensional model, the scale of equivalence has to be considered as an integrant part of the respective methods.

Each of the methods utilised has its performances and limits. The poverty measurement methods can be divided in two categories: methods which emphasize the analyses of population behaviour and methods with a stronger normative nature. The first ones have the advantage of an organic integration in the economic-social reality of one country, tying the poverty assessment directly to the situation of the society at a given moment, whether it be a period of growth or a deep crisis. The other ones have the advantage that they avoid the subordination

of options to an undesirable situation of the society, but in Romania has not had a consensus on the assimilation of subjective and objective elements in basket estimation. Therefore, the working team members have agreed upon the following criteria for selecting the methods to be used for poverty measurement in Romania:

- the capacity to reflect the socio-economic situation of Romania during each stage of development;
- the low complexity degree in order to avoid certain difficult calculations which could generate errors;
- the implementation operability;
- the minimization of the perception difficulties by politicians, trade union, employers' associations, media, etc.;
- the agility to adapt the method to different social policy options;
- the capacity to compare the results at the international level and, especially, at the European level.

Taking into consideration these criteria, **the methods specific to relative poverty concept are proposed to be utilised with priority, implementing the NCS scale. The modified OECD scale of equivalence is to be used for international comparisons.** It has been accepted that these methods satisfy the agreed upon criteria. The standard method recommended for EU countries is of this same type, also based on the utilisation of the modified OECD scale of equivalence.

It has been also considered that it's necessary to utilise the multidimensional model in addition to the methods specific to the relative poverty concept. Since the model takes into account a series of essential variables in order to define the quality of life concept, it can be used mainly in poverty research, and the outcomes of its implementation contribute to the explanation of the causes and the development of this complex phenomenon. This way, the limits of the unidimensional methods are compensated.

The option for utilising with priority the above mentioned set of methods does not exclude the implementation of other methods. The priority given is meant to simplify and to make operational the poverty measurement and research activity. The parallel implementation of other methods with a complementary nature could provide information useful for certain social policy components.

ANNEX 1.1.

The Normative Method -RIQL

The definition of the concept adopted: poverty is the lack of resources, tending to become permanent, required for meeting the consumption needs that ensure the "minimum level of health and dignity" (A.L. Bowely).

In the normative methodology adopted by the RIQL, the poverty line is determined on the basis of a basket of food and non-food products and services: what people should consume so as to ensure for each member of the family the health maintenance and the participation to the day by day life/activities of the community he/she lives in. The basket of products and services is determined starting from the consumption norms, issued by experts, that take into account the consumption standard defined both by a healthy nutrition, by country geographic characteristics, by the imperative needs of life in the Romanian society and by the cultural standards of the community.

Those whose total consumption/income is under this threshold are considered as "economically" poor, being at high risk to be the excluded of the present Romanian society.

The poverty line has been calculated as to the household, not as to the person. Expenditure for food, dwelling (including endowment and maintenance), children's upbringing and education are split between all members of the household. The economic resources are handled at household level, by cumulating the individual incomes.

The Food Basket

The food basket includes the quantity and variety of food products that ensure for each member of the family (taking into consideration the age, gender and nutritional habits) the calories - protides, glucides, lipids, minerals and vitamins - needed for maintaining a healthy condition.

In elaborating the food basket one has started from the consumption norms issued by nutritionists¹.

¹ We are talking about experts of the Nutrition Section in the Institute for Public Health and Hygiene, whom we express acknowledgements to.

Table 1. Food consumption need by groups of products

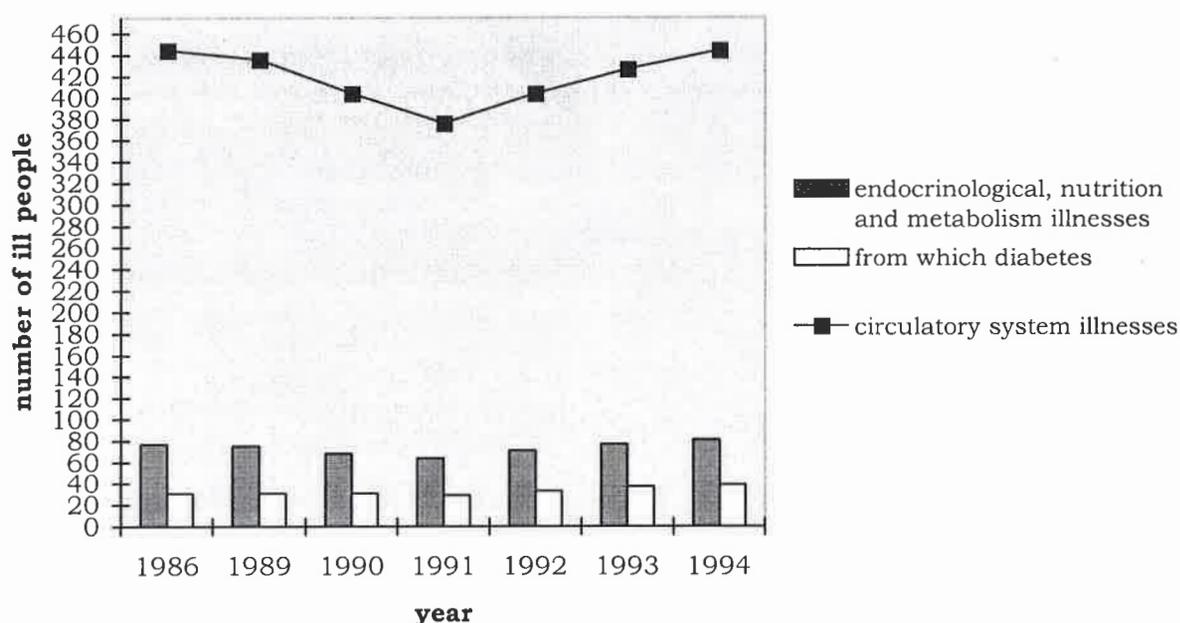
	Children between 4 and 14 years old	Youngster between 14 and 18 years old	Women (20-60 years) average effort	Men (20-60 years) average effort	Women over 60 years old	Men over 60 years old
Number of calories / day / individual	2166.7	2975	2600	3100	2100	2300
			<i>grammes / day / individual</i>			
Milk and milk products (in milk equivalent)	783.3	712.5	475	575	450	500
Meat and meat products (in meat equivalent)	111.7	195	175	200	150	150
Fish and fish products (in meat equivalent)	21.7	32.5	25	30	25	25
Eggs	41.7	50	35	37.5	15	20
Total fats out of which: vegetable	37.3 14	45 20	42.5 20	50 27.5	30 15	37 20
Cereal products (in flour equivalent)	230	382.5	360	495	280	290
Potatoes	170	202.5	170	215	160	180
Vegetables	253.3	332.5	285	330	270	260
Dried leguminous plants	5.7	9.75	8.5	8.5	5	7
Fruit	153.3	185	160	165	140	130
Sugar	43.3	65	65	70	55	60

Note: The values have been calculated as the arithmetic average of the caloric need for children of 4-7 and 7-14 years of age, in order to establish the caloric need for children under 14 years of age; the same for women and men between 20 and 60 years of age, for whom it has been established the average of the food consumption need for age groups 20-45 and 45-60 years old.

One should emphasize that the **methodological option for consumption norms** is justified by the following current aspects in Romania.

- ◆ Statistics show that since 1991 the incidence of various diseases related to an incorrect nutrition has been continuously increasing (the 1995 Statistical Yearbook, NCS).

Institutionalized Ill People According to Different Categories of Illnesses



- ◆ If one refers only to two of the contrasting aspects, the following picture will be seen: 60% of children suffer of anemia, 3 million people are (official registered) as fat.
- ◆ In October 1997, the average wage income was 233.5 times bigger than in October 1990, while in the same reference period prices and tariffs increased-in average-393.5 times. The biggest increase was in the prices of food products. So, as compared to 1990, a kg of pork was worth 125 lei (as to 26 lei); a kg of ordinary salami cost 140 lei (as to 64 lei), a kg of sheep cheese was 63 lei (as to 19 lei), etc. (CNS data).

Anemia, fatness and the above mentioned diseases are effects of an incorrect nutrition, resulting mostly from the lack of economic resources of the population and that from a certain cultural consumption pattern or lack of education.

By consequence, we deem that, in building a food basket, utilizing the average quantities effectively consumed by the population (further more by the group of population disposing of scarce economic resources) would introduce major distortions. From our perspective, the average quantities consumed represent an indicator of the way people nourish themselves given the insufficient economic resources needed for ensuring a healthy nutrition.

As an additional argument, analyses performed by the Institute for Financial and Monetary Research "Victor Slăvescu" highlights that the lack of money is the one that generated, at the level of Romanian population, among other

Methods and Instruments for Poverty Measurement

phenomenon, an increase of the bread and low quality cereals consumption detrimental to meat, fish, fruit and sweet products.

We have made a comparison between normative consumption (average of the annual food need for a representative of each of the 6 categories of population in Table 1) and annual average consumption per inhabitant. (1996 Statistical Yearbook, pg. 194, NCS) for the main categories of food products.

Food category	Normative average consumption (yearly/inhabitant)	Real average consumption (1995/inhabitant)	Percentage of real consumption in normative consumption
Milk and milk products in milk equivalent (excluding butter) - l	180.4	188.6	95.7%
Meat and meat products (in fresh meat equivalent) - kg	59.6	47.8	<u>124.7%</u>
Fish and fish products - kg	9.1	-	-
Eggs - kg (1kg = 20 buc.)	12	9.8	<u>122%</u>
Fats - total (gross weight) - kg	11.9	12.3	97.7%
Cereals (in equivalent flour) - kg	123.9	162.4	<u>77.3%</u>
Dry vegetables - kg	2.7	-	-
Fruit and fruit products (in equivalent fruit) - kg	56.8	45.8	<u>124%</u>
Sugar and sugar products (in equivalent sugar) - kg	21.8	23.5	92.8%

When interpreting the differences between normative and real consumption one has to keep in mind the different weights in population of the 6 categories of age and gender considered.

There are significant differences (the normative consumption represents either over 120% or under 80% of the real consumption of the population) just for the following food categories:

1. Meat and meat products;
2. Fruit and fruit products;
3. Eggs and
4. Cereal products.

This situation is in line with the conclusions of the above study - for lack of money, people reduce consumption of more expensive products and ensure the caloric need by increasing the consumption of cheaper products.

Methods and Instruments for Poverty Measurement

To make sure this option is not determined by nutritional habits, but by the lack of resources, we compared the normative consumption with the average real consumption for 1990 (until October that year the 1989 fixed prices remained the same). We obtain:

Food category	Normative average consumption (yearly/inhabitant)	Real average consumption (1995/inhabitant)	Percentage of real consumption in normative consumption
Meat and meat products (in fresh meat equivalent) - kg	59.6	61	<u>97.7%</u>
Eggs - kg (1kg = 20 buc.)	12	12.3	<u>97.5%</u>
Cereals (in equivalent flour) - kg	123.9	158.5	<u>78%</u>
Fruit and fruit products (in equivalent fruit) - kg	56.8	59.9	<u>95.5%</u>

The consumption cereals is higher than the normative one - either the excessive consumption of those products is a nutritional habit of the population in Romania, or the products included in that category represent relatively cheap products as compared to the others, being characterized by a slower increase of prices or subsidized by the State.

Unlike the cereal products, the real consumption in all of the other categories of food products is obviously influenced by the population's income level and the prices of products. *The average quantities consumed by the population in 1995 do not describe the population's consumption standard (what would people consume provided they could afford to) but a pattern imposed by the economic resources of the households (what people afford to consume).*

As a result, the food basket has known the following stages in its putting together process:

STAGE 1. We have selected two types of households to allow both the elaboration of the basket of food and services and of the scale of equivalence.

In this respect, we've considered:

- ◆ **the household consisting of 4 persons**, namely 2 active adults (man and woman) and 2 children (one of them over 14 and the second one between 4 and 14 years old), that offer a good coverage of the categories considered by the food consumption normative: it reflects the consumption need both for the active adults (man/woman) and for the teenager/child (boy/girl). Actually, the 1992 census data point out that the 4-person type of household, out of whom 2 active is well represented

at the level of the population in Romania (663,393 households, out of which 206,199 are located in the urban area). More numerous than this kind of household are only the 2 or 3 person type ones, out of whom 2 active, but the latter cover no more than 3 categories of gender/age.

From the 1995 HIS data we have selected the above mentioned type of household. This lot of households includes 751 cases (out of which 72.8 % are located in the urban area).

The lot includes households from all counties of the country plus the capital - city of Bucharest.

The 751 cases of the 1995 HIS (100%) get divided by sub-samples as follows.

January	8.5%	April	7.3%	July	7.2%	October	8.8%
February	7.6%	May	8.7%	August	7.3%	November	8.5%
March	9.1%	June	8%	September	8.1%	December	10.5%

- ◆ **the 2-person household**, consisting of a couple aged over 60. This second type of household reflects the consumption need for the last two categories of population considered - woman/man over 60.

From the 1995 HIS data we have selected this type of household. The lot of households obtained this way includes 3,354 cases (out of which 34.1% are in the urban area).

The lot includes households from all counties of the country plus the capital - city of Bucharest.

The 3,354 cases of the 1995 HIS (100%) get divided by sub-samples as follows:

January	8.6%	April	9.2%	July	8.3%	October	8.0%
February	8.6%	May	8.2%	August	8.4%	November	7.9%
March	8.2%	June	7.8%	September	8.3%	December	8.3%

STAGE 2. We have calculated the quantities by groups of food products, according to the previously presented normative. We have considered that the 2 adults in the households represent average national consumption.

For instance, the monthly need for milk and dairy products (in milk equivalent) is the sum of daily quantities necessary to each member of the household considered, multiplied by 365 (number of days in a calendar year) and divided by 12 (number of months in a year).

Methods and Instruments for Poverty Measurement

For example, for the 4-person family (2 adults, one child and a teenager) we have:

	Child aged between 4 and 14 years	Teenager aged between 14 and 18 years	Women (20-60 years) Average	Men (20-60 years) Average
Number of calories	2166.7	2975	2600	3100
Milk and milk products (in equivalent milk)/day	783.3 g	712.5 g	475 g	575 g

The normative quantity monthly needed to the family = $(783.3 + 712.5 + 475 + 575) \times 365/12 = 77,4$ kg milk equivalent.

Table 2. Food consumption need per family

	Family of 2 adults (between 20 and 60 years) and 2 children (1 youngster and 1 child under 14 years)		Family comprising two individuals over 60 years of age	
	grams/day	kg/month	grams/day	kg/month
Milk and milk products (in milk equivalent)	2540	77.4	950	28.9
Meat and meat products (in meat equivalent)	680	20.7	300	9.1
Fish and fish products (in meat equivalent)	100	3	50	1.5
Eggs	164	5	35	1
Total fats	175	5.3	67	2
out of which: vegetable	81.5	2.5	35	1.1
Cereal products (in flour equivalent)	1.467	44.6	570	17.3
Potatoes	758	23.1	340	10.3
Vegetables	1200	36.5	530	16.1
Dried leguminous plants	32.4	1	12	0.4
Fruit	663	20.2	270	8.2
Sugar	243.3	7.4	115	3.5

STAGE 3. The other monthly normative quantities by food categories have been distributed between various products. To achieve this distribution we have observed the **average structure of the real food consumption**.

For instance: the normative quantity of 77.4 l milk-equivalent, needed per month to a 4 people household has been turned into liters/kg milk, various cheese, cream, yogurt or butter using the average weight of the quantity of each product in the total quantity (in milk-equivalent)² effectively consumed by the families in the lot considered. In this manner have been obtained the monthly normative quantities for each product in category of milk and dairy products: 27.06 l of milk (cow, buffalo, cow sheep, goat); 130 g powder milk; 1.55 kg whipped milk or yogurt; 2.53 kg/cow cheese; 2.15 kg sheep cheese; 1.75 kg fresh cheese and cream; 360 g cheddar.

We think that by combining in this way the consumption normative and the real structure of consumption, one gets a basket that meets the theoretical requirements of a healthy nutrition and, at the same time, corresponding to the existing consumption pattern.

The average weights of the products in each group of products have been treated as the existing cultural norm at the level of population; in other words, an indicator of the nutritional habits specific to that kind of household. As shown previously, the average quantities consumed by the population strongly depend on the combination between the economic resources of the household and the prices of food products. Even if the individuals are to reduce the consumed quantity of certain food products, we can expect the structure of that category not to know significant changes. That means that in the absence of resources in a household, they shall consume - in average - less meat and meat products bought for lower prices (ribs and wings instead of sirloin and joint; spleen & lung sausage instead of salami, etc.) but the weight of various products included in this group shall be highly inertial, since it is determined by the household's nutritional habits.

Specification - the utilization of the average consumption structure induces a relative flatness. This means that in terms of the effectively consumed quantities there are statistically significant differences between the families from the two residential areas. For instance, the corn flour consumed, in average per month, by a family in a rural area is of 7.23 kg while a family in urban area consumed just 2.63 kg. As a result, the weight of corn flour in the total group of cereal products is higher in rural than in urban areas. Moreover, there are significant differences between the different historical regions. All of these differences are practically ignored when building the basket.

² We utilised the equivalence coefficients considered by the HIS-NCS methodology.

Table 3. Food basket (kg/month)

Groups of products	Products	Indispensable quantities for a family of:	
		4 persons	2 older persons
Milk and milk products	Cow's milk (3% fat)	27.06	11.27
	Powder milk	0.13	0.05
	Butter milk, yoghurt	1.55	0.58
	Cow cottage cheese	2.53	0.95
	Sheep cottage cheese	2.15	0.71
	Green cheese, sour cream	1.75	0.60
	Pressed cheese	0.36	0.13
	Butter	0.63	0.21
Meat and meat products	Beef	2.28	1.27
	Pork	6.00	2.91
	Mutton	1.03	0.36
	Fowl	5.38	2.37
	Meat product specialities	0.33	0.14
	Salami, sausages	2.98	1.16
	Other meat products	1.478	0.43
Fish and fish products	Fresh and frozen fish	2.55	1.35
	Smoke-dried fish and other fish products	0.12	0.06
	Canned fish	0.33	0.09
Cereal products	Flour	3.00	1.90
	Maize	3.25	1.90
	Bread	47.15	15.81
	Cookies	0.91	0.59
	Pasta	1.58	0.47
	Rice	1.52	0.69
	Semolina, peeled barley	0.45	0.43
Fats	Bacon	0.23	0.1
	Grease	1.65	0.47
	Salad oil	2.2	0.96
	Margarine	0.3	0.14
Sugar	Jam, fruit jelly	2.24	0.53
	Sugar	6.67	2.41
Potatoes	Potatoes	23.1	10.3
Eggs	Eggs (pcs.)	60	20
Dry leguminous plants	Been seeds, green peas, lentil	1.00	0.40
Vegetables	Carrots, parsley, parsnip	2.92	1.45
	Other eatable roots	0.73	0.32
	Tomatoes	3.65	1.61
	Eggplants	1.10	0.48
	Dried onion	4.75	2.09
	Dried garlic	0.37	0.32
	Red and green pepper	1.10	0.48
	Long pod beans	0.73	0.32

Table 3 continued

Groups of products	Products	Indispensable quantities for a family of:	
		4 persons	2 older persons
Fruit	Cabbage, cauliflower	2.92	1.13
	Fresh greengrocery	0.73	0.32
	Other fresh vegetables	2.19	1.13
	Pickles, sauerkraut	5.26	2.06
	Tomato sauce	1.46	0.64
	Melons and water melons	1.82	0.82
	Walnuts	0.46	0.33
	Apples	7.06	3.03
	Pears	1.61	0.25
	Sweet cherries, sour cherries	1.11	0.33
	Apricots, peaches	0.4	0.16
	Grapes	0.9	0.16
	Strawberries, raspberries	0.3	0.33
	Citric fruit and other southern and tropical fruit	2.04	1.48
	Plums		0.16
	Stewed fruit		0.35

STAGE 4. For the basket, in the aforesaid methodology, the quantity of each product is multiplied by its purchasing price.

The food consumption recorded in the HIS does not take into account the quality of food products, so that there is a large dispersion of their purchasing prices. On the other hand, we started from the pre-requisite the households with low material resources will purchase, at least partly, low quality products and, as a result, the purchasing prices associated to these households will be lower. Since we aim at elaborating a minimum threshold, we've selected only the median price existing at the level of the sub-sample. In addition to this, the purchasing price for vegetables and fruit has been considered depending on their season. The value determined in this way represents the amount of money necessary for ensuring a decent nutritional level. For determining the value of the food basket corresponding to the level of subsistence, see page 27.

The basket of non-food products and services.

In setting the products and services within each group mentioned (see page 27) we have had in mind the following:

- ◆ **Expenditure for clothing/shoes** for children have been considered as having a lesser degree of elasticity as to the adults. From the normative perspective, the child represents a social asset, so that the economic resources are primarily oriented towards satisfying, his/her needs. By consequence, the adults expenditure for clothing/shoes have been determined as a percentage of the value of the teenager's expenditure.

For the decent basket we have considered 70% while for the subsistence basket only 40%.

- ◆ For the 4-person households the **repairing services** have not been taken into account, those being looked at performed within the household (except for the shoe repairs, estimated as 1% from the whole amount spent for shoes).
- ◆ In the case of households consisting of 2 persons over 60, the **clothing expenditure** is far less, being considered only the items getting quickly used or with a relatively low usage duration (for instance: shirts or blouses). The **shoe items** required for the members of such a household have been considered as having a longer period of utilization as compared to the teenager's. In exchange, we have increased the expenditure meant for **shoe repairs**, which has been estimated as high as 20% of the shoe purchasing expenditure.
- ◆ The **transportation expenditure**, for the 4-person households include the parents' transportation to and from work. We've considered a school location close to the dwelling, not requiring transportation means. For the two people households has been considered just half of an urban transportation subscription.

For the decent level, an extra return 300 km railway trip per year per person has been taken into account (for treatment, visiting relatives, vocation, etc.). In addition an urban transportation subscription has been included, taking into consideration his/her specific needs (high school, spare time etc.).

- ◆ **The expenditure for the dwelling's maintenance and endowment** have been considered for a 3-room flat (in the case of the 4-person household) and for a single room flat (for the 2-person household), respectively. The endowment of the dwelling with long life goods has included in the calculation those non-food products that meet the minimum comfort needs and allow a normal day-by-day life, with the inherent differences between the two types of households. So, we have had in mind the following kinds of items: 1. domestic textiles; 2. maintenance items; 3. home appliances and electrical products; 4. furniture.

The dwelling maintenance expenditure include payments for subscriptions like: phone line, radio and TV, that - from our perspective - represent the minimum of information and communication necessary to all individuals.

Table 5. Expenditures for house endowment and maintenance

	4 member family		2 member family	
	Level of Subsistence - % -	Decent Level - % -	Level of Subsistence - % -	Decent Level - % -
TOTAL, monthly expenditure Lei - % -	35377	54809	19898	20782
Maintenance and electrical energy	69.3	48.4	87.0	82.0
Domestic use textiles	9.6	14.7	-	3.5
Household goods	3.0	2.7	-	0.8
Electrical wiring and appliances	10.0	11.1	-	-
Furniture	-	17.9	-	-
Radio, TV, telephone subscription	8.1	5.2	13.0	13.7

Percentage are calculated from the total amount.

- ◆ **The expenditure for personal hygiene and health care** do not include expenses for health care services. Only personal hygiene items and drugs have been considered. For a decent living, some personal hygiene services have been considered.
- ◆ **School expenditure** include just minimum expenses for school supplies.
- ◆ **Cultural services** include, for the decent level, participation of each member of the household to a certain number of cultural activities and events as well as an annual subscription to a daily publication. For the subsistence of level, the annual subscription is eliminated and the number of cultural events is reduced.
- ◆ The category of *urgent various needs* has been considered due to the different contingencies of the day-by-day life (medical emergencies, contingencies, etc.). The argument of introducing this category resides in the methodology used in building the normative basket, that takes into consideration only the strictly necessary products and services.

Further on, we present the non-food and services basket for the two types of households and for the two thresholds - the subsistence and the decent one.

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Table 6. Expenditures for non-food products and services

	4 member family (two adults and two children)				2 older person family			
	Level of subsistence		Decent level		Level of subsistence		Decent level	
	Lei/ month	%	Lei/ month	%	Lei/ month	%	Lei/ month	%
Total basket	97297	100	157549	100	41587	100	52433	100
1. Transport expenditures	14608.2	15	22972	14.58	3652	8.78	7834	14.94
2. Cultural services	318.5	0.31	2265	1.44	-	-	1746	3.33
3. Postal and telecommunication services	2851.1	2.93	2851	1.81	2851	6.86	2851	5.44
4. Writing materials expenditures	2244.5	2.31	3102	1.97	-	-	-	-7
5. Drug expenditures	917.1	0.94	917	0.58	2293	5.51	2293	4.37
6. House expenditures	24534	25.21	26534	16.84	17047	40.99	17047	32.5
7. Electrical devices and appliances expenditures	3522.6	3.62	6096	3.84	-	-	1348	2.57
8. Domestic use textiles expenditures	3380.6	3.47	8038	5.10	-	-	728	1.39
9. Individual and house hygiene expenditures	9122	9.38	11273	7.16	4717.44	11.34	4916	9.38
10. Household goods expenditures	1089	1.12	1482	0.94	-	-	156	0.3
11. Clothing	27490.4	28.25	43676	27.72	4562.21	10.97	4655	8.88
12. Footwear	7105	7.3	17217	10.93	2207.85	5.31	2774	5.29
13. Expenditures for wearing apparel repairs	113.7	0.12	229	0.15	231.96	0.56	401	0.77
14. Individual hygiene services	-	-	1088	0.69	-	-	725	1.38
15. Furniture expenditures	-	-	9808	6.23	-	-	-	-
16. Various emergencies	-	-	-	-	4024.66	9.68	4959	9.46

Specifications on the calculation of the non-food and services basket.

The HIS data do not include information on the prices per unit of the various non-food products and services. As a result, for determining them we used the 1994 prices also utilized in the research on "Dimensions of Poverty" performed within the RIQL. Prices have been deflated to the January 1995 level by using partial indexes per groups of products (published in the 1995-1996 Statistical Yearbook).

ANNEX 1.2.

Determination of the RIQL Scale of Equivalence

In order to ensure the possibility to compare welfare measurement between households, two scales of equivalence have been formulated according to the two normative baskets: for the subsistence level and for the decent level, respectively. Since the two baskets reflect the necessary for a family composed of two adults (between 20 and 59 years old) with two children (one - below 14 years and the other one between 14 and 18 years old), the scales of equivalence reflect the equivalence between the first adult of the household (to which has been given the value 1 on scale) and the other household members.

The methodology for formulating the scales of equivalence for this type of households involves two stages:

- the first stage - an estimation of the necessary food consumption cost (prices for January 1995) for each of the household members (calculated on the basis of the information provided by nutritionist experts);

- the second stage - an estimation of the amount related to each member of the family from the non-food basket cost (non-food consumption and services). The calculation of these amounts has been made giving to the head of household a higher weight (up to 80%) in the expenditures for maintenance and payment of different housing services. The rest of the expenditures regarding the non food consumption and services has been divided depending on the relation between the destination of these goods and services and their beneficiaries. For example, the expenditures for school supplies have been totally dedicated to children, while the expenditures for personal hygiene have been divided between the household members depending on the type of the articles taken into consideration.

As regards household usage articles and home appliances they have been mainly dedicated to the two adults of the household.

- Finally, the amounts calculated for food and non-food consumption for each household member have been added and, considering that the first adult has the value 1 on the scale, have been calculated the scale values for each member. This way, two scales of equivalence have been formulated, one for the decent basket and another for the subsistence level-related basket. The two scales formulated for a family with four persons are presented in the following table.

The two scales are relatively similar (for reasons taking into account the structure of the two baskets), leading finally to take into consideration a single scale of equivalence, presented in the last column of the table:

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	Decent	Subsistence	Used scale
First adult (< 60 years) (head of household)	1	1	1
Second adult (<60 years)	0.76	0.72	0.7
First child > 14 years	0.86	0.81	0.8
Second child < 14 years	0.57	0.58	0.6
Total: 4 members	Total: 3.19 adult equivalent	Total: 3.11 adult equivalent	Total: 3.1 adult equivalent

The option for the scale of equivalence utilised, namely to round off the scale of equivalence from the subsistence normative basket is justified since it allows a correct reflection of the number of poor people situated below the subsistence line. Its utilization for calculating the number of those situated below the decent living line has as result the loss of a insignificant number of households, whose incomes/adult equivalent are very close to this line but this drawback is compensated by the utilization of a single scale of equivalence allowing a better comparison.

The next aspect taken into account in formulating the scale of equivalence has referred to the old persons of the households with elderly. The scale values corresponding the old members of the household have been calculated utilising two baskets (decent and subsistence) of goods and services estimated for a household with two persons aged over 60 years old. In order to calculate the amounts in Romanian lei corresponding to the two members of this household it has been utilised the above mentioned method for a household with two adults and two children.

The head of household aged over 60 year old wasn't given any more the value 1 on the scale (namely, the member of the household which was given a higher share of the expenditures for maintenance and housing services), but his scale value has been calculated in reference to the first adult of the household with two adults and two children. This led to a single scale of equivalence which gives a value equal to 0.8 for the head of household aged over 60 years old and 0.6 for the second old person. Therefore, in the households whose head is aged over 60 years old, he will have a scale value of 0.8 and in the households whose head is aged below 60 years old but which have old persons as members, the last ones will have a scale value equal to 0.6 (the value corresponding to the second member of the households with old people).

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	Scale
First adult (< 60 years) (head of household)	1
First adult (> 60 years) (head of household)	0.8
Second / third ... adult (<60 years)	0.7
Second / third ... adult (>60 years)	0.6
Child > 14 years	0.8
Child < 14 years	0.6

The utilisation of a single scale of equivalence for the whole sample reduces the four lines (calculated for two types of households and for the two levels - subsistence and decent) to two lines for adult equivalent. The subsistence line for adult equivalent is of 94,567 lei and the decent living line for adult equivalent is of 129,799 lei.

ANNEX 3.1

Basket of Agricultural and Food Products Used for the Definition of Poverty Line According to World Bank Method

A. 1995

Code	Product title	Average consumption per day per person			Average value per day and per person			Daily average per person adjusted (k=2425:1770.2)			Monthly average per person			
		quantity	number of calories	per unit*)	value	per day	and per person	consumed quantity	caloric consumption	value	Non-adjusted		Adjusted	
											quantity	value	quantity	value
TOTAL			1770.2		1256.54		2424.9	1721.33		38223.9		52363.0		
101	Wheat and rye	Kg	0.0000	0.04	317.22	0.00	0.0000	0.05	0.01	0.0004	0.13	0.0006	0.18	
102	Corn	Kg	0.0001	0.17	301.91	0.02	0.0001	0.23	0.03	0.0020	0.60	0.0027	0.82	
103	Flour	Kg	0.0191	67.55	678.89	12.99	0.0262	92.53	17.80	0.5821	395.17	0.7974	541.34	
104	Maize	Kg	0.0386	135.39	385.04	14.85	0.0528	185.47	20.35	1.1733	451.79	1.6074	618.90	
105	Bread	Kg	0.2542	565.59	615.66	156.50	0.3482	774.80	214.39	7.7327	4760.73	10.5930	6521.74	
106	Other bread products	Kg	0.0012	3.34	1114.01	1.38	0.0017	4.57	1.89	0.0376	41.91	0.0515	57.42	
107	Cookies	Kg	0.0031	13.12	2375.27	7.33	0.0042	17.98	10.05	0.0939	223.08	0.1287	305.60	
108	Panification specialities	Kg	0.0013	4.29	2217.24	2.88	0.0018	5.88	3.95	0.0395	87.66	0.0542	120.09	
109	Pasta	Kg	0.0053	19.77	1816.85	9.63	0.0073	27.09	13.19	0.1613	292.99	0.2209	401.37	
110	Rice	Kg	0.0099	34.68	1318.88	13.03	0.0135	47.51	17.85	0.3006	396.40	0.4117	543.03	
111	Semolina	Kg	0.0025	8.79	908.31	2.26	0.0034	12.04	3.09	0.0755	68.60	0.1035	93.97	
112	Other grist and panif. prod.	Kg	0.0001	0.43	2336.71	0.28	0.0002	0.58	0.39	0.0037	8.58	0.0050	11.75	
113	Seed beans and vegetables	Kg	0.0154	46.76	1392.95	21.49	0.0211	64.05	29.45	0.4694	653.87	0.6431	895.74	
114	Potatoes	Kg	0.0944	68.17	792.02	74.74	0.1293	93.38	102.38	2.8704	2273.44	3.9322	3114.39	
115	Carrots, beet, other roots	Kg	0.0109	4.37	1064.53	11.64	0.0150	5.99	15.94	0.3326	354.01	0.4556	484.96	
116	Other eatable roots	Kg	0.0014	0.41	1019.76	1.44	0.0019	0.56	1.98	0.0431	43.91	0.0590	60.15	
117	Tomatoes	Kg	0.0238	5.78	848.80	20.23	0.0326	7.92	27.71	0.7250	615.40	0.9932	843.04	
118	Eggplants	Kg	0.0052	1.06	759.24	3.97	0.0072	1.45	5.44	0.1590	120.74	0.2179	165.40	
119	Dried onion	Kg	0.0190	8.05	1002.54	19.07	0.0261	11.02	26.12	0.5786	580.07	0.7926	794.64	
120	Dried garlic	Kg	0.0014	1.69	2249.71	3.12	0.0019	2.32	4.27	0.0421	94.77	0.0577	129.82	
121	Red and green pepper	Kg	0.0072	1.65	816.30	5.86	0.0098	2.26	8.03	0.2185	178.38	0.2994	244.37	
122	Long pod beans	Kg	0.0050	1.55	915.91	4.60	0.0069	2.13	6.30	0.1528	139.93	0.2093	191.69	
123	Cabbage and cauliflower	Kg	0.0153	3.86	413.81	6.34	0.0210	5.29	8.68	0.4660	192.84	0.6384	264.17	
124	Fresh greencrocery	Kg	0.0036	1.35	1654.30	6.03	0.0050	1.85	8.25	0.1108	183.29	0.1518	251.08	
125	Other fresh vegetables	Kg	0.0117	3.11	1002.08	11.74	0.0161	4.26	16.09	0.3565	357.20	0.4883	489.33	
126	Pickles and sauerkraut	Kg	0.0216	4.03	1202.94	25.97	0.0296	5.52	35.58	0.6567	789.99	0.8996	1082.21	
127	Tomato sauce	Kg	0.0068	4.94	3213.83	21.88	0.0093	6.76	29.98	0.2071	665.65	0.2837	911.87	
128	Canned vegetables	Kg	0.0033	1.61	2230.32	7.29	0.0045	2.20	9.99	0.0995	221.90	0.1363	303.98	
129	Melons and water melons	Kg	0.0140	1.61	279.80	3.91	0.0192	2.21	5.36	0.4256	119.07	0.5830	163.12	
130	Walnuts	Kg	0.0010	2.47	1651.16	1.61	0.0013	3.39	2.20	0.0296	48.84	0.0405	66.91	
131	Apples	Kg	0.0187	11.00	901.76	16.85	0.0256	15.07	23.08	0.5683	512.44	0.7785	701.99	
132	Pears	Kg	0.0020	1.15	822.02	1.66	0.0028	1.57	2.28	0.0616	50.60	0.0843	69.32	
133	Sweet and sour cherries	Kg	0.0023	1.36	1234.15	2.88	0.0032	1.86	3.94	0.0710	87.58	0.0972	119.98	
134	Apricots, peaches	Kg	0.0012	0.51	1349.68	1.56	0.0016	0.70	2.14	0.0351	47.44	0.0482	64.99	
135	Plums	Kg	0.0015	0.89	747.88	1.08	0.0020	1.22	1.49	0.0441	33.00	0.0604	45.21	
136	Grapes	Kg	0.0038	3.04	800.71	3.05	0.0052	4.16	4.17	0.1157	92.64	0.1585	126.90	
137	Strawberries, raspberries	Kg	0.0005	0.25	1895.47	0.87	0.0006	0.34	1.19	0.0140	26.52	0.0192	36.33	
138	Other fresh fruit	Kg	0.0003	0.16	1342.89	0.37	0.0004	0.23	0.50	0.0083	11.20	0.0114	15.35	
139	Citric and southern fruit	Kg	0.0076	8.57	1994.21	15.19	0.0104	11.74	20.81	0.2317	462.01	0.3174	632.91	
140	Dehydrated fruit	Kg	0.0002	0.48	2492.59	0.40	0.0002	0.65	0.55	0.0049	12.27	0.0067	16.81	
141	Salad oil	l	0.0205	175.00	2126.01	43.48	0.0280	239.73	59.57	0.6222	1322.79	0.8523	1812.10	
142	Margarine	Kg	0.0025	18.88	3272.74	8.07	0.0034	25.86	11.05	0.0750	245.34	0.1027	336.09	
143	Stewed fruit	Kg	0.0016	1.00	2334.03	3.69	0.0022	1.37	5.05	0.0481	112.17	0.0658	153.66	
144	Jam, fruit jelly	Kg	0.0030	6.65	3395.20	10.26	0.0041	9.11	14.06	0.0919	312.17	0.1260	427.64	
145	Fruit syrup	Kg	0.0004	1.19	2295.93	1.01	0.0006	1.63	1.39	0.0134	30.78	0.0184	42.16	

*) Calculated on the basis of January's prices

Code	Product title	quantity	Average consumption per day per person		Average value per day and per person	Daily average per person adjusted (k=2425:1770.2)			Monthly average per person				
			number of calories	value per unit*)		consumed quantity	caloric consumption	value	Non-adjusted		Adjusted		
									quantity	value	quantity	value	
146	Sugar	Kg	0.0200	82.12	1324.44	26.53	0.0274	112.50	36.34	0.6093	806.99	0.8347	1105.49
147	Chocolate	Kg	0.0017	7.68	6621.73	11.07	0.0023	10.52	15.17	0.0509	336.90	0.0697	461.51
148	Turkish delight, khalva	Kg	0.0005	2.12	2433.90	1.26	0.0007	2.90	1.72	0.0157	38.23	0.0215	52.38
149	Other sugar products	Kg	0.0005	2.41	5507.87	3.02	0.0008	3.30	4.14	0.0167	91.95	0.0229	125.97
150	Coffee	Kg	0.0014	0.00	21517.4	29.73	0.0019	0.00	40.73	0.0420	904.48	0.0576	1239.05
151	Cocoa	Kg	0.0003	1.23	7371.21	2.03	0.0004	1.68	2.78	0.0084	61.81	0.0115	84.68
152	Wine	l	0.0215	15.16	1209.03	25.99	0.0294	20.76	35.60	0.6539	790.61	0.8958	1083.06
153	Wine products	l	0.0007	1.00	4640.27	3.18	0.0009	1.37	4.35	0.0208	96.70	0.0285	132.46
154	Beer	l	0.0116	4.54	1178.20	13.71	0.0159	6.22	18.78	0.3540	417.05	0.4849	571.31
155	Plum brandy, other brandies	l	0.0052	7.31	2468.84	12.89	0.0072	10.02	17.66	0.1589	392.27	0.2177	537.37
156	Other alcoholic drinks	l	0.0012	2.45	3272.95	3.82	0.0016	3.36	5.24	0.0355	116.29	0.0487	159.31
157	Non-alcoholic drinks	l	0.0181	10.33	670.88	12.16	0.0248	14.15	16.65	0.5513	369.83	0.7552	506.63
158	Beef	Kg	0.0078	7.99	3891.17	30.28	0.0107	10.95	41.48	0.2367	921.12	0.3243	1261.84
159	Pork	Kg	0.0219	45.12	4339.66	95.23	0.0301	61.81	130.46	0.6676	2897.02	0.9145	3968.63
160	Mutton	Kg	0.0045	7.96	3011.00	13.45	0.0061	10.91	18.42	0.1359	409.07	0.1861	560.38
161	Fowl	Kg	0.0189	24.50	3689.37	69.73	0.0259	33.56	95.53	0.5750	2121.30	0.7877	2905.97
162	Other types of meat	Kg	0.0004	0.35	3531.50	1.46	0.0006	0.49	1.99	0.0125	44.28	0.0172	60.66
163	Meat specialities	Kg	0.0011	3.50	9273.96	10.23	0.0015	4.80	14.01	0.0335	311.11	0.0460	426.19
164	Salami, sausages	Kg	0.0098	34.48	6134.77	60.17	0.0134	47.23	82.43	0.2984	1830.48	0.4087	2507.58
165	Other meat products	Kg	0.0072	15.89	4206.62	30.16	0.0098	21.76	41.31	0.2181	917.32	0.2987	1256.64
166	Meat and canned meat	Kg	0.0005	1.00	6683.00	3.29	0.0007	1.37	4.51	0.0150	100.18	0.0205	137.23
167	Bacon	Kg	0.0014	12.93	2117.85	2.95	0.0019	17.71	4.05	0.0424	89.84	0.0581	123.08
168	Grease	Kg	0.0056	51.89	2241.59	12.55	0.0077	71.08	17.19	0.1703	381.69	0.2333	522.88
169	Fresh and frozen fish	Kg	0.0064	5.21	2242.95	14.36	0.0088	7.14	19.67	0.1947	436.80	0.2668	598.38
170	Salt, smoke-dried fish	Kg	0.0003	0.38	2988.09	0.78	0.0004	0.52	1.07	0.0080	23.76	0.0109	32.55
171	Canned fish	Kg	0.0001	0.16	7582.85	0.66	0.0001	0.21	0.90	0.0026	19.93	0.0036	27.31
172	Cow's and buffalo cow's milk	l	0.1198	74.03	419.27	50.22	0.1641	101.41	68.80	3.6440	1527.83	4.9919	2092.97
173	Sheep's and goat's milk	l	0.0019	1.76	455.92	0.87	0.0026	2.41	1.19	0.0578	26.33	0.0791	36.07
174	Powder milk	Kg	0.0005	2.36	5401.22	2.56	0.0007	3.24	3.51	0.0144	77.98	0.0198	106.83
175	Butter milk, yoghurt	l	0.0043	2.28	844.49	3.65	0.0059	3.12	5.00	0.1314	110.96	0.1800	152.01
176	Cow (cottage) cheese	Kg	0.0077	18.77	3019.79	23.33	0.0106	25.71	31.95	0.2350	709.57	0.3219	972.04
177	Sheep's cheese	Kg	0.0064	19.43	3516.60	22.41	0.0087	26.62	30.69	0.1938	681.59	0.2655	933.71
178	Green cow cheese	Kg	0.0064	13.94	2613.37	16.71	0.0088	19.10	22.89	0.1945	508.35	0.2665	696.39
179	Pressed cheese	Kg	0.0009	2.56	5869.04	5.01	0.0012	3.51	6.86	0.0259	152.29	0.0355	208.62
180	Other types of cheese	Kg	0.0004	1.17	5096.78	1.88	0.0005	1.61	2.57	0.0112	57.08	0.0153	78.20
181	Butter	Kg	0.0015	11.91	4503.42	6.66	0.0020	16.32	9.12	0.0450	202.47	0.0616	277.37
182	Eggs	pcs.	0.3152	26.95	152.69	48.13	0.4318	36.92	65.93	9.5882	1464.06	13.1349	2005.62
183	Honey	Kg	0.0005	1.56	4135.25	1.92	0.0006	2.14	2.63	0.0141	58.48	0.0194	80.12

B. 1996

Code	Product title	Average consumption per day per person			Daily average per person adjusted (k=2425:1770.2)			Monthly average per person					
		quantity	Average value		consumed quantity	caloric consumption	value	Non-adjusted		Adjusted			
			number of per calories	per unit*)				per day and per person	quantity	value	quantity	value	
	TOTAL		1896.6		1832.47		2425.0	2343.00		55743.8		71274.0	
101	Wheat and rye	Kg	0.0000	0.06	375.32	0.01	0.0000	0.08	0.01	0.0007	0.27	0.0009	0.35
102	Corn	Kg	0.0001	0.15	534.55	0.03	0.0001	0.19	0.04	0.0017	0.91	0.0022	1.16
103	Flour	Kg	0.0206	72.62	999.57	20.56	0.0263	92.85	26.29	0.6258	625.55	0.8002	799.83
104	Maize	Kg	0.0394	138.42	619.26	24.42	0.0504	176.98	31.22	1.1996	742.89	1.5339	949.86
105	Bread	Kg	0.2715	604.07	834.99	226.69	0.3471	772.37	289.85	8.2588	6896.02	10.5597	8817.25
106	Other bread products	Kg	0.0008	2.20	1752.12	1.43	0.0010	2.82	1.83	0.0248	43.47	0.0317	55.58
107	Cookies	Kg	0.0032	13.76	3239.00	10.48	0.0041	17.59	13.41	0.0985	318.93	0.1259	407.78
108	Panification specialities	Kg	0.0011	3.76	3571.18	4.07	0.0015	4.81	5.21	0.0347	123.87	0.0443	158.38
109	Pasta	Kg	0.0058	21.63	2445.21	14.18	0.0074	27.66	18.13	0.1764	431.36	0.2256	551.54
110	Rice	Kg	0.0109	38.10	1998.25	21.69	0.0139	48.72	27.73	0.3302	659.83	0.4222	843.66
111	Semolina	Kg	0.0026	9.25	1266.21	3.31	0.0033	11.83	4.23	0.0795	100.66	0.1016	128.70
112	Other grist and panif. prod.	Kg	0.0001	0.50	3703.80	0.53	0.0002	0.65	0.68	0.0044	16.14	0.0056	20.64
113	Seed beans and vegetables	Kg	0.0161	48.82	2288.56	36.87	0.0206	62.42	47.14	0.4901	1121.59	0.6266	1434.07
114	Potatoes	Kg	0.1034	74.69	890.69	92.09	0.1322	95.50	117.75	3.1452	2801.38	4.0214	3581.85
115	Carrots, beet, other roots	Kg	0.0129	5.18	1180.27	15.28	0.0166	6.62	19.54	0.3938	464.79	0.5035	594.28
116	Other eatable roots	Kg	0.0013	0.38	1390.97	1.84	0.0017	0.49	2.36	0.0403	56.10	0.0516	71.73
117	Tomatoes	Kg	0.0260	6.29	989.09	25.68	0.0332	8.05	32.83	0.7897	781.04	1.0097	998.64
118	Eggplants	Kg	0.0057	1.16	1021.56	5.84	0.0073	1.48	7.46	0.1738	177.54	0.2222	227.00
119	Dried onion	Kg	0.0220	9.29	802.00	17.61	0.0281	11.87	22.51	0.6678	535.59	0.8539	684.81
120	Dried garlic	Kg	0.0015	1.82	2866.66	4.26	0.0019	2.33	5.45	0.0452	129.71	0.0579	165.85
121	Red and green pepper	Kg	0.0084	1.94	1154.48	9.75	0.0108	2.48	12.46	0.2569	296.54	0.3284	379.15
122	Long pod beans	Kg	0.0057	1.76	1289.45	7.34	0.0073	2.25	9.38	0.1731	223.25	0.2214	285.45
123	Cabbage and cauliflower	Kg	0.0156	3.93	773.80	12.07	0.0199	5.03	15.44	0.4746	367.24	0.6068	469.55
124	Fresh greengroceries	Kg	0.0031	1.15	2610.97	8.13	0.0040	1.48	10.40	0.0947	247.34	0.1211	316.25
125	Other fresh vegetables	Kg	0.0114	3.02	1406.83	16.00	0.0145	3.86	20.45	0.3459	486.64	0.4423	622.22
126	Pickles and sauerkraut	Kg	0.0237	4.43	1309.48	31.10	0.0304	5.67	39.76	0.7225	946.04	0.9237	1209.61
127	Tomato sauce	Kg	0.0069	5.03	4647.79	32.26	0.0089	6.43	41.25	0.2111	981.37	0.2700	1254.78
128	Canned vegetables	Kg	0.0039	1.91	2906.18	11.26	0.0050	2.44	14.40	0.1179	342.67	0.1508	438.14
129	Melons and water melons	Kg	0.0158	1.81	380.32	5.99	0.0201	2.32	7.66	0.4791	182.23	0.6126	233.00
130	Walnuts	Kg	0.0013	3.30	1954.75	2.53	0.0017	4.22	3.24	0.0394	77.10	0.0504	98.58
131	Apples	Kg	0.0236	13.90	967.79	22.84	0.0302	17.77	29.21	0.7181	694.94	0.9181	888.54
132	Pears	Kg	0.0023	1.33	894.14	2.10	0.0030	1.70	2.58	0.0714	63.84	0.0913	81.63
133	Sweet and sour cherries	Kg	0.0031	1.83	1318.42	4.13	0.0040	2.33	5.28	0.0952	125.56	0.1218	160.54
134	Apricots, peaches	Kg	0.0027	1.18	1261.36	3.38	0.0034	1.51	4.33	0.0816	102.93	0.1043	131.61
135	Plums	Kg	0.0025	1.54	497.54	1.25	0.0032	1.96	1.60	0.0763	37.98	0.0976	48.57
136	Grapes	Kg	0.0050	4.01	924.71	4.64	0.0064	5.13	5.94	0.1527	141.21	0.1953	180.56
137	Strawberries, raspberries	Kg	0.0007	0.37	2621.61	1.80	0.0009	0.48	2.30	0.0209	54.75	0.0267	70.00
138	Other fresh fruit	Kg	0.0004	0.26	1322.94	0.57	0.0005	0.33	0.72	0.0130	17.20	0.0166	22.00
139	Citric, other southern fruit	Kg	0.0065	7.28	3278.45	21.21	0.0083	9.30	27.11	0.1968	645.08	0.2516	824.80
140	Dehydrated fruit	Kg	0.0002	0.59	3914.00	0.78	0.0003	0.75	1.00	0.0061	23.69	0.0077	30.29
141	Salad oil	l	0.0222	189.85	2689.10	59.67	0.0284	242.74	76.29	0.6750	1815.14	0.8631	2320.83
142	Margarine	Kg	0.0031	23.53	4814.61	14.79	0.0039	30.09	18.91	0.0935	449.93	0.1195	575.28
143	Stewed fruit	Kg	0.0017	1.08	3782.09	6.46	0.0022	1.38	8.27	0.0520	196.66	0.0665	251.45
144	Jam, fruit jelly	Kg	0.0036	7.82	5025.45	17.85	0.0045	9.99	22.83	0.1081	543.12	0.1382	694.43
145	Fruit syrup	Kg	0.0006	1.49	3130.25	1.73	0.0007	1.91	2.21	0.0168	52.65	0.0215	67.32

Code	Product title	quantity	Average consumption per day per person			Daily average per person adjusted (k=2425:1770.2)			Monthly average per person				
			number of calories	Average value per unit*)	Average value per day and per person	consumed quantity	caloric consumption	value	Non-adjusted		Adjusted		
									quantity	value	quantity	value	
146	Sugar	Kg	0.0218	89.46	1913.20	41.75	0.0279	114.39	53.38	0.6638	1269.94	0.8487	1623.74
147	Chocolate	Kg	0.0017	7.76	9205.31	15.57	0.0022	9.93	19.91	0.0515	473.65	0.0658	605.61
148	Turkish delight, khalva	Kg	0.0006	2.45	3435.97	2.06	0.0008	3.14	2.63	0.0182	62.52	0.0233	79.93
149	Other sugar products	Kg	0.0007	3.01	7250.11	4.97	0.0009	3.85	6.36	0.0209	151.34	0.0267	193.50
150	Coffee	Kg	0.0016	0.00	26507.2	41.38	0.0020	0.00	52.91	0.0475	1258.85	0.0607	1609.56
151	Cocoa	Kg	0.0003	1.37	8532.20	2.62	0.0004	1.75	3.35	0.0094	79.81	0.0120	102.04
152	Wine	l	0.0243	17.14	1671.06	40.62	0.0311	21.91	51.93	0.7394	1235.52	0.9453	1579.74
153	Wine products	l	0.0005	0.75	6323.21	3.25	0.0007	0.96	4.16	0.0156	98.95	0.0200	126.52
154	Beer	l	0.0105	4.10	1794.17	18.84	0.0134	5.24	24.09	0.3195	573.21	0.4085	732.91
155	Plum brandy, other brandies	l	0.0054	7.58	3236.65	17.51	0.0069	9.69	22.39	0.1646	532.81	0.2105	681.25
156	Other alcoholic drinks	l	0.0012	2.59	4626.12	5.70	0.0016	3.31	7.29	0.0375	173.46	0.0479	221.79
157	Non-alcoholic drinks	l	0.0208	11.88	926.10	19.30	0.0266	15.19	24.68	0.6339	587.09	0.8106	750.65
158	Beef	Kg	0.0081	8.29	5115.88	41.31	0.0103	10.60	52.82	0.2456	1256.57	0.3141	1606.65
159	Pork	Kg	0.0244	50.12	5547.08	135.21	0.0312	64.08	172.88	0.7415	4113.13	0.9481	5259.05
160	Mutton	Kg	0.0043	7.68	4290.16	18.48	0.0055	9.82	23.63	0.1310	562.10	0.1675	718.70
161	Fowl	Kg	0.0220	28.45	4958.10	108.83	0.0281	36.37	139.15	0.6677	3310.70	0.8538	4233.06
162	Other types of meat	Kg	0.0003	0.29	4848.42	1.65	0.0004	0.37	2.11	0.0103	50.13	0.0132	64.09
163	Meat product specialities	Kg	0.0011	3.47	12004.7	13.13	0.0014	4.44	16.79	0.0333	399.37	0.0425	510.63
164	Salami, sausages	Kg	0.0116	40.94	7553.70	87.98	0.0149	52.35	112.50	0.3543	2676.47	0.4530	3422.14
165	Other meat products	Kg	0.0088	19.61	5272.92	46.66	0.0113	25.07	59.66	0.2692	1419.52	0.3442	1814.99
166	Meat and canned meat	Kg	0.0006	1.20	8395.29	4.97	0.0008	1.54	6.36	0.0180	151.20	0.0230	193.32
167	Bacon	Kg	0.0010	8.86	2278.20	2.18	0.0012	11.32	2.78	0.0291	66.20	0.0372	84.64
168	Grease	Kg	0.0059	54.66	2482.02	14.64	0.0075	69.89	18.71	0.1794	445.23	0.2294	569.28
169	Fresh and frozen fish	Kg	0.0058	4.76	3279.06	19.17	0.0075	6.08	24.51	0.1778	583.14	0.2274	745.60
170	Salt, smoke-dried fish	Kg	0.0003	0.44	4222.77	1.27	0.0004	0.56	1.63	0.0092	38.75	0.0117	49.55
171	Canned fish	Kg	0.0001	0.21	9713.56	1.12	0.0001	0.27	1.43	0.0035	34.08	0.0045	43.58
172	Cow's and buffalo cow' milk	l	0.1252	77.38	677.42	84.82	0.1601	98.94	108.46	3.8091	2580.34	4.8703	3299.22
173	Sheep's and goat's milk	l	0.0012	1.11	911.22	1.09	0.0015	1.41	1.39	0.0363	33.06	0.0464	42.27
174	Powder milk	Kg	0.0005	2.26	11079.7	5.04	0.0006	2.89	6.44	0.0138	153.21	0.0177	195.89
175	Butter milk, yoghurt	l	0.0056	2.93	1337.12	7.42	0.0071	3.74	9.49	0.1688	225.77	0.2159	288.67
176	Cow (cottage) cheese	Kg	0.0089	21.51	4544.63	40.23	0.0113	27.51	51.44	0.2693	1223.90	0.3443	1564.88
177	Sheep cheese	Kg	0.0062	18.87	5247.98	32.47	0.0079	24.13	41.52	0.1882	987.85	0.2407	1263.06
178	Cow green cheese	Kg	0.0071	15.44	3869.90	27.41	0.0091	19.75	35.05	0.2155	833.93	0.2755	1066.27
179	Pressed cheese	Kg	0.0009	2.68	8800.94	7.86	0.0011	3.43	10.05	0.0272	239.20	0.0348	305.84
180	Other types of cheese	Kg	0.0004	1.29	6586.27	2.67	0.0005	1.65	3.41	0.0123	81.14	0.0158	103.74
181	Butter	Kg	0.0011	8.73	8108.38	8.79	0.0014	11.17	11.23	0.0330	267.28	0.0421	341.75
182	Eggs	pcs.	0.3359	28.72	221.56	74.43	0.4295	36.72	95.16	10.2190	2264.10	13.0661	2894.88
183	Honey	Kg	0.0006	2.08	5700.70	3.54	0.0008	2.66	4.52	0.0189	107.56	0.0241	137.53

*) Calculated on the basis of January's prices

ANNEX 3.2

Absolute Poverty Line According to World Bank Method

A. 1995

- 8 -

Household features	Poverty rate corresponding to the threshold:	
	inferior (Zl=66089 RO Lei)	superior (Zu=74846 RO Lei)
Total sample	19.43	24.97
Urban	14.63	19.50
Rural	24.13	30.32
Out of total sample, households of:		
Employee	13.30	18.63
Employer	1.26	2.87
Self-employed		
Non-agricultural activities	38.93	46.95
Peasant	40.44	47.97
Unemployed	49.00	56.20
Pensioner	15.60	20.56
Other status	44.29	48.15
Out of total sample, households comprising:		
1 person	7.66	9.95
2 persons	7.63	10.97
3 persons	9.98	13.87
4 persons	14.47	20.50
5 persons	28.52	36.86
6 persons and more	49.90	58.22

Methods and Instruments for Poverty Measurement

B. 1996

- 8 -

Household features	Poverty rate corresponding to the threshold:	
	inferior (Zl=66089 RO Lei)	superior (Zu=74846 RO Lei)
Total sample	19.58	25.35
Urban	16.14	21.26
Rural	22.74	29.10
Out of total sample, households of:		
Employee	14.48	20.60
Employer	3.36	7.84
Self-employed	39.73	44.73
Peasant	37.33	44.53
Unemployed	49.42	54.79
Pensioner	15.78	20.97
Other	47.87	50.08
Out of total sample, households of:		
1 person	6.47	8.25
2 persons	7.58	10.21
3 persons	10.47	14.85
4 persons	17.12	24.26
5 persons	29.97	38.42
6 persons and more	49.88	58.86

ANNEX 3.3

Poverty Rate According to the RIQL Version of the Normative Method

A. Poverty rate, by types of households (subsistence threshold) - % -

<i>Type of household, based on occupational status of the head</i>	<i>Total net income including loans, money withdrawn from the bank</i>	<i>Total net income excluding loans, money withdrawn from the bank</i>	<i>Total expenditures (*), including instalments, loan reimbursements</i>	<i>Total expenditures (*), excluding instalments, loan reimbursements</i>
employee	17.9	19.9	17.8	19.4
employer	4.3	4.9	2.4	3.0
agricultural worker	39.8	41.1	40.0	40.9
unemployed	55.4	59.8	54.3	55.7
pensioner	14.5	15.3	16.9	17.7
non-agricultural self-employed	39.0	39.9	39.9	40.9

(*) Total expenditures do not include taxes, levies and social insurance contributions

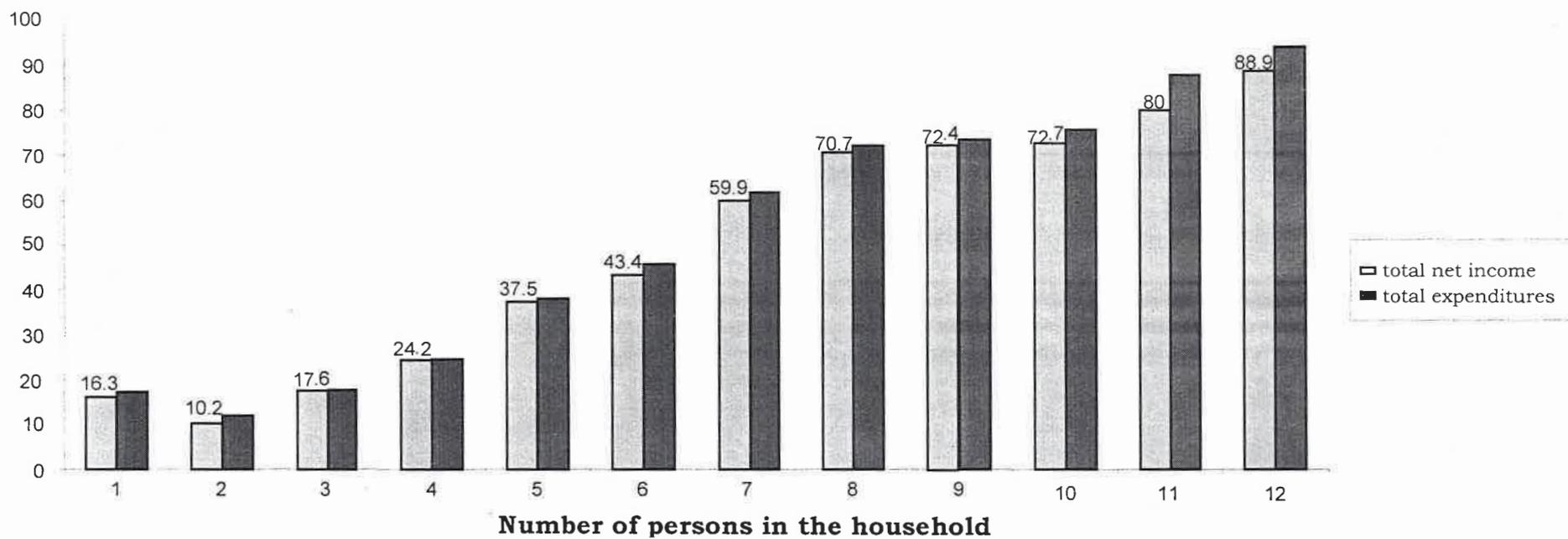
B. Households below the decent standard of living, by types of households - % -

<i>Type of household, based on occupational status of the head</i>	<i>Total net income including loans, money withdrawn from the bank</i>	<i>Total net income excluding loans, money withdrawn from the bank</i>	<i>Total expenditures (*), including instalments, loan reimbursements</i>	<i>Total expenditures (*), excluding instalments, loan reimbursements</i>
employee	40.3	42.9	40.2	43.1
employer	14.6	15.9	10.4	13.4
agricultural worker	60.9	62.2	61.7	63.0
unemployed	77.5	80.5	75.3	76.7
pensioner	35.3	36.8	38.5	40.0
non-agricultural self-employed	57.4	58.6	60.2	61.9

(*) Total expenditures do not include taxes, levies and social insurance contributions

Diagram to ANNEX 3.3

Households Below the Poverty Line by Number of Members (%)



ANNEX 3.4

Elements for the Estimation of Relative Poverty Line and Poverty Rate: NCS/OECD Methods

A. 1995

Household features	No. of equivalent adults			Monthly average consumption expenses (RO Lei) by:				
	Number of households	Number of persons	Modified OECD scale	NCS scale	Household	Adult equivalent		
						Person	Modif. OECD scale	NCS scale
Total sample	31574	93205	57674.2	72239.2	270578	91661	148129	118263
Urban	15697	46093	28404.1	36246.8	291572	99295	161132	126268
Rural	15877	47112	29270.1	35992.4	249821	84191	135511	110201
Out of total sample, households of:								
Employee	12685	44119	25471.4	35442.3	336924	96872	167792	120587
Employer	164	557	323.9	446.0	618923	182232	313379	227591
Self-employed								
Non-agricultural activities	636	2443	1356.7	1896.0	306375	79760	143624	102772
Peasant	2662	8821	5238.5	6931.1	230097	69439	116927	88373
Unemployed	1281	4637	2613.5	3667.3	242212	66913	118720	84605
Pensioner	13697	31384	21896.5	22900.1	215756	94163	134963	129048
Other status	449	1244	773.7	956.4	211506	76339	122743	99293
Out of total sample, households comprising:								
1 person	6058	6058	6058.0	4139.6	126610	126610	126610	185285
2 persons	8577	17154	12778.3	12862.5	226654	113327	152134	151138
3 persons	6361	19083	11946.8	15416.0	315052	105017	167748	129998
4 persons	5825	23300	12970.3	18563.8	351536	87884	157876	110306
5 persons	2539	12695	6693.2	9928.7	357990	71598	135800	91547
6 persons and more	2214	14915	7227.6	11328.7	393641	58433	120583	76930

* According to January 1995 prices

B. 1996

Household features	No. of equivalent adults			Monthly average consumption expenses (RO Lei) by:				
	Number of households	Number of persons	Modified OECD scale	NCS scale	Household	Adult equivalent		
						Person	Modif. OECD scale	NCS scale
Total sample	32023	92495	57847.2	71775.2	359641	124513	199090	160457
Urban	15290	44233	27506.5	34900.1	386061	133450	214599	169137
Rural	16733	48262	30340.7	36875.1	335500	116322	185029	152241
Out of total sample, household of:								
Employee	12317	42377	24630.7	34192.1	447236	129990	223648	161108
Employer	202	714	413.6	571.1	747917	211596	365279	264559
Self-employed								
Non-agricultural activities	696	2580	1456.5	2029.1	399378	107739	190846	136992
Peasant	2755	9035	5388.4	7110.9	327585	99889	167489	126917
Unemployed	1002	3563	2027.0	2830.4	310652	87363	153564	109977
Pensioner	14585	33006	23157.6	24102.5	290848	128523	183180	175999
Other status	466	1220	773.4	939.2	264709	101110	159497	131343
Out of total sample, households comprising:								
1 person	6416	6416	6415.5	4348.2	168520	168520	168533	248660
2 persons	8801	17602	13140.8	13172.8	307810	153905	206155	205654
3 persons	6524	19572	12280.5	15813.0	413056	137685	219435	170415
4 persons	5795	23180	12945.2	18538.8	471141	117785	210909	147273
5 persons	2496	12480	6587.1	9770.1	500614	100123	189694	127894
6 persons and more	1991	13245	6478.1	10132.2	528356	79423	162387	103823

* According to January 1996 prices

ANNEX 3.5

Relative Poverty Line (NCS/OECD)

A. 1995

- 8 -

Weight of persons placed below the determined threshold as percentage of the average consumption expenditure by:									
Characteristic features	individual			adult equivalent according to:					
				Modified OECD scale			NCS scale		
	of households	40%	50%	60%	40%	50%	60%	40%	50%
Total sample	8.01	16.03	25.37	5.32	12.41	21.99	7.88	15.65	25.19
Urban	5.06	11.05	18.84	2.97	7.82	15.35	5.19	11.20	19.32
Rural	10.89	20.91	31.75	7.62	16.90	28.49	10.50	20.01	30.93
Out of total sample, households of:									
Employee	4.89	12.19	20.76	2.08	5.86	13.09	5.07	12.09	21.57
Employer	1.26	1.26	5.03	0.00	0.00	1.80	1.26	1.26	4.31
Self-employed worker									
Non-agricultural									
Activities	22.55	31.31	43.02	11.58	25.09	34.42	20.34	31.64	42.24
Peasant	20.41	34.41	49.63	12.95	27.70	42.93	20.66	35.02	49.67
Unemployed	23.12	39.18	53.44	11.90	27.06	43.00	22.19	39.18	54.60
Pensioner	5.08	11.21	19.05	5.84	13.66	24.09	4.76	10.10	17.29
Other status	22.83	34.00	46.14	18.41	30.71	42.85	20.50	31.91	45.74
Out of total sample, households comprising:									
1 person	1.82	4.72	8.91	11.82	23.03	35.51	1.12	2.44	5.40
2 persons	1.91	5.08	9.96	4.36	10.29	19.37	1.57	3.95	8.53
3 persons	3.07	7.45	14.09	3.08	7.66	14.81	3.57	8.43	15.89
4 persons	4.88	12.10	22.03	2.95	8.14	15.36	5.36	12.52	22.92
5 persons	11.11	23.59	38.28	5.28	12.45	24.58	11.30	24.06	38.52
6 persons and more	26.12	43.91	58.45	10.37	23.25	36.87	24.39	41.45	56.49

Methods and Instruments for Poverty Measurement

B. 1996

- 8 -

Weight of persons placed below the determined threshold as percentage of the average consumption expenditure by:									
Characteristic features	individual			adult equivalent according to:					
				Modified OECD scale			NCS scale		
	of households	40%	50%	60%	40%	50%	60%	40%	50%
Total sample	6.55	13.73	23.34	3.93	10.37	19.52	6.39	13.80	23.35
Urban	4.52	10.19	18.01	2.60	7.33	14.36	4.70	10.78	18.62
Rural	8.41	16.98	28.24	5.16	13.16	24.24	7.94	16.57	27.69
Out of total sample, households of:									
Employee	4.11	10.23	19.69	1.57	5.02	11.64	4.29	10.96	20.65
Employer	0.00	2.38	4.76	0.00	0.56	0.98	0.56	1.40	4.34
Self-employed									
Non-agricultural									
Activities	18.26	29.42	40.16	9.22	20.70	31.86	17.29	29.19	40.62
Peasant	16.33	28.57	42.28	8.67	20.86	34.80	15.73	29.00	42.78
Unemployed	21.05	36.85	49.56	9.21	24.67	40.78	20.35	35.87	50.32
Pensioner	4.12	9.88	18.13	4.35	11.46	21.59	3.87	9.21	16.76
Other status	21.48	35.66	49.84	15.49	31.31	46.72	18.03	34.43	47.46
Out of total sample, households comprising:									
1 person	1.67	3.97	7.36	9.09	19.36	32.93	1.31	2.63	4.36
2 persons	1.19	4.02	8.79	3.20	8.62	17.18	1.19	3.18	7.22
3 persons	2.53	6.62	13.69	2.67	6.90	13.58	2.84	7.85	15.70
4 persons	3.95	10.96	21.66	2.26	6.63	14.15	4.43	11.87	22.54
5 persons	9.38	20.91	35.90	3.73	10.74	21.15	9.09	21.15	36.10
6 persons and more	23.86	39.95	55.82	7.39	19.71	32.76	21.88	38.58	54.73

A N N E X 3.6

**Poverty Multidimensional Indexes (Synthetic Indicators)
for 1995**

A. By total sample

Groups of indicators	Level of affiliation to the group of poor persons
Living conditions	0.261
Possession of long term use goods	0.346
Total consumption expenditures:	
• per capita	0.253
• NCS scale	0.253
• Modified OECD scale	0.220
Cause type indicators	0.225
Global indicator :	
• per capita	0.279
• NCS scale	0.279
• Modified OECD scale	0.276

B. By average

Groups of indicators	Level of affiliation to the group of poor persons		
	Total sample	Urban	Rural
Living conditions	0.261	0.098	0.415
Possession of long term use goods	0.346	0.248	0.444
Total consumption expenditures:			
• per capita	0.253	0.199	0.306
• NCS scale	0.253	0.210	0.295
• Modified OECD scale	0.220	0.158	0.282
Cause type indicators	0.225	0.194	0.255
Global indicator:			
• per capita	0.279	0.174	0.383
• NCS scale	0.279	0.175	0.382
• Modified OECD scale	0.276	0.179	0.381

Methods and Instruments for Poverty Measurement

C. By occupational status of the head of household

Groups of indicators	Level of affiliation to the group of poor persons							
	Total sample	Employees	Employers	Non-agricultural activities	Peasants	Unemployed	Pensioners	Other
Living conditions	0.261	0.191	0.140	0.253	0.396	0.248	0.296	0.221
Possession of long term use goods	0.346	0.301	0.268	0.391	0.453	0.348	0.366	0.344
Total consumption expenditures:								
• per capita	0.253	0.230	0.178	0.311	0.343	0.300	0.250	0.252
• NCS scale	0.253	0.240	0.169	0.315	0.338	0.301	0.242	0.246
• Modif. OECD scale	0.220	0.183	0.143	0.268	0.315	0.247	0.233	0.212
Cause type indicators	0.225	0.204	0.199	0.222	0.249	0.282	0.234	0.222
Global indicator:								
• per capita	0.279	0.232	0.196	0.295	0.380	0.291	0.302	0.263
• NCS scale	0.279	0.232	0.195	0.295	0.380	0.291	0.301	0.262
• Modif. OECD scale	0.276	0.228	0.192	0.292	0.378	0.288	0.300	0.259

D. By size of household

Groups of indicators	Level of affiliation to the group of poor persons						
	Total sample	1 member household	2 member household	3 member household	4 member household	5 member household	household of 6 and more
Living conditions	0.261	0.298	0.285	0.204	0.195	0.274	0.340
Possession of long term use goods	0.346	0.504	0.354	0.278	0.254	0.295	0.382
Total consumption expenditures:							
• per capita	0.253	0.149	0.171	0.215	0.301	0.450	0.609
• NCS scale	0.253	0.098	0.160	0.249	0.327	0.468	0.604
• Modif. OECD scale	0.220	0.336	0.194	0.153	0.160	0.239	0.337
Cause type indicators	0.225	0.364	0.179	0.179	0.170	0.237	0.280
Global indicator:							
• per capita	0.279	0.362	0.275	0.223	0.215	0.280	0.348
• NCS scale	0.279	0.352	0.273	0.226	0.216	0.281	0.348
• Modif. OECD scale	0.276	0.382	0.277	0.217	0.205	0.270	0.340

ANNEX 3.7

**Poverty Multidimensional Indexes (Synthetic Indicators)
for 1996**

A. By total sample

Groups of indicators	Level of affiliation to the group of poor persons
Living conditions	0.253
Possession of long term use goods	0.342
Total consumption expenditures:	
• per capita	0.233
• NCS scale	0.233
• Modif. OECD scale	0.195
Cause type indicators	0.208
Global indicator:	
• per capita	0.269
• NCS scale	0.269
• Modif. OECD scale	0.266

B. By average

Groups of indicators	Level of affiliation to the group of poor persons		
	Total sample	Urban	Rural
Living conditions	0.253	0.117	0.376
Possession of long term use goods	0.342	0.2497	0.426
Total consumption expenditures:			
• per capita	0.233	0.191	0.272
• NCS scale	0.233	0.202	0.262
• Modif. OECD scale	0.195	0.146	0.240
Cause type indicators	0.208	0.198	0.217
Global indicator:			
• per capita	0.269	0.178	0.353
• NCS scale	0.269	0.179	0.352
• Modif. OECD scale	0.266	0.174	0.350

Methods and Instruments for Poverty Measurement

C. By occupational status of the head of household

Groups of indicators	Level of affiliation to the group of poor persons							
	Total sample	Employees	Employers	Non-agricultural activities	Peasants	Unemployed	Pensioners	Other
Living conditions	0.253	0.185	0.115	0.291	0.415	0.246	0.279	0.262
Possession of long term use goods	0.342	0.244	0.166	0.382	0.509	0.381	0.386	0.475
Total consumption expenditures:								
• per capita	0.233	0.211	0.081	0.376	0.386	0.487	0.194	
• NCS scale	0.233	0.239	0.088	0.398	0.409	0.514	0.164	0.437
• Modif. OECD scale	0.195	0.102	0.026	0.266	0.319	0.358	0.231	0.428
								0.437
Cause type indicators	0.208	0.139	0.084	0.163	0.201	0.660	0.236	0.295
Global indicator:								
• per capita	0.269	0.196	0.120	0.297	0.399	0.381	0.296	0.341
• NCS scale	0.269	0.198	0.121	0.298	0.400	0.382	0.292	0.341
• Modif. OECD scale	0.266	0.185	0.109	0.291	0.395	0.375	0.299	0.341

D. By size of household

Groups of indicators	Level of affiliation to the group of poor persons						
	Total sample	1 member household	2 member household	3 member household	4 member household	5 member household	household of 6 and more
Living conditions	0.253	0.252	0.248	0.211	0.2319	0.320	0.389
Possession of long term use goods	0.342	0.490	0.346	0.275	0.256	0.297	0.367
Total consumption expenditures:							
• per capita	0.233	0.125	0.151	0.207	0.297	0.432	0.594
• NCS scale	0.233	0.081	0.139	0.238	0.324	0.444	0.592
• Modif. OECD scale	0.195	0.304	0.169	0.137	0.140	0.203	0.297
Cause type indicators	0.208	0.3336	0.1516	0.1686	0.1709	0.229	0.262
Global indicator:							
• per capita	0.269	0.325	0.249	0.221	0.231	0.299	0.361
• NCS scale	0.269	0.316	0.248	0.223	0.232	0.299	0.361
• Modif. OECD scale	0.266	0.344	0.251	0.215	0.218	0.287	0.351

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