METHODOLOGICAL RECOMMENDATIONS FOR EVALUATING THE EFFECTIVENESS OF THE SOCIAL PROTECTION SYSTEM
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Introduction

There are several objectives of this report: to provide detailed explanation of the approaches used in the Study of Child Poverty and Disparities; to assess the impact of social protection on poverty; to simulate potential changes in the social policy and the social assistance systems; and to model further development and improvement of the abovementioned approaches.

The report does the following:

- identifies the key areas of social benefit impact on the material wellbeing of recipient households and on the poverty rates of families with children. It substantiates every area selected and presents a system of indicators for analysis;
- evaluates the information capacity of the household living conditions survey as the main source of data for studying the impact of the social protection system on the conditions of households with children. It presents basic data on the survey and identifies the number as well as basic characteristics of the constituencies receiving each type of the assistance that the survey covers;
- offers a detailed explanation for the use of Gini and Theil coefficient to decompose the inequality by the components of the total income. It also explains the selection of the structure of cumulative income specified by all types of social transfers that the household living conditions survey presents. The document also offers an example of calculations using the 2008 data;
- identifies key areas for evaluating and modelling the social benefits system. It contains calculations of indicators for evaluation and modelling using the 2008 data. It also presents the procedure for modelling the use of funds released as a result of the shift from the social privileges system to targeted assistance to low income families;
- provides additional explanation about modelling changes in the programme of support for low income families. It identifies the main problems of the information basis and the current methodological tools of targeted assistance programmes. It also offers a system of analysis and modelling indicators, as well as an algorithm to define the most appropriate options for programmatic changes;
- offers a system of indicators to assess the impact of the housing subsidies programme on the condition of vulnerable populations and on poverty. It presents a detailed overview of programme components that need to be taken into account during the impact analysis. The report also presents a scheme to model future changes in the housing subsidies programme based on how it functions;
- contains a number of examples of tax allowances calculations for different types of vulnerable households and simulates their potential impact on social payment size.

As a result, this report offers a set of proposals on applying methodological recommendations to rationalize changes in the system of social protection of the population.
1. Analysis of the Impact of Social Benefits on the Material Wellbeing of Households and on Poverty Rates of Families with Children

Macro and micro data are used to analyse the impact of social programmes on the incomes of the recipients of assistance and on the condition of households with children as the most vulnerable population. In particular, macro data are used to analyse the state social expenditures and the cost of social programmes as a share of GDP and government expenditures. The correlation between state social guarantees and the size of individual types of social assistance is calculated on the basis of regulatory documents and the sectoral statistical data from the Ministry of Social Policy. Finally, the main component of the analysis is calculated at the household level (that is, using micro-data): it involves identifying the ratio of social assistance in incomes, definition of poverty rates, the distribution of recipients according to level of wellbeing and so on.

Evaluation of the main areas of social expenditures

Traditionally, the areas of social expenditures reflect the priorities of the government’s social policy: areas that receive significant government funding are considered the most essential ones. In this context, the study of social expenditures according to categories of recipients (children, pensioners, disabled persons, the unemployed, low-income persons – regardless of causes – or persons incapable of making mandatory payments, including housing) is of particular interest.

State social expenditures include state and local budget funds directed at social purposes. They also include the financing of the state social insurance funds for pensions, unemployment, temporary loss of working capacity and disability.

Within this analysis, it is necessary to take into account the size of the contingent of recipients for different types of social transfers and the function of the transfer. Otherwise, the conclusions may be wrong.

Identifying of the correlation between individual types of social benefits and the main types of state social guarantees

In order to calculate these correlations as a baseline social guarantee, using the minimum wage is advisable. This conclusion is based on traditional international approaches and on analysis of the Ukrainian situation.

This analysis area aims to provide grounding for optimal correlation between the minimum social guarantees – primarily, between the minimum wage and minimum pension as well as between the minimum wage and different types of social assistance.
The ratio of different types of social transfers in cumulative household incomes

This analysis area has some peculiar features. On the one hand, the high percentage indicates the efficiency of social programmes; on the other, it is evidence that a strong social assistance system can dissuade able-bodied citizens from economic activity.

That is why the ratio of different types of social transfers should be considered against different types of households. If the question concerns a household with only able-bodied adults, then a high percentage of social transfers may indicate that social policy is ineffective. On the other hand, a high indicator in this respect for households with members incapable of working indicates that the social transfer level is sufficient, because senior members do not have to earn money in addition to their pensions.

The main indicators of poverty before and after reception of the social benefit

Evaluation of the impacts of different types of social transfers on poverty represents an advanced area of research. The core indexes of this impact are calculated using formulas:

1) Comparison of the country-wide poverty rate before and after reception of the assistance ($\Delta P_1$)

\[
\Delta P_1 = P_1^0 - P_1,
\]

where
- $P_1^0$ – level of poverty before the assistance (simulated baseline option), %;
- $P_1$ – actual country-wide level of poverty (after reception of the assistance), %.

2) Comparison of country-wide indexes of the depth of poverty before and after reception of the assistance ($\Delta P_2$)

\[
\Delta P_2 = P_2^0 - P_2,
\]

where
- $P_2^0$ – depth of poverty before the assistance (simulated baseline option), %;
- $P_2$ – actual country-wide depth of poverty (after reception of the assistance), %.

3) Comparison of the depth of poverty index among low-income population groups before and after reception of the assistance ($\Delta^{NDP_2}$)

\[
\Delta^{NDP_2} = P_2^{ND0} - P_2^{ND},
\]

where
- $P_2^{ND0}$ – depth of poverty among low-income groups before the assistance (simulated baseline option), %;
- $P_2^{ND}$ – actual depth of poverty among low-income groups (after reception of the assistance), %.
Composition of the poor before and after reception of social benefits

Identification of poverty profiles before and after reception of social payments makes it possible to evaluate the overall effectiveness of the social policy in terms of income redistribution. It also makes it possible to identify the groups that enjoyed the largest benefits from the system of social transfers.

The simple comparison of poverty profiles can be reinforced by adding a special index of structure similarity. The structure similarity coefficient is used to compare profiles of the totality of recipients of assistance and the totality of the poor population (the main social, demographic, social and economic groups within the composition of the poor population and recipients of assistance):

\[ K_r = \sqrt{\frac{\sum (V_i - Y_i)^2}{\sum (V_i^2 - Y_i^2)}} \]

where

\( V_i \) – share of \( i \)-group in the composition of actual recipients of the assistance;

\( Y_j \) – share of \( j \)-group in the composition of the poor population.

Poverty and the system of social assistance: coverage, efficiency, targeting, inclusion and exclusion errors, effectiveness

It is expedient to assess any targeted social assistance programme by using the following key indicators:

- **Targeting** – accuracy of provision of assistance to those who need it – that is, the ratio of poor people among the recipients of the assistance.
- **Coverage level** – the number of citizens potentially eligible for assistance who really receive it – that is, the ratio of recipients among poor people.
- **Efficiency** – the ratio of assistance within cumulative incomes of recipient households.
- **Effectiveness** – percentage of the overall sum of assistance or total programme value that reaches the poorest decile.
- **‘Exclusion error’** – percentage of low-income households that did not participate in the programme for various reasons.
- **‘Inclusion error’** – percentage of households that were mistakenly included in the programme, that is, well-to-do households.

In order to identify the effectiveness of any social programme (especially when targeting social programmes), it is necessary to find an indicator that will allow measurement of the percentage of funds aimed at the target group – in this case at the poorest populations – of the first decile.

Regardless of the type of social assistance (categorical or targeted), it is necessary to calculate the programme’s coverage of the target group/poor population as well as the efficiency indicator for recipients. It is also possible to define the level to which the programme is targeted to the poor.
Traditionally, evaluating the results of targeted social programmes includes indicators of 'insufficient inclusion' and 'losses' ('exclusion error' and 'inclusion error'). This analysis can be provided as a matrix of comparison for exclusion and inclusion errors: it makes it possible to evaluate the level of targeting and to define potentially optimal correlation of these errors.

**Distribution of recipients of different types of social assistance according to level of prosperity**

This angle of analysis allows for identifying who receives different types of social benefits – whether the recipient groups are predominantly poor (low-income) population groups or whether the composition of recipients inclines towards the centre. It is the simplest way to define the effectiveness of state social policy in general and of each social programme in particular.

It is better to perform analysis in this area using decile groups. The analysis can be based on two assumptions:

- if the bulk of programme recipients includes representatives of the highest deciles (9–10), the programme has serious problems with its inclusion filters;
- if more than half of programme recipients represent middle deciles (4–7), it is necessary to strengthen the targeting of this social assistance and to more effectively address funds to the poorest groups.

If the programme covers an insignificant totality of the population (e.g. represents an insignificant number of households in the study), analysis in terms of quintile groups is advisable to ensure the reliability of data.

In addition, it is expedient to use the traditional approach – to identify the percentage of poor (including extremely poor) and well-to-do populations among the recipients of different types of assistance.
2. Possibilities of Using the Household Living Conditions Survey (HLCS)\(^1\) to Study the Impact of the Social Assistance System on the State of Households with Children

The data of HLCS that the State Statistics Committee conducted make it possible to identify the number of households that receive certain type of assistance; to calculate the average size of the assistance; to estimate the share of a certain type of assistance within an overall household income; and to calculate other indicators depending on the goals and objectives of the study. HLCS serves as a basis of information for other poverty and living standard studies, so it helps to identify the impact of social transfers on the material wellbeing of households.

The main goal of HLCS studies is to provide an information basis for comprehensive studies of the material prosperity levels of different social groups in Ukrainian society, including:

- characteristics of the living standards of the population as a whole and of individual social groups;
- observation of population differentiation in terms of welfare;
- identification of the structure of actual expenditures necessary for calculating the consumer price index;
- identification of social and demographic characteristics of households between censuses;
- an information basis for conducting poverty studies and for ensuring effectiveness and targeting of measures aimed at the social protection of the most vulnerable groups; and for supporting other important issues.

Close to 10,500 non-institutional households are studied within HLCS on a quarterly basis. A full annual rotation of the household sample is applied. The term of validity of the area sample is five years; it is designed as a probability-based stratified multi-level sampling with a mechanism of selection for territorial units with probability proportional to its size. The survey programme also includes a system of indicators to take into account all changes related to market economy transition. There are also new data collection and development technologies, thus improving comprehensive data analysis capacities.

The survey is based on internationally accepted standards; it generally corresponds to the social, demographic and economic situation in Ukraine. The sampling methodology and evaluation of HLCS indicators generally agree with the surveys of the economic activity of the population and with the studies of the agricultural activities of rural households. In addition, all three studies measure the system of harmonised (in terms of content and evaluation methodology) indicators, which includes such indexes as age and gender characteristics, marital status, level of education of household members, size and composition of households and the like.

During the sampling process, data processing and evaluation of indicators, the HLCS study uses demographic statistics, census data, social statistics and agricultural statistical data.

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\(^1\) HLCS is carried out by the State Statistics Committee on a quarterly basis. The methodology is presented in the Annexes.
The specific feature of HLCS is that micro-data in an output micro-file is arranged in terms of entire households (not by each member of the household). In order to expand the data the study presents for all Ukrainian households, the researchers use the statistical weight for every household (Annex 1). If it is necessary to receive the data broken down by population but not by households (e.g., the size of different population groups, the ratio of the population living in different types of households and so on), the micro-file includes a new variable – ‘statistical weight by the members of a household’:

\[ w_{g\_n} = waga \times h\_size, \]

where

- \( w_{g\_n} \) – statistical weight by the members of a household,
- \( waga \) – statistical weight of households,
- \( h\_size \) – the size of a household.

The sample is designed to ensure adequate representation of the main peculiarities of administrative and territorial structure. It also ensures selection of more homogeneous (in terms of basic characteristics) totalities of households. At the national level, the data from studies on the income and expenditure structure of households that receive different types of assistance, as well as household composition data and so on are representative.

At the same time, data on the number of households that receive different types of assistance and on users of benefits, defined as a result of the survey, are somewhat different from the administrative statistics data. However, they apply fully for the qualitative assessment of the structure of recipients and for identifying the efficiency and effectiveness of every type of assistance.

According to the Law of Ukraine ‘On State Assistance to Families with Children’, citizens of Ukraine whose families bring up and care for under-age children are eligible for state assistance in cases and under conditions established by this and other Laws of Ukraine. The Law of Ukraine provides for the following types of state assistance to families with children:

1) maternity (pregnancy and delivery) benefits;
2) one-off childbirth grants;
3) child-care allowance until the child is three years of age;
4) allowance for children under care and guardianship;
5) child-care allowance for single mothers.

Local executive bodies, local self-governments, enterprises, institutions, organisations and citizen associations can, at their own expense, establish additional types of assistance and add additional payments to state assistance to families with children.

A relatively stable sample structure can be observed throughout the whole period of the survey: the share of households with children ranges within 35–38 per cent. About 3,200–3,600 households annually participate in the study; close to 5,000 children live in these households (Diagram 2.1).

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1 The value of the relative standard error of the sample with probability \( p = 0.95 \) for the indicator ‘Cumulative Expenditures’ reaches 0.91 per cent; for the indicator ‘Total Income’ it reaches 0.81 per cent.

2 Children are unmarried persons aged under 18 years.
Over 6.5 million Ukrainian households were covered by the study. The absolute majority of households have only one child, so more than half of all households in the sample are of this type (Table 2.1).

The number of households with two children shows minor fluctuations every year, while large families have a rather uneven representation. For example, in 2002 there were 320,000 households with three children, while in 2008 there were only 199,000. Even greater fluctuations can be observed in the representation of households with four and five children: their share in the study shows wavelike changes.

One of the most important factors in influencing the reproductive directives of the population is the level of state support to families with children. Through payments of different types of assistance to mothers, the state stimulates birth rates, especially in the cases of second and subsequent children. The first among all the types of assistance that a future mother receives is maternity benefit.

Maternity (pregnancy and delivery) benefits are paid to women throughout the entire period of maternity leave, which is 70 calendar days prior to delivery and 56 calendar days after delivery (70 days in cases of complicated childbirth or of the birth of two or more children). Women with the status of Chernobyl nuclear accident victims (categories 1–4) receive maternity benefits for 180 calendar days of maternity leave (90 days prior to the delivery and 90 days after delivery). Assistance is 100 percent of a woman’s average monthly income (scholarships, cash allowance, unemployment benefits), but no less than 25 percent of the legally established living wage for an able-bodied person per month.
Table 2.1. Distribution of households with children, by number of children, 2002–2008, (weighted HLCS data), thousand of households

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7,278.3</td>
<td>6,853.8</td>
<td>6,561.0</td>
<td>6,577.5</td>
<td>6,567.1</td>
<td>6,538.8</td>
<td>6,497.1</td>
</tr>
<tr>
<td>Number of households with children in Ukraine</td>
<td>10,623.1</td>
<td>9,751.9</td>
<td>9,313.1</td>
<td>8,929.9</td>
<td>9,237.7</td>
<td>8,967.0</td>
<td>8,708.87</td>
</tr>
<tr>
<td>Number of children in households</td>
<td>4,527.8</td>
<td>4,401.13</td>
<td>4,283.7</td>
<td>4,494.6</td>
<td>4,330.0</td>
<td>4,453.2</td>
<td>4,590.8</td>
</tr>
<tr>
<td>one child</td>
<td>2,316.4</td>
<td>2,090.8</td>
<td>1,936.5</td>
<td>1,861.3</td>
<td>1,914.1</td>
<td>1,824.1</td>
<td>1,660.6</td>
</tr>
<tr>
<td>two children</td>
<td>320.2</td>
<td>296.6</td>
<td>241.8</td>
<td>188.3</td>
<td>242.4</td>
<td>196.6</td>
<td>199.1</td>
</tr>
<tr>
<td>three children</td>
<td>67.5</td>
<td>47.4</td>
<td>63.6</td>
<td>17.4</td>
<td>50.4</td>
<td>48.6</td>
<td>33.9</td>
</tr>
<tr>
<td>four children</td>
<td>46.4</td>
<td>18.0</td>
<td>35.3</td>
<td>15.6</td>
<td>30.1</td>
<td>16.3</td>
<td>12.8</td>
</tr>
<tr>
<td>five and more children</td>
<td>10,623.1</td>
<td>9,751.9</td>
<td>9,313.1</td>
<td>8,929.9</td>
<td>9,237.7</td>
<td>8,967.0</td>
<td>8,708.87</td>
</tr>
</tbody>
</table>

Working women with high official incomes as of the date of maternity leave are much better positioned than are other women. The fact is that the majority of women in Ukraine (even if employed) officially receive only the minimum wage, so the share of assistance in the cumulative income of the family (that is, the efficiency of this assistance) is quite low (Table 2.2).

Table 2.2. Dynamics of the number of households in which women receive maternity benefits, and their share in family incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75,474</td>
<td>148,653</td>
<td>118,410</td>
<td>128,468</td>
<td>136,514</td>
<td>174,889</td>
<td>183,804</td>
</tr>
<tr>
<td>The number of households receiving maternity benefits</td>
<td>45</td>
<td>68</td>
<td>66</td>
<td>61</td>
<td>85</td>
<td>95</td>
<td>104</td>
</tr>
<tr>
<td>in the survey</td>
<td>4.9</td>
<td>5.8</td>
<td>4.1</td>
<td>4.7</td>
<td>4.3</td>
<td>4.8</td>
<td>3.7</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td>75,474</td>
<td>148,653</td>
<td>118,410</td>
<td>128,468</td>
<td>136,514</td>
<td>174,889</td>
<td>183,804</td>
</tr>
</tbody>
</table>


For uninsured persons, the size of the state social assistance is meagre. It is not even enough to cover the future mother's vital needs (Diagram 2.2).

If the size of assistance for a working woman depends on her prior earnings, for a non-working woman it is determined by the budget’s financial capacities. During the last five years, the size of assistance has remained virtually unchanged: on average it grew by only UAH 10 per year.

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1 Average monthly cumulative income is calculated as the average sum of the monthly incomes of all family members from all sources. The share of assistance in the cumulative income characterises the efficiency of this or that assistance.
Today, women who plan to give birth to a child usually don’t work because of the impossibility of finding even a minimum-wage job, so state assistance should at least correspond to the main social guarantee – the minimum wage. However, in recent years there has been a dramatic increase in the gap between the minimum wage and maternity benefits, proving the latters’ low efficiency for households with children.

Diagram 2.2. The size of maternity benefits for uninsured persons, UAH per month

The childbirth grant is the same amount provided to all mothers. It does not depend on a woman’s prior income or her participation in the social insurance system. The number of households in the survey that include this type of assistance in their income is growing annually: five-fold between 2002 and 2008 (Table 2.3).

Table 2.3. The number of households in which women receive childbirth grants, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>The number of households receiving childbirth grants in the survey</td>
<td></td>
<td>77</td>
<td>100</td>
<td>115</td>
<td>129</td>
<td>299</td>
<td>337</td>
<td>354</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td></td>
<td>145,770</td>
<td>209,629</td>
<td>208,652</td>
<td>275,963</td>
<td>525,724</td>
<td>688,956</td>
<td>688,413</td>
</tr>
<tr>
<td>Average size of the assistance, UAH per year</td>
<td></td>
<td>239.89</td>
<td>313.21</td>
<td>563.49</td>
<td>3417.25</td>
<td>4712.95</td>
<td>4216.93</td>
<td>5469.66</td>
</tr>
<tr>
<td>Ratio of the assistance in the cumulative incomes of recipient households, %</td>
<td></td>
<td>2.5</td>
<td>2.7</td>
<td>3.9</td>
<td>14.9</td>
<td>17.5</td>
<td>13.2</td>
<td>12.4</td>
</tr>
</tbody>
</table>
Unlike maternity benefits, childbirth grants represent an important addition to the family budget of households with children. They became especially efficient since the introduction of a one-off payment of UAH 8,500 on 1 April 2005. In 2008 the size of this assistance was further increased, with differentiation depending on the number of children in a family.

The childbirth grant is provided as follows*: UAH 12,240 for the first child; UAH 25,000 for the second child; and UAH 50,000 for the third and each subsequent child. Part of the grant is paid immediately after childbirth: UAH 4,800 for the first child; UAH 4,840 for the second child; and UAH 5,000 for the third and each subsequent child. The remainder of the assistance is paid in equal instalments during the next 12 months for the first child; during the next 24 months for the second child; and during the next 36 months for the third and each subsequent child, according to the order established by the Cabinet of Ministers of Ukraine.

In addition to childbirth grants, households receive child-care allowance for children under three. However this assistance is small, so its share in cumulative family income is insignificant (Table 2.4).

Table 2.4. The number of households that receive childcare allowance for children under three years, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>The number of households receiving the childcare allowance for children under 3</td>
<td></td>
<td>396</td>
<td>518</td>
<td>590</td>
<td>656</td>
<td>666</td>
<td>701</td>
<td>756</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td></td>
<td>814,935</td>
<td>1,060,046</td>
<td>1,068,975</td>
<td>1,329,471</td>
<td>1,233,376</td>
<td>1,416,804</td>
<td>1,574,635</td>
</tr>
<tr>
<td>Average size of the assistance, UAH per year</td>
<td></td>
<td>366.99</td>
<td>557.33</td>
<td>615.38</td>
<td>958.14</td>
<td>1,061.2</td>
<td>1,163.11</td>
<td>1,363.93</td>
</tr>
<tr>
<td>Ratio of the assistance in the cumulative incomes of recipient households, %</td>
<td></td>
<td>4.2</td>
<td>5.3</td>
<td>4.7</td>
<td>5.2</td>
<td>4.5</td>
<td>4.0</td>
<td>3.2</td>
</tr>
</tbody>
</table>


The right to receive the child-care allowance for children under the age of three is granted to a person (either the parent of a child or an adopter, guardian, grandmother/grandfather or other relative) who actually cares for a child. The child-care allowance for children under three is equal to the difference between from 1 January 2008 – 50 per cent; from 1 January 2009 – 75 per cent; and from 1 January 2010 – 100 per cent of the living wage for able-bodied persons and the average monthly cumulative family income per person during the previous six months.

* Information as of the period the calculations were made. In 2011 the size of the birthgrants increased.
In order to ensure the social protection of the most vulnerable category – children deprived of parental care – and to support families that take such children under care, the government assigns state social assistance for children under care or guardianship.

The allowance for children under care or guardianship is granted to persons who were legally appointed as guardians or caregivers of children deprived of parental care. This assistance is considered owned by the child in question. The allowance for children under care or guardianship is granted on the basis of a decision about the establishment of care or guardianship. It is the size of two living wages for a child of the relevant age. In cases when a child receives legally established pension, alimony, scholarship or state assistance money, the allowance is calculated as the difference between two living wages for a child of the relevant age and that money.

This assistance is quite considerable: its share in the cumulative income of recipient households is the largest among all types of benefits that are provided to families with children (Table 2.5).

Table 2.5. The number of households that receive allowance for children under care or guardianship, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>The number of households receiving the allowance for</td>
<td></td>
</tr>
<tr>
<td>children under care or guardianship in the survey</td>
<td>21</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td>33,700</td>
</tr>
<tr>
<td>Average size of the assistance, UAH per year</td>
<td>3,521.13</td>
</tr>
<tr>
<td>Ratio of the assistance in the cumulative incomes of</td>
<td></td>
</tr>
<tr>
<td>recipient households, %</td>
<td>19.2</td>
</tr>
</tbody>
</table>


There are few such families in the Household Living Conditions Survey because there are few of them in Ukraine: according to the 2008 data, there were about 31,000 of them, which means they made up 0.1 per cent of all households.

Another vulnerable category represents children who are brought up by one parent/guardian. To ensure their material support and to provide adequate conditions for rearing, the government offers social assistance. This assistance makes up quite a significant share of cumulative household income. Considering that this assistance is quite small, its high efficiency is evidence of the serious vulnerability of single parent families (Table 2.6).
Table 2.6. The number of households that receive child-care allowance for single mothers, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>The number of households receiving child-care allowance for single mothers</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>122</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td>202,396</td>
</tr>
<tr>
<td>Average size of the assistance, UAH per year</td>
<td>1,196.38</td>
</tr>
<tr>
<td>Ratio of the assistance in the cumulative incomes of recipient households, %</td>
<td>6.3</td>
</tr>
</tbody>
</table>


The right to receive child-care benefits for single mothers (unmarried) and single adopters if the child’s birth certificate (decision on adoption) does not contain a record about a father (mother) or if the record about the father (or mother) was made by the civil registry office according to the established order and at the directive of the child’s mother (father, adopter). The child-care allowance for single mothers is provided regardless of provision of other types of child benefits established by this Law. The child-care allowance provided to single mothers, single adopters (widows and widowers) or mothers (fathers) in case of the death of the other parent (if the marriage was nullified prior to the day of death) who have children under 18 (if the children receive a full-time education at schools of higher education of the I – IV levels of accreditation and at vocational colleges, but not beyond their 23rd birthday) is granted in a size equal to the difference between 50 per cent of the living wage for a child of the relevant age and the average monthly cumulative income of a family per one person for the previous six months. But it cannot be less than 30 per cent of the living wage for a child of the relevant age.

According to the 2008 survey, the average child-care assistance for single mothers was UAH 208 per month. According to the law, the minimum assistance in 2008 was: for children under six – UAH 162; maximum – UAH 270. As for children aged 6–18, the assistance figures were UAH 204 and UAH 340, respectively. Therefore, the numbers that households provided during the survey and those that were used for calculations both realistically reflect the amounts of money that single mothers receive as child-care benefits.

In addition to the benefits described above, households with children can also receive other types of benefits as established by Ukrainian legislation (assistance to low-income families; benefits to families of persons killed in the line of duty; Chernobyl benefits; assistance for disabled and senior persons and disabled children; retirement benefits to either parent in case of termination of labour contract; redundancy payments; payments related to reorganisation or liquidation of business; and so on).
Low-income benefits occupy the largest share in the cumulative income of a household among all types of benefits\(^1\). Threshold values for the income that makes a family eligible for this type of assistance are quite low, so the number of recipient households is relatively limited (Table 2.7).

Table 2.7. The number of households that receive low-income benefits, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>The number of households with children receiving benefits because of low-income status</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>299</td>
</tr>
<tr>
<td>represented in Ukraine</td>
<td>572,084</td>
</tr>
<tr>
<td>Average size of the assistance, UAH per year</td>
<td>646.72</td>
</tr>
<tr>
<td>Ratio of the assistance in the cumulative incomes of recipient households, %</td>
<td>8.2</td>
</tr>
</tbody>
</table>


The growth of payments for other types of benefits for households with children has automatically reduced the number of recipients of low-income benefits. In addition, since 2005 the threshold for assistance provision has not increased – it was only adjusted against the inflation rate. At the same time, nominal incomes for the population were growing rapidly, thus narrowing the number of potential recipients. For example, in 2002 there were over half a million low-income households with children, but in 2008 there were just 185 thousand, showing a reduction of three times. At the same time, during the last year the share of this assistance in the cumulative income of households increased by 2.4 percentage points, thus reflecting its growing weight and importance for recipient households.

Households with children are the main recipients of low-income assistance. According to the 2008 data, they made up 94.2 per cent of all recipients of this type of benefit. Childless households accounted for only 5.8 per cent. The average assistance provided to a household with children is almost three times higher than assistance to households without children.

To ensure social support to vulnerable populations and to avoid deterioration of their condition in times of growing prices for housing and communal services, the government has been supporting the housing subsidies programme since 1996. It has two types:

- a subsidy to cover expenditures for housing and communal services;
- a subsidy to purchase liquefied gas, solid and liquid stove fuel.

---

\(^1\) A low-income (disadvantaged) family with children is a family in which (for valid or independent reasons) the average monthly cumulative income is lower than the living wage for a family.
Both households with children and households without children receive subsidies. However, unlike the low-income benefits to families, the percentage of households with children among recipients of subsidies is much lower (Table 2.8). Households with children make up only 22 per cent of the users of housing subsidies.

Table 2.8. The number of households that receive subsidies, and its share in cumulative household incomes

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>The number of households receiving subsidy</td>
<td></td>
</tr>
<tr>
<td>with children</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>521</td>
</tr>
<tr>
<td>in Ukraine</td>
<td>1,041,825</td>
</tr>
<tr>
<td>without children</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>1,149</td>
</tr>
<tr>
<td>in Ukraine</td>
<td>1,971,550</td>
</tr>
<tr>
<td>Average size of the subsidy, UAH per year</td>
<td></td>
</tr>
<tr>
<td>households with children</td>
<td>511.1</td>
</tr>
<tr>
<td>households without children</td>
<td>316.8</td>
</tr>
<tr>
<td>Ratio of the subsidy in the cumulative incomes of recipient households, %</td>
<td></td>
</tr>
<tr>
<td>households with children</td>
<td>6.7</td>
</tr>
<tr>
<td>households without children</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Year in and year out, the average size of the subsidy for one household with children exceeds the size of the subsidy for a household without children: according to the 2008 data, by 1.3 times. However, the share of subsidies in the cumulative income of households without children is permanently higher.

Another stand-alone area of social protection in Ukraine is the system of social privileges offering non-cash or cash compensation for expenditures of different goods and services in selected population categories, regardless of household composition.

**Legislative changes at the beginning of the 1990s led to significant expansion of the contingent of persons enjoying privileges, as well as of the use of privileges as a tool of social protection. New categories of privileged persons emerged: persons disabled as a result of systemic disease, large families, seniors, orphans and so on. Basically, the system of privileges has partially transformed into a social assistance system. To bring back certain functions of the privilege system, therefore, the government, beginning in 2000, suspended some regulations and made efforts to substitute privileges with targeted cash assistance.**

The current system of privileges is quite ramified. It includes privileges for: fuel and liquefied gas; housing and communal services; electricity; sanatorium/resort and tourist trips; telephone service; public transportation; trips to resort/health improvement children’s facilities; purchase of drugs, treatment and prosthetic dentistry; etc. Today 49 per cent of households make use of at least one privilege. As for households with children, each third household receives privileges (31.5 per cent).

Households without children are the main users of privileges: in 2008 these exceeded the number of households with children that use privileges by three times. However, the average size of the privileges (in monetary terms) that households with children received exceeds the size of those that families without children received by almost two times (Table 2.9).

**Table 2.9. The number of households that receive different kinds of privileges, and their share in cumulative household incomes, %**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>The number of households receiving privileges</td>
<td></td>
</tr>
<tr>
<td>with children</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>707</td>
</tr>
<tr>
<td>in Ukraine</td>
<td>1,513,017</td>
</tr>
<tr>
<td>without children</td>
<td></td>
</tr>
<tr>
<td>in the survey</td>
<td>2,041</td>
</tr>
<tr>
<td>in Ukraine</td>
<td>3,538,085</td>
</tr>
<tr>
<td>Average size of privileges, UAH per year</td>
<td></td>
</tr>
<tr>
<td>households with children</td>
<td>627.8</td>
</tr>
<tr>
<td>households without children</td>
<td>400.8</td>
</tr>
</tbody>
</table>
The ratio of privileges in the cumulative incomes of households with and without children is almost the same: the difference does not exceed 0.9 percentage points. Since 2002, the share of privileges in 2008 has dropped significantly – from 6.9 per cent to 2.2 per cent (in households without children) and from 6 per cent to 2.1 per cent (in households without children). However, one can observe a stable growth of households in which members are eligible to receive privileges: from 5.5 million in 2002 to 8.4 million in 2008.

### Indicators

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>households with children</td>
<td>6.0</td>
<td>4.0</td>
<td>3.3</td>
<td>2.8</td>
<td>2.6</td>
<td>2.6</td>
<td>2.1</td>
</tr>
<tr>
<td>households without children</td>
<td>6.9</td>
<td>4.7</td>
<td>3.8</td>
<td>2.6</td>
<td>2.6</td>
<td>2.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>


**Definition of income structure to analyse inequality**

The study's goal is to define income structure, disaggregated by the necessary components (in this case by a detailed list of social transfers) and including the main sources of household incomes. However, a detailed elaboration is not only a goal of the study: it is also an opportunity to enrich the information base. We can use income components that are included in HLCS.

In selecting the overall income components, we shall be governed by the following preconditions:

first, it is necessary to consider the main types of incomes (salary, pensions, revenues from economic activity);

second, it is necessary to identify the size and the nature of the contributions of different social transfers to inequality (different types of benefits, privileges, subsidies and so on).

Even though they constitute only a minor share within the overall income, we should consider them in the process of decomposition in maximum detail (as much as the representativeness of the sample allows);

third, the total income of the majority of Ukrainian households significantly depends on cash and natural revenues from auxiliary farming plots (AFP) and on support from relatives, so it is very important to identify their contribution to overall inequality (despite that these revenues have decreased greatly in recent years.

We will decompose the Gini coefficient by the following components:

1. Remuneration of labour
2. Pensions
3. Revenues from economic and individual activities
4. Benefits
5. Subsidies
6. Privileges
7. Income from selling AFP products
8. Ownership income
9. Monetary assistance from relatives and friends
10. The cost of consumed products received from AFP and storage
11. Other incomes

Within the structure of benefits we should distinguish separate types of assistance provided to the most vulnerable populations. This is necessary to defining their impact on overall inequality:

- unemployment benefits;
- child-care benefits;
- low-income assistance;
- other types of assistance.
The use of a formula for decomposition of the Gini-Theil coefficient

Decomposition of inequality by the components of total income makes it possible to clarify which types of income have positive and negative impact on overall inequality, as well as to define the level of their contribution.

The Gini coefficient is given by:

\[ G = \frac{2}{\mu \cdot n^2} \sum_{i=1}^{n} \left( r_i - \frac{n+1}{2} \right) \cdot c_i, \]

where

\( \mu \) – means total per capita income, UAH,
\( n \) – the number of observations (population), persons,
\( r_i \) – household’s \( i \) rank in the mean per capita income ranking (for the household with the lowest income \( r_i \) equals 1, while for the household with the lowest income \( r_i \) equals \( n \)),
\( c_i \) – mean total per capita income of \( i \)-household.

The Gini Index can be decomposed into components by sources of income. Each Gini Index component is the product of a concentration coefficient for that income source and a fraction of that income source in the total income.

The concentration coefficient for income component \( k \) is given by:

\[ G_k^* = \frac{2}{\mu_k \cdot n^2} \sum_{i=1}^{n} \left( r_i - \frac{n+1}{2} \right) \cdot y_{ki}, \]

where

\( \mu_k \) – mean size of component \( k \) in income, UAH,
\( y_{ki} \) – component \( k \) of the income of household \( i \).

The sum of all components should be equal to mean total per capita income of a household:

\[ c_i = \sum_{k=1}^{k} y_{ki}. \]

The order of calculation of concentration coefficients for the income component:

1) the size of the relevant income component is calculated from the overall totality for each household;
2) mean equivalent of this income component is calculated for the overall totality;
3) all households are ranked by mean total income so that the household with the lowest income has the lowest rank, while the household with the highest income has the highest rank;

4) in the decomposition of the Gini coefficient by source of income to calculate each concentration coefficient, we should always use ranks created for distribution of the total income;
5) from the rank for each household we subtract the number calculated as a half of the population size, increased by 1; as a result we receive a negative number for individuals with low ranks, and a positive number for individuals with high ranks;
6) we multiply the resulting number by the value of component $k$ in the income of the relevant household; the results should be added to the totality;
7) The sum is multiplied by the value $\frac{2}{\mu_k \cdot n^2}$; thus we receive the concentration coefficient for income component $k$.

By multiplying the concentration coefficient for income component $k$ by its share in the structure of total income, we receive the value of the component $k$ of the income $\left( \frac{\mu_k \cdot G^*_k}{\mu} \right)$, which reflects the absolute contribution of this component in the overall inequality. The Gini coefficient is the sum of these absolute contributions, or, in other words, the weighted sum of concentration coefficients:

$$ G = \sum_{k=1}^{K} \frac{\mu_k}{\mu} \cdot G^*_k = \sum_{k=1}^{K} S_k \cdot G^*_k, $$

where $S_k = \frac{\mu_k}{\mu}$ - is a share of component $k$ in total income.

The percentage weight of income component $k$ in total income inequality is calculated as the ratio of component $k$ to the Gini coefficient:

$$ P_k = \frac{S_k \cdot G^*_k}{G} \cdot 100. $$

The expression above gives the overall contribution of income source $k$ to inequality. The sum of $P_k$ values equals 100 per cent.

**Example of calculation of the income component’s contribution to total inequality**

By using data from the 2008 Household Living Conditions Survey, we can calculate the size of all types of income described above, as well as mean per capita values for income and the structure of total incomes (Table 3.1).
Table 3.1. The structure of total household incomes in Ukraine in 2008, UAH, %

<table>
<thead>
<tr>
<th>Total income components</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UAH</td>
</tr>
<tr>
<td>Remuneration of labour</td>
<td>549.44</td>
</tr>
<tr>
<td>Pensions</td>
<td>229.86</td>
</tr>
<tr>
<td>Revenues from economic and individual activities</td>
<td>58.28</td>
</tr>
<tr>
<td>Benefits, including:</td>
<td></td>
</tr>
<tr>
<td>– unemployment benefits</td>
<td>2.11</td>
</tr>
<tr>
<td>– child-care benefits</td>
<td>12.70</td>
</tr>
<tr>
<td>– low-income assistance</td>
<td>1.18</td>
</tr>
<tr>
<td>– other types of assistance</td>
<td>12.18</td>
</tr>
<tr>
<td>Subsidies</td>
<td>0.81</td>
</tr>
<tr>
<td>Privileges</td>
<td>11.10</td>
</tr>
<tr>
<td>Incomes from selling AFP products</td>
<td>35.96</td>
</tr>
<tr>
<td>Ownership income</td>
<td>6.30</td>
</tr>
<tr>
<td>Monetary assistance from relatives and friends</td>
<td>49.49</td>
</tr>
<tr>
<td>The cost of consumed products received from AFP and storage</td>
<td>44.34</td>
</tr>
<tr>
<td>Other incomes</td>
<td>34.15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,076.07</strong></td>
</tr>
</tbody>
</table>

Then we rank all individuals by size of mean total per capita income – from the lowest to the highest. We subtract the number 22,344,359 (received as \((44,688,716 + 1) / 2\)) from the rank of each individual.

To calculate the concentration coefficient for the first component of the total income – remuneration of labour – we multiply the received number by the size of remuneration of labour of every household and sum up the results in total. We receive \(1.68 \times 10^{17}\).

Further we calculate

\[
\frac{2}{\mu_n \cdot n^2} = \frac{2}{549.44 \cdot 44688716} = 1.823 \times 10^{-18}.
\]

By multiplying these two numbers, we receive the value of the concentration coefficient for the first income component – remuneration of labour:

\[
1,68 \times 10^{17} \times 1.823 \times 10^{-18} = 0.306, \text{or} 30.6\%.
\]

By dividing the concentration coefficient for remuneration of labour by the share of remuneration of labour in the structure of total incomes, we receive the absolute contribution of remuneration of labour to total inequality:

\[
\frac{30.6}{52.4} \times 100 = 61.1\%.
\]

The sum of absolute contributions of all components to inequality will be equal to the Gini coefficient – 26.6 per cent.
By dividing the absolute contribution by the Gini coefficient, we receive the value of relative contribution of the remuneration of labour to total inequality:

\[
\frac{16.1}{26.6} \times 100 = 60.4\%.
\]

Using the same algorithm, we make calculations for all other components of total income (Table 3.2).

Table 3.2. Calculation of the relative contribution of all components of total income to inequality

<table>
<thead>
<tr>
<th>Type of income</th>
<th>Value under sum</th>
<th>( \frac{2}{\mu_n \cdot n^2} )</th>
<th>Concentration coefficient, %</th>
<th>Absolute contribution to inequality, %</th>
<th>Relative contribution to inequality, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remuneration of labour</td>
<td>1.68076E+17</td>
<td>1.82269E–18</td>
<td>30.6</td>
<td>16.1</td>
<td>60.4</td>
</tr>
<tr>
<td>Pensions</td>
<td>5.23213E+16</td>
<td>4.35691E–18</td>
<td>22.8</td>
<td>5.0</td>
<td>18.8</td>
</tr>
<tr>
<td>Revenues from economic and individual activities</td>
<td>2.7287E+16</td>
<td>1.71837E–17</td>
<td>46.9</td>
<td>2.6</td>
<td>9.8</td>
</tr>
<tr>
<td>Benefits, including:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– unemployment benefits</td>
<td>~1.08373E+14</td>
<td>3.55508E–17</td>
<td>~0.4</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>– child-care benefits</td>
<td>~2.94995E+15</td>
<td>7.88671E–17</td>
<td>~23.3</td>
<td>~0.3</td>
<td>~1.1</td>
</tr>
<tr>
<td>– low-income assistance</td>
<td>~7.99077E+14</td>
<td>8.49339E–16</td>
<td>~67.9</td>
<td>~0.1</td>
<td>~0.3</td>
</tr>
<tr>
<td>– other types of assistance</td>
<td>4.00481E+15</td>
<td>8.22035E–17</td>
<td>32.9</td>
<td>0.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Subsidies</td>
<td>~7.30872E+13</td>
<td>1.23464E–15</td>
<td>~9.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Privileges</td>
<td>3.46994E+15</td>
<td>9.02108E–17</td>
<td>31.3</td>
<td>0.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Incomes from selling of AFP products</td>
<td>3.18445E+15</td>
<td>2.7846E–17</td>
<td>8.9</td>
<td>0.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Ownership incomes</td>
<td>8.66181E+14</td>
<td>1.58872E–16</td>
<td>13.8</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Monetary assistance from relatives and friends</td>
<td>1.2338E+16</td>
<td>2.02345E–17</td>
<td>25.0</td>
<td>1.2</td>
<td>4.4</td>
</tr>
<tr>
<td>The cost of consumed products received from AFP and storage</td>
<td>~7.35728E+14</td>
<td>2.25876E–17</td>
<td>~1.7</td>
<td>~0.1</td>
<td>~0.3</td>
</tr>
<tr>
<td>Other incomes</td>
<td>1.14219E+16</td>
<td>2.93225E–17</td>
<td>33.5</td>
<td>1.1</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Evaluation of the Social Effect of the Benefits System and Modelling of Cost-Saving as a Result of its Reformation

According to experts, the existence of a system of government support for the population based on categorical principles (that is, belonging to a certain social and demographic or professional category) is unacceptable given a budget deficit and significant differentiation of the population by income level. The main objective of evaluating social benefits is to identify their impact on vulnerable populations and to simulate the outcomes of reforming the current system.

Issues for consideration and modelling:

1. The current benefits system and its impact on poverty.
2. The importance of the social benefits system as an area of state support to families with children.
3. The cost of the social benefits programme and its comparison with other social assistance programmes.
4. Redistribution of programme funds to targeted payments.

1. The current benefits system and its impact on poverty

Evaluation indicators:
- The ratio of poor and well-to-do populations among recipients of benefits.
- The ratio of recipients among poor and well-to-do households.
- Average value of benefits for poor and rich recipients. Incomes of poor and well-to-do households before and after receiving benefits.
- Correlation of the value of benefits with the income deficit of poor populations and groups in extreme poverty.

2. The importance of the social benefits system as an area of state support for families with children

Evaluation indicators:
- Average value of received benefits for households with children, depending on the number of children.
- The ratio of benefits in incomes of households with children and without children; their correlation.
- Poverty of families with children before and after receiving benefits.

3. The cost of the social benefits programme and its comparison with other social assistance programmes

Evaluation indicators:
- The overall value of benefits actually received by households.

\(^1\) Seventy-five per cent of the medial level of cumulative equivalent expenditures was taken as a poverty criterion.

\(^2\) A population in extreme poverty is a population the cumulative equivalent expenditures of which are lower than 60 per cent of its median level.
4. **Redistribution of programme funds to targeted payments**

Evaluation indicators:
- Identification of a potential threshold for targeted assistance to the poor in case of redistribution of funds from benefits to targeting.
- Calculation of the number of recipients of targeted assistance, based on the new extra payment threshold.

An overall assessment of the system of social benefits leads to the conclusion that these are not generally oriented at poor populations. Only one in every five recipient households is a low-income one (20.6 per cent), even though poor people constitute 27 per cent of the country’s population. Poor households receive benefits more rarely than do well-to-do households (42.1 per cent against 51.1 per cent); their gain from the programme is also lower – UAH 431.2 versus UAH 777.3 correspondingly (Table 4.1).

### Table 4.1. Indicators for evaluation and modeling of the social benefits system, 2008

<table>
<thead>
<tr>
<th>Indicators for evaluation and modelling of the benefits system</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ratio of the poor population among benefits recipients, %</td>
<td>20.6</td>
</tr>
<tr>
<td>The ratio of the well-to-do population among benefits recipients, %</td>
<td>79.6</td>
</tr>
<tr>
<td>The ratio of benefits recipients among poor households, %</td>
<td>42.1</td>
</tr>
<tr>
<td>The ratio of benefits recipients among well-to-do households, %</td>
<td>51.1</td>
</tr>
<tr>
<td>Average value of received benefits for the poor, UAH per year per household</td>
<td>431.18</td>
</tr>
<tr>
<td>Average value of received benefits for the well-to-do, UAH per year per household</td>
<td>777.34</td>
</tr>
<tr>
<td>Average value of received benefits for households with children, UAH per year per household</td>
<td>1,025.2</td>
</tr>
<tr>
<td>Total cost of benefits actually received by households, UAH million</td>
<td>5,953.3</td>
</tr>
<tr>
<td>The cost of targeted programmes (housing subsidies and low-income assistance), UAH million</td>
<td>1,067.3</td>
</tr>
<tr>
<td>Correlation between the cost of benefits programme and the cost of targeted assistance programmes, times</td>
<td>5.58</td>
</tr>
<tr>
<td>The income deficit of the poor population, UAH million</td>
<td>26,383.0</td>
</tr>
<tr>
<td>Correlation between the income deficit of the poor population and the cost of benefits, times</td>
<td>4.43</td>
</tr>
<tr>
<td>The income deficit of the population in extreme poverty, UAH million</td>
<td>9,469.1</td>
</tr>
<tr>
<td>Correlation between the income deficit of the population in extreme poverty and the costs of benefits, times</td>
<td>1.59</td>
</tr>
</tbody>
</table>

Indicators for evaluation and modelling are calculated in the SPSS software package using data from the survey of household living conditions in Ukraine. This survey includes questions about the actual usage of all existing types of benefits and questions about their real value for recipient households. Since this study is representative for the whole country, and since 49 per cent of households make use of different benefits, the data on the value of the social benefits programme can be considered quite reliable.
The modelling process uses the following algorithm:

1. Calculation of the value of social benefits actually received by the households.
2. Subtraction of the value of benefits from the cumulative incomes of recipient households.
3. Distribution of the bulk of funds actually received as benefits among households with the lowest incomes (imitation of the targeting principle with an extra payment mechanism to reach a certain threshold).
4. Identification of a possible extra payment threshold using the selection method (on condition that expenditures for social assistance payments do not exceed funds, defined in pt. 3).

Modelling based on 2008 data at the household level resulted in the following:

- The cost of benefits actually used by the population in 2008 reached almost 6 billion hryvnas (UAH 5,953.3 million). It exceeded the value of targeted social programmes (assistance to low-income persons and housing subsidies) by 5.6 times. By reforming the benefits system, therefore, it is possible to increase the effectiveness and efficiency of state support for poor people without increasing funding.
- The income deficit of poor populations exceeds the value of the benefits programme by 4.4 times. However, the value of the benefits covers the income deficit of people in extreme poverty by 63 per cent.
- If this money was used for targeted assistance to low-income families, the threshold of assistance could be raised to UAH 565, which substantially exceeds the current level. This threshold approximates to the extreme poverty line – UAH 622. Considering the composition of groups in extreme poverty, it should guarantee support to large numbers of households with children.
- Close to 4.3 million people (or 1.35 million households) can become recipients of such assistance. Of all households with children, 13.2 per cent of the poorest can become recipients of targeted social assistance.

Reforming the social benefits system and redistributing funds towards targeted types of social assistance is therefore a promising area of state social policy. However, the majority of the population believes that the benefits system is effective, especially when it comes to benefits that people actively use. It is noteworthy that the opinions of recipients of at least one benefit coincide with the average opinions and attitudes of households in the country that are not eligible to receive benefits. This means that Ukrainian society today is not ready to reform the benefits system.
5. Modelling of Changes in the Assistance Programme to Low-Income Families to Ensure Better Support and Targeting of Funds to Poor Populations

The main problem with the current programme of assistance to low-income families (basically, assistance to the poor) is the low level of coverage of the poor due to the low threshold for extra payments to family income.

Today the programme is characterised by high targeting, probably due to the exceptionally low level of assistance. In other words, the following principle is at work here: only the most disadvantaged people, who truly need help, will come for insignificant payments, which also require a means-test procedure.

Various issues in the functioning of targeted social assistance programmes (assistance to low-income families and housing subsidies programmes): evaluating them and information support of the assessment process

1. The right to access the targeted programmes is granted on the basis of the cumulative income of a household. The methodology of calculating cumulative income, as approved by the Ministry of Labour, fails to ensure adequate assessment and means-testing of all indirect income components, such as incomes from land plots; profits from the rental and sale of property; undeclared income from labour; the value of social benefits; and so on. In this way, incomes that are officially calculated by social service experts can be much different from the real incomes of households. That is why calculations based on the HLCS data and administrative statistics have large discrepancies.

2. Ukraine still has not developed a single register of recipients of all types of social assistance. It is unclear when it will be completed and what research opportunities it will offer. So the methodology cannot contain any calculations on the contingent of recipients of targeted assistance, except for calculations based on administrative reporting. Another problem is the lack of research access to the databases of the tax authorities. This makes it impossible to study the distribution of, at least, declared incomes. Consequently, the only data source analysing assistance to low-income families and housing subsidies today is the Household Living Conditions Survey, which is characterised by serious data reliability limitations.

3. HLCS as the main source of information has a number of weaknesses. It is representative for the whole population of the country. As for the regional level, the error for calculating indicators for all households is acceptable – it does not exceed 10 per cent. However, for specific indicators (such as poverty level) in regions with low samples, the sampling error exceeds 15 per cent. Use of special models to specify poverty rates at the regional level does not solve the issue regarding the increased reliability of data about potential and actual recipients of social assistance. We believe that when there are limited information settings, it is still possible to work with data with error exceeding 25 per cent; in some cases it is even possible to analyse data with a 40 per cent error.

1 For housing subsidies – on the basis of comparison of income and the cost of consumed housing and communal services or fuel; for assistance to low-income families – on the basis of comparison of income with the established threshold of assistance provision.

10 Relative standard sampling error.
In addition, individual indicators received from HLCS can be verified by comparing them with administrative statistics data (e.g. the number and ratio of programme participants; the average size of assistance; social and demographic composition, etc).

Evaluation of assistance to low-income families as a classic targeted programme with a means testing mechanism and a function for supporting populations with the lowest incomes can be performed on the basis of classic indicators:

- targeting;
- level of coverage;
- efficiency;
- effectiveness;
- ‘exclusion error’;
- ‘inclusion error’.

Maximisation of the first three indicators requires certain compromises, because:

1) in order to include the maximum number of poor people (the maximum coverage requirement), it is necessary to introduce ‘soft’ criteria. In this case the effectiveness of targeting will be low, because a certain portion of assistance will go to well-to-do people;

2) interrelation between coverage and efficiency – the broader the social assistance coverage, the fewer the resources to every household.

Analysis of inclusion and exclusion errors in the form of a matrix makes it possible not only to assess the level of targeting, but also to identify optimal correlation between these two errors. Efforts to reduce one error may lead to an increase in the scale of the other error. For example, introducing more strict rules for participating in the programme with the goal of reducing the inclusion error limits the access of the poor to the programme, while increasing the assistance provision threshold to reduce the exclusion error leads to large-scale inclusion of the well-to-do in the programme.

In-depth study of the problems with the current social assistance system and the peculiarities of poverty in Ukraine provides foundation on which to develop possible options for providing targeted social assistance. Even within the current extra payment mechanism, there exist several options for providing assistance to the population, with options that take into account a differentiated threshold for extra payments to different social and demographic groups.

Basic conditions of the model:

- all persons who need assistance will apply for it;
- assistance will be provided only to those who really need it.

Since only less than 2 per cent of households actually participate in the programme, and since the number of potential participants does not exceed that level, all modelling calculations at the basic stage face a problem as regards the representativeness of the data. However, during modelling of the raised threshold and the relevant growth of the number of potential recipients, the reliability of the data also increases.

The modeling uses the HLCS data and follows this algorithm:
1. Identification of a specific contingent of potential programme participants (that is, persons who can participate in it given the current threshold) for each extra payment threshold option (including the baseline option).

2. For each household (under each option) – calculation of the conditional size of assistance (extra payment threshold).

3. Calculation of the overall conditional cost of the programme for each option for the extra payment threshold.

4. Identification of core indicators to evaluate the programme performance for each option.

5. Analysis of results using graphic methodology that imitates the ‘error matrix’. The researchers visually select the option with the best programme performance estimates and the lowest programme cost, and the best coverage of vulnerable populations.

6. If future changes in programming and relevant modeling are described by one core indicator, then it can serve as a target function, while other indicators can be only minimised or maximised. For example, if the main condition is to limit the cost of a programme, then any other optimal options outside this condition should be rejected.

7. Since children represent the most vulnerable population group, it is necessary to conduct a separate analysis of options for identifying differentiated thresholds for low-income assistance for children.

This approach to modelling possible changes in the programme of assistance to low-income families can therefore become an efficient tool of state social policy, since it identifies key areas for changes when other conditions are equal.
6. Evaluation of the Impact of the Housing Subsidies Programme on the Condition of Vulnerable Populations and on Poverty. Modelling of Changes to Limit the Right to Participation and Redistribution of Funds to Other Programmes More Oriented to Needful Populations

The housing subsidies programme was the first social programme developed on the basis of targeting, that is, that used a mechanism of means testing the material wellbeing of candidate households. Targeting means the programme’s goal of supporting the population with payments for housing and communal services and fuel.

During the existence of this program the country was able to resolve a serious nationwide problem related to the population’s growing debts for communal and utility services. A gradual reduction of these arrears was achieved. For example, in 2003 the population’s overall debt was UAH 7.45 billion, while in 2002 it was UAH 7.57 billion. Even in 2008, with the general increase in communal tariffs, overall debt dropped by UAH 0.5 billion over 2007. This can be indirectly attributed to the efficient assistance rendered to low-income populations in paying for communal services.

Preliminary general assessment of the programme’s performance reflects its neutrality in terms of the development of social processes – the programme has almost no influence on reducing inequality of income distribution or reducing poverty rates in the country. For example, the contribution that subsidies made to the population’s differentiation in terms of income in 2008 was less than 0.1 per cent. In other words, subsidies neither increase nor reduce inequality. If the housing subsidies programme did not operate in the country, the poverty level would have increased in 2008 by only 0.03 percentage points – from 26.97 per cent to 27.00 per cent.

However, it is impossible to make conclusions about the ineffectiveness of the programme on the basis of this indicator alone. First, the programme covers an insignificant number of households, so it cannot have a serious impact on poverty rates throughout the whole country. Second, the programme’s goal is not to reduce poverty, but to help people pay for communal services and purchase fuel. Comprehensive analysis of the subsidies programme will allow more precise evaluation of its importance and/or of the expediency of its further existence.

The housing subsidies programme also operates beyond the social protection sphere. Its functioning is determined by both social policy factors (population incomes and budget expenditures on social protection) and external, purely economic factors (tariffs for housing and communal services, fuel prices and consumption rates per capita).

The issue of evaluating the housing subsidies programme is associated with the abovementioned information provision limitations on analysing targeted social assistance programmes and with methodology-related weaknesses in calculating cumulative family income for the purposes of granting assistance.

The housing subsidy programme is substantially different from other social programmes, particularly in terms of the composition of its participants. Households consisting solely of

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11 All preliminary assessments were performed on the basis of the HLCS micro-file.

12 The subsidy accrues not to consumed services and fuel in general, but only to established rates per person.
pensioners constitute the lion’s share of recipients. So, in analysing its impact, it can be assumed that the economic behaviour of the classic programme participant will not change depending on whether he/she receives the subsidy or not.

Today, the housing subsidies programme is the only targeted assistance programme for which we have adequate dynamics data and invariable rules of functioning. To analyse it in terms of its impact on the condition of those in need and in poverty, therefore, we can apply a special system of indicators.

**Key indicators for evaluating the housing subsidy programme performance in terms of poverty reduction and support of low-income populations**

1. **Indicators for targeting and coverage of the poor population with subsidies, and indicators for the effectiveness of the use of programme funds**

The main indicators of any social programme in budget deficit conditions are indicators for targeted orientation, with the fullest possible coverage of target groups by assistance. Indicators for evaluating the effectiveness of the use of programme funds are suggested as a set of adjacent indicators. The higher the targeting of provisions is (with equal values for all coverage indicators), the more effective the use of programme funds is.

1.1. **The level of coverage of poor populations with subsidies: the share of recipients among low-income populations \( R_P \)**

\[
R_P = \frac{P_S}{P} \times 100\%.
\]

where
- \( P_S \) – the size of the poor population receiving the subsidy, thousand persons;
- \( P \) – total number of poor population, thousand persons.

1.2. **Comparing levels of coverage amongst the poor and well-to-do populations with subsidies: correlation of the share of recipients among poor populations and the share of recipients among well-to-do people \( I_R \)**

\[
I_R = \frac{R_P}{R_{NP}}.
\]

where
- \( R_{NP} \) – the share of subsidy recipients among well-to-do populations (calculated similarly to \( R_P \)), %.
1.3. **Social efficiency of the programme: correlation between the ratio of subsidies in the incomes of the poor population and the ratio of subsidies in the incomes of the population as a whole (D_{SOC})**

\[
D_{SOC} = \frac{D_P}{D_N}
\]

where
- \(D_P\) – the ratio of subsidies in the incomes of the poor population, \%;
- \(D_N\) – the ratio of subsidies in the incomes of the population as a whole, \%.

1.4. **Correlation of the poverty level among recipients of subsidies and the level of poverty in the country as a whole (I_{P1})**

\[
I_{P1} = \frac{P_{1S}}{P_1}
\]

where
- \(P_{1S}\) – the level of poverty among recipients of subsidies, \%;
- \(P_1\) – the level of poverty in the country as a whole, \%.

1.5. **Evaluation of the targeting of programme funds: the ratio of subsidies to poor populations from the total sum (A)**

\[
A = \frac{S_{PR}^P}{S_{PR}} \times 100\%.
\]

where
- \(S_{PR}^P\) – the sum of programme funds provided to the poor population, UAH thousand;
- \(S_{PR}\) – the total sum of programme funds, UAH thousand.

1.6. **Comparing profiles of the totality of subsidy recipients and the totality of poor populations (key social/demographic and social/economic groups in the composition of poor populations and subsidy recipients): structure similarity coefficient (K_{P})**

\[
K_P = \sqrt{\frac{\sum (V_i - Y_j)^2}{\sum (V_i - Y_j)^2}}
\]

where
- \(V_i\) – the share of i-group in the composition of actual recipients of subsidies;
- \(Y_j\) – the share of j-group in the composition of the population.

1.7. **The ratio of households with above the norm consumption of electricity among recipients of housing subsidies**

\[
E_{NR} = \frac{N_{NR_{SUB}}}{N_{SUB}} \times 100\%.
\]

where
- \(N_{SUB}\) – the number of recipient households;
- \(N_{NR_{SUB}}\) – the number of households with above the norm consumption of electricity among recipients of subsidies.
2. Indicators of the social effect of the programme

In the process of identifying impact on poverty, it is possible to model indicators (including the rate and depth of poverty) for situations in which the housing subsidy programme was not active and to compare them with actual values. The larger the difference between modelled and actual values, the larger is the programme’s impact on the country’s level of poverty. However, this sort of evaluation may not work if the programme itself does not cover significant numbers of households. Even if the programme is actively functioning to protect a limited-in-number poverty-stricken population, its positive impact on poverty in the country can be levelled.

2.1. Comparisons of the level of the poverty index in the country before and after reception of subsidy

2.2. Comparisons of the depth of poverty in the country before and after reception of subsidy

2.3. Comparisons of the depth of poverty among low-income groups before and after reception of subsidy

2.4. Contribution of subsidies in total income inequality is calculated on the basis of decomposition of the Gini coefficient:

$$G_i^* = \frac{2}{\mu \cdot n^2} \sum_{i=1}^{n} \left( r_i - \frac{n+1}{2} \right) y_{ki} ,$$

where

- $\mu$ – mean per capita cumulative incomes in totality;
- $n$ – number of observations (households, persons);
- $r_i$ – household’s $i$ rank by the size of subsidy of mean per capita cumulative income;
- $y_{ki}$ – component $k$ of cumulative income (including subsidies) of household $i$.

For each income component (including housing subsidies) we calculate its total weight among the factors of inequality, using the formula\(^{13}\):

$$P_i = S_k \frac{G_i^*}{G} ,$$

where

- $S_k$ – the share of component $k$ in the cumulative income;
- $G$ – the Gini coefficient.

3. Indicators of possible negative outcomes of programme performance

3.1. Average term of participation in the programme

$$Z = \frac{\sum_{i=1}^{n} H_i}{NS} ,$$

where

- $H_i$ – the number of months of participation for each questioned participant;
- $NS$ – the number of questioned programme participants (households).

3.2. The ratio of able-bodied programme participants with uninterrupted stays in the programme for over 24 months

\[ Z_{24} = \frac{NS_{24}^{PR}}{NS^{PR}} \times 100\% , \]

where

- \( NS_{24}^{PR} \) – the number of questioned able-bodied programme participants with uninterrupted stays in the programme for over 24 months;
- \( NS^{PR} \) – the number of all questioned able-bodied programme participants.

3.3. The ratio of households that are ready to pay for housing and communal services and fuel in case they leave the programme or, in case of reformation, among all current programme participants

\[ G = \frac{NS_G}{NS} \times 100\% , \]

where

- \( NS_G \) – the number of questioned programme participants, who are ready to pay for housing and communal services and fuel in case of leaving the programme.

3.4. The ratio of persons ready to start working and to lose the right to participate in the programme, among all current programme participants with unemployment status

\[ U = \frac{NS_L}{NS_{UN}} \times 100\% , \]

where

- \( NS_L \) – the number of questioned programme participants who are ready to start working;
- \( NS_{UN} \) – the number of questioned programme participants with unemployment status.

Evaluating the housing subsidies programme’s performance using indicators on the basis of HLCS data leads to the conclusion that its level of effectiveness is low. In this context, the indicator for structure comparison is of special interest. The idea is that the bulk of recipients of any social assistance should consist of socially vulnerable population groups or households. In addition, certain correlations should exist between the main vulnerable groups and the main groups of recipients. Excluded from this list are individual types of assistance aimed at specific groups (like assistance to families with children or categorical benefits).

If we compare the main poverty profiles with the composition of housing subsidy recipients, we will notice their nonconformity. The housing subsidies programme therefore cannot be considered effective in supporting poor populations.

During 2001–2006, due to an increase in people’s incomes (above all of pensioners, who are the main users of the housing subsidy programmes) and to fixed tariffs for housing and communal services, subsidies lost their role as the most efficient type of social assistance. Their ratio in total family incomes dropped from 1.5 per cent in 2001 to 0.1 per cent in 2006. This constituted serious grounds for ending the programme. However, the growth of housing and communal tariffs in 2007–2008 led to an increased (though insignificant) level of popularity for this transfer and to an increased number of users. The expected rise in tariffs (due in particular to increased natural gas prices) reflects the impossibility of ending the programme in upcoming years. We can therefore today talk only about improving it, and especially about improving its targeting.
Modelling future changes in the housing subsidies programme on the basis of evaluation of its performance can use the following scheme:

1. Expediency of continuation or termination of the programme.
2. Need to change the programme’s organisation.
3. Need to improve the organisational and/or methodological scheme of subsidy provision.

Further programme implementation can be defined 1) on the basis of direct indicators (if these are expedient for this goal); 2) by modelling further development using different scenarios (according to suggested or desirable changes); 3) on the basis of the combination of both approaches.

The following direct indicators can be used:

1) to justify continuation or termination of the programme: *The ratio of households for whom the housing subsidy gives a sense of social protection*;
2) to justify the need for changing the programme’s organisation: *The share of the population that considers the current system of subsidy provision to be socially unfair*;
3) to justify the need to improve the organisational system of subsidy provision: *The ratio of households that consider the current form of fuel subsidies provision as convenient; the ratio of households that consider full transformation of housing subsidies into cash transfers as expedient.*

Direct indicators usually fail to reflect adequately all key aspects of changes that are necessary and possible. This is especially true for programmes with a desirable economic impact, since direct indicators are usually subjective. Moreover, in order to obtain such indicators, it is necessary to conduct a series of special surveys that contain actual (at a given moment in time) questions regarding organisation and provision of housing subsidies. Another weakness of direct indicators is their inability to take into account the possible social effects and negative consequences of suggested changes. Moreover, they are based only on the opinions of actual recipients of subsidies.

Modelling is thus the most appropriate approach. Modelling necessary and possible changes in the housing subsidies programme, based on evaluation of its functioning and possible budget funding, shall envisage:

1. The development of hypotheses and options for future changes.
2. Modelling of the developed options for future changes.
3. Justification and selection of the most appropriate option to improve future programme outcomes and consideration of budget capacities for funding expected changes.

In this case, modelling can be carried out on the basis of imitation models. That is, we develop variants or scenarios for input data, and then we study the received outcomes; at the same time, we do not consider the processes and impacts of other factors (excluding those envisaged by the scenario). It is assumed that the outcome value of the model is a result of introduced changes under other equal conditions:
where
\[ Y = \beta_0 + \sum_{i=1}^{n} \beta_i X_i, \]

\( \beta_0 \) – indicator value in the baseline (actual) option;

\( \beta_i \) – indicator value in the first variant of the scenario.

Development of imitation models of this kind to find the best programmatic change options for the housing subsidy programme can be performed using statistical programmes on the basis of the Household Living Conditions Survey. The use of a certain scenario for future developments can be carried out on the basis of micro-data (and elected macro indicators).

For example, a political decision is made to limit the right to receive subsidies by households whose income exceeds the living wage. In this case we have just one scenario and one modelling option.

The procedure for modelling the limiting of the well-to-do population’s right to receive housing subsidies includes the following:

1. Calculation of the conditional value of the subsidy for each household eligible to receive it under current legislation.
2. Calculation of the conditional overall value of the subsidies programme – how much subsidies would cost if all eligible households received them.
3. Artificial removal of eligible households from the subsidies programme because their average cumulative income per person exceeds the living wage.
4. Calculation of the new programme value on condition that participation on the basis of living wage size is limited.
5. In case of differentiated limits for programme accession for different (in terms of composition) households, the procedure should be repeated for each type of household.
7. Calculation of the Size of Tax Benefits for Different Types of Vulnerable Households, and Modelling of Their Possible Impact on the Size of Social Payments

Another area in which government expenditures support vulnerable populations is the social tax benefit, which uses the principle of a tax ‘discount’, or benefit. This represents the sum by which the government reduces the size of a tax payer’s general monthly taxable income (for the incomes of physical persons) received on the territory of Ukraine from one employer in the form of salary.

The social tax benefit is applied to income accrued for the tax payer during a taxable month under reporting as salary (plus other legally established similar payments, compensations and reimbursements) if its size does not exceed a sum equal to the sum of the monthly living wage for able-bodied person on 1 January of the current fiscal year multiplied by 1.4 and rounded to 10 hryvnas.

The right to use the social tax benefit has been granted to citizens of Ukraine since 1 January 2004, when the Law of Ukraine No. 889 – IV 'On Taxation of Incomes of Physical Persons' (as of 22 May 2003) came into force.\[^{14}\]

According to Article 6 of this Law, the tax payer has a right to a reduction of the size of its general monthly taxable income received on the territory of Ukraine from one employer in the form of salary by the sum of the social tax benefit. That benefit is a certain percentage of the minimal salary, which depends on the tax payer category. There are three categories of tax payer eligible to receive the social tax benefit:

1. 50 per cent of one minimum salary (per month), established by the law on 1 January of the fiscal year under reporting – for any tax payer.

2. 75 per cent of one minimum salary (per month), established by the law on 1 January of the fiscal year under reporting – for the following categories of tax payers:
   a) single mothers or fathers (single caregivers, guardians) – for every child under 18 years of age;
   b) persons caring for disabled children – for every child under 18 years of age;
   c) persons with three and more children – for every child under 18 years of age;
   d) widowed persons;
   e) individuals of the 1st and 2nd categories of persons affected by the Chernobyl nuclear accident, including persons rewarded with Letters of Commendation of the Presidium of the Verkhovna Rada of Soviet Ukraine for their participation in the liquidation of the consequences of the accident;
   f) high school and university and post-graduate students, interns and junior scientific assistants;
   g) disabled persons of the I or II grade of disability and persons disabled since childhood;

The living wage for an able-bodied person in 2009 was established as UAH 669. In this case the maximum salary (marginal level of income, or MLI) which allows for the social tax benefit in 2009 is calculated as follows:

\[
\text{MLI} = 669 \times 1.4 = 936.6 = \text{UAH 940.}
\]

The social tax benefit is a certain percentage of the minimum salary, which is established at the beginning of the fiscal year. From 1 January 2009 the minimum salary in Ukraine was UAH 605. In 2009, then, the social tax benefit for different categories of persons eligible for it was:

**Category 1:**

\[
\text{STB}_{50} = 605 \times 50\% = \text{UAH 302.5}
\]

**Category 2:**

\[
\text{STB}_{75} = 605 \times 75\% = \text{UAH 453.75}
\]

**Category 3:**

\[
\text{STB}_{100} = 605 \times 100\% = \text{UAH 605}
\]

In calculating the tax on the incomes of physical persons, the social tax benefit is subtracted from the taxable income, thus reducing the tax and increasing received salary.

Below we will analyse the effectiveness of the social tax benefit for the most vulnerable families. We should note that families with children that are able to receive the benefit usually fall under Category 2.
Order of calculations (Table 7.1):

1. The size of compulsory state social insurance (average rate – 3.1%)
   \[ c. 3 = c. 1 \times c. 2. \]

2. Size of tax without benefit
   \[ c. 6 = (c. 1 - c. 3) \times c. 4. \]

3. Size of tax using the social tax benefit
   \[ c. 7 = (c. 1 - c. 3 - c. 5) \times c. 4. \]

4. Total sum of taxes charged from the salary without use of social tax benefit
   \[ c. 8 = c. 3 + c. 6. \]

5. Total sum of taxes charged from the salary with use of social tax benefit
   \[ c. 9 = c. 3 + c. 7. \]

6. Salary actually received without use of social tax benefit
   \[ c. 10 = c. 1 - c. 8. \]

7. Salary actually received with use of social tax benefit
   \[ c. 11 = c. 1 - c. 9. \]

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**Table 7.1. Calculation of salaries with or without social tax benefit, UAH**

<table>
<thead>
<tr>
<th>Accrued salary</th>
<th>Rate of compulsory state social insurance, UAH</th>
<th>Compulsory state social insurance, UAH</th>
<th>Rate of tax on incomes of physical persons, %</th>
<th>Size of social tax benefit (depending on the category)</th>
<th>Tax on incomes of physical persons (15%)</th>
<th>Charged from salary</th>
<th>Actual salary received</th>
</tr>
</thead>
<tbody>
<tr>
<td>605.00</td>
<td>3.1</td>
<td>18.76</td>
<td>15.0</td>
<td>302.50</td>
<td>87.94</td>
<td>106.69</td>
<td>61.32</td>
</tr>
<tr>
<td>700.00</td>
<td>3.1</td>
<td>21.70</td>
<td>15.0</td>
<td>302.50</td>
<td>101.75</td>
<td>123.45</td>
<td>78.07</td>
</tr>
<tr>
<td>800.00</td>
<td>3.1</td>
<td>24.80</td>
<td>15.0</td>
<td>302.50</td>
<td>116.28</td>
<td>141.08</td>
<td>95.71</td>
</tr>
<tr>
<td>900.00</td>
<td>3.1</td>
<td>27.90</td>
<td>15.0</td>
<td>302.50</td>
<td>130.82</td>
<td>158.72</td>
<td>113.34</td>
</tr>
</tbody>
</table>

**Category 1**

| 605.00         | 3.1                                           | 18.76                                 | 15.0                                          | 453.75                                                | 87.94                                  | 106.69              | 61.32                 |
| 700.00         | 3.1                                           | 21.70                                 | 15.0                                          | 453.75                                                | 101.75                                 | 123.45              | 78.07                 |
| 800.00         | 3.1                                           | 24.80                                 | 15.0                                          | 453.75                                                | 116.28                                 | 141.08              | 95.71                 |
| 900.00         | 3.1                                           | 27.90                                 | 15.0                                          | 453.75                                                | 130.82                                 | 158.72              | 113.34                |

**Category 2**

| 605.00         | 3.1                                           | 18.76                                 | 15.0                                          | 605.00                                                | 87.94                                  | 106.69              | 61.32                 |
| 700.00         | 3.1                                           | 21.70                                 | 15.0                                          | 605.00                                                | 101.75                                 | 123.45              | 78.07                 |
| 800.00         | 3.1                                           | 24.80                                 | 15.0                                          | 605.00                                                | 116.28                                 | 141.08              | 95.71                 |
| 900.00         | 3.1                                           | 27.90                                 | 15.0                                          | 605.00                                                | 130.82                                 | 158.72              | 113.34                |

**Category 3**

| 605.00         | 3.1                                           | 18.76                                 | 15.0                                          | 605.00                                                | 87.94                                  | 106.69              | 61.32                 |
| 700.00         | 3.1                                           | 21.70                                 | 15.0                                          | 605.00                                                | 101.75                                 | 123.45              | 78.07                 |
| 800.00         | 3.1                                           | 24.80                                 | 15.0                                          | 605.00                                                | 116.28                                 | 141.08              | 95.71                 |
| 900.00         | 3.1                                           | 27.90                                 | 15.0                                          | 605.00                                                | 130.82                                 | 158.72              | 113.34                |

*Note.* Since 1 January 2008 the minimum wage has been UAH 605.
As a result, the salary actually received by persons with the use of the social tax benefit exceeds the size it would be if the benefit were not applied by:

- UAH 45.38 for tax payers of Category 1.
- UAH 68.06 for tax payers of Category 2.
- UAH 90.75 for tax payers of Category 3.

**Calculation of the size of social assistance (Example 1)**

A family consists of an employed husband (who receives a minimum wage), a non-working wife who cares for a child under three years old and receives relevant allowance and their two children (Table 7.2).

**Table 7.2. Example of calculation of social assistance in case of reception of social tax benefit (Example 1)**

<table>
<thead>
<tr>
<th>Family composition</th>
<th>Level of secured living wage per person</th>
<th>Living wage</th>
<th>Average monthly income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>accrued</td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Husband</td>
<td>133.0</td>
<td>669.0</td>
<td>605.0</td>
</tr>
<tr>
<td>Wife</td>
<td>133.0</td>
<td>669.0</td>
<td>130.0</td>
</tr>
<tr>
<td>Child (2 years)</td>
<td>306.35</td>
<td>557.0</td>
<td></td>
</tr>
<tr>
<td>Child (5 years)</td>
<td>306.35</td>
<td>557.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>878.70</td>
<td>2,452</td>
<td>735.0</td>
</tr>
</tbody>
</table>

Social assistance is established as the difference between the aggregate level of the secured living wage and all incomes the family receives.

Current practice envisages the use of the accrued wage to calculate the cumulative income. In this case the social assistance will be as follows:

\[ 878.70 - 735 = UAH 143.70 \]

However, after repayment of all taxes, the family is left with a sum that is actually lower than the secured living wage:

- without application of the social tax benefit: all taxes make up UAH 106.69; the actual sum the family retains is: \(735 - 106.69 = UAH 628.31\)
- with application of the tax benefit: all taxes make up UAH 61.32; the actual sum the family retains is: \(735 - 61.32 = UAH 673.63\)

The use of the social tax benefit thus increases the sum the family retains by UAH 45.37 (673.63 – 628.31) or 5.9 per cent; however, the secured living wage remains unattainable.

If we use actual received salary in calculating cumulative income, then the social assistance will be:

- without application of the tax benefit: \(878.70 - 628.31 = UAH 250.39\)
- with application of the social benefit: \(878.70 - 673.63 = UAH 205.07\)
In both cases a family actually retains a sum the size of the secured living wage – UAH 878.70 – and the availability of the social tax benefit reduces the size of necessary social assistance by 18 per cent ((250.39 – 205.07)/250.39 x 100).

**Calculation of social assistance (Example 2)**

A family consists of a single mother who is working part-time and receives minimum wage; she cares for a child under three years and has two children (Table 7.3).

Table 7.3. Example of calculation of social assistance in case of receipt of the social tax benefit (Example 2)

<table>
<thead>
<tr>
<th>Family composition</th>
<th>Level of secured living wage per person</th>
<th>Living wage</th>
<th>Average monthly income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mother</td>
<td>133.0</td>
<td>669.0</td>
<td>605.0</td>
</tr>
<tr>
<td>Child (2 years)</td>
<td>306.35</td>
<td>557.0</td>
<td></td>
</tr>
<tr>
<td>Child (15 years)</td>
<td>385.55</td>
<td>701.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>824.90</td>
<td>1,927</td>
<td>735.0</td>
</tr>
</tbody>
</table>

The social assistance under the current system will be:

824.90 – 735 = UAH 89.80

After repayment of all taxes, the family actually retains sums as follows:

- without application of the social tax benefit: all taxes make up UAH 106.69; the actual sum the family retains is: 735 – 106.69 + 89.80 = UAH 718.11
- with application of the social tax benefit: all taxes make up UAH 38.63; the actual sum the family retains is: 735 – 38.63 + 89.80 = UAH 786.27

The use of the social tax benefit thus increases the sum the family retains by UAH 68.16 (786.27 – 718.11) or 9.5 per cent; however, the secured living wage remains unattainable.

If we use actual received salary in calculating cumulative income, then the social assistance will be:

- without application of the tax benefit: 824.90 – 628.31 = UAH 196.59
- with application of the social benefit: 824.90 – 696.37 = UAH 127.63

In both cases a family actually retains a sum the size of the secured living wage – UAH 824.90 – and the availability of the social tax benefit reduces the necessary social assistance by 35 per cent ((196.59 – 127.63)/196.59 x 100).
**Calculation of social assistance (Example 3)**

A family consists of a single mother who is working part-time and receives the minimum wage; she cares for a disabled child and has two children (*Table 7.4*).

**Table 7.4. Example of calculation of social assistance in case of receipt of the social tax benefit (Example 3)**

<table>
<thead>
<tr>
<th>Family composition</th>
<th>Level of secured living wage per person</th>
<th>Living wage</th>
<th>Average monthly income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>accrued 3</td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mother</td>
<td>133.0</td>
<td>669.0</td>
<td>605.0</td>
</tr>
<tr>
<td>Child (5 years)</td>
<td>306.35</td>
<td>557.0</td>
<td>348.6</td>
</tr>
<tr>
<td>Child (15 years)</td>
<td>385.55</td>
<td>701.0</td>
<td>953.6</td>
</tr>
<tr>
<td>Total</td>
<td>824.90</td>
<td>1927</td>
<td>953.6</td>
</tr>
</tbody>
</table>

A disabled child receives in assistance 70 per cent of the living wage for persons who have lost the ability to work. In 2009 this wage was UAH 498, so assistance amounts to:

\[498 \times 0.7 = \text{UAH 348.60}\]

Since the family's average monthly income exceeds the secured living wage, social assistance for low-income status shall not be paid. However, all the requirements regarding application of the social tax benefit are being met, so the family additionally receives UAH 68.06 (914.97 – 846.91).

**Calculation of social assistance (Example 4)**

A family consists of an employed husband (who receives the minimum wage), a woman with part-time employment who cares for a child under three and their four children (*Table 7.5*).

Social assistance under current system will be:

\[1,383.40 – 1,340 = \text{UAH 43.80}\]

After repaying all taxes, the family actually retains a sum that is lower than the secured living wage:

- without application of the social tax benefit: \[1,340 – 2 \times 106.69 + 43.80 = 1,170.42\]
- with application of the social tax benefit: \[1,340 – 2 \times 61.32 + 43.80 = 1,261.06\]
Using the social tax benefit thus increases the sum the family retains by UAH 90.59 (1,261.01 – 1,170.42) or 7.7 per cent; however, the secured living wage remains unattainable.

If we use actual received salary in calculating cumulative income, then the social assistance will be:

- without application of the tax benefit: 1,383.80 – 1,126.62 = UAH 257.18
- with application of the social benefit: 1,383.80 – 1,217.26 = UAH 166.54

In both cases a family actually retains a sum the size of the secured living wage – UAH 1,383.80 – and the availability of the social tax benefit reduces the size of necessary social assistance by 35 per cent \(((257.18 - 166.54) / 257.18 \times 100)%\).

Provision of social tax benefits to persons with low salaries thus allows for increasing actually received income. However, this increase is insignificant, and vulnerable households still become recipients of social benefits. Considering the profiles of Ukrainian poverty, it would be expedient to strengthen the impact of social tax benefits on incomes of working people who care for under-age children (especially in cases of households with two and more children).
8. Conclusions and Proposals on Application of the Suggested Methodological Approaches to Improve the System of Social Protection of the Population

The existence of a multi-level and ramified system of social assistance to the population does not guarantee efficient support of the most disadvantaged groups and leads to ineffective use of budget funds. Considering the deficit of budget resources for social protection, this ‘scattering’ of public funds violates the principle of social justice, when in most cases assistance goes to non-poor groups while the poorest remain beyond society’s attention or receive only symbolic support.

The current system of targeted social assistance in Ukraine creates many opportunities for people who do not truly need to receive benefits. The means-testing mechanism requires significant funding but it doesn’t provide an adequate response: the issue of improving the targeting of assistance to poor people has not been addressed in recent years. On the other hand, insufficient coverage of those in need nullifies efforts of state social policy aimed at abolishing extreme poverty.

The main goal of the reform of the social assistance system is to ensure the use of limited resources in the most effective way to ensure provision for the basic needs of the most poverty-stricken population groups, while avoiding negative consequences.

The set of issues related to inadequate targeting of assistance to the poor population includes the following problems:

- inadequate normative and methodological support for the functioning of social programmes – this preconditions serious inclusion errors;
- problems with information sharing between the administrative systems responsible for registering citizens’ incomes and property;
- inconsistency between the functioning of social programmes and poverty monitoring;
- lack of awareness among poor people about the existence of assistance and the chance to receive it – this leads to serious exclusion errors;
- the lack of a coordinated system for monitoring and evaluating social assistance programmes.

Social assistance programmes in Ukraine require systemic reformation. At the same time, coordinated and well-established monitoring and evaluation of the performance of social programmes can become an important and efficient social policy tool. That would make it possible to identify:

- technical assistance (needs current and future);
- changes in the number of potential and actual recipients of social assistance;
- the cost of the programme under different organisation options as well as given changes in the size of funding from different sources;
- general characteristics of candidates and the peculiarities of their attitudes to participating in assistance programmes;
- problems that emerge in the practical work of social protection authorities;
- the level of non-consideration of important components of programme implementation by the current system.
Adequate assessment of the social assistance system's current problems will make it possible to increase its effectiveness and efficiency and to select the most appropriate ways of reforming it in a well-grounded manner. To identify the outcomes of social assistance programmes, and to make the right choices about their provision, it is necessary to develop and to approve special methodology for evaluating the system’s impact on the poverty situation in the country.
UKRAINE HOUSEHOLD LIVING CONDITIONS SURVEY PROGRAMME

The state statistics bodies' sample survey of household living conditions has been implemented on a regular basis since 1999. Its goals are to ensure a comprehensive approach towards researching the material wellbeing of the population in general and its specific groups in particular; to receive full information about sources of incomes, areas of expenditures, consumption structure, living and domestic conditions depending on the presence of children, places of residence, composition and other characteristics; and to study the effectiveness and targeting of the social protection system, etc.

The household living conditions survey in Ukraine is carried out in line with international standards, namely:

- the household sampling uses the principle of the probability-based stratified multi-level territorial sample;
- households voluntarily consent to participate in the survey;
- respondents (households) are periodically rotated;
- the method of balancing incomes and expenditures in family budgets is fully rejected;
- there is a minimum load on households;
- short-term household consumption is studied;
- it is possible to receive evidence-based evaluation of data quality, e. g. accuracy;
- there is extrapolation (projection) of sample survey data to the general totality – the entire country’s population;
- there is follow-up in the form of the publication of survey results through issuing methodological comments for data users.

The sample survey of household living conditions in Ukraine consists of three components and uses different tools to generate information.

I. Data collection on the general characteristics of the household – main (baseline) interview. Interviewing households is conducted at the beginning of the study, using an appropriate questionnaire that studies the general characteristics of a household: composition; living standards; availability and use of land plots, livestock, poultry and characteristics of members: anthropometric data, education, employment and so on. In addition, the statistics specialist for household surveys fills in a control card regarding the composition of the household, if changes occur in it during the study period.

II. Observation of expenditures and incomes of a household during one quarter. This component uses two research tools:

- A weekly journal of current expenditures that households fill in two times a quarter. Respondents (households) every day record all expenditures and provide detailed descriptions of them (e.g., purchased foodstuffs – names of the products, weight, price
and place of purchase). In addition, households record information about daily consumption of products produced at personal auxiliary plots or received as presents.

Households are evenly divided into rotation groups, which fill their journals in different weeks of every quarter. Based on the assumption that two weeks of record-keeping are typical for the entire quarter, a single data processing time period (one quarter) is calculated by multiplying the data from journals by the coefficient 6.5 (the number of weeks in a quarter, 13, divided by the number of weeks of record-keeping, 2). Calculation of food products for consumption in longer periods is performed on the basis of quarterly interview data.

- A quarterly questionnaire, which is used to carry out a quarterly interview of households in the first month after the reporting quarter. At this stage we collect data on important and irregular expenditures, e.g. related to procurement of food products for consumption over long periods of time (sacks), and on household incomes. Since it is difficult for households to remember all expenditures and incomes during a quarter, they record them in the ‘Quarterly Expenditures Log’.

The main areas for quarterly observations include:

- the structure of household consumer cash expenditures for purchasing goods and services;
- the structure of other expenditures (material assistance to other households; expenditures related to personal auxiliary farming plots, procurement of real estate, construction and repairs of dwelling and facilities, formation of savings, etc);
- the value of personal auxiliary farming aimed at developing the material wellbeing of a household (receipts and use of auxiliary farming plot products, receiving cash from sales, etc.);
- the structure of incomes and other sources of earnings in the household. Individual incomes of each household member are examined separately (remuneration of labour, pensions, scholarships, low-income benefits, etc.) and other types of household income in general (child-care allowances, assistance from relatives and other people, profit from sales of real estate and property, subsidies for housing and communal services and fuel, use of savings).

III. One-time thematic surveys. These are carried out using questionnaires during the quarterly studies. In 2007 the following thematic surveys were conducted:

- household expenditures on construction and repair of dwelling and facilities;
- household access to individual goods and services;
- assessment of health condition and accessibility of certain types of medical assistance for households members;
- household self-assessments of the adequacy of their incomes;
- household access to the Internet.

In the household living conditions survey we do not observe household expenditures and incomes related to entrepreneurship, farming and individual economic activities (excluding portions of incomes used for personal consumption – that is, a certain share of wage).

Interviewing of selected households is carried out by statisticians based on sampling studies of the population (households). These statisticians are staff members of regional statistics.
departments. In a large city every statistician interviews on average 28 households; in a small town each interviews 21 households; in rural areas each interviews six to seven households.

Processing of survey materials is carried out at the central level by the Department of Household Surveys of the State Statistics Committee of Ukraine in conjunction with the Unit on Household Living Conditions at the Central Interregional Department of Statistics, which is based in Kyiv.
KEY PRINCIPLES OF SAMPLING AND EXTRAPOLATION (PROJECTION) OF THE SAMPLE SURVEY TO THE GENERAL TOTALITY – ALL HOUSEHOLDS OF UKRAINE

The Household Living Conditions Survey uses a separate network of respondents (non-institutional households). Every year 12,977 households are selected to participate. These represent all regions in Ukraine (8,975 are from cities and 4,002 are in rural areas). Extrapolation of the results of the sample survey to all households of Ukraine uses the statistical narrowing method.

1. Sampling procedure

Sampling is performed on the basis of stratified multi-level selection. The overall scheme for forming the sample totality of households is presented in Diagram 1. The sampling procedure includes the following stages:

1) exclusion of territories that cannot be studied;
2) exclusion of populations not eligible for the survey;
3) stratification of the general totality;
4) selection of territorial units;
5) selection of households.

The sampling procedure in cities involves three stages; in rural areas there are two stages.

1.1. Exclusion of territories that cannot be studied

During the territorial sampling process, the following localities were excluded: those located in the zone of estrangement (zone I) and in the zone of unconditional (mandatory) resettlement (zone II) of territories contaminated as a result of the Chernobyl nuclear accident. As a result, the size of population that inhabits these territories was also excluded from the population of Ukraine and relevant oblasts.

1.2. Exclusion of populations not eligible for the survey

During calculation of the population subject to the survey, the following institutional population groups were excluded from permanent populations: army conscripts, inmates of penitentiary facilities, persons with permanent residence in residential institutions or in facilities for the elderly, etc. In addition, the sampling totality does not represent marginal population strata (homeless people, etc.).

1.3. Stratification of the general totality

The goal of stratification of the general totality is to provide adequate reflection of all the main characteristics of administrative and territorial division in the sample and to ensure selection of more homogeneous totalities of households. To achieve this goal, the general totality was divided into strata that equal the regions of Ukraine. Within these strata, three sub-strata were defined: urban settlements (city councils) with populations of 100,000 and above (‘large cities’); urban settlements (city councils) with populations below 100,000
('towns'); and all rayons (excluding city districts), that is, administrative rayons of rural areas (hereinafter, rayons).

The scope of the sample was divided between the strata and the sub-strata proportionally to the size of their non-institutional permanent population.

Diagram 1. Scheme of the sampling process for the household living conditions survey in 2004–2008

Note. The part of the sample that changes annually, is highlighted with grey.
1.4. Selection of the territorial units of the first level

At this stage of sampling we selected administrative and territorial units: city (township) councils, cities and townships in urban areas and village councils in rural areas. Selected territorial units represent Primary Territorial Units of Sample (PTUS). The term of validity of the PTUS sample is five years (2004–2008).

1.4.1. Selection of PTUS in urban areas

a) Identification of self-representative cities (city councils)

In order to identify self-representative cities (city councils), we calculated the threshold value of the size of the population (self-representation threshold). The threshold value was based on the rate of selection and on the condition of a full workload for one statistician on sampling studies (hereinafter, a statistician) during the survey in the city (city council). The self-representation threshold amounts to 79,241 persons. Cities (city councils) with the same or higher population are definitely included in the territorial sample (with a probability equal to ‘1’).

b) Selection of cities (city councils) and townships without self-representation

Cities (city councils) and townships (township councils) without self-representation were selected in such a way that one territorial unit could represent a group of territorial units with the overall population size equal to the self-representation threshold.

Selection of cities (city councils) and townships that are not self-representative was performed within the limits of each stratum separately with the application of a systematic selection methodology with probability proportional to the size of the population. Within each stratum we developed a list of cities and townships in descending order of population size. The number of territorial units to be selected in each stratum was calculated as a division of the total population size of all territorial units without self-representation by the threshold.

1.4.2. Selection of PTUS in rural areas

Primary territorial units of sample in rural areas are village councils. Selection of PTUS (village councils) was carried out in every rayon using systematic selection methodology with probability proportional to the size of the population (the number of households). Arrangement of PTUS for selection was performed according to the principle of ‘geographic serpentine’, which was in line with the requirement regarding geographically even location of sampling units in the territory of the rayon. In addition, this approach ensured better coverage of the rayon’s territory and made it possible to consider the natural and climatic peculiarities of different parts of the rayon. The number of village councils to be selected for the household living conditions survey was calculated on the principle of ‘one statistician studies one village council’. The minimum PTUS (village council) size was identified on the condition that the respondents (households) would be able to ensure a smooth survey process on this territory during the entire period of sample validity. The number of PTUS was 150 households.

1.5. Selection of the territorial units of the second level

At this stage, we developed in every urban PTUS a sample of territorial units of the second level – Secondary Territorial Units of Sample (STUS). The term of validity of a STUS sample is five years (2004–2008).
Instructor sites serve as the information base on which to form urban STUS. The former were established in 2001 to conduct the All-Ukrainian Census. Selection of the STUS was carried out within the limits of every selected PTUS by applying a systematic selection methodology with probability proportional to the size of the population. Selection of STUS was arranged on the 'geographic serpentine' basis. Even numbers of STUS were selected within every PTUS using the principle 'one statistician studies two STUS', which is preconditioned by the indicator quality verification requirement. Minimum STUS (instructor site or their totality) size was identified on the condition that the respondents (households) would be able to ensure a smooth survey process on this territory during the entire period of sample validity. The size of an STUS was 800 persons.

1.6. Selection of households

At the final level of sampling we selected addresses of households that would participate in the survey. In every rural STUS and every rural PTUS we developed lists of addresses of all households. In urban areas we used materials from the All-Ukrainian Census of 2001 to serve as an information base, while in rural areas economic activity register data were used. Selection of addresses of households involves a systematic selection procedure. Prior to any selection process, we perform annual actualisation of lists of addresses to avoid or minimise the negative impact of changes that could occur since their formation or their previous actualisation. The term of validity of the household sample is one year.

1.7. Peculiarities of sampling for the household living conditions survey in 2004–2008

Key differences in sampling for surveys in 2004–2008 (as compared to samples for 1999–2003) include the following:

- the self-representation threshold in urban areas was reduced from 118,000 to 80,000 persons; this allowed for increasing the number of cities (city councils) in the new sample to 225 (the previous sample included 195 cities/city councils);
- the territorial sample for rural areas now includes all 490 rayons (previously only 190 randomly selected rayons were studied);
- as a basis for selecting STUS within city PTUS, the new information base was used – the 2001 All-Ukrainian Census data;
- inmates of all types of dormitories participate in the survey (family, student, others). In 1999–2003 only residents of family dormitories participated.

2. Analysis of the level of household participation in the survey

Some 10,615 households participated in the 2007 survey (82.9 per cent of selected addresses, excluding uninhabited dwellings). The level of participation of rural households (94.4 per cent) exceeded that of urban households (77.5 per cent).

The highest level of household participation in the 2007 survey was observed in Zakarpatyja (98.7 per cent), Chernivtsi (97.9 per cent), Rivne (97.6 per cent), Chernihiv (96.4 per cent), Vinnytsia and Volyn (both 96 per cent) oblasts; the lowest participation was in the city of Kyiv (55.1 per cent) and Odessa oblast (60 per cent). In the majority of oblasts this indicator ranged from 72.1 per cent to 95.3 per cent.
3. Extrapolation (projection) of results of the sample household living conditions survey to the general totality (the entire population of the country)

To project the results of the household living conditions survey on the entire population of Ukraine, it is necessary to calculate the system of statistical weight. Statistical weight is necessary to take into account indicators of probability of inclusion of households in the sample, and to identify actual levels of their participation in the survey. They are also necessary for coordination of the survey results with external data (for example, with demographic statistics on the size and age/gender structure of the population; with social statistics on the number and location of institutionalised populations, etc.).

The general form of statistical weight of a household \(i\) (within the household living conditions survey) is calculated as a product of its baseline weight and relevant weight coefficients (weighting coefficients), using the formula:

\[
W_i = W_{Bi} \cdot k_{1i} \cdot k_{2i} \cdot k_{3i},
\]

where
- \(W_i\) – final weight of a household;
- \(W_{Bi}\) – baseline weight of a household;
- \(k_{1i}\) – coefficient of inclusion of theoretical probability of selection;
- \(k_{2i}\) – coefficient of inclusion of the level of household participation in the study;
- \(k_{3i}\) – calibration coefficient.

The sum of statistical weights of all studied households is equal to the value of the total number of households in the general totality.

3.1. Definition of the baseline weight

Within the probability sample, each household \(i\) in the sampling totality has the general probability \(p_i\) of being included in the sample. The value \(1/p_i\) is the baseline weight of a household in the projection of the survey results on the general totality:

\[
W_{Bi} = 1/p_i.
\]

Baseline weight shows that the household \(i\), included in the sample, represents \(W_{Bi}\) households of the general totality.

In the process of sampling to conduct the household living conditions survey, every household has identical probability \(p_i\) of being included in the sample. In other words, the sample is designed as self-weighted. As a rule, this condition for the three-level sample is described by the following formula:

\[
p_i = p_{1i} \cdot p_{2i} \cdot p_{3i} = f,
\]

where
- \(P_{1i}\) – is the probability of selection of the first level units (PTUS). Units of selection of the first level include individual cities (city councils) and townships in urban areas and village councils in village areas;
- \(P_{2i}\) – is the probability of selection of the second level units (secondary territorial units of sample, or STUS). In urban areas these are instructor sites established for conducting the
2001 All-Ukrainian Census (or their totalities). For urban areas $P_{2i}$ is the theoretical probability of selection of households within selected PTUS (village councils); $P_{3i}$ is a theoretical probability of selection of households within STUS in urban areas; $f$ is the share of selection equal to the rate of the scale of sample in the total number of households within the general totality.

The value, inverse to $f$, is equal to the number of households in the general totality that are represented by one household that is selected in the process of sampling. In 2007 one household represented 1,350 households.

3.2. Taking into account the theoretical probability of selection

Actual probabilities of selection of households within territorial units can be different from theoretical probabilities because in reality it is necessary to consider the working conditions of statisticians and to ensure an even workload. This leads to disruption of the principle of self-weighting of the sample. After selection of households, it is necessary to adjust the weight to bring the sample back to the self-weighted condition: this is done by including the theoretical probability of selection. This adjustment is based on the coefficient of consideration of theoretical probability of selection (see the formula below):

$$k_{1i} = \begin{cases} \frac{P_{2i}}{P_{fi}} & \text{for urban areas} \\ \frac{P_{3i}}{P_{fi}} & \text{for rural areas} \end{cases}$$

where $P_{fi}$ – are actual probabilities of selection of households within territorial units.

Actual probabilities of selection of households within territorial units $P_{fi}$ are calculated as follows:

$$P_{fi} = \frac{n_{TO}}{N_{TO}},$$

where

$n_{TO}$ – is the actual number of households selected for the study within the territorial unit;

$N_{TO}$ – is the total number of households in the territorial unit.

3.3. Taking into account the level of household participation in the survey

During the research year, some households may discontinue participating in the survey for various reasons and during different stages (reasons include health condition, unwillingness to participate, long periods of absence, etc.).

In order to take into account the levels of household participation in the survey, it is necessary to develop a specialised system of cells (classes of weighting). These cells are constructed on the basis of the following classification variables:

- region – 26 discrete values (the city of Sevastopol is included in the Autonomous Republic of Crimea);
- type of locality – three discrete values (big city, town, village);
- type of housing – four discrete values (separate apartment, private house or a part of it, shared (communal) apartment and dormitory);
the number of members of the household – four discrete values (single people, two
persons, three persons, four and more persons);

– the presence of children – two discrete values (with children, without children);

– the presence of elderly people (of pension age) – two discrete values (with pensioners,
without pensioners).

If, as a result of survey, the number of households in a specific cell is lower than 20, it should
be united with another cell (a special scheme is used). For example, instead of ‘region’ we use
the attribute ‘economic region’ (eight discrete values).

The coefficient of consideration of the level of household participation \( k_{2l} \) is calculated for
each cell \( l \) using the formula:

\[
k_{2l} = \frac{\sum_{i=1}^{n} w_{Bi} \cdot k_{ii} \cdot \lambda_{ii}}{\sum_{i=1}^{n} w_{Bi} \cdot k_{ii} \cdot \lambda_{ii} \cdot \eta_{li}},
\]

where

\[
\lambda_{ii} = \begin{cases} 
1, & i \in M_{ii} \\
0, & i \notin M_{ii} 
\end{cases}
\]

\( M_{i} \) – plurality of households of cell 1;

\[
\eta_{li} = \begin{cases} 
1, & \text{if the household took part in the survey}; \\
0, & \text{if the household refused to take part in the survey};
\end{cases}
\]

\( n \) – is sample volume.

3.4. Calibration of the statistical weight system

To approximate the results of the sample survey to available external information and to
increase the level of reliability of indicator evaluation (measured through randomised
observations), the calibration procedure was applied to statistical weight. As for the sample
household living conditions survey, the calibration envisaged adjusting the statistical weight
system to bring certain survey indicators in compliance with two external sources:

1) Demographic statistical data as of 1 January 2007 regarding:

- the size of the permanent population in terms of regions and types of localities;
- age and gender structure of the population in terms of regions by the following age
groups:
  - women under 18 years of age;
  - men under 18 years of age;
  - women of 18–35 years of age;
  - men of 18–35 years of age;
  - women of 36–54 years of age;
  - men of 36–54 years of age;
  - women of non-working age;
  - men of non-working age.
2) Statistical reporting on populations in institutions.

This procedure helps to identify the weight coefficients $\kappa_3$, which ensures compliance of the survey results with external data and also minimises weight deviations before and after calibration. The final weight of households to narrow the data for 2007 was calculated on the basis of weight, received as a summary of the main interview and information about refusals to participate for the I, II, III and IV quarters of 2007. The data presented in this publication, then, were processed on the basis of information received from households participating in the study during the entire year.

According to the analysis of respondents’ participation in the survey in 2007, one selected household had an average statistical weight of (or represented) 1,634 households in Ukraine.
METHODOLOGICAL EXPLANATIONS OF DATA QUALITY EVALUATION

In the analysis of the quality of the indicator evaluations on the basis of sample survey, the correct interpretation of results and control over the optimal design of sampling significantly depend on information about sampling error size. The size of this error is identified as confidence intervals in building interval indicator evaluations – intervals of possible values of indicators based on the results of the sample survey. An indicator evaluation for which the size of the error is much larger than the size of the evaluation itself cannot be used in analysing the results.

The sampling error is calculated as a standard error $SE$ on the basis of the size of the evaluation of dispersion $\sigma'$ of the values of the indicator and the scope of sample $n$ using the following formula:

$$SE = \sqrt{\frac{\sigma'^2}{n}},$$

(1)

where dispersion $\sigma'$ characterises variation of values of the indicator against the sample units.

As for samples with a complex design (such as the sample of the household living conditions survey), the value $\sigma'$ can be calculated on the basis of the classic formula for dispersion of the characteristic $y$ in simple randomised selection:

$$k_{ij} = \text{deff} \frac{\sum_{i=1}^{n} (y_i - \overline{y})^2}{n}.$$

(2)

where

$y_i$ – is the value of the characteristic of household $i$ (for example, if $y$ is cash revenue, then $y_i$ is cash revenue of a specific household from the sample);

$\overline{y}$ – mean value of the characteristic for the sampling totality;

$\text{deff}$ – parameter that reflects the impact of the sample design on the dispersion size of the characteristics (design-effect).

As a rule, specialised calculation methodologies are used to identify dispersions, standard errors and the size of design-effect for samples with a complex design. In analysing the quality of data of the household living conditions survey, we use the replication method of balanced repeated duplications, using the software package WesVarPC. The concept of this method lies in the following: a full sample of households is divided into layers and each of them contains two clusters (two groups of households). Individual replications – half-samples – are built on the basis of randomised selection of one cluster from every layer. The calculation of the characteristic’s dispersion is made on the basis of the comparison of replication evaluations. To use this method, systems of layers were developed for the national and regional levels, as well as for the economic region level.

The following indicators provide the most visible characteristics of the quality of sample survey data sets: these are limiting sampling error (LSE) and relative standard error (RSE) (or coefficient of variation $CV$).
LSE size defines the limits of confidence intervals for indicator evaluation. It is calculated as follows:

\[ LSE = t \cdot SE , \]  

where

\( t \) – is a confidence figure (quintile of normal distribution or quintile of probabilities distribution) that defines the correlation of limiting and standard errors within a certain probability \( p \) (\( p \) – probability that the sampling error for indicator evaluation will not exceed the LSE value). Typical values of \( t \) used in the analysis of sample surveys data are: 0.67 (for \( p = 0.50 \)); 1.28 (for \( p = 0.80 \)); 1.64 (for \( p = 0.90 \)); 1.96 (for \( p = 0.95 \)); 2.58 (for \( p = 0.99 \)).

Limiting sampling error is used to build confidence limits of evaluations (confidence interval limits). For example, to build lower limit \( y_L \) and upper limit \( y_U \) of confidence limits of interval evaluation of the mean value \( y \), the following formulas are used:

\[ y_L = \bar{y} - LSE ; \quad y_U = \bar{y} + LSE ; \]  

Relative standard error RSE (or coefficient of variation CV) is calculated as:

\[ RSE = \frac{SE}{\bar{y}} \cdot 100(\%) \]  

Relative standard error is often used as an index of data suitability for analysis. For example, if \( RSE \leq 5\% \), then evaluation is considered reliable, if \( 5\% < RSE \leq 10\% \) then evaluation is suitable for quantitative analysis, but its reliability is limited; if \( 10\% < RSE \leq 25\% \) then evaluation is suitable for quantitative analysis only and it should be used with caution (however, sometimes they publish data where RSE reaches 30 per cent and even 40 per cent).

Calculations of the size of limiting sampling error for \( p = 0.95 \) and relative standard error for evaluation of average monthly meanings of the indicators ‘Cash incomes’, ‘Cash expenditures’, ‘Cumulative expenditures’, ‘Total income’ and ‘Cumulative resources’ (based on the results of the 2007 survey) show that evaluations for these indicators are accurate for Ukraine.

The data for households of large cities, towns and rural areas at the national level are also quite accurate. The highest value of relative standard error is observed for the indicator ‘Cash expenditures’ for households in towns – 2.05 per cent.

As for the regional level in general, the accuracy of evaluations of indicators under review is satisfactory. The size of relative standard error in all indicators for the Autonomous Republic of Crimea, Dnipropetrovsk, Donetsk, Zakarpaty, Zaporizhya, Ivano-Frankivsk, Kyiv, Luhansk, Lviv, Poltava, Kharkiv, Khmelnytskyi, Cherkasy and Chernihiv oblasts does not exceed 5 per cent: this means that their evaluations are quite reliable. For other regions the relative standard error in all indicators does not exceed 10 per cent. Overall the survey data can be used for statistical analysis at the regional level.

It should be noted that for the national level and for the majority of regions, the indicator evaluations received from the year-long study materials are more accurate than data from separate periods.

The issue of reliability of indicator evaluations for ‘small’ territories in conducting sample surveys is quite challenging for all statistical bodies in the majority of countries. ‘Small’ territories include regions in which the size of the sampling totality makes it impossible to
receive reliable statistical evaluations. In the context of the household living conditions survey, this problem pertains to almost every region. One solution is to unify ‘small’ territories into ‘larger’ ones. After unification, it is possible to use the more reliable evaluations received from the ‘larger’ territory for every ‘small’ territory.

In addition to information about limiting and relative standard errors in evaluation of combined indicators (so that users can have an idea about the potential reliability of the sample survey data, especially in terms of separate household groups), the tables also contain the line ‘Note: the number of households surveyed’. It is well-known that the reliability and accuracy of indicator evaluations increases as the number of surveyed households does.

As for small groups, where households have a low level of probability of inclusion in the sample (for example, households with single parents and three children; households consisting of children and non-working pensioners; households with young families), the indicator evaluations that the study generated (especially in individual regions) have relatively low reliability.
METHODOLOGICAL EXPLANATIONS OF THE CORE TERMINOLOGY AND THE INDICATOR SYSTEM, WHICH CHARACTERISE THE MATERIAL WELFARE OF HOUSEHOLDS

The object of the living conditions study is the household, which is a group of people who live together in common living quarters or in a portion of it; who equip themselves with everything necessary for living; who run the house together; and who consolidate and spend (fully or partially) their funds. These persons may have kin relations or be legal relatives, or may not, or may be both kin and legal relatives. A household may consist of one person (Article 1 of the Law of Ukraine 'On the All-Ukrainian Census'). Since households with persons who have no kinship make up only 0.48 per cent of the total number of households (0.64 per cent of the number of households, excluding lone persons), in current economic conditions the notion of a ‘household’ is very close to the notion of a ‘family’.

The development of survey results for a year is performed:

- by type of residence (urban settlement, rural area). Cities are distinguished as large (with a population of 100,000 and more residents) and small (towns) (with a population below 100,000 people);
- depending on the size of household composition (one, two, three, four, five and more persons; a separate group of households with young families is distinguished);
- depending on the number of children in the household composition (one, two, three, four, five and more children);
- depending on the number of adults in the household with children (one, two, three and more persons);
- depending on the number of children in a household in which there are children without one or both parents;
- depending on the number of adults in households in which there are children without one or both parents;
- depending on the composition of the household without children (households consisting of one person: of working and non-working age; households consisting of two and more persons: all of working age, of working and non-working age, all of non-working age);
- depending on the presence and the number of employed persons in the household (households without working members; households with one, two, three and more working members);
- depending on the main source of income of household members (remuneration of labour; revenues from entrepreneurship activities; revenues from self-employment; transfers (pensions, scholarships, unemployment benefits and other individual incomes));
- depending on the age and gender of the head of household;
- in groupings, depending on the size of the mean per capita cash and non-cash incomes of households;
- by decile groups, depending on the size of the mean per capita cash and non-cash general incomes of households;
- by regions;
- by economic regions.
Development of data by type of household depending on the main source of income of the household members (remuneration of labour; revenues from entrepreneurship activities; revenues from self-employment; property revenues and transfers (pensions, scholarships, unemployment benefits and other individual incomes)) was carried out according to the Regulation of the Cabinet of Ministers of Ukraine No. 475 'On Approval of the Programme of Development of the National Accounts System till 2010', issued on 7 April 2003.

According to the Classification of Institutional Sectors of the Economy of Ukraine (approved by Order No. 96 of the State Standards Committee as of 18 April 2005) and in compliance with the standard of the National Accounts System approved in 1993, the national accounts system distinguishes four institutional sub-sectors of institutional units of households (according to the main source of incomes):

- employers;
- self-employed persons;
- hired employees;
- recipients of incomes from property and transfers.

To support the information base for the development of household sector accounts by the abovementioned sub-sectors, and to ensure further harmonisation with the regulations of international (mainly European) statistics agencies, the household living conditions survey now envisages grouping households depending on the following main sources of income of the household members:

- remuneration of labour;
- revenues from entrepreneurship activities;
- revenues from self-employment;
- transfers, incomes from property and other incomes.

Households belonging to this or that sub-sector are defined on the basis of their main source of income.

In the process of including households in various sub-sectors, they do not take into account income a household receives from selling personal property or real estate.

The sub-sector of households in which the main source of income is **remuneration of labour**, includes households in which total income received as remuneration for the labour of its members dominates.

The sub-sector of households in which the main source of income is **revenues from entrepreneurship activities** includes households in which total income received as revenue from the entrepreneurship activities of the household members dominates.

The sub-sector of households in which the main source of income is **revenues from self-employment** includes households in which dominates income calculated as a sum of the individual incomes of the household members received as a result of their self-employment and household incomes that result from personal auxiliary farming activities (revenues from selling agricultural products and the cost of consumed products received from auxiliary farming plots and from storage). This is regardless of the presence of other incomes, such as remuneration of labour; revenue from entrepreneurship activities; the sum of transfers, incomes of property and other sources (excluding incomes of a household received from selling personal property or real estate) if these are lower than the revenues described above.
The sub-sector of households in which the main source of income is transfers, income from property and other incomes, includes households in which there dominates income that is calculated as the sum of pensions, scholarships, benefits, privileges, subsidies, compensations (cash and natural) and assistance from relatives and other persons (cash assistance and monetary value of provided food products), alimonies and other incomes; as well as households that have no incomes other than from selling personal property or real estate.

**Social and demographic characteristics**

The survey studies the social and demographic position of every household member. The following definitions are used:

**Children** – persons under the age of 18 years and unmarried.

**Young families** – families where both spouses are under 35 years of age.

**Adults** – persons aged 18 years and above, as well as married persons under 18 years.

**Head of household** – the person who heads or maintains the household; this person is defined by decision/agreement of all household members.

**Households with children who don’t have one or both parents** – households with children who do not have a mother and/or father (died, divorced, etc.).

**The number of adults in households where there are children without one or both parents** – the number of all adult persons in the household regardless of their kinship relations with such children. For example, a household consists of a married couple with two children, a sister of the head of household who is bringing up her own child without a husband and a nurse/baby-sitter who lives and eats in the household but has no kin relations with other members. The number of adults in such household would be four (it would not just be the single mother who brings up the child). This approach is preconditioned by the unity of the expenditures of all household members on food, housing, etc. Moreover, it gives a more accurate picture of the actual living conditions of a child who does not have one or both parents.

**Persons of non-working age** (except children) – women aged 55 and older; men aged 60 years and older.

**Persons of working age** (except adolescents of 16–17 years of age) – women aged 18–54 years > men aged 18–59 years.

**Pensioner** – a person who receives a pension and does not work.

**Working/employed person** – a person who gave a positive answer to the question ‘Are you working now?’ Working pensioners also fall into the ‘Employed’ category.

**Nonworking person** – a person who gave a negative answer to the question ‘Are you working now?’

**Coefficient of economic burden on the working member of the household** – correlation between the total number of household members and the number of working persons in its composition.

**Internet** – the bulk of the computer networks that connect governmental, military, commercial, educational and cultural institutions and organisations and individual citizens into a broad spectre of computer-based services, resources, information and entertainment.
System of indicators characterising the condition of material wellbeing of households

The survey programme contains a system of indicators that takes into account changes related to market economy transition as well as international standards and recommendations.

Since 2002 articles/items having to do with consumer cash and cumulative expenditures take into account the international classification of individual consumption of goods and services that was recommended by Eurostat. According to this classification, the publication offers 12 main sections of consumer expenditures:

- food and non-alcoholic beverages;
- alcoholic beverages and tobacco products;
- clothing and footwear;
- housing, water, electricity and other fuels;
- furnishings, household equipment and routine maintenance of the house;
- health;
- transport;
- communication;
- recreation and culture;
- education;
- restaurants, cafés and hotels;
- miscellaneous goods and services.

To ensure comprehensive coverage of the material wellbeing of households and to analyse the structure of their incomes and other sources of living as well as main expenditure items and areas of resource utilisation, the system of household living conditions indicators includes:

I. Household incomes and resources

1. Cash incomes.
4. Cumulative resources.

II. Household expenditures

1. Consumer cash expenditures.
3. Cash expenditures.
**Household incomes and resources**

Within the framework of the household living conditions survey, household resources include all types of cash and natural incomes and all types of social assistance, including housing and communal subsidies, presents, income from selling personal property and real estate, used savings and so on. Household incomes and resources do not include: money received by one household member from another (for example, pocket money for children); the cost of goods and services provided free of charge at the expense of the State Budget of Ukraine, from local budgets and by non-profit organisations that serve households so that the households can receive health care, education and other services.

**Cash incomes of households** consist of the sum of cash and natural (in monetary value) receipts in the form of remuneration of labour (excluding income tax and obligatory charges and fees); revenues from entrepreneurship activities and from self-employment; incomes from property in the form of interest rates, dividends and selling of stock and other securities; revenues from selling personal and household property, livestock, products received from auxiliary farming plots and storage products; pensions, scholarships and social benefits (privileges and subsidies in cash to repay housing and communal services, electricity bills and fuel; compensation for unused rights to sanatorium treatment, privileged use of public transportation, etc), monetary assistance from relatives and other persons and other monetary incomes.

**Non-cash incomes of households** include the cost of consumed products received from personal auxiliary farming plots (excluding current expenses for its production – purchase of seeds, plants, fertilisers, agricultural implements, fuel and lubricants, livestock, poultry and bees, forage and medications for cattle and poultry, fees for transportation and agricultural and other related services) and self-storage of products; the cost of food, alcoholic beverages and tobacco products presented by relatives and other persons; the sum of benefits and non-cash subsidies for housing and communal services, electricity and fuel; sums of non-cash benefits for goods and services in the areas of health, tourism, recreation, etc. and for transportation and communication benefits.

**General incomes of households** consist of all cash and non-cash incomes.

**Cumulative resources of households** consist of general incomes, used savings, loan appreciation, credits and advances taken out by the household (observed in the period under study) and of repayment of debts to a household. This indicator reflects the potential resources of a household received in the period under study, regardless of their sources.

Below are definitions of some key components of income:

**Remuneration of labour** – salaries, premiums and other bonuses, payments and benefits received at primary and additional places of employment both in cash and natural forms (excluding income taxes and other charges and fees according to current legislation).

**Revenues from entrepreneurship activities and self-employment** – personal incomes from entrepreneurship, farming and independent economic activities of citizens (without expenditures related to these activities).

**Incomes from property** – received dividends on stock and other securities, interest on bank deposits, revenues from leasing or rent of real estate (living quarters, garages, cottages, land plots, etc.).
Incomes from selling real estate – cash incomes, received as a result of selling apartments, cottages, garages, houses, parts of a house, etc.

Income from selling personal and household property – cash incomes received as a result of selling personal and household property (cars, jewellery, clothes, furniture, etc.), regardless of its initial cost.

Incomes from personal auxiliary farming plots consist of two components:

1) cash incomes from selling agricultural products from personal auxiliary farming plots or received by the household as a result of storage;

2) the cost of consumed products received from personal auxiliary farming plots and from storage. In calculating this income item, it is necessary to exclude current material expenses for its production (purchase of seeds, plants, fertilisers, agricultural implements, fuel and lubricants, livestock, poultry and bees, forage and medications for cattle and poultry; fees for transportation and agricultural and other related services). This indicator also includes the cost of food, alcoholic beverages and tobacco products received from auxiliary farming plots and presented to relatives and other persons, as well as the cost of consumed products received from storage. Evaluation of consumed natural receipts should use the average purchasing prices for relevant goods in the reporting period.

Pensions – all types of labour and social pensions (age, disability, loss of breadwinner; social pensions, pensions to military personnel, etc.).

Scholarships – all types of scholarships paid to students of vocational schools; to students at off-job training sessions at schools of higher and secondary specialised educational facilities and including scholarships paid for by enterprises and organisations; scholarships and other payments to postgraduate students and interns.

Benefits – all types of one-off and monthly assistance received by the population from the State and local budgets, social security funds and trade union organisations or at the expense of businesses or of other sources. There are several types of such assistance:

1) unemployment benefits – assistance provided to non-working citizens of working age who have unemployed status (registered with the State Employment Service);

2) assistance to low-income families – targeted social assistance to poverty-stricken families with the goal of providing material support to the most disadvantaged/the least protected population groups;

3) child-care benefits – one-off childbirth grants, child-care allowance for children under three, child-care assistance for single mothers, child-care allowance for children under care or guardianship;

4) subsidies and cash transfers to pay for housing and communal services and for fuel – the sum of subsidies and cash transfers to compensate for expenditures on housing and communal services, electricity and fuel;

5) other – assistance to families of persons killed in the line of duty; ceremonial assistance; all types of assistance offered by local authorities; assistance in caring for disabled and senior persons; cash compensation for unused right to sanatorium treatment and for privileged use of public transportation, and so on.
Assistance from relatives and other persons consists of two components:

1) monetary assistance – money received as a present from relatives, friends and other persons;

2) assistance from relatives and other persons as consumer goods (in monetary value equal to the average purchasing price for relevant goods in the reporting period).

Alimonies for supporting under-age children, elderly parents, etc. This item also includes assistance paid by the social welfare authorities during searches for parents who are avoiding paying alimony.

Benefits and non-cash subsidies for housing and communal services, electricity and fuel is the sum of monetary accruals on the percentage of benefits for housing and communal services and products granted to different categories of the population (disabled persons, participants in the Great Patriotic War, participants in warfare, large families, liquidators of the consequences of the Chernobyl nuclear accident, etc.) and the sum of accrued non-cash subsidies for housing and communal services and products.

Non-cash benefits for goods and services in the area of health care, tourist services, trips to recreation facilities etc. is that part of the value of trips for recreation, health improvement and tourist tours that are covered by the enterprise, organisation, social welfare body, etc.; the sum of benefits for drugs and vitamins, other health products and medical services (including dentistry, medical checkups and procedures, inpatient treatment and so on).

Non-cash benefits for transport and communication is the sum of benefits for the use of public transportation by certain categories of citizens as well as coverage of communication services.

Other cash incomes – monetary receipts not mentioned above.

The use of savings, loans and debts repaid to the household is the sum of cash savings, reduction of banking deposits and so on used in the period under study. This item also includes money the household borrowed and debts/cash returned to the household.

Household expenditures

The household living conditions survey programme also envisages observing all types of household expenditures (excluding expenditures related to entrepreneurship, farming and independent economic activities).

Expenditures represent the sum of a household’s payments for goods and services received during the reporting period; it is the sum of money used to purchase stock, certificates, foreign currency and real estate and that is used on construction, capital and routine repairs; money paid in assistance to relatives and friends; money deposited in banks and used to pay taxes (excluding the income tax) as well as other fees and duties. In order to perform comprehensive analysis of how households use funds, researchers study cash expenditures (according to the definition provided above) and their main components: consumer and non-consumer cash expenditures as well as consumer and non-consumer cumulative expenditures with a composite index of cumulative expenditures.

Cash expenditures consist of the sum of consumer and non-consumer cash expenditures. Cash expenditures include sums actually paid by the household for the relevant items; they do not include the value of natural receipts or non-cash benefits and subsidies.
Consumer cash expenditures are household expenditures to purchase food, alcoholic beverages and tobacco products, goods and services (clothing and footwear; housing, water, electricity and other fuels; furnishings, household equipment and routine house maintenance; health care; transport and communication; recreation and culture; education and more). They include all household expenditures for these purposes regardless of the place of operation (sales network, enterprise warehouse, on the market or from individuals). This report also includes the value of purchased goods and food products for feeding pets (cats, dogs, parrots, etc.).

Non-consumer cash expenditures include all expenditures on personal auxiliary farming (purchase of seeds, fertilisers, agricultural implements, fuel and lubricants, etc.); monetary assistance to relatives and other persons; purchase of real estate; expenditures on construction and capital repairs of housing and other buildings; purchase of horned livestock and horses; money spent on perennial planting for personal auxiliary farming plots; purchase of stock, certificates, foreign currency, bank deposits; alimonies and obligatory tax payments (except income tax), contributions and fees and other expenditures not included above.

Cumulative expenditures consist of the sum of consumer and non-consumer cumulative expenditures. Cumulative expenditures include cash expenses actually paid by the household as well as the value of natural receipts, non-cash benefits and subsidies.

The value of food products received from personal auxiliary farming plots and presented by the household to relatives and other persons should be included in cumulative expenditures due to the recurrent nature of this assistance. Cumulative expenditures characterise the usage structure of cumulative resources.

Consumer cumulative expenditures consist of cash expenditures and of the value of goods consumed by the household (received from personal auxiliary farming plots and as storage or presented by relatives and other persons); the sum of received benefits and non-cash subsidies for housing and communal services and products; the sum of benefits for telephone communication, public transportation, tourist services, trips for treatment and health improvement and recreational facilities; the sum of benefits for paying for drugs and vitamins, other health products and medical services (including dentistry, medical checkups and procedures, inpatient treatment and so on).

Non-consumer cumulative expenditures consist of household cash and non-cash expenditures to assist relatives and other persons; to procure real estate; to pay for capital repairs of housing, cottages or utility facilities; to purchase horned livestock, horses and perennial plantings for personal auxiliary farming plots; to purchase stock, certificates, foreign currency and bank deposits; they also consist of alimonies and tax payments (except for income tax), contributions and fees and used savings, loans and debts that were returned by the household.

Below are the characteristics of some key components of cash and cumulative expenditures (by consumer and non-consumer expenditure groups).

I. Consumer cash expenditures

Classification of expenditures on food products, non-alcoholic beverages, alcohol and tobacco products, non-consumer goods and services was processed according to the international classification of individual consumption according to goals recommended by Eurostat. This consumer expenditures structure is in line with the two-digit COICOP-HBS level.
In contrast to СОІСОР-НBS, the largest cost item, *Food Expenditures*, is given more detailed consideration – certain expenditure items are described separately to allow comparison of dynamics with relevant 1999–2001 indicators:

- **milk, cheese and eggs** – separate expenditures on eggs;
- **oils and fats** – separate expenditures on lard and other animal fats, butter, oil and other vegetable fats;
- **fruit** – separate expenditures on melons and watermelons;
- **vegetables (including potatoes)** – separate expenditures on potatoes.

In addition, in order to provide the comprehensive characteristics of nutrition-related expenditures, the publication contains the following expenditure groups:

- expenditures on consumer goods;
- expenditures on food products;
- the costs of catering/eating out.

**Consumer goods** include food products and non-alcoholic beverages, alcoholic beverages and tobacco.

**Food products** include bread and bakery products, meat and meat foods, fish and fish products, cheese, milk and eggs, oils and fats, fruits, vegetables, sugar, confectionary and non-alcoholic beverages (tea, coffee, juices, mineral water, etc.). Food products do not include alcoholic beverages and tobacco products.

**Catering (eating out)** – sums spent in cafés, restaurants, canteens, bars, etc.


**Clothing and Footwear** – winter, all-season, summer, sports and home garments (for men, women and children); footwear for men, women and children; fabrics, furs, leather, etc.; clothing and footwear accessories; cleaning, repair and hiring of clothing and footwear.

**Housing, Water, Electricity and other Fuels** – includes payment for the use of dwelling and other housing services (water supply, sewerage, refuse collection, etc.), payment for utilities (centralised gas supply, hot water supply, heating, electricity, bottled gas and other fuels), materials and services for the maintenance and repair of dwellings, cottages, garages.

**Furnishing, Household Equipment and Routine Maintenance of the House** – furniture of all types, lighting equipment and other ornaments, carpets and other floor coverings; household textiles; household appliances: refrigerators, washing machines, dryers and dishwashing machines, vacuum cleaners, air conditioners and heaters, gas and electric cookers, microwave ovens, ovens, roasters, sewing and knitting machines, etc.; small electric household appliances: irons, coffee mills, coffee-makers, food mixers, etc.; glassware, tableware and household utensils, other kitchen and domestic utensils; tools and equipment for house and garden; cleaning and maintenance products (soaps, washing powders, disinfectant bleaches, etc.); domestic and household services (dry cleaning, laundering, dyeing of household textiles, window cleaning, disinfecting); repair and hire of household equipment, furniture and linen, etc.
**Health** – medical products (pharmaceutical and other medical products); therapeutic appliances and equipment, their hire and repair; outpatient services and services of polyclinics (medical, dental), hospitals and ambulances; folk and traditional medical services; services of medical analysis laboratories and diagnostic centres; paramedical services. Trips to sanatorium, prophylactic and other treatment facilities to recover/improve human health.

**Transport** – purchase of new and second hand vehicles (motor cars, motorcycles, scooters, motorised and regular bicycles, animal-drawn vehicles); purchases of spare parts and accessories, as well as fuel, lubricants; maintenance, repair and washing of personal transport equipment; forage and harness for animals; hire of garages and parking spaces; rental of private vehicles; services of different means of public transportation (rail transport, road, air, water and other transport).

**Communication** – postal services, telephone and telefax equipment and its repair, telephone, telegraph, telefax and wireless communication services.

**Recreation and Culture** – audiovisual and photographic equipment (radio sets, stereo systems, radio receivers, TV sets and antennas; photo and video cameras, optical instruments); computers and other information processing equipment, as well as repair of such equipment; video and audio cassettes; major durables for recreation and culture (musical instruments, equipment for sports, camping and outdoor recreation) and their repair; plants, flowers and pets; recreational and sporting services; payment for games of chance; newspapers, books and stationery; package holidays (all-inclusive tours to recreational centres, spa visits and tourist activities).

**Education** – educational services (pre-primary, primary, secondary and higher education); education not definable by level (courses, hobby groups and schools of music, art, choreography, foreign languages, computer literacy, etc.).

**Restaurants, Cafés and Hotels** – dining outside the home (restaurants, cafés, bars, canteens, etc.); short-term accommodation, including stays at resorts and spa centres, etc.

Miscellaneous Goods and Services – personal care services (hairdressing salons, baths, saunas, solariums, beauty shops, etc.); personal care appliances (electrical: hair dryers, razors and trimmers, electric toothbrushes, etc.); other items (soaps, shampoos, perfumes, face and body lotions, deodorants, etc.). Personal effects (jewellery, precious stones, all types of watches (except radio clocks) and other personal effects (suitcases, bags, wallets, umbrellas, baby carriages), their repair. Funerary articles.

Social protection (services offered by facilities and institutions to assist and support elderly and disabled persons). Dwelling insurance (services and insurance charges), except for life insurance; financial services (banking services, money transfers); other services (ceremonial services, services of editorial houses and advertisement agencies, notary services, legal costs, photocopying, private security services, services of real estate brokers, etc.).

**II. Non-consumer cash expenditures**

**Expenditures on personal auxiliary farming** – expenditures to purchase livestock (except horned livestock and horses), poultry, bees, forage and medicines; agricultural implements (shovels, rakes, axes, garden-frames and coating, skimmers, milk pails, collars, etc.) seeds, sprouts, young plants (except perennial planting for personal auxiliary farming plots), fertilisers, pesticides; money paid for veterinary assistance, insurance of livestock and cultivation, etc.
Assistance to relatives and other persons – money presented or handed over to relatives, friends and other persons as assistance.

Purchase of real estate – expenditures for purchasing houses, apartments, garages, cottages, etc.

Construction, capital repairs of housing and other buildings – expenditures to cover the cost of works and construction materials for construction and capital repairs of housing, cottages, utility facilities, etc.

Capital repairs represents the complex of construction and refurbishment works aimed at improving the technical characteristics of housing and increasing its value.

Purchase of stock, certificates, foreign currency, bank deposits – savings and money spent by households on these purposes, as well as contributions/fees to non-governmental pension funds.

Alimonies – expenditures to support under-age children and old parents.

Taxes, fees and contributions – paid taxes on real estate, taxes on owners of motor vehicles, penalties, membership and insurance fees/contributions, duties, tolls, etc.

Other expenditures – expenditures to purchase horned livestock, horses and perennial planting for personal auxiliary farming plots; also other expenditures not included above.

III. Consumer cumulative expenditures

The indicator of consumer cumulative expenditures of a household includes all articles/items related to cash expenditures as well as the cost of natural receipts and the cost of privileges/benefits and non-cash subsidies.

Below is a list of natural components (detailed description is provided in the methodological guidelines section regarding formation of the income indicator) in terms of relevant cost items.

The item ‘expenditures on food’ includes the cost of consumed foodstuffs received from personal auxiliary farming plots, stored or presented by relatives or other persons.

The item ‘expenditures on alcoholic beverages’ includes the cost of consumed alcoholic beverages received from personal auxiliary farming plots, stored or presented by relatives or other persons.

The item ‘expenditures on tobacco products’ includes the cost of consumed tobacco products received from personal auxiliary farming plots, stored or presented by relatives or other persons.

The item ‘expenditures on housing, water, electricity, gas supply and other types of fuel’ includes the cost of benefits and non-cash subsidies to cover expenditures on housing, communal products and services.

The item ‘health care expenditures’ includes the sum of non-cash benefits and subsidies to pay for treatment and health improvement trips, purchase of drugs, prosthetic dentistry and so on.

The item ‘transportation costs’ includes the sum of non-cash benefits to use public transportation.

The item ‘communication costs’ covers the sum of non-cash benefits to pay phone bills.
The item ‘expenditures on recreation and culture’ includes the sum of non-cash benefits to pay for tourist services.

The item ‘expenditures on restaurants and hotels’ includes the sum of non-cash benefits to pay for trips/vouchers to recreation centres, resorts, etc.

**IV. Non-consumer cumulative expenditures**

The indicator of non-consumer cumulative expenditures of a household includes: **assistance to relatives and other persons** including monetary assistance and provision of foods produced at auxiliary farming plots (with the monetary value of the purchase price) to relatives and other persons.

**Purchase of stock, real estate, construction works, capital repairs, bank deposits, etc.** – expenditures on the procurement of houses, apartments, cottages, garages; payment for works and construction materials; capital repairs of housing, cottages, utility facilities; savings and funds spent by the household for these purposes; contributions/fees to non-governmental pension funds.

**Other expenditures** – alimony to support under-age children and old parents; taxes, fees and contributions; money borrowed and repaid by the household; expenses to purchase horned livestock, horses and perennial planting for personal auxiliary farming plots; and other expenditures not included above.
METHODOLOGICAL RECOMMENDATIONS FOR EVALUATING THE EFFECTIVENESS OF THE SOCIAL PROTECTION SYSTEM