DEPARTMENT
OF STATISTICAL AND SOCIOLOGICAL SURVEYS
OF THE REPUBLIC OF MOLDOVA

THE SHADOW ECONOMY PARAMETERS
IN MOLDOVA’S NATIONAL ACCOUNTS

KISHINEU 2000
INTRODUCTION

1. NATIONAL ACCOUNTS DEVELOPMENT IN THE REPUBLIC OF MOLODOVA

Specialists of the Department of Statistical and Sociological Surveys of the Republic of Moldova have lately carried out a considerable and important work of radical technological, general methodological and organizational statistics reformation in the context of the present social and economic processes. The main outcome of the activity was an introduced System of National Accounts (SNA) and Measurements of the Principle Macroeconomic Indicators.

The introduced system of national accounts made it necessary to perfect the whole statistics system to achieve adequate information provision, which is needed for assessment of economic phenomena on the basis of national accounts.

Due to the transition period, numerous changes in legislation and the impact of those on economic activities, as well as some improvement in the statistical, financial and administrative data sources there were several stages in the system of national accounts introduction in Moldova. These stages include:

- Evaluation of the Gross Domestic Product at current prices in retrospective (1980-1990), using conversion keys switching over from measurement in the system of material production to the system of national accounts;
- Introduction of the UN SNA93 methodology and its adaptation to the Republic’s conditions, experimental calculations with some adjustment for 1989-1992;
- Perfection of the database used for the development of the national accounts system, development of the international register of statistical units, introduction of the economic activities classifications compatible with the international one.

Now when there is some stability in data sources, the data content boasts of increased reliability and quality of the national accounts variables that have so far been developed up to the year 1999.

The introduction of the system of national accounts in the national practice ensures possible measurement of the Gross Domestic Product by three methods: production, final consumption and income.

2. THE NATIONAL ACCOUNTS COVERAGE

To increase coverage by national accounts and reflection of the transition to a market economy, it is necessary to include in calculation and evaluation variables relating both to registered and non-registered units (including natural persons engaged in economic activities).

The non-observed economy should be defined in terms of production determined by the system of national accounts.

In terms of economics, production is manufacturing of goods and delivery of services meeting the demands of man. The system includes here all kinds of productive economic activities delivered in the form of either sales or barter exchange.

There are some other types of activities that are conventionally added to the list. These include consumption by families of food produced for own consumption while working on their subsidiary holdings, usage of private housing, and production by households of investment goods.
Thus the definition includes besides the economic activities generally registered by statistical, financial and tax authorities part of economy referred to as the shadow one. The latter implies the three kinds of economic activities that are not statistically measured: **illegal, covert (clandestine) and informal.**

The **illegal production** comprises:
- production of those goods and services that are forbidden for sale, distribution and ownership by law;
- all kinds of legal production activities that acquire the status of illegal ones due to the fact that they are performed by those people who are not legally entitled to be engaged in them.

**Covert (clandestine) activities** comprise all kinds of legal production activities of which the authorities know nothing due to different reasons. These include:
- tax dodging;
- not contributing to social insurance;
- non-observance of labor safety, minimum wages and salaries regulations, etc.;
- non-provision of filled-out administrative and/or statistical questionnaires.

In the long run, the clandestine economy consists mainly of two kinds of different activities: activities connected with the premeditated non-observance of the state regulations aiming at hiding production costs – this kind of activities can be defined as “economically clandestine”, and activities that are not registered due to the imperfect statistical information system, and the latter could be referred to as “statistically clandestine”.

**The informal economy** is defined as a complex of units involved in goods and services production primarily aimed at providing employment and income to
participants of the process. These units typically operate at a low organizational level with small differences or no differences at all between labor and capital; their production scale is small. The labor relations, if they exist at all, are built rather on irregular employment, either family or personal, or social relationships than on proper agreements, that excludes any official guarantees.

These kinds of units relate to households sector and stand apart from other units. The owner of such units is fully responsible for all financial and non-financial obligations relating to the corresponding production activities.

The informal economy sector is defined quite clearly, so that there is no economic sense in uniting it with the “clandestine” economic activities (for example, tax dodging). On the other hand, it could be treated as part of statistically clandestine activities, whereas we receive no data on it from the business register or any other administrative source.

The informal sector includes outworkers and a great number of the self-employed, production by small farms, handcrafts.

**METHODS OF THE SHADOW ECONOMY ASSESSMENT IN THE REPUBLIC OF MOLDOVA**

The present report is aimed at presenting both methods and data sources used for defining variables for Moldova’s non-observed economy in accordance with the national accounts principles.

Within the framework of the available database and the developed methodology the Department of Statistical and Sociological Surveys evaluates the Gross Domestic Product taking to a different extent all the above-mentioned types of
the shadow economy excluding the illegal one. Methods for measurement of the shadow economy parameters by activity vary depending on the database capacity, characteristics of the observed activities.

Assessment of the scope of taxes dodging by natural persons and legal entities producing goods and services and obliged by law to provide balance sheets and tax declarations.

Regarding natural persons and legal entities comprising the sector of corporations, quasi-corporations and non-financial enterprises and households, the State Tax Inspection provided the following data:

- number of inspected enterprises where the value added, profit taxes and excises violations were tapped (by activities);
- total of additional tax and excise payments due (after inspections);
- total of the administrative sanctions (fines and penalties).

Those businesses producing goods and service that are exempted from the value-added payment were excluded from the list of enterprises operating in the reference period (according to the business register).

In accordance with the Moldova Republic’s Law on the value added tax, this tax is calculated on the basis of the 20% rate to taxable turnover at prices and tariffs less the value added tax and excise. This rate is applicable to businesses producing goods and services. The 16,67% rate is applied for retail trade, public catering and intermediary business.

The covert output of the inspected business (by activities) was evaluated on the basis of due payments adjusted after tax inspections and the value added and profit tax rate. The received output was extrapolated to the whole population of operating businesses selected from the register.
The intermediate consumption was calculated using specific weights in official reporting of the corresponding activities.

The results are given in the following table.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Covert Gross Value Added in % to Gross Value Added of the corresponding activity</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>8.7</td>
<td>16.1</td>
</tr>
<tr>
<td>Manufacturing industry</td>
<td>19.4</td>
<td>10.3</td>
</tr>
<tr>
<td>Power industry, gas and water</td>
<td>0.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Construction</td>
<td>3.7</td>
<td>6.2</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>17.8</td>
<td>7.0</td>
</tr>
<tr>
<td>Transport and communication</td>
<td>4.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Financial mediation</td>
<td>1.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Real estate operations</td>
<td>13.1</td>
<td>8.2</td>
</tr>
<tr>
<td>Others public utilities, social and personal services</td>
<td>5.4</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11.9</strong></td>
<td><strong>13.0</strong></td>
</tr>
</tbody>
</table>

*Income of non-registered natural persons* (tailors, teachers giving private lessons, peddlers, automobile owners, services of medical and paramedical specialists) is assessed using different statistical sources specific for a particular activity.

*Processing.* To evaluate the undeclared income of outworkers (tailors and dressmakers) the number of women at a certain age was taken, its breakdown by rural and urban population was made. An average price for making one piece of clothing and the total of made things were calculated. Thus, the yearly output less electricity costs in the intermediate consumption was determined.

*Construction. Finish account in individual construction.*

Finish accounting is based on intentional lowering of the cost of individual housing construction (when owners register at local authorities) in comparison with
actual costs. In this connection the volume of new fixed assets in individual housing was reevaluated at market prices.

Intermediate consumption is calculated using specific weights in official reports in the industry.

**Wholesale and retail trade.** The informal market includes distribution by persons of goods produced in the country and imported from the rest of the world (the so-called non-organized import) in the form of free trade in fixed places (goods markets). The turnover of the non-organized market was determined on the basis of the budget statistics by comparison of the population’s total expenditures on consumer goods with the turnover of all registered trade businesses in the reference period.

Households’ budget surveys provide the population’s purchases ratio in the organized sector. The ratio is extrapolated on sales volume (goods) in the organized market accounted on the basis of trade statistics. This is how sales are calculated for the non-organized market. The gross output (trade add-on) is defined by a specific weight in officially registered businesses.

**Transport.** In accordance with the Traffic Police Department (the Ministry of Internal Affairs) data on privately owned lorries, the ratio of vehicles technically ready for operation, and in accordance with the State Transport Inspection data on individual proprietors licensed to perform commercial transportation, only 18% of the total possessed the license. The volume of cargo transportation carried out by those entrepreneurs was evaluated on the basis of the data received thanks to the weekly sample survey questionnaire approved by the Department of Statistical and Sociological Surveys in 1998. The number of weeks in the reference period, the average transportation volume per week and the number of private lorries were considered.
In income definition an average income rate per ton-kilometer is determined. It is calculated on the aggregated data on income from transport at transport enterprises (legal entities) and the respective cargo turnover. The data are used for measurement of the shadow incomes received from unlicensed cargo transportation.

**Healthcare.** The volume of paid services provided by physicians to the population in cash in the state medical institutions (it is illegal) is determined on a differentiated basis thanks to anonymous questionnaires.

**Education.** Here the shadow economy’s indicators include teachers’ undeclared incomes from private lessons. Statistical reports provided the number of applicants to higher and secondary educational institutions by specialization. Unofficial observation gave the cost of an academic hour and the number of classes over a specific period of time.

The calculations in the above-mentioned activities resulted in the following table:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Covert Gross Value Added</th>
<th>% to Gross Value Added in the corresponding activity</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing industry</td>
<td>9.4</td>
<td>4.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Construction</td>
<td>28.6</td>
<td>11.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Wholesale and retail trade</td>
<td>33.7</td>
<td>22.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Transport</td>
<td>-</td>
<td>4.6</td>
<td>-</td>
</tr>
<tr>
<td>Health service</td>
<td>11.1</td>
<td>11.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Education</td>
<td>4.7</td>
<td>5.1</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15.9</strong></td>
<td><strong>12.1</strong></td>
<td><strong>6.5</strong></td>
</tr>
</tbody>
</table>
It is worth considering another issue concerning the non-market household activities. This is production of certain products for households’ own final consumption. In the countries with the developed market relations the volume of such activities is insignificant, while in the Republic of Moldova, for example, production and processing of plant-growing and animal husbandry products is quite considerable.

Households sector in agriculture comprises production:
- in private subsidiary holdings;
- in farms;
- in collective fruit and kitchen gardens.

The outputs of subsidiary holdings and collective gardens are calculated on the basis of sample surveys of households, annual full account of domestic animals by local administrations, periodical accounts, surveys and censuses.

To measure the production output of farms, variables of yearly statistical reports on farmers’ activities are used. Reporting provides surveying of not less than 10% of farms. Received results are extrapolated on the whole population.

The plant growing and stockbreeding outputs in value by each category of units are determined by direct valuation of produced agricultural products at average sales prices in the reference period.

The households’ output in processing activities is measured on the basis of sample surveys of household budgets by the following groups of products:
- wine and wine materials;
- dairy products;
- vegetable and fruit preserves;
- meat and meat preserves;
- vegetable oil.

Calculation of production:
- output of processed products (average for surveyed families) in kind;
- average family size;
- price per unit of product;
- average population for the year.

Besides, calculations in the informal sector include cost of individual housing (from statistical reports) and volume of housing services in private sector, i.e. living space in private property multiplied by market price of a square meter.

The calculated results in the household sector by the above-mentioned activities are shown in the following table:

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, including:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant growing</td>
<td>45.3</td>
<td>51.2</td>
<td>11.7</td>
<td>12.9</td>
</tr>
<tr>
<td>Stockbreeding</td>
<td>4.3</td>
<td>15.8</td>
<td>1.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Manufacturing industry</td>
<td>14.8</td>
<td>22.0</td>
<td>2.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Construction</td>
<td>19.0</td>
<td>14.1</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Real estate operations</td>
<td>15.0</td>
<td>16.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The Department of Statistical and Sociological Surveys of the Republic of Moldova has implemented a joint project on perfecting the methodology of the shadow economy measurement within the TACIS program Statistics 3. Two meetings with the foreign consultant were held under the project. The consultant made an expertise of methods, provided recommendations on their perfection (some of those were used in calculations of the present report).
The recommendations on the manpower sample survey questionnaire (in our opinion they will contribute to the shadow economy measurement quality) will be applied for the 1999 results.

In Statistics 5 (within the TACIS program) the work on the shadow economy measurement will proceed. In this direction it is envisaged, jointly with the international consultant and the Republic’s law enforcement authorities to measure the scale of illegal production activities.