



Departamentul Statistică și Sociologie al Republicii Moldova
Department for Statistics and Sociology of the Republic of Moldova



**MĂSURAREA ECONOMIEI NEOBSERVATE ÎN
REPUBLICA MOLDOVA**

**MEASUREMENT OF THE NON-OBSERVED ECONOMY IN
THE REPUBLIC OF MOLDOVA**

Chișinău - 2003

Department for Statistics and Sociology of the Republic Moldova

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The publication „Measurement of elements of Non-Observed Economy in the Republic of Moldova”, 2003 issue, describes the conceptual framework of Non-Observed Economy, presenting the production boundaries and definitions of Non-Observed Economy.

A practical interest, in this publication, represents the chapter on methodology, methods and information sources used in the estimation of elements of Non-Observed Economy in the Republic of Moldova.

The current publication is provided for a wide range of users which study the problems of Non-Observed Economy, professors, doctorates, students.

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In some cases, there can occur insignificant discrepancies between the totals and the sum of components included, fact that could be explained by the data approximation.

FOREWORD

The complex and difficult process of transition from planned economy to the market economy implies the need for changes of the types of statistics used in the economic and social life; the theory and practice of statistics being obliged to adopt new economic concepts, methodologies and work techniques used in the international area and to insure as much as possible the reliable and comprehensive reflection of the phenomena specific to transition period.

A significant example would be the implementation of the System of National Accounts, developed on the basis on the United Nations recommendations, version 1993 (SNA, UN-1993) in the official practice. The information obtained throughout SNA represent the most complex tool of macroeconomic analysis, which generates the real possibility for the society to measure its progress and to adjust its future steps.

Taking into account the peculiarities of the transition period (multiple changes in legislative basis, in the informational system, etc.) the implementation of System of National Accounts in the Republic of Moldova was performed in several stages:

- Calculation of Gross Domestic Product (GDP) in current prices, for previous years (aa.1980 -1990), using the transition keys from the System of Material Production to the System of National Accounts;
- implementation and adaptation to the conditions of the Republic of Moldova of the SNA methodology UN - 1993;
- finalisation and improvement of the information basis, used at the development of National Accounts; generation, according international standards, of the Register of Statistical Units (RENUS) and of the Classification of Economic Activities of Moldova (CAEM), Structural Business Survey, and Labour Force Survey in households and the Household Budget Survey.

Currently, there is stability in the use of information sources, whose content insures the quality of the macroeconomic indicators and of the National Accounts calculated for the period 1989 - 2002.

An important aspect in the quality of the National Accounts consists in their complexity, in other words, to include in the calculations all the economic activities, both, those reported and those non-reported. This is quite difficult to be reached due to the wide spectrum of economic activities, a part of which are deliberately concealed by the producers. The complexity of National Accounts leads to the deviations of the most important macroeconomic indicator - **Gross Domestic Product**. The underestimation of Gross Domestic Product creates an unclear picture of the economy, fact that impede the international comparability. Last one having a major importance in the cases when the fees receivable or payable by the country are determined according the Gross Domestic Product, or, when the poverty is measured by the GDP per capita. The deviations in the calculation of

trends can appear when the dynamics of economic activities which are not included in the Gross Domestic Product, differ from those included. For example, it is assumed that the growth of hidden economic activities or the activities of the informal sector occurs when the formal economy is in decrease.

The study and the assessment of Non-Observed Economy is important by its impact on the economic processes, in what concerning the aspects connected with fiscal evasion, illegal benefits, labour force market and income distribution. It affects also the quality of statistical data, especially those connected with Gross Domestic Product and macroeconomic aggregates. The assessment of Non-Observed Economy elements becomes a stringent necessity due to the fact that, the lack of estimations by official statistics leads to the alternative estimations, many of which do not correspond to the international standards and are not performed by professionals.

Taking into account the above-mentioned, one of the main concerns of the national accountants constitutes the identification (according international standards) of the activities that bring incomes beyond the coverage of statistical or financial observation.

Following this idea, the Department for Statistics and Sociology benefited of technical assistance from European Union in the framework of TACIS program, for what we are cordially grateful. With the assistance of international experts, it was executed a significant work in the field of revision of information sources, necessary for the estimation of elements of Non-Observed Economy, and organisation of calculations of SNA-1993, UN methodology, and the last recommendations reflected in the Manual "Measurement of Non-Observed Economy", 2002 issue.

In this context we are grateful to Mr. Jacques Charmes, international expert in the field of Non-Observed Economy, one of the authors of the manual "Measurement of Non-Observed Economy", for his assistance both, in estimating the elements of Non-Observed Economy, for the development of this publication and also, for the constructive and welcome proposals for the given publication.

We hope our publication will be useful for a wide range of users, taking into account the actuality of this topic and the possibilities to be used in the analysis of social economic situation.

Vitalie Valcov

Director General

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I. Conceptual framework

1.1 Introduction

Complete coverage of economic production is a vital aspect of the quality of national accounts. This exhaustiveness is hard to achieve because of the difficulties in accounting for certain types of production activities.

Activities that are missing, from the basic data used to compile the national accounts because they are underground, illegal, informal, household production for own final use, or due to deficiencies in the basic data collection system are referred to as **non-observed (NOE)**, including them in the national accounts is referred to as **measurement of the NOE**.

The non-measured economic transactions lead to imperfection and imbalance of accounts. For example, household expenditures on goods and services produced underground may be measured because the purchasers have no reason to hide their purchases, whereas the corresponding production activities are not reported by the producers.

A lot of media attention is paid to the possibility of missing economic activities and reports often suggest the GDP figures published by national statistical offices exclude large parts of the economy. The problem is that many mass-media reports are based on research methodologies, where, by one hand, is missing the variety of definitions used: hidden economy, shadow economy, parallel economy, subterranean economy, informal economy, black market; - by other hand, there is no common agreement, does they mean the same, and if not, what is the relationship one to another.

In this purpose, the methodology of System of National Accounts of United Nations, version 1993 (SNA, UN, 1993) and the recommendations reflected in the manual „Measurement of Non-Observed Economy“, 2002 issue (both used on international area), give the possibility to statisticians which compile the national accounts, and also to users of macroeconomic indicators to outline precisely the definitions used, to understand their essence, and finally, to speak the same language.

.2 Production boundaries

One of the key concepts of the national accounts is that of production.

The rules that have been developed to „determine“ what is to be included as production and what is to be excluded - referred to as the **production boundary**. This determines the scope of the most current and capital transactions in the national accounts. First of all, the production

boundary determines what is to be included in the accounts as **output**; secondly, because the 1993 SNA recognises only the uses of **produced** goods and services, the elements of intermediate consumption, and thus, value added, should also be included in the production boundaries.

Because of the far-reaching concept of the production concept, the quality of national accounts is to a large extent determined by the exhaustiveness of the GDP estimates. To achieve exhaustiveness, the first step is the delineation of what should and what should not be included in the national accounts as production. In the first place, a boundary must be defined between those activities that are regarded as **productive** in an economic sense, and those that are not. The second step is to define the boundary around the economic production that needs to be included in the national accounts.

With respect to productive activities, the 1993 SNA thus introduces two fundamental boundaries, namely: **general production boundary and the SNA production boundary**.

General production boundary draws the line between economic and non-economic production. Economic production includes all activities «carried out under the control and responsibility of an institutional unit, that uses inputs of labour, capital and goods and services to produce outputs of goods and services..., of a kind that can be delivered or provided to other institutional unit» (SNA-93: 6.15 and 6.6). For an activity to be productive in this sense, the following conditions need to be satisfied:

- There must be a link between the activity and an institutional unit. The activity must be carried out „under the control and responsibility of an institutional unit exercising ownership rights on what is produced" (SNA-1993: p. 6.15). As a consequence, purely natural processes without any human involvement or direction are excluded. For example, the unmanaged growth of fish stocks is outside this general boundary, whereas, fish farming is included.

- There must be marketability resulting in outputs capable of being exchanged. This is a weak criterion in this sense that is being actually exchanged is not required as long as outputs are **capable of being exchanged**. Marketability also implies observance of the so-called *third-party criterion*, which states that an activity may be deemed economically productive only if it can be performed by a person other than the one benefiting from it. By this criterion, basic human activities such as eating, drinking, sleeping taking exercise, etc. are excluded, whereas services such as washing, preparing meals, caring for children, the sick or aged fall within this general boundary because they can be exchanged between the different units (SNA-1993: 6.16).

The SNA production boundary is more restricted than the general boundary and describe the range of productive economic activities that should be included in the GDP estimates. According the reason explained below, the household activity concerning the production of household

services provided for own-final use (except the services provided by the personnel hired in households) does not reflect the production account. Except this, the production boundaries of national accounts coincide with the general production boundaries.

According 6.18 of SNA -1993 the economic activities included in the production boundaries of national accounts are presented as follows:

- production of all individual and collective goods or services that are supplied to units other than their producers, or intended to be supplied, including the production of goods and services used up in the process of producing such goods or services;
- the own-account **production** of all goods that are retained by their producers for their own final consumption (production and processing of agricultural goods, etc.) or gross capital formation (individual constructions, etc.);
- in what concerning the own-account production of housing services, there are included here only the services on imputed rent and personal services produced by employing paid domestic staff.

Thus, production of **services** for own final use by households (food preparing, caring for children, (except the personal services produced by employing paid domestic staff), are excluded from the production of goods and services reflected in the national accounts. In what concerning the production **of goods** for own final use by households, it is included both, in the general production boundaries and in the national accounts boundaries.

1.3 Definitions of Non-Observed Economy

The goal of statisticians is to measure all the non-observed activities covered in the production boundaries of the system of national accounts, in order to reach a better reliability and coverage of the Gross Domestic Product.

Both, the SNA, UN, 1993, and the recommendations of the manual «Measurement of Non-Observed Economy» outline the following non-observed activities:

- **informal sector production**, defined as those productive activities conducted by unincorporated enterprises in the household sector that are unregistered and/or are less than a specified size in terms of employment, and that have some market production;
- **production of households for own final use**, defined as those productive activities that result in goods or services consumed or capitalised by the households that produced them;
- **hidden production of formal sector**, defined as those activities that are productive and legal but are deliberately concealed from the public authorities to avoid payment of taxes or compiling with regulations, etc.;
- **Illegal production**, defined as those productive activities that generate goods and services forbidden by law or that are unlawful when carried out by unauthorised producers.

These four types of activities are also called **difficult areas**, while the lacks of information on the given activities, in general, form **the Non-Observed Economy**. The order enlisting the difficult areas does not correspond to their relevance. In reality, their volume and significance varies from country to country. For example, the informal sector could be insignificant in the developed countries, and quite relevant in the transition countries.

Informal sector production represents an important part of the economy, and particularly of the labour market, in many countries, especially transition countries, where the restructuring of economic activities led to a higher decentralisation of production and the creation of a big number of small enterprises found later on in the informal sector. Informal sector production is also determined as an economic activity, carried out by unincorporated non-registered enterprises of households and/or whose size, by the number of employees, is under the set up border, which produce market production. Moreover, the informal sector plays a significant role in employment creation, production and income generation. Informal sector employment is a necessary survival strategy in countries that lack social safety nets such as unemployment insurance, or where wages and pensions are too low to cover the cost of living.

The vast majority of informal sector activities provide goods and services whose production and distribution is perfectly legal and are covered by the production boundaries both general and of the system of national accounts. Informal sector activities are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contributions, or infringing the labour legislation or other regulations. Certainly, some informal sector enterprises prefer to remain unregistered or unlicensed in order to avoid compliance with all or some regulations and thereby reduce production costs. And simultaneously, it is necessary to make a distinction between those whose business revenue is high enough to bear the costs of regulations and those who cannot afford to comply with existing regulations because their income is too low and irregular. In summary, although informal sector and underground activities may overlap, the concept of the informal sector needs to be clearly separated from the concept of underground production.

The 15th International Conference of Labour Statisticians, on employment statistics in the informal sector, decided to assist the national statistical offices in developing the definitions, classifications and methods of data collection for the informal sector. The Resolution states that «Informal sector is characterised as a sector with units, producing goods and services, whose priority is employment creation and incomes of those acting in this sector». As usual, these units have a low level of organisation, with a reduced distinction between labour and capital, as inputs for production. The

production relations, where they exist, are based, in general, on informal relations who are not regulated by contracts».

This conference set the three criteria for the defining of informal sector, whose range should be large enough to cover the variety of informal sector aspects in different countries.

Firstly, the informal sector had to be defined in terms of characteristics of the enterprises in which the **activities** take place, rather than in term of characteristics of the persons involved or their jobs. Accordingly, persons employed in the informal sector were defined as comprising all persons, who, during a given reference period, were employed in at least one informal sector enterprise, irrespective of their status in employment and whether it was their main or a secondary job. The definition of the population employed in the informal sector stresses the distinction between employed persons and their jobs.

Secondly, the informal sector enterprises are determined as a sub-group of household unincorporated enterprises. In contrast to corporations and quasi-corporations, a household unincorporated enterprise is a producing unit that is not constituted as a separate legal entity independently of the households members who own it. Moreover, they do not have the complete set of accounts that would provide a means of identifying the flows of income and capital between the enterprises and the owners.

Thirdly, the fixed capital and other capital used does not belong to the enterprise, but to the owners, which are obliged to ensure the financial means and are personally responsible for any liabilities and debts that can occur during the production process.

Following the above-mentioned, all these three criteria determine the concepts of household unincorporated enterprises. However, if all the informal sector enterprises could be considered household unincorporated enterprises, then not all household unincorporated enterprises are referred to informal sector. Thus, the 15th International Conference of Labour Statisticians set up the two criteria for the delimitation of informal sector enterprises from other household unincorporated enterprises, such as **the non-registration and/or their size**. It is necessary to mention that the concept of «enterprise», in largo senso, cover not only the productive units with employees, but also those owned and organised by own account workers, either, independently or being assisted by family members. Accordingly, the informal sector covers:

- Informal own-account enterprises;
- Enterprises of informal employers.

Informal own-account enterprises. The same ICLS specified that, according national circumstances, either all own-account enterprises should be considered informal, or only those which are not registered under specific forms of national legislation. The legislation referenced includes factories' and commercial acts, tax and social security laws, laws or regulations

established by national legislative bodies. In what concerning the Regulations enacted by local authorities for the purpose of obtaining a trade license or a permit to operate a business, are excluded from this criterion. The above-mentioned Decisions are not considered to be "appropriate" because they are governed by administrative regulations and their enforcement that may vary considerably from one country to another, and within the same country, over time, and between different regions. Moreover, the licenses and permits are not considered to have much of an effect on the way the enterprises are organised and operate nor on their economic objectives and behaviour, and homogeneity of economic objectives and behaviour is the 1993 SNA guiding principle for distinguishing between the various institutional sector and sub-sectors.

Following the above-mentioned, the 15th ICLS did not include any size criterion in the definition of informal own-account enterprises. Such a criterion was considered superfluous, as by their very nature virtually all own-account enterprises are small.

Enterprises of informal employers. The 15th ICLS specified that enterprises of informal employers should be defined in terms of one or more of the following three criteria:

- small size of the enterprises in terms of employment;
- non-registration of the enterprise (defined as for informal own-account enterprises); or
- Non-registration of its employees.

An important advantage of the size criterion in defining the informal sector is that size can be measured relatively easily by all relevant types of surveys. In addition, there is usually correlation between small size and other aspects of informality, in particular:

- small enterprises can remain unidentified by the authorities more easily than larger enterprises;
- governments with limited administrative resources tend to focus on large enterprises when trying to collect taxes or enforce labour legislation;
- as usual, unions tend to concentrate on large enterprises, which can be reached more easily, so that, their efforts will achieve maximum results; and
- small enterprises tend to use more traditional technologies.

By other hand, proponents of non-registration as the informal sector criterion note that small size, unless used in combination with other criteria, is not sufficient to define the informal sector, and that the choice of the size limit is more or less arbitrary.

During the 15th ICLS, the criterion of selection of informal employers enterprises according size criterion was not **outlined**, that is why it can vary from country to country depending on needs and even between the various economic activities of one country.

Simultaneously, the Conference paid a special attention to the criteria of **non-registration of enterprises and their employment**. These criteria ensure the framework, according which, the informal sector is identified in every country. It is obvious they can vary from country to country. The criteria can be applied in various combinations; there can exist legislative differences between countries, the thresholds of the enterprise size can vary, also, their method of measurement, etc.

The 15th International Conference of Labour Statisticians gave possibility to some countries to have quite flexible methods for the identification and measurement of informal sector. Some flexibility methods were needed, because the resolution of this conference was the first international recommendation, whose main purpose was to provide technical assistance in developing the statistics of informal sector, rather than to obtain the data compatibility. What concerning the international data compatibility, the Expert Group of UN on informal sector statistics, the so-called „Group Delhi“ established in 1997, tried to harmonise the national definitions on informal sector, based on international definitions. Following this idea, the above-mentioned Group succeeded to set up the indicators of informal sector, possible to be unified and which could be used by countries in order to develop comparable data on international level.

For the identification of indicators „Group Delhi“ adopted the following recommendations:

- all the countries are obliged to use as criteria the legal production (unincorporated enterprises), a certain number of accounts (simplified balance) and the purpose of production (at least a part, should be market production);
- the size of enterprise, in the context of national definition of informal sector, is in the responsibility of every country;
- the countries which use the size criterion should present disaggregated data both, for non-registered enterprises and for registered ones;
- the countries which use the non-registration criterion should develop the disaggregated data for the enterprises with under 5 employees, also for the enterprises with 5 employees and over;
- countries which include agricultural activity should present separately the agricultural and non-agricultural activity.
- In the calculations of informal sector, the countries have to include the activity of persons practicing professional or technical activity and correspond to the requirements of identification of informal sector;
- the countries using the information from Household Budget Surveys or of the mixed surveys should endeavour in order to cover not only the main activity in the informal sector, but also the secondary one.

All the identification rules and criteria mentioned above ensure the framework, according which the **informal sector** is determined in every country.

Household production for own final use. According the Decision of 15th International Conference of Labour Statisticians, production produced by household unincorporated enterprises, exclusively for own consumption, does not represent a part of the informal sector and that is why, it is analysed independently as an element of non-observed economy. It is included the agricultural production (vegetal and livestock), processing of agricultural products, construction of individual houses, imputed rent and services of the personnel engaged in households. For the determination of production boundaries, System of National Accounts (6.25), recommend to measure the production of goods and services for own final use, in the cases when its size is significant to total goods and services in the country. In the transition countries, the last represent a significant proportion in total production. Thus, it is important to include them in the national accounts, especially, in the periods of economic crises, when these activities play an important role in supporting the living standard of population. System of National Accounts (6.24) proposes the list of goods included in the production of household production for own final use, namely:

- production of agricultural goods and services and their subsequent storage; the gathering of berries and uncultivated crops, forestry, hunting and fishing;
- processing of agricultural products; production of flour by milling, curing of skins and the production of leather; production and preservation of meat and fish products; preservation of fruits, production of dairy products; wine production, etc.;
- other products of households' handicraft industry.

Hidden production of formal sector. According the System of National Accounts (6.34) „some economic activities, can be producing goods and services, from the economic viewpoint, being legal (with the condition that they correspond to some determined standards or principles), but, in the same time, hidden from administrative bodies due to the following reasons“:

- tax evasion (income taxes, value added tax, etc.) ;
- evasion from the contributions in the social security funds;
- violation of law concerning the minimal salary, number of worked hours, etc.;
- non-filling in of administrative fiscal or statistical questionnaires, etc.

The System of National Accounts states also that, the „producers producing mentioned types of production are characterised as producers of „hidden economy““. Thus „hidden economy“ cover any kind of economic production with the purpose of fiscal evasion, or the violation of labour legislation (non-reporting the total number of employees), or, when the own account worker declare they are unemployed in order to obtain the unemployment benefits. Up to this moment, the concept „hidden economy“ was exclusively interpreted according the definition reflected in the System of

National Accounts 1993. However, this concept, beyond the context of national accounts, has a wider use. It is often used by sociologists, analysts of labour market, legislators, mass-media and the public, the other meaning being used and treated according to the goal and objective of the users. As a result, there are misused the goals with various meanings this concept has. The following explanations describe the alternative definitions used, and also the differences between them.

Inappropriate inclusion of non-productive activities. The first and the most common cause it is sometimes presumed to include activities that are underground in the sense that they involve concealment from taxation or other authorities, by that are not producing goods or services. Examples are illegally exported capital or concealed interest income or capital gains etc. These activities are underground in the loose sense of the word, but they should not be considered as underground production and thus, part of the underground economy, given that the only broadly accepted notion of production is the one defined by 1993 SNA.

Inclusion/exclusion of illegal production in hidden economy. Another source in ambiguity in meaning is whether or not underground production is deemed to include illegal activities. Of course, according to 1993 SNA it does not have to be a part of hidden production. For example, from the perspective of law enforcement, the legality or illegality of the goods and services produced is not an issue. The issue is the deliberate concealment of productive and non-productive activities that should be declared to tax authorities. Thus, on occasions in the literature, the "underground economy" covers both, legal and illegal concealed production without distinguishing between them.

Inclusion/exclusion of small-scale market production. Another cause of confusion arises in connection with market production activities that are on such a small scale that the enterprises responsible for them are not **obliged** or expected to report them to public authorities. Even though these activities are outside the 1993 SNA definition of underground production because they do not involve any deliberate concealment, they may be included within the scope of underground production in some studies.

Untaxed production and untaxed income. A more serious interpretation problem arises when underground economy is used in the context of untaxed income. Untaxed income can not be related directly to untaxed production as taxable income may be generated by activities that are not producing goods or services. Taking into account the above-mentioned results that the volume of untaxed income leads to the **reduction of state incomes**, while the untaxed production - **to underestimation of Gross Domestic Product..**

Hidden economy in percentage terms. Another source of confusion arises in quoting the extent of underground activities (and also of Non-Observed Economy) in percentage to total GDP. As usual, percentages are defined on the basis of the ratio of the item of interest to the whole. In the context of underground economy (Non-Observed Economy) this would imply

expressing underground production as a percentage to the total production. However, underground production is often quoted as a percentage of **official GDP estimates** (obtained only from official sources of information) rather than **of total GDP** (official + underground).

- **Illegal production.** The 1993 System of National Accounts, states that illegal economic activities should be included in the national accounts: „Despite the fact that there are some practical difficulties to obtain data on illegal production, these being comprised by the production boundaries of the system" (6.30), and „all illegal activities which can be characterised as transactions performed with the mutual agreement of the parties should be treated as legal activities" (3.54).

Illegal activity represents the forbidden activity by the legislation in force (production and distribution of drugs, etc.) or, the activity, which is legal, but becomes illegal when, is performed by unauthorised persons (practicing medical services without authorisation).

Thus, according the System of National Accounts, illegal production is divided in two categories:

- Production of goods and services whose sale, distribution or ownership is forbidden by law;
- Production of goods and services, which, as usual, is legal, but becomes illegal when it is performed by unauthorised persons.

Both categories are covered by the production boundaries, with the condition that they represent goods and services demanded on the market. Recommending the inclusion of illegal activities in the production boundaries, the 1993 System of National Accounts, makes a strict delimitation between the transactions mutually agreed between the vendor and buyer (drugs distribution, sale of stolen goods or prostitution), which are included in the production boundaries, and other activities, which are not mutually agreed, (fencing, thefts, etc.) and that is why, are excluded from the production boundaries.

In this context, **the lack of a mutual agreement between parties**, rather than illegal activity represent the criterion of exclusion from production boundaries. *Theft*, obviously, is treated as a redistribution of incomes (3.55 and 6.33 from SNA 1993), and, in no way, it does not influence on the production and Gross Value Added. Thus, illegal activities can be both, producing and distributive activities. The first ones influence directly the GDP estimations, while the last ones lead to the redistribution between various institutional sectors. However, for the harmonisation of various transactions and other flows, and also for the balancing of assets and liabilities, it is necessary to take into account and illegal activities whose essence is the redistribution of goods.

Another important reason for the outlining of illegal activities is, by one hand, the need to harmonise the whole system, and by other hand - national accounts data comparability between countries and periods. Some activities,

for example, prostitution or production or sale of alcoholic beverages in a country could be considered illegal in a country (according legislation) and legal (according the same legislation) - in another. Exclusion of illegal activities can, thus, lead to deviations in the international comparability. Identically, this would lead with time, to deviations when some activities "pass" from illegal to legal and vice versa. As an example can be the Prohibition Law in the United States of America when the production and sale of alcoholic beverages was forbidden by law.

Types of illegal activities. Based on the proposals made by Blades, D. W. (1983), „Crime: what should be included in the National Accounts and what difference would it make" the following types of illegal production are identified:

- Production and distribution of illegal goods (banned drugs, pornographic material, etc.);
- Production of illegal services (prostitution, in countries where it is illegal);
- Production activities which are usually legal but which become illegal when parried out by unauthorised producers (unlicensed medical practices, unlicensed production of alcohol, poaching, unlicensed gambling activities, etc.);
- Production and sale of counterfeited products (products with false trade-marks, unauthorised copies of artistic originals, software, CDs and videos);
- Smuggling (in particular, tobacco, weapons, alcohol, food, both, wholesale and retail);
- Fencing of stolen goods;
- Bribery; and
- Money laundering.

The scale and distribution of such activities varies across countries. For example, in the countries of Commonwealth of Independent States the following illegal activities are characteristic:

- illegal production of alcoholic beverages which do not meet certain standards;
- production of goods, whose quality does not meet established standards;
- provision of medical services by the persons who do not have qualification;
- bribery;
- poaching, including fishing; illegal production of caviar and similar sea products; hunting and logging;
- illegal production of copies of audio and video materials, and software programmes;
- production and distribution of pornographic material.

In the countries, where at the moment, the illegal production is not significant, would not be effective to use the resources, both financial and human, for its estimation and reporting in the national accounts. Efforts are better directed to improve continuously the estimations on informal sector production, household production for own final use and the hidden economy in the formal sector, thus ensuring a better reliability of the results obtained. In addition, the methods available to measure the illegal activities are still experimental. Indeed, although there seems to be more or less arrangement on the correctness, in principle, of including illegal activities, very few countries explicitly include estimates of illegal production in their national accounts figures at the present time. However, this is slowly changing. Measurement obstacles should not stop efforts to move towards the conceptually correct system and research on finding appropriate estimation methods continues.

2. Methods of estimation Of Non-Observed Economy elements In the Republic of Moldova

Production, as it is defined in the System of National Accounts, can be characterised as an activity, where an enterprise use the "input" to obtain "output". Thus, it is an activity producing goods and services for market, for this purpose being used other goods and services.

Following the definition of production, there have to be mentioned that, it includes beyond the activities usually registered by statistical bodies and financial-tax authorities, the part of the economy called "Non-Observed Economy".

Non-Observed Economy comprises four elements:

1. informal sector
2. households production for own final use
3. hidden activity of formal sector
4. illegal production

The main objective of this chapter is to present both, the methods and the information sources used in the estimation of elements of Non-Observed Economy in the Republic of Moldova.

Taking into account the existing information and the methodology developed, at the calculation of Gross Domestic Product, the Department for Statistics and Sociology accounts all the kinds of Non-Observed Economy, except the illegal one.

The methods used for the determination of Non-Observed Economy elements depend on the informational possibilities and the kind of economic activity.

2.1 Informal sector

The informal sector represents a significant part of the economy and labour market for many countries, especially for transition countries. It is defined as the sector which includes productive institutional units, characterized by a low organisation level, having a reduced distinction between the employers work and capital, and is based on a system of informal relations, which are not stipulated by contracts. These units belong to the "households" sector, where the owner is totally responsible for financial and non-financial liabilities which result from productive activities.

There were made estimations for:

- 2.1.1 enterprises of non-registered employers and their employees;
- 2.1.2 enterprises of own account workers, unpaid family workers and members of cooperatives;
- 2.1.3 household enterprises, with market production

2.1.1 Enterprises of non-registered employers and their employees

A special problem, faced by almost all the transition countries constitutes the speed of exchange in the demography of the enterprises (employers), fact that has an impact on the quality of the statistical register. Taking into account that the register is the basis of all the statistical surveys, its quality has a direct influence on the volume of non-registered economy. However, there are cases when the economic units perform a legal economic activity, but there are missing in the files, and, thus, they are not included in the statistical surveys and in the calculations of Gross Domestic Product, fact that affects the reliability and the complexity of the last one.

Taking benefit of the available statistical sources, we found the possibility to develop a method which could eliminate the effects of the absence of the economic units from the statistical files. It became possible, first of all due to the use of **the information on demand and supply of labour force**, which consists in the determination of the number of persons occupied in the hidden economy, and the comparison of these figures with the same indicators from the Labour Force Survey, organised in households (which covers all the employed persons, including those from the hidden economy) with the figures obtained from the business statistics, which, cover only the number of figures officially employed.

The first stage of work was to compare the number of employers and their employees from the Labour Force Statistics in households and from Business Statistics. The comparison was made for all the activities, even for those which are poorly represented in business statistics. The analysis of the obtained information shows the inhomogeneous structure of the enterprises (size, kind of activity, gross output, etc.), fact that force us to divide them by groups, thus, we consider that the estimation of production would be more truthful.

For the Structural Survey, the totality of the units covered in the survey was divided in two groups:

- units in the exhaustive survey (enterprises with 20 and over employees, which share in the total number of active enterprises is 15%);
- units in the sample survey (1 to 19 with a share 85% in the total number of active enterprises). Taking into account that the group of enterprises with 1 to 19 employees is the most numerous and inhomogeneous, the decision to divide it in two subgroups was taken: 1 to 10 and 11 to 19.

The analysis of the data of the employers with 1 to 10 showed that, in this groups, there are registered employers with «0» employees, fact that gives us possibility to increase the number of own account workers in this category.

The calculations for the non-registered employers and their employees by three groups (1 to 10; 11 to 19; 20 and over) and by economic activities are presented in the tables below.

Non-registered employers with 1 to 10 employees

persons

Table 1

Economic Activities	Labour Force Survey in households				Structural Survey				Non-registered			
	employers		employees		employers		employees		employers		employees	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture, fishery (A+B)	397	380	1192	2215	54	8	105	7	343	372	1087	2208
Manufacturing (C+D+E)	656	264	2179	915	113	165	412	370	543	99	1767	545
Constructions	247	183	1322	831	55	62	196	182	192	121	1126	649
Trade, retail and engross	4284	3334	14130	10724	577	610	1203	1457	3707	2724	12927	9267
Hotels and restaurants	408	288	1244	1293	50	40	109	122	358	248	1135	1171
Transport, storage and communications Business services	192	239	307	310	55	63	106	159	137	176	201	151
	947	468	2266	1388	139	161	324	299	808	307	1942	1089
Total	7131	5156	22640	17676	1043	1109	2455	2596	6088	4047	20185	15080

Non-registered employers with 11 to 19 employees

persons

Table 2

Economic Activities	Labour Force Survey in households				Structural Survey				Non-registered			
	employers		employees		employers		employees		employers		employees	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture fishery (A+B)	68	331	1354	5869	2	13	26	70	66	318	1328	5799
Manufacturing (C+D+E)		174		2351		47		339		127		2012
Trade, retail and engross		255		3504		89		769		166		2735
Hotels and restaurants	36	126	435	1506	2	5	10	50	34	121	425	1456
Transport, storage and communications Business services	55		666		9		76		46		590	
		192		2874		48		129		144		2745
Total	159	1078	2455	16104	13	202	112	1357	146	876	2343	14747

Non-registered employers with 20 employees and over

persons

Table 3

Economic Activities	Labour Force Survey in households				Structural Survey				Non-registered			
	employers		employees		employers		employees		employers		employees	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture fishery (A+B)	258	493	56123	74368	64	59	3944	3661	194	434	52179	70707
Manufacturing (C+D+E)	158	266	10656	20084	53	22	2391	1547	105	244	8265	18537
Constructions		54		3036		5		72		49		2964
Trade, retail and engross	147	88	4126	3442	71	29	1309	862	76	59	2817	2580
Hotels and restaurants	86	92	5231	5508	12	8	168	136	74	84	5063	5372
Business services	24	164	1059	4800	16	35	533	490	8	129	526	4310
Total	673	1157	77195	111238	216	158	8345	6768	457	999	68850	104470

It is necessary to mention that for every economic activity, it was organised an analysis and a comparison of all the available sources and a decision was taken for each of them, paying attention that any modification in the figures of Labour Force Survey data, in households for any activity should be compensated in another part, or in other activities, in order to respect the total figures. At the end of first stage, the number of non-registered employers (enterprises) and their employees was determined.

The next stage consists of determining the part of production which corresponds to this difference of labour force.

It was organised based on the information from Structural Business Survey in enterprises, and labour statistics information. Taking into account that the incomes of the employers, as usual, are higher than the incomes of the employees, their production was estimated by multiplying the output per employee (employers + employees), obtained from the structural survey and the number of non-registered employers. This method was used for all non-registered employers, grouped by size classes and economic activities. At this point, it is necessary to outline that at the calculation of gross output we assumed that the work productivity of the persons formally employed is the same as for non-registered persons.

The production for the employees of the non-registered employers was calculated based on the average monthly salary for the given economic activity, number of non-registered employees and the months worked per year. Analysing the average salaries by forms of property and by economic activities, we concluded that the salaries from the private sector are likely to be underestimated in order to avoid the payment of social contributions (in

total amount) in the social security funds. As a result, at the estimation of gross output for employees, the average salary from the public sector was used, which is more reliable and relevant, except the Health, Education and Culture, where the average salary is higher in the private sector.

The intermediate consumption for the non-registered employers and their employees was estimated using the share of intermediate consumption by corresponding economic activities, from the official statistics.

The results obtained are presented in the tables below.

Gross Value Added estimated for the non-registered employers and their employees, distributed by groups.

1 to 10 employees

thousands lei

Table 4

Economic Activities	Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001
Agriculture, hunting, forestry and fishery (A+B)	5990	43377	3088	22421	2902	20956
Manufacturing (C+D+E)	24904	28779	17367	21130	7537	7649
Constructions	18146	11362	11595	8601	6551	2761
Trade, retail and engross	103135	80387	16710	16137	86425	64250
Hotels and restaurants	7556	10298	4413	6135	3143	4163
Transport, storage and communications	26953	31984	16011	21749	10942	10235
Business services	22893	23734	12343	11924	10550	11810
Total	209577	229921	81527	108097	128050	121824
Of which non-agricultural (A+B)	203587	186544	78439	85676	125148	100868

11 to 19 employees

thousands lei

Table 5

Economic Activities	Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001
Agriculture, hunting, forestry and fishery (A+B)	4688	27605	2410	14079	2278	13526
Manufacturing (C+D+E)		32234		19083		13151
Trade, retail and engross		23924		4803		19121
Hotels and restaurants	1925	11482	1124	6996	801	4486
Transport, storage and communications	7041		4183		2858	
Business services		26011		10865		15146
Total	13654	121256	7717	55826	5937	65430
Of which non-agricultural (A+B)	8966	93651	5307	41747	3659	51904

20 and over employees

thousands lei

Table 6

Economic Activities	Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001
Agriculture, hunting, forestry and fishery (A+B)	180518	269053	92786	137217	87732	131836
Manufacturing (C+D+E)	103912	332761	77666	271287	26246	61474
Constructions		36641		27737		8904
Trade, retail and engross	21544	21984	9738	4311	11806	17673
Hotels and restaurants	25110	37375	14664	22649	10446	14726
Business services	5505	31221	1729	16854	3776	14367
Total	336589	729035	196583	480055	140006	248980
Of which non-agricultural (A+B)	156071	459982	103797	342838	52274	117144

2.1.2 Enterprises of own account workers, unpaid family workers, and members of cooperatives

As it was previously mentioned, the Labour Force Survey in households is the unique tool which can measure the complexity and the interaction of the phenomena on the labour force market. The current questionnaires on labour force in enterprises (labour statistics) account only a segment of employed population (employees), while the own account workers, the employers, the unpaid family workers or the members of the cooperatives are outside the statistical coverage. In other words, the Labour Force Survey in households, by one hand, reflects the employed population, by other hand - its occupational status. The last one represents the position held by an employed person according the way of obtaining incomes throughout the performed activity.

The phenomenon of non-registered employment is popular for the category of own account workers (in 2000 and 2001 their share in the active constituted 29% and 31% accordingly), which represents in the same time an essential source of attraction of labour force and of income generation.

Own account worker - person which perform his activity either, in the own unit, either with the support of his own equipment, or based on his skills, but he/she does not have any employee, he can be or not assisted by the members of his/her family, which are not remunerated for that.

Unpaid family workers - the person which perform his/her activity in the economic unit that belongs to a member of the household or to a relative, he is not remunerated with a salary, or in kinds (in comparison with the employee which perform the same work).

Member of a cooperative is a worker employed in his own business, cooperative, which produce goods and services, where every member has equal rights in making decisions on the organisation of production, sale and/or other aspects of the units' activity, investments or distribution of unit income between its members. We would like to draw the attention to the fact that the «employees» of the production cooperatives are not included in this group.

All these three categories were covered by the Labour Force Survey in households, both, the main activity and the secondary one. The last ones have been recalculated in the equivalent of complete occupation, using the hours worked per week. The Gross Value Added of own account workers, unpaid family workers, and of the members of a cooperatives was estimated using their number by economic activities, the average monthly salary (which was obtained using the same method as for non-registered employers) and the number of months worked per year. The extrapolation was done based on 12 months, assuming that if one month is their annual leave, then, the above-mentioned categories have done the necessary savings, equivalent with a monthly salary. At the estimation of intermediate consumption for own account workers, members of a cooperative, there were used the shares of the intermediate consumption for the micro-enterprises from the official

statistics. In what concerning the production for unpaid family workers, it is not affected by the intermediate consumption, due to the fact that this category of workers, personally, does not bear any production expenditures. The results are presented in the tables below.

Gross Value Added estimated for the own account workers and unpaid family workers

Thousands lei

Table 7

Economic Activities	Own account workers, unpaid family workers persons		Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture, fishery (A+B)	517133	546116	2762067	3686337	1248511	1646692	1513556	2039645
Manufacturing (C+D+E)	5417	5463	112254	179785	70323	129799	41931	49986
Constructions	11042	12134	64376	105081			64376	105081
Trade, retail and engross	41283	42969	563990	713491	111460	141752	452530	571739
Hotels and restaurants	607	548	5545	10595	2806	6344	2739	4251
Transport, storage and communications	4564	5826	129420	259739	88782	186756	40638	72983
Business services	11307	6736	82991	52554	25569	28749	57422	23805
Total	591353	619792	3720643	5007582	1547451	2140092	2173192	2867490
Of which non-agricultural (A+B)	74220	73676	958576	1321245	298940	493400	659636	827845

Gross Value Added estimated for the member of cooperatives

Thousands lei

Table 8

Economic Activities	Members of cooperatives, persons*		Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture, fishery (A+B)	2149	4365	12814	40568	6587	20690	6227	19878
Manufacturing (C+D+E)	186	1119	6414	47800	4471	35811	1943	11989
Constructions	141	295	2277	10513	1455	7958	822	2555
Trade, retail and engross	629	593	8664	9957	1733	1997	6931	7960
Hotels and restaurants		60		859		520		339
Transport, storage and communications	328	1175	7193	47343	4273	34371	2920	12972
Business services	135	2258	823	34055	264	12653	559	21402
Total	3568	9865	38185	191095	18783	114000	19402	77095
Of which non-agricultural (A+B)	1419	5500	25371	150527	12196	93310	13175	57217

* - including ancillary activity

2.1.3 Households enterprises with market production

Informal sector of economy includes the production of households for market purposes, which correspond to the production of goods and services which is sold in the counterpart of a price, or exchanged on market, and comprise agricultural production and processing of agricultural products.

Agricultural production (Agriculture). The process of reforming of agricultural activity led to the creation of three groups of producers:

1. agricultural enterprises, where, nearby state owned enterprises, holdings, etc. are included also the farms, which own 50 ha and over of agricultural land; this group includes 1300 enterprises, of which 350 - farms;

2. population households (of farmers), which own up to 50 ha of agricultural lands, also the persons, which received plots of 2 ha, but did not registered their enterprise in the appropriate way (approximately 500 thousands);

3. auxiliary personal households of the citizens, which perform their agricultural activity (on the plots nearby the houses, auxiliary gardens in the village, and out of the village) and livestock and poultry production in the personal auxiliary household (approximately 1 mio. households).

For the agricultural enterprises (group I) the volume of production is calculated, based on exhaustive statistical information, adjusted, by one hand, with the agricultural production of the enterprises for which agriculture is the secondary activity, by other hand, with the volume of production estimated for fiscal evasion (the method of estimation was presented in the chapter "Hidden Economy in formal sector").

Agricultural production for individual sector is estimated based on the statistical surveys, which represent a complex study, whose main task is to organise the statistical survey of the agricultural activity of small agricultural producers - farms and population households, which have a share of about 70% from the total agricultural production. The investigation subjects of these two groups are the population households. The **questionnaire A** on the investigation of agricultural activity of population households and farms contain identity data, characteristics of the household concerning area of used lands, sown area, harvest, sale of own products, livestock and poultry increase, bearing up the livestock and obtaining of livestock production, the weight of livestock and poultry.

In order to obtain a more detailed and representative information on the farms, which process the land individually, except the basic survey, organised on a regular basis, supplementary, by extracting a sample of farms with the area up to 50 ha, there are organised two surveys: **in June - Questionnaire B** «The area sown with agricultural cultures for the annual yield in farms» and from **December - Questionnaire C** «Global yield obtained in the farms».

Data extrapolation is done separately for population households and for farms, by applying calculated weight coefficients, taking into account the area of lands of the surveyed households and the total area of respective sectors from the village, region, and county. At the data extrapolation on the sown areas and agricultural harvest in farms it is used the information from June and December surveys, and also the information from external sources (Register of Land of the Republic of Moldova, statistical reports presented to local authorities) on the total surface of plots nearby the houses, gardens, lands in the use of farms, livestock and poultry number in the population households, etc.

Gross Output (vegetal and animal) for every category of households in monetary value is calculated taking into account the quantities of the main agricultural products, for the reference period, and average price of sale for them.

In this context, the agricultural production is not the only interested field, from the point of view of size of informal sector.

Processing of agricultural production (Manufacturing Industry) in the household conditions also represent a special interest.

The production of goods for this activity is calculated based on the data of the Households Budget Survey for the following categories: wines; dairy products; canning of fruits and vegetables; meat products; sunflower oil, etc.

The calculations are done, using the following scheme:

- products obtained in the result of processing of raw agricultural material (in average per number of surveyed households) in natural value;
- average size of one family;
- price for one unit;
- average number of population.

The estimations on the production for market purposes for Agriculture and manufacturing industry are presented in the Table 9.

Thousand. Lei	Table 9					
	Production		Intermediate Consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001
Agriculture	1076200	1113797	497799	531381	578401	582416
Manufacturing Industry	46789	54135	28027	32481	18762	21654
Total	1122989	1167932	525826	563862	597163	604070

2.1 Production of households for own final use

According the decision of 15th International Conference of Labour Statisticians, the production of households unincorporated enterprises, produced only for own final use **is not included in the informal sector**. Here is included the agricultural production, processing of agricultural products, construction of individual houses, imputed rent and the services of the personnel hired by individual households.

Due to the fact that the same households unincorporated enterprises produce both, market production (for sale), and non-market production (own final use), the information sources and estimation methods of agricultural production and processing of agricultural products for own final use are identical to those used for the calculation of agricultural production and processing of agricultural products for sale (informal sector).

It is important to mention that the Gross Domestic Product, for **"Agriculture"** (informal sector) and the production of households for own final use were included in the production obtained throughout the indicators

reflected in the Questionnaires A, B, and C, knowing that this information is obtained by the direct survey method of this activity and is more precise than the other information sources.

Construction of individual houses (Constructions). The information on the construction of individual houses is collected from the specialized statistical reports in this field. The bases for them are the data from the protocols of reception-supply and implementation of construction objects, prepared in the appropriate way. The reports are presented separately for urban and rural localities and contain information on the living area of the houses and their value, with the classification between basic construction and of supplementary ones. Moreover it was estimated the underestimated value in comparison with the real expenditures, for the house construction (at the registration moment by the owners in the respective bodies), by taking into account their total surface and the market price of a square meter.

Imputed Rent (Real Estate Transactions). Populations households, which live in own houses and apartments are treated as unincorporated enterprises producing living services for own final use. For the capital and big cities, this activity is estimated taking into account the surface in the private property and the market price obtained in the result of survey of organisations that supply intermediation services on the rent of individual flats, while for the rural area - taking into account the areas and current expenditures (payment of communal services, costs of the purchased material for current repair, costs of current repairs performed by the third parties, land and real estate taxes and consumption of fixed capital).

Services of the personnel hired in the individual households. This category cover the activities of the personnel hired in households, such as housemaids, cooks, servants, major domes, laundry personnel, gardeners, drivers, baby sitters, personal teachers, etc., whose number was obtained throughout the Labour Force Survey in households. Gross Value Added (equivalent to production) for this category was estimated based on the average salary for economy and the number of these persons.

The results obtained on the production for own final use are presented in the tables below.

Thousand lei

Table 10

Economic Activities	Production		Intermediate consumption		Gross Value Added	
	2000	2001	2000	2001	2000	2001
Agriculture	4599000	4748293	2127281	2295359	2471719	2452934
Manufacturing industry	303403	494886	182088	296931	121315	197955
Constructions	66895	91723	46827	69433	20068	22290
Real estate transactions	521249	531791	208500	212717	312749	319074
Activities of the personnel hired in households	42106	22724			42106	22724
Total	5532653	5889417	2564696	2874440	2967957	3014977

2.3. Hidden Economy in formal sector

The two criteria determine the inclusion of activities in hidden economy:

- These are the activities producing goods and services;
- These are legal activities.

According its definition in the System of National Accounts (paragraph 6.34), the hidden economy refers to entire legal production, non-registered by administrative and tax bodies, and non-reported by economic units due to:

- tax evasion;
- evasions for the contributions in the social fund;
- violation of law on the minimal salary;
- non-reporting in administrative, fiscal or statistical questionnaires, etc.

Estimation of fiscal evasion. Up to now, the Moldovan statisticians tried to estimate, by one hand, the fiscal evasion, and by other hand the "black" employment.

2.3.1 Production concealed deliberately by the enterprises of the formal sector.

This group includes all the economic units from the formal sector, which register their activity in the legal, tax and social security authorities. This category covers the hidden production (underground) of the legal economic units, but which present the false financial results (declarations) with the purpose of fiscal evasion. In this case, there are omissions due to the incorrect evaluation of their activity, not due to the absence of productive units. This dissimulation can be presented either as a falsification or, taking advantage of the law imperfections. Often, some forms of remuneration in kind are accounted as production expenditures of the enterprise in order to decrease the tax burden, the social protection of the employees and of the enterprise itself. Thus, one of the main concerns of the statisticians constitutes the identification of all the activities that have incomes and are not covered by the statistical or financial-accounting observation. In this purpose, the State Tax Authority (STA) nearby the Ministry of Finance of the Republic of Moldova present in the address of the Department for Statistics and Sociology the information covered by the form Nr. 4-SF "Report on Control Activity" which is registered at the level of State Tax Authority and include the data of all regional tax authorities and the Tax Inspectorate.

The report is based on the decisions taken, data of corresponding registers, control plans, personal files and other necessary information, which are available at the level of structural subdivisions of the fiscal service and include the data concerning taxes, compulsory payments, and also fines and penalties, calculated and receivable in the budget. Moreover, the report indicates the number of contributors controlled by all fiscal organs, and accordingly, those with violations of fiscal legislation, both categories are broken down by legal and natural persons.

It is necessary to mention that from the number of contributors presented by STA, by one hand, there were taken off the persons which do not pay taxes on product and import, and by other hand, from the total amount of taxes and payments additionally calculated, there were selected only those on products and import (Table 11), in other words those, which are proportional to the value of goods and services produced, sold or imported by residents.

Information presented by STA

persons	Table nr.11
Indicators	a. 2001
Number of contributors controlled	28855
Of which:	
Legal persons	15434
Natural persons	13421
Number of contributors with violations	20155
Of which:	
Legal persons	9947
Natural persons	10208
Taxes on products and import additionally calculated	68849
Of which:	
Legal persons	62829
Natural persons	6020

Due to the fact that, currently, the STA possibilities do not allow to present the above-mentioned information by economic activities, for the moment, it was divided according the number of **active enterprises from the National Register of Statistical Units (RENUS)**.

Number of enterprises with the status of legal and natural person divided by economic activities, according the number of active enterprises from RENUS

Persons	Table nr.12						
	Economic activities	Years					
		2000			2001		
	Legal	1 Natural	1 Total	Legal	1 Natural	1 Total	
Agriculture, hunting, forestry and fishery (A+B)	1568	1949	3517	1200	1987	3187	
Industry (C+D+E)	2765	2779	5544	2812	2839	5651	
Constructions	1194	478	1672	1229	496	1725	
Wholesale and retail trade; maintenance of road vehicles	9342	26733	36075	10016	26745	36761	
Hotels and restaurants	475	1211	1686	531	1295	1826	
Transport, storage and communication	1032	2194	3226	1256	2280	3536	
Other collective social and personal services	2877	2534	5411	3510	2741	6251	
Total	19253	37878	57131	20554	38383	58937	

For the future, after the sign of mutual collaboration agreement between DSS and STA, the last one will present to the database on contributors, including those controlled, which will contain also the fiscal code of the contributors, reflected also in RENU, and, using this, there could be found the update economic activity, fact that would lead both, to a more precise fiscal estimation of fiscal evasion by economic activities and to the analysis of results obtained (by economic activities).

Based on the Law of the Republic of Moldova «Concerning the value added tax», this is calculated according the share, established for 20 percents from the taxed amount, which was determined, taking into account the prices and tariffs which do not include the Value Added Tax (VAT) and the excise-duty. As usual, this share is applied to enterprises that produce commodities (works, services) at the taxed amount, calculated in market prices. According the same share, at these enterprises the VAT is calculated for the amounts established after the control, and which were not included in the taxed volume and which were not presented in the documents for VAT payment, obtained from the sale of goods, of own production, of the raw material, and imported goods.

Accounting the taxes calculated complementarily and their shares, it was calculated the hidden production for **the enterprises which had violations**, as it is presented in the tables No. 13 and 14

Taxes calculated complementarily for the enterprises which had violations

thousands lei Table 13

Economic Activities	2000			2001		
	juridical	physical	total	juridical	physical	total
Agriculture, hunting, forestry and fishery (A+B)	5673	193	5866	3668	312	3980
Manufacturing (C+D+E)	10004	276	10280	8596	445	9041
Constructions	4320	47	4367	3757	78	3835
Trade, retail and engross	33880	2653	36453	30617	4194	34811
Hotels and restaurants	1719	120	1839	1623	203	1826
Transport, storage and communications	3734	218	3952	3839	358	4197
Business services	10409	252	10661	10729	430	11150
Total	69659	3759	73418	62829	6020	68849

Production estimated for the enterprises which violated the rules

thousands lei

Table 14

Economic Activities	2000			2001		
	juridical	physical	total	juridical	physical	total
Agriculture, hunting, forestry and fishery (A+B)	28367	966	29333	18341	1558	19899
Manufacturing (C+D+E)	50021	1378	51399	42979	2226	45205
Constructions	21601	237	21838	18784	389	19173
Trade, retail and engross	169006	13254	182260	153087	20972	174059
Hotels and restaurants	8594	600	9194	8116	1015	9131
Transport, storage and communications	18670	1088	19758	19197	1788	20985
Business activities	52048	1257	53305	53648	2149	55797
Total	348307	18780	367087	314152	30097	344249

The production estimated for the enterprises which violated the rules, was extrapolated on all the active economic units divided by economic activities according the National Register of Economic Units (RENUS), applying the share of the intermediate consumption, calculated by the corresponding economic activities in the official statistics, obtaining in the final, the Gross Value Added. The results are presented in the tables No. 15, 16 and 17.

Volume of production extrapolated on all the economic units, according RENUS

thousands lei

Table 15

Economic Activities	2000			2001		
	juridical	physical	total	juridical	physical	total
Agriculture, hunting, forestry and fishery (A+B)	55848	3195	59043	37608	5795	43403
Manufacturing (C+D+E)	98482	4555	103037	88128	8279	96407
Constructions	42528	783	43311	38517	1446	39963
Trade, retail and engross	332739	43818	376557	313902	77994	391896
Hotels and restaurants	16918	1985	18903	16642	3776	20418
Transport, storage and communications	36757	3596	40353	39363	6649	46012
Business activities	102471	4156	106627	110004	7993	117997
Total	685743	62088	747831	644164	111932	756096

Intermediate Consumption estimated for all the economic units, according RENUS

thousands lei

Table 16

Economic Activity	2000			2001		
	juridical	physical	total	juridical	physical	total
Agriculture, hunting, forestry and fishery (A+B)	28762	1645	30407	21625	3332	24957
Manufacturing (C+D+E)	73862	3416	77278	66625	6259	72884
Constructions	29769	549	30318	25999	976	26975
Trade, retail and engross	145363	27659	173022	156354	49557	205911
Hotels and restaurants	9305	1592	10897	10251	2326	12577
Transport, storage and communications	22098	2553	24651	24027	5058	29085
Business services	40989	1662	42651	51372	4814	56186
Total	350148	39076	389224	356253	72322	428575

Gross Value Added estimated for all the economic units, according RENUS

thousands lei

Table 17

Economic Activities	2000			2001		
	juridical	physical	total	juridical	physical	total
Agriculture, hunting, forestry and fishery (A+B)	27086	1550	28636	15983	2463	18446
Manufacturing (C+D+E)	24620	1139	25759	21503	2020	23523
Constructions	12759	234	12993	12518	470	12988
Trade, retail and engross	187376	16159	203535	157548	28437	185985
Hotels and restaurants	7613	393	8006	6391	1450	7841
Transport, storage and communications	14659	1043	15702	15336	1591	16927
Business services	61482	2494	63976	58632	3179	61811
Total	335595	23012	358607	287911	39610	327521

The separate calculations for the legal and natural economic units contributed significantly at the improvement of the calculation. Thus, the

number of juridical economic units controlled, from all the active economic units from RENUŠ constitutes 75 percents, and their share in the total economic units controlled - 53,5 percents, their undeclared taxes constitutes 91.3 percents from the total undeclared taxes, this fact justify, by one hand, the separation of the legal economic units and the natural ones, and by other hand, it leads to a more reliable estimation of the volume of hidden production.

Taking into account that the representativity of the controlled economic units in the total number of active economic units, according RENUŠ data, is quite significant - 49% in 2001 (in the previous years - up to 45%), we consider to be correct the decision of extrapolation of estimated production on all the economic units, because every economic unit is controlled once in two years.

2.3.2 Estimation of "black" employment. A widespread phenomenon in the transition period, characteristic for the officially registered enterprises is the real non-declaration (with the purpose of fiscal evasion) of the number of employees. At the estimation of "black economy" it is assumed that this was not included neither in the adjustment for the fiscal fraud and evasion, nor in that accounted for the missing enterprises from the files. **Thus, the difference between the total employees and those officially declared is treated in Non-Observed Economy as "black employees".** The phenomenon of "black employees" and their output is not covered by the direct statistical surveys, that is why, for the measurement of these parameters (number of «black» employees and their output) the different information sources and indirect methods are used. The Labour Force Survey in households constitutes a significant informational support, which has the purpose to assess the employed population, a segment of which are the employees, whose number is compared with the number from the questionnaires on the labour force in enterprises (Labour Statistics). In the Labour Force Survey in households, there are distinguished two categories of employees - permanent and temporary. The last category represents a special interest, due to the fact that, in some cases, they can be analysed as a proof of existence of a non-declared economic activity. Labour Statistics derives exhaustive statistics of the enterprises, where these are grouped according size - under 20 and over 20 employees, who is taken into account at the calculations. It is necessary to mention that currently, many enterprises (especially those with over 20 employees) are not active or work partly and a part of their employees are in technical leaves (in 2000 - 99757; in 2001 - 83280 employees) which are not paid, but they are declared in the official records of these enterprises. Although the Labour Force Survey questionnaires put specific questions in order to identify these employees, the majority of them are classified as unemployed or employees, but in other activities than those reported by the surveyed enterprises. In other words, the employees in technical leaves should be and they were extracted from the

number of employees of the enterprises with 20 and over employees. As a consequence, they were added to the "black employees".

The total number of "black employees" was obtained by the difference between the number of employees from the Labour Force Survey (permanent and temporary), and those from statistical reports (collected on exhaustive basis) and the number from the questionnaires on labour force from enterprises statistics (with over 20 and under 20 employees), except those in technical leaves, and also the employees of the non-registered employees. The results are presented in the tables below.

«Black» employees for 2000

persons

Table 18

Economic Activities	Labour Force Survey in households			Employees of the non-registered employers	Statistical reports on labour Force in enterprises (except those in forced leaves)			«black» employees
	permanent	temporary	total		With 20 and over	Under 20	total	
Agriculture fishery (A+B)	280114	6939	287053	54594	142221	11969	154190	78269
Manufacturing (C+D+E)	155627	4429	160056	10032	102244	10700	112944	37080
Constructions	30361	3425	33786	1126	14985	4533	19518	13142
Trade, retail and engross	91816	10016	101832	15744	36701	29290	65991	20097
Hotels and restaurants	15717	1138	16855	6623	5890	2190	8080	2152
Transport, storage and communications	57883	1069	58952	791	42107	3936	46043	12118
Business services	287397	4945	292342	2468	281441	3429	284870	5004
Total	918915	31961	950876	91378	625589	66047	691636	167862
Of which non-agricultural (A+B)	638801	25022	663823	36784	483368	54078	537446	89593

«Black» employees for 2001

persons

Table 19

Economic Activities	Labour Force Survey in households			Employee s of the non- registered employers	Statistical reports on labour Force in enterprises (except those in forced leaves)			«black» employee s
	permanent	temporar y	total		20 and over	under 20	total	
Agriculture, fishery (A+B)	239361	8713	248074	78714	128296	17418	145714	23646
Manufacture (C+D+E)	153605	4456	158061	21094	102443	11898	114341	22626
Constructions	25844	4966	30810	3613	13063	5337	18400	8797
Trade, retail and engross	91105	7532	98637	14582	31851	32733	64584	19471
Hotels and restaurants	17305	858	18163	7999	5672	2442	8114	2050
Transport, storage and communications	55930	1370	57300	151	41141	4646	45787	11362
Business services	284875	3240	288115	8144	277925	850	278775	1196
Total	868025	31135	899160	134297	600391	75324	675715	89148
Of which non- agricultural (A+B)	628664	22422	651086	55583	472095	57906	530001	65502

Method of estimation of production for «black» employees is identical with the one used for the calculation of production of employees at the non-registered employers. In the case of «black» employees, the production is equivalent with the Gross Value Added, due to the fact that the employers hide only the salaries of «black» employees, which, according the System of National Accounts is linked with the Gross Value Added.

Gross Value Added estimated for the «black» employees

thousands lei Table 20

Economic Activities	years	
	2000	2001
Agriculture, hunting, forestry and fishery (A+B)	255979	178439
Manufacturing (C+D+E)	353289	312925
Constructions	76618	119188
Trade, retail and engross	151933	217622
Hotels and restaurants	9710	16018
Transport, storage and communications	107753	140263
Business services	67273	94056
Total	1022555	1105109
Of which non-agricultural (A+B)	766576	926670

2.4 The synthesis of the results obtained. The synthesis of the results on estimation of elements of Non-Observed Economy (informal sector, households production for own final use, hidden economy in formal sector) are presented in the following way.

Thousand Lei

Table 21

Economic activities	Informal Sector		Households production for self consumption		Hidden economy in formal sector		Total non-observed economy	
	2000	2001	2000	2001	2000	2001	2000	2001
Agriculture, hunting, forestry and fishery (A+B)	578401	588036	2471719	2452934	28636	19693*	3078756	3060663
Industry (C+D+E)	96419	165903	121315	197955	379048	336448	596782	700306
Construction	71749	119301	20068	22290	89611	132176	181429	273767
Wholesale and retail trade	557692	680743			355468	403607	913160	1084350
Hotels and restaurants	17129	27965			17716	23859	34845	51824
Transport, storage and communication	57358	96190			123455	157190	180813	253380
Other commercial and trade activities	72307	86530	354855	341798	131249	182465	558411	610793
Total	1451055	1764668	2967957	3014977	1125183	1255438	5544195	6035083
non-agricultural (A+B)	872654	1176632	496238	562043	1096547	1235745	2465439	2974420

* - including the production estimated for "black employees" in the activity "Fishery"

The analysis of the obtained results, give us possibility to find out that the parameters of the elements of Non-Observed Economy (sector informal, production for own final use, hidden economy in formal sector) influence significantly the Gross Domestic Product (GDP). Thus, for 2000 and 2001 the adjustments, concerning the elements of Non-Observed Economy, in the Gross Domestic Product constitutes respectively 34,6% and 31,6%; of which, the informal sector has a share of 9.1% and 9,2% while the households production for own final use - 18,5% and 15,8%; the hidden activity in formal sector - 7,0% and 6,6%.

The main adjustments have to be done for the activity «agriculture» and «trade, retail and wholesale» -19.2% and 16,% for agriculture, respectively for 2000 and 2001, while for trade - 5,8% and 5,7%, fact confirmed by the table below.

Structure of Non-Observed Economy elements, 2000

Table 22

Economic activities	GVA of corresponding economic activities				Gross Value Added (GVA) estimated in % to: Gross Domestic Product			
	Informal sector	Households production for self consumption	Hidden economy in formal sector	TOTAL	Informal sector	Households production for self consumption	Hidden economy in formal sector	TOTAL
Agriculture, hunting, forestry and fishery (A+B)	14,2	60,7	0,7	75,6	3,6	15,4	0,2	19,2
Industry (C+D+E)	3,7	4,6	14,5	22,8	0,6	0,7	2,4	3,7
Constructions	16,6	4,6	20,7	41,9	0,5	0,1	0,5	1,1
Wholesale and retail trade					3,5			
	27,8		17,7	45,5			2,2	5,8
Hotels and restaurants	15,2		15,8	31,0	0,1		0,1	0,2
Transport and communication	3,8		8,1	11,9	0,4		0,8	1,2
Other commercial and personal services	2,4	11,6	4,3	18,3	0,4	2,2	0,8	3,4
Total	10,5	29,1	8,1	47,7	9,1	18,5	7,0	34,6
Of which non-agricultural (A+B)					5,5	3,1	6,8	15,4

Structure of Non-Observed Economy elements, 2001

Table 23

Economic activities	GVA of corresponding economic activities				Gross Value Added (GVA) estimated in % to:			
	Informal sector	Households production for self consumption	Hidden economy in formal sector	TOTAL	Informal sector	Households production for self consumption	Hidden economy in formal sector	TOTAL
Agriculture, hunting, forestry and fishery (A+B)	13,8	57,4	0,5	71,7	3,0	12,9	0,1	16,0
Industry (C+D+E)	4,7	5,6	9,4	19,7	0,9	1,0	1,8	3,7
Constructions	20,4	3,8	22,7	46,9	0,6	0,1	0,7	1,4
Wholesale and retail trade	29,8		17,6	47,4	3,6		2,1	5,7
Hotels and restaurants	16,8		14,3	31,1	0,1		0,1	0,2
Transport and communication	4,9		8,0	12,9	0,5		0,8	1,3
Other commercial and personal services	2,3	9,3	4,9	16,5	0,5	1,8	1,0	3,3
Total	10,7	24,9	7,6	43,2	9,2	15,8	6,6	31,6
Of which non-agricultural (A+B)					6,2	2,9	6,5	15,6

Following the data from tables 22 and 23, the share of households production for own final use in GDP is significant - 18,5% and 15,8% accordingly for 2000 and 2001. The activity of households in this direction does not violate the legislation and is stimulated by state authorities in order to decrease the burden on "food stuff market". In the increase of volume of production of households there is a positive moment, due to the fact that the population satisfy a part of its necessities from own production, by other hand it has a negative impact on the general structure of economy, thus decreasing the production of goods and diminishing the bases of market economy.

In what concerning the informal sector, this represent a significant part (9,1% and 9,2% accordingly for 2000 and 2001) in GDP. The criterion of non-registration of enterprises leads to the fact that a big part of producers of this sector (own account workers, unpaid family workers, members of cooperatives) does not pay taxes, fact that affect the incomes of the state budget.

Following the above-mentioned, the hidden activity in formal sector, represents 7,0% and 6,6% from GDP, the major part being concentrated in

industry (2,4% and 1,8%) and trade (2,2% and 2,1%). This is explained by the fact that the contributors which practice the above-mentioned activities, according the legislation in force, have a higher fiscal burden, situation that finally leads to fiscal evasion.

Structure of elements of Non-Observed Economy for 2000 and 2001 in total Non-Observed Economy is presented in the diagrams No. 1 and 2

Diagram No.1

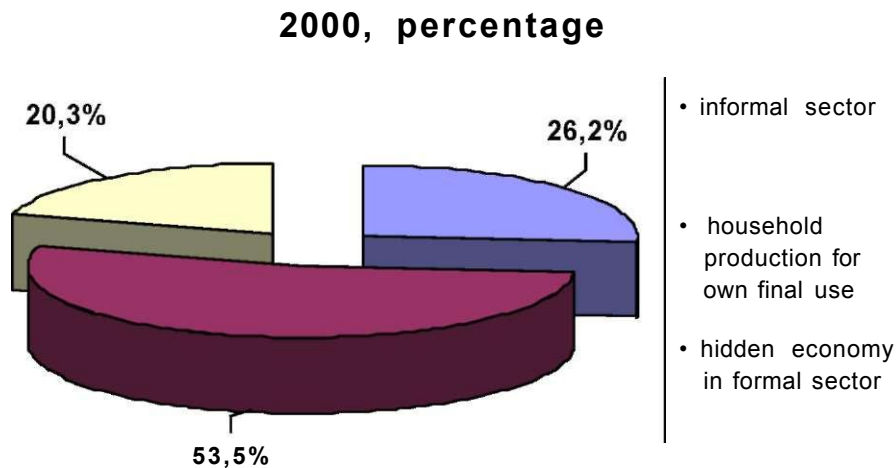
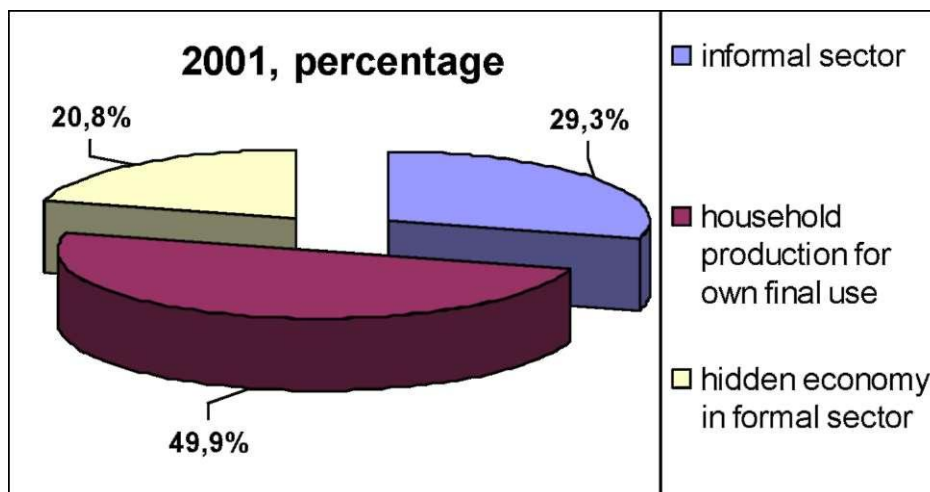
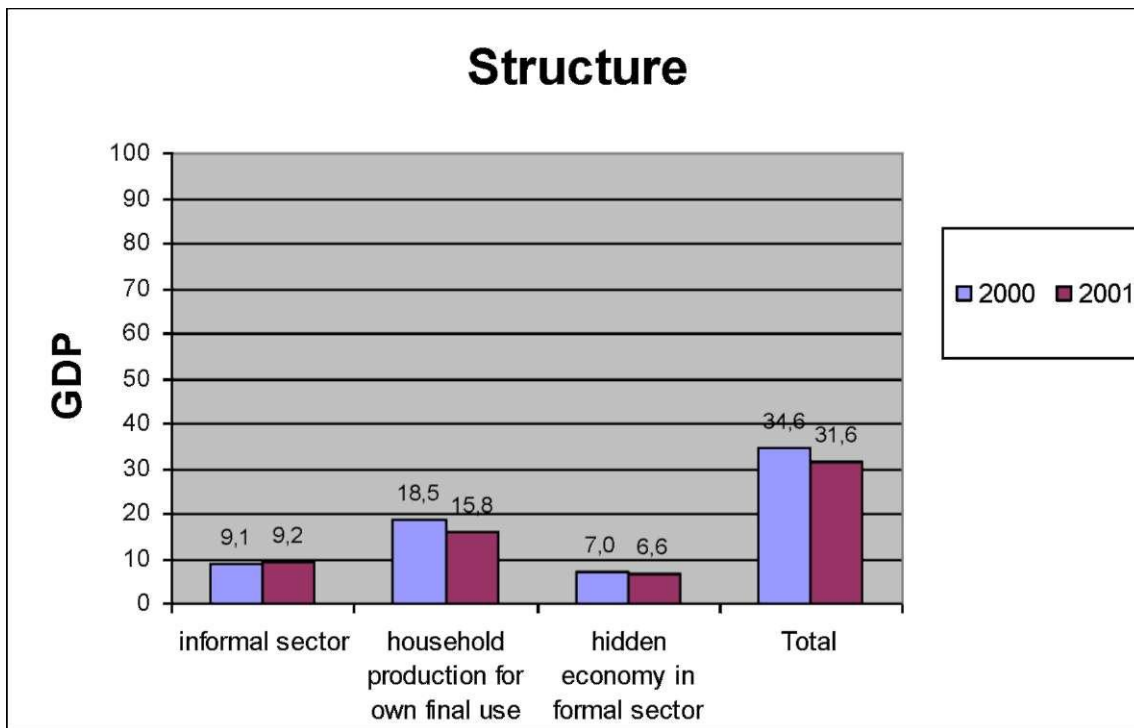


Diagram No.2



Contribution (in percent) of elements of Non-Observed Economy for 2000 and 2001 to the formation of Gross Domestic Product (GDP) is presented in the graph No. 1

Graph No.1



At the estimation of elements of Non-Observed economy there were used both, **direct and indirect methods**. The *direct method* is the investigation of quantity and value indicators (or only one of them), used afterwards directly for the calculation of production for the given activity.

The essence of *indirect method* consists of analysis and comparison of data obtained from various information sources. As a result, we obtain a picture concerning the relative parameters and trends of given activity in the limits of a restricted group of economic units, with the purpose to be extrapolated later on corresponding population of economic units. The indirect methods are based on:

- Use of information of Household Budget Survey (survey of incomes and expenditures of households, as consumers of goods and services and the survey of incomes and expenditures of unincorporated enterprises and households as producers);
- Use of Labour Force data in households;
- Use of Structural Business Survey (analysis of the report on production expenditures by different groups of enterprises);
- Information from other bodies (financial, tax);
- Administrative sources (State Land Register, Ministry of Internal Affairs, etc.).

Finally, we have to mention that the estimation of elements of non-observed economy presented in this chapter (informal sector, production of households for own final use and hidden economy in formal sector) was calculated by the method of flows of goods and services, considered as an

integral basis for the estimation of elements of non-observed economy and which assumes the "behaviour" of goods and services from the moment of production up to the user, by confronting the information of the synthesis tables Resources and Uses.

3. Illegal production. As it was previously mentioned, the illegal production can be classified according the definition of System of National Accounts as production of goods and services for sale, distribution or ownership, which is forbidden by law and the production of goods and services which usually is legal, but it becomes illegal once it is performed by unauthorised persons.

As usual, the illegal production refers to prostitution and activity of souteneurs, production and sale of narcotics, counterfeited production, traffic of weapons, etc.

Up to now, the issue to estimate these activities was not possible due to impossibility to find some data sources which could ensure the reliability of calculations.

However, in 2002, by the Government decision Nr. 1175 from 05 September, it was created the mixed working group, which will act in the field of improving estimations of element of informal sector, household production for own final use, and the estimation of illegal production. Following this idea, the representatives for the Centre for Economic Crimes and Corruption, Ministry of Internal Affairs, Custom Department, with the joint efforts of the Department for Statistics and Sociology, currently, work on the formation of the information basis, necessary for the estimation of illegal production.

The information obtained will be discussed with Mr. Jacques Charmes in order to find the methodological possibilities of estimation of illegal production, in order to introduce, further, these calculations in the Gross Domestic Product.

4. Macro-model methods

Often, the alternative services use macro-models in the estimation of Non-Observed Economy, integrally or of some of its elements. These models are discussed, both, from the point of view of their utility, and also, from the viewpoint of the significant results obtained, which attract the attention of policy makers and mass-media.

It is often, but entirely wrongly, assumed that the difference between these macro-model results and the official estimates of GDP is non-measured production. However, there are serious problems with macro-model methods that cast doubt on their utility for any purpose in which precision is important. In particular, the application of macro-models is completely unsuitable for use compiling national accounts. The problems are as follows:

- activities that the models aim to measure are not precisely defined; it is often unclear whether the models are estimating non-observed or non-measured production, or the informal sector production as well as illegal one;
- the assumptions underlying the models overly simplistic;
- the results the model produce are not stable in the sense that changes in assumptions for the same model can produce quite different value;
- there are many models used in the estimation of the same phenomenon, (in our case - Non-Observed Economy), in fact, the results obtained should be very close, whereas, in the reality, the results are different;
- the methods provide only a global estimate, whereas, both information producers and data users ask for data disaggregated by economic activities and expenditure categories.

There can be distinguished 3 types of macro-models:

4.1 Monetary methods assume that the non-measured production can be modelled in terms of stock or flows of money and includes three sub-models - transaction method, cash demand method, and cash/deposit ratio method. *Transaction method* is based on Fisher equation, where the total stock of money (M) multiplied by velocity of circulation (V) equals the total number of transactions paid by that money (T) multiplied by the price of these transactions (P), namely, $M \cdot V = T \cdot P$. *Cash Demand Method* assumes that Non-Observed Economy is closely connected with the modifications in the total amount of *cash* money, determined by the changes in the taxation system and government regulation. *Cash/Deposit ratio method* is based on information about the ratio between currency (cash) and transferable money and presumes that the main reason the payment behaviour changes is because people want to hide certain activities to avoid taxation and restrictions.

4.2 Global indicators method consists in modelling the non-measured production using a single indicator (usually, a physical indicator), of overall economic activity. The most prominent example of the global indicator approach is the **electricity consumption method** proposed by Kaufmann and Kaliberda in 1996. Method of global indicator assumes a precise and stable relationship between electricity consumption and output. It is clear, however, that at least for agriculture the relationship will not be stable since output is largely determined by the weather. Moreover, in many transition countries, electricity is not a major source of energy in industrial production.

4.3 Latent Variable method (Frey and Weck, 1983) carry out the modelling based on two groups of variables, one of which is assumed to influence the growth of non-measured production, while, the other, indicates the traces of hidden activities. The method uses a technique (known as LISREL), that enables a cross-sectional analysis of the relationship between a non-observed dependent variable and one or more explanatory variables. As the non observed variable is not known it is replaced by a set of indicators. As a result, there are analysed the same indicators from various countries, for a certain period of time, or the same indicators in a given country but for two or more periods of time. To build their model, Frey and Weck used data from a large number of countries for a given period of time and estimated the size of Non-Observed Economy for every country separately. Later on, Helberger and Knepel, show that the results obtained by Frey and Weck are very instable. A small change in the countries used leads to quite different results. Helberger and Knepel concluded that the shortcomings and ambiguities in the data severely limit the utility of the model for measurement of the Non-Observed Economy.

Finally, the need for models in compiling national accounts is not in dispute. When the necessary information is missing, these are opportune at the application of indirect methods for compiling national accounts. As usual, they are mostly used at the estimation of illegal economy. However, based on statistical estimations, most desirable are empirical data.

In most countries, national accountants have available a rich supply of data from a variety of sources. In combination, these data are capable of producing much more accurate estimates of GDP and its components, than macro-models can ever do.

V. ANNEXES

Annex 1

Average monthly salary by forms of property, 2000

lei

Economic activities	Average salary - total	including:			
		public property	private property	mixed property (public + private)	foreign property and joint ventures
Agriculture, hunting and forestry	251,7	322,6	231,7	363,6	706,2
Fishing	338,5	595,8	314,2	281,9	
Mining and quarrying	577,5	570,0	421,7	719,5	1343,8
Manufacturing	677,7	896,9	559,1	814,4	790,0
Electricity, gas and water supply	720,0	733,9	610,3	743,0	941,1
Construction	539,8	583,0	567,5	603,0	609,6
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	394,6	629,7	316,8	598,8	566,7
Hotels and restaurants	357,8	375,5	341,6	540,2	846,1
Transport, storage and communications	635,0	741,7	399,7	402,7	2054,5
Financial intermediation	2353,1	2925,4	2611,9	727,9	1357,1
Real estate, renting and business services	554,0	548,1	616,4	734,0	1735,1
Public administration and defence; compulsory social security	517,7	517,0		1355,2	
Education	247,7	238,0	850,6	380,1	558,5
Health and social work	230,1	226,1	429,8		354,3
Other community, social and personal service activities	295,8	266,4	463,5	270,1	626,9
TOTAL	407,9	380,3	374,1	692,0	864,8

Average monthly salary by forms of property, 2001

lei

Economic activities	Average salary - total	including:				
		public property	private property	mixed property (public + private)	foreign property	foreign property and joint ventures
Agriculture, hunting and forestry	315,1	415,1	299,3	495,8	526,9	521,8
Fishing	387,9	494,9	391,3	334,9		
Mining and quarrying	767,2	847,3	570,2	707,4		2364,8
Manufacturing	813,1	1092,6	628,5	980,5	554,6	981,2
Electricity, gas and water supply	889,0	839,7	650,0	798,8	1287,0	2841,6
Construction	682,8	865,7	571,0	803,7	1303,7	679,9
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	531,1	575,6	398,0	755,4	1066,4	703,6
Hotels and restaurants	484,7	469,9	356,4	628,4	1086,7	625,5
Transport, storage and communications	860,8	920,1	526,4	436,2		2669,4
Financial intermediation	2278,4	3956,9	2765,3	708,4		986,6
Real estate, renting and business services	728,1	708,3	588,4	782,0		2238,8
Public administration and defence; compulsory social security	742,3	742,3				
Education	336,9	322,5	904,5	401,4	850,9	
Health and social work	314,6	309,6	569,3	852,8	1305,6	413,9
Other community, social and personal service activities	390,9	343,0	563,2	373,9	1213,9	790,8
TOTAL	543,7	506,2	467,0	817,6	1018,9	1076,2

Persons with secondary activities, by employment status for 2000

Economic activities	Employees		Employers		Own account workers		Unpaid family workers		Total persons
	per-sons	hours worked per week	per-sons	hours worked per week	per-sons	hours worked per week	per-sons	hours worked per week	
Agriculture, hunting and forestry	598	20	221	10	68475	18	12229	19	81523
Fishing					81	20			81
Mining and quarrying									
Manufacturing	345	14	42	20	822	19			1209
Electricity, gas and water supply	42	21							42
Construction	407	37	86	10	1222	26	110	23	1825
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	527	23	103	32	1511	22			2141
Hotels and restaurants	167	19	41	20					208
Transport, storage and communications	76	40	80	6	379	19			535
Financial intermediation	166	10							166
Real estate, renting and business services	108	9			131	16			239
Public administration and defence; compulsory social security	594	21							594
Education	1184	15	49	3	151	25	55	6	1439
Health and social work	296	18			140	6			436
Other community, social and personal service activities	223	14			282	12			505
TOTAL	4733	19	622	14	73194	18	12394	19	90943

Persons with secondary activity by the employment status for 2001

Economic activities	Employees		Employers		Own account workers		Unpaid family workers		Total persons
	persons	hours worked per week	persons	hours worked per week	persons	hours worked per week	persons	hours worked per week	
Agriculture, hunting and forestry	1008	26	197	14	66046	17	16104	17	83355
Fishing									
Mining and quarrying									
Manufacturing	403	16	84	16	553	18			1040
Electricity, gas and water supply									
Construction	68	21			489	20			557
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	456	18	96	22	1853	18	1370	16	3775
Hotels and restaurants	409	20	85	20	45	14			539
Transport, storage and communications	67	25			381	20			448
Financial intermediation	156	10							156
Real estate, renting and business services	164	21	67	24			64	10	295
Public administration and defence; compulsory social security	292	39							292
Education	990	18			141	25			1131
Health and social work	399	21			120	8			519
Other community, social and personal service activities	409	15			357	13	63	8	829
TOTAL	4821	21	529	18	69985	17	17601	17	92936

Employees with full time and part time work program

persons

Economic activities	employees		of which:			
			permanent		temporary	
	2000	2001	2000	2001	2000	2001
Agriculture, hunting and forestry	286012	246837	279073	238156	6939	8681
Fishing	1041	1237	1041	1205		32
Mining and quarrying	1600	1906	1566	1906	34	
Manufacturing	130077	130146	126031	125834	4046	4312
Electricity, gas and water supply	28379	26009	28030	25865	349	144
Construction	33786	30810	30361	25844	3425	4966
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	101832	98637	91816	91105	10016	7532
Hotels and restaurants	16855	18163	15717	17305	1138	858
Transport, storage and communications	58952	57300	57883	55930	1069	1370
Financial intermediation	8076	9214	7954	9093	122	121
Real estate, renting and business services	18752	18954	18039	18548	713	406
Public administration and defence; compulsory social security	64366	65431	63741	65101	625	330
Education	101394	99502	99557	98668	1837	834
Health and social work	73652	69610	72942	69044	710	566
Other community, social and personal service activities	26102	25404	25164	24421	938	983
TOTAL	950876	899160	918915	868025	31961	31135

Employment by employment status for 2000

persons

Economic activities	Employment status					Popula- tion em- ployed to- tal
	Empley- es	Empley- ers	Own ac- count wor- kers	Contributi ng family workers	Members of coope- ratives	
Agriculture, hunting and forestry	286012	694	374773	105370	2149	768998
Fishing	1041	30	326			1397
Mining and quarrying	1600		143			1743
Manufacturing	130077	814	4601	134	186	135812
Electricity, gas and water supply	28380		150			28530
Construction	33786	247	9643	542	141	44359
Wholesale and retail trade; re- pair of motor vehicles, motorcy- cles and personal and household goods	101832	4431	39498	886	629	147276
Hotels and restaurants	16855	530	443	164		17992
Transport, storage and commu- nications	58951	247	4384		286	63868
Financial intermediation	8076					8076
Real estate, renting and busi- ness services	18753	334	388			19475
Public administration and defen- ce; compulsory social security	64366		68		40	64474
Education	101394	24	106			101524
Health and social work	73652	39	555			74246
Other community, social and personal service activities	26102	574	8468	1527	135	36806
TOTAL	950877	7964	443546	108623	3566	1514576

Employment by employment status for 2001

persons

Economic activities	Employment status					Popula- tion em- ployed to- tal
	Empley- es	Empley- ers	Own ac- count wor- kers	Contributi ng family workers	Members of coope- ratives	
Agriculture, hunting and forestry	246837	1131	395287	115787	4365	763407
Fishing	1237	72	128			1437
Mining and quarrying	1906		68			1974
Manufacturing	130146	682	5103		839	136770
Electricity, gas and water supply	26010	23	43		280	26356
Construction	30810	238	11862	27	295	43232
Wholesale and retail trade; re- pair of motor vehicles, motorcy- cles and personal and household goods	98637	3678	41224	363	593	144495
Hotels and restaurants	18163	506	490	42	60	19261
Transport, storage and commu- nications	57300	239	5564	71	1175	64349
Financial intermediation	9214					9214
Real estate, renting and busi- ness services	18954	192	291		74	19511
Public administration and defen- ce; compulsory social security	65431				413	65844
Education	99502	68	226		1120	100916
Health and social work	69610	134	578		419	70741
Other community, social and personal service activities	25403	427	5384	29	232	31475
TOTAL	899160	7390	466248	116319	9865	1498982

*Number of persons in technical leaves
from the administration initiative*

persons

Economic activities	2000	2001
Agriculture, hunting and forestry	9191	8253
Fishing	51	48
Mining and quarrying	1615	1031
Manufacturing	48479	40556
Electricity, gas and water supply	1740	1496
Construction	12185	13444
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	4855	3050
Hotels and restaurants	632	482
Transport, storage and communications	10440	6748
Financial intermediation	6	
Real estate, renting and business services	2637	2110
Public administration and defence; compulsory social security	299	271
Education	4765	3299
Health and social work	2162	1595
Other community, social and personal service activities	700	897
TOTAL	99757	83280

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