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# First All-National Population Census: historical, methodological, social, economic, ethnic aspects

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This publication is a scientific edition prepared based on findings of the First All-National Population Census (2001) being a product of collaboration of researchers of the Institute for Demography and Social Research of the NAS of Ukraine and specialists of the State Statistic Committee of Ukraine issued under UNDP support. The publication includes theoretical and methodology principles for conducting the population census, processing and analysis of the data obtained as well as developing the basic fundamentals for the national demographic policy.

This publication is intended for specialists working in the sphere of demography, demographic statistics, government social and economic policy, post-graduate students, students majoring in economy and other humanities.

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# 1.

# On the history of population censuses

A single country cannot manage without the individual enumeration. Since olden times individuals used to be enumerated. In China individuals were enumerated more than four thousand years ago. As known one of the censuses was back to the time of the legendary dynasty of Sia back to 2238 B.C.

In ancient Rome the repeated individual enumeration was named censuses. Citizens of Rome, when being enumerated by officials – censors – had to seal their responds with swear.

The enumeration largely had a purpose to obtain counts on the persons able to pay taxes or to get an idea about those who fit for a military service.

In ancient Russ individuals were firstly enumerated during Tatar invasions. The unit of enumeration was a homestead: buildings or "chimneys" were enumerated with taxation purposes. Later, in the XIV-XVIth century cumulative records were entered in so called "scribers books". In the XIV-XVIth century a homestead became a unit of taxation and the individual enumeration was named a homestead census. In November 1718 Peter the Great issued a decree under which it was proposed "one should be interviewed (within a year term) by those who served faithfully and loyally to bring the truth on a composition of homesteads and evidence on a man population in every village.

Records obtained in such a manner ('tales") had been aggregated for three years and for the following three years were subject to a check – "revision".

Since then the individual enumeration in Russia had been named as revisions. Such revisions had been carried out for about one and a half century right to the date when serfdom was abolished All in

all ten revisions (the last one in 1857-1860) were undertaken in Russia.

The period of each individual enumeration lasted more than several years and they were not accurate as the record was not the actual number of persons but those with a status of a tax payer, i.e. those who were in tax payer registers. Landlords did not make haste in submitting revision "tales". Recall Chichikov who bought out "dead souls" that were enumerated as living persons at the time of the previous revision.

In Europe the individual enumeration became more or less regular in the early XIXth century. However, they were not similar to present-day censuses to which we get used to: only men and women were enumerated and a process was stretching out for a considerable period. A purpose of the census was to levy a tax and get records on the adult men population and homesteads.

It is noteworthy that the age of a population, without records on which a single census program is not planed today, firstly was recorded at the census in England in 1841. The first census that met all scientific enumeration criteria was implemented in Belgium under the direction of a well-known statistician A.Ketle. The enumeration period was one day with records being made by-names and the evidence was collected not on a homestead in a whole but each resident. Moreover, this census recorded not those who were in registers kept by each Belgium community but a current population.

And the individual enumeration in context of a present-day census was actually carried out in Europe and USA only beginning from a second half of the last century. Since then they have been implemented in many industrialized countries once in ten and sometimes once in five years. In countries that chosen a model of development censuses were introduced only after the people in these countries had thrown off a colonial regime. Today there is not a single country that has not carried out a population census at least once.

Over the recent fifty-years period the method principles and organizational considerations have been greatly improved. In many countries in Europe enumerating is based on the householder method when questionnaires are recorded by persons themselves. Sometimes, like in USA censuses are carried out by mailing-out and mailing-in

questionnaires. The census data is processed with use of the modern equipment that enables collection of a wider range of the data.

In Russia after serfdom had been abolished censuses were launched in individual cities and even provinces. Many of them were "the government-police individual censuses" when landlords were asked not even about the number of residents but persons registered as residents. Later they switched to scientifically-planned censuses.

The first and last universe census in the Russian Empire was carried out in the early 1897. It was initiated by a well-known Russian geographer, geologist and statistician P.P. Semenov-Tianshanskii. For twenty five years he haunted the office thresholds trying to assure bureaucrats in urgency of a census. Under a tzarist regime it was very formalized. In the field the census was administered by bureaucrats who had no idea about statistics and who were proposed to use services of religious servants and policemen as enumerators. Census documents were processed in a badly manner. However, it was a sole source of a comparatively true data on a population and its distribution in Russia in the late XIXth century.

Over the soviet time the first census was implemented in August 1920. It was prepared and carried out under extremely difficult conditions of wars, famine, devastation and therefore its coverage was only 72 percent of a population.

In 1923 a population census was carried out in urban and rural localities parallel with a census of industrial and trade enterprises.

The first universe enumeration was carried out under the All-national population census in December 1926. Over the period of its preparation well-known soviet statisticians V.G. Mikhailov and O.A. Kvitkin developed scientific principles that served as a basis for the said census as well as subsequent population censuses over the soviet time. The census in 1926 was distinguished not only by the well-thought method principles for data obtaining but by a value of the collected data especially those on a social status and families.

The following census was implemented in January 1937. However, its organizational arrangements were unsatisfactory*. It was followed by the census in January 1939. Firstly, over the census

* The census in 1937 – is a vivid example of an incompetent policy interference in science in the interest of certain politicians.

special measures were taken to improve an accuracy of enumeration. The census results were disseminated as a concise publication in 1939-1940. The Second World War impeded a completion of processing of all the data collected.

The first post-war census was implemented in January 1959. Its organizational principles and content did not differ from the previous census.

The next census was carried out in January 1970. In regard to organizational and method principles it was alike two previous censuses, however, a scope of the data was much larger. Firstly, with a purpose of time saving, in practice of the census taking it was not a universe census but enumeration based on a 25-percent sample. Some innovative technical solutions were applied for the data processing.

The next to the last census was carried out in 1979. Its organizational arrangements and data processing considerably differed from the previous censuses. Firstly, it concerns an operation of a census, when records made by enumerators were read with use of the special reading equipment and entered in a computer with recording on magnet tapes. Also new questions were included in a questionnaire and some questions were given the other formulation.

The last population census was implemented in January 1989. The program of a questionnaire was much extended. It included 26 questions (in 1979 – 16 questions). For the first time after 1926, the data was obtained on housing conditions, skills and qualification, a list of the means of subsistence was extended, etc.

In contrast to the previous censuses, it has a universe program for enumerating a total population with collecting the personified data based on names, and only after aggregation it yielded a general information on a distribution of a population by age, sex, educational attainment, etc. Another important modification was introduced. In the first question included in the questionnaire a feature "relation to a head of a family" was replaced by "relation to a member of a family who was recorded first". It captured a current status of family members and was in conformity with the recommendations made by international organizations in part of a content of questions to be included in the questionnaire.

The program of the census in 1989 provided the most extensive objective information that could not be obtained from any other source. The census yielded the data on a population, its geography

distribution by sex, age, educational attainment, activity, industry, social groups, etc. The census results enabled estimations and forecasts to be made for future periods.

The census data tabulations produced under a census program enabled generation of various data outputs, namely, a distribution of a population by a nation, educational attainment, socio-economic situation, the number and a composition of families, housing conditions, education, etc.

An extremely important pre-requisite for a successful operation of a population census is well-organized census publicity among the people on the objective of a census, its political and economic value. All Ukrainian citizens were to be unformed on the forthcoming first all-national population census, procedures and time, census preparation and actions to be taken to make easier the work of enumerators and individuals in giving complete and accurate answers on questions included in the questionnaire. To assure a success of the census taking, it is necessary to have the extensive census publicity.

# 2.

# All-national population census in 2001

The last soviet-time population census was implemented before 1989, prior to the year when Ukraine acquired its independence. Over the years its results lost not only actuality, but what is more important, they did not reflected transformations in the socio-political environment in the country where a certain socio-demographic and migration behavior was formed, called forth the current trends in a population, caused changes in a distribution of a population by geography. The need in a comprehensive analysis over the extremely complex processes called for update of the statistical counts that could be obtained only through a population census.

Given the above considerations, the first national population census had an objective to record a multicolored picture of the renewed Ukrainian society, produce an objective data on the socio-economic situation in the country, assess a contribution of cardinal recent changes in the living standard and well-being of various strata of the population.

It should be noted that as an independent operation the population census in Ukraine was implemented only in 2001. All previous population censuses were implemented either under administration of tsarist statistical institutions in the Russian empire as in case of 1897 or under the all-union soviet methodology guidelines. Somehow or other, but after Ukraine acquired independence the system of national statistics faced a very complex problem on preparation and implementation of a universe population census that by all the features would comply to the international standards, satisfy to all information needs of the Ukrainian society but at the same time would be adequate to the

current socio-economic situation in the country and the recent individual psychological attitude in regard to individual enumeration.

This all-national operation was long-expected, extremely indispensable and exclusively complex. And many census operations were implemented in Ukraine for the first time. Over the soviet time, the Central Statistics Office of the Ukrainian Soviet Socialist Republic as well as statistics offices in the other soviet republics were engaged only in collecting the data on a population in the time of the census. And all major operations beginning from formation of the methodology concepts and development of the data processing software tools to selecting methods for the data analysis and distribution were planned and implemented in Moscow. The restricted autonomy of statistics offices in the former soviet republics as to their contribution in the general ideology of all-union censuses of that period lead to a limited focus of national specialist mainly on the skills related to implementation of preparatory field works and individual enumeration. And because of this, by the time of the first all-national population census neither own theoretical fundamentals nor experienced professional workforce with skills necessary for this operation was available in Ukraine. The census legal, methodology, organizational and material-and-technical fundamentals were developed practically from zero. With this in view a wide-range international recommendations and experience was invited as well as a critically interpreted experience gained through the population censuses implemented in the soviet time was given a critical consideration.

The methods of the first all-national population census in Ukraine were developed and applied as actual census efforts taken by the Ukraine National Statistics Office with an active participation of many other implementing agencies. Among those are leading institutes of the National Academy of Sciences in Ukraine, namely, Institute for demography and social studies, Institute of political and ethno-national studies, V.M. Koretskii Institute of state and law, M.T. Rylskii Institute of arts science, study of folklore and ethnology as well as other institutes and public associations such as T. Shevchenko All-union association "Prosvita' and its regional offices.

Over the entire period of the census, national statistics offices were given a great assistance by many central/local

administrations, local governance offices that under their mandate contributed to testing the methods and organizational concepts for enumerating individuals and under their competence carried out the foreseen enumeration works. At all levels of the national administrative-and-territorial division their actions were coordinated by the advisory bodies – Individual Census Committees. At the national level a Steering inter-ministry committee on the all-national population census chaired by the Prime-minister of Ukraine was set at the Cabinet of Ministers.

Statistics offices in Ukraine were given a regular support by the UN Statistics Department (UNSD), UN Fund on Population Affairs (UNFPA), Statistics Department of UN European Commission on Economics (UN/ECE) that with a great interest overviewed the process of preparation and implementation of a population census in Ukraine; assisted with expertise and consultation, organized training seminars. The UNDP office in Ukraine also largely contributed to preparation to all-national population census through its through census publicity in the beginning of individual enumeration.

Among national statistics offices of the countries that were the most active in giving a support to census operation through a technical assistance effort it is necessary to single out the UK National Statistics Department, Swedish Central Statistics Bureau, Federal Statistics Bureau of Canada and Germany as well as the US Census Bureau. The experience gained by national specialists in consultations, missions of experts and consultants as well as training seminars including those organized under bilateral agreements concluded between national statistics offices considerably facilitated and largely cut the time necessary for a decision to be made on some topics arised during preparation and implementation of the population census in Ukraine.

And the most acute topic that encountered national statistics offices in Ukraine through preparation to the all-national population census in 2001 was building the indispensable technical base for processing the population census data. Cooperation in this area with the Swedish Central Statistics Bureau allowed to map out the key criteria and priorities for selecting the software for processing the data on the population census, produce scanable data media, acquire the skills necessary for optic character reading, get theoretical and practical knowledge on a special software, etc. The UK/Germany

legal acts on implementing the universe statistical population survey was the source of information used for drafting necessary regulatory and legal documents on the all-national population census. A fruitful and long-term cooperation with the Canada Federal Bureau of Statistics allowed to pick up useful information on the methods that are used by Canadian statisticians in their operations with data users both in the phase of developing the census program and questionnaires as well as in the phase of dissemination of the population census results.

The contribution made by the scalable national scientific potential, expertise of many professionals representing more than twenty ministries and agencies, use of practical experience and competency of local government workers, unrelaxed focus of the central government on census issues, as well as the best international statistics practices applied in the sphere of the population survey provided for a due level of organization of the first all-national population census in Ukraine. However, a crucial drive that provided for the pre-requisites for carrying out the all-national population census in 2001 was perception of many Ukrainians on the social weight of this operation, awareness on its indispensability on the further country growth.

### 2.1. Basic legal and regulatory principles of the all-national population census in 2001

Legislation, methodological and organizational pre-requisites for carrying out a census are apparently mutual-conditioned and interrelated, therefore in this context the concept fundamentals for the all-national population census in 2001 should be treated as an extremely wide spectrum of topics linked not only to the methods of the largest by a scale statistical survey but to its legal and organizational arrangements as well as the further tabulation and use of the census results.

To provide for the regulatory and methodology support for such a large-scale statistical operation as a population census, necessary legal pre-requisites were set in compliance with provisions of the Constitution. ***The Law of Ukraine "On All-National Population Census"*** passed by the Verkhovna Rada in October 2000 was the key regulation that included the legal, economic and organizational provisions for preparation and implementation of the

all-national population census; processing, aggregation, publishing and use of the census results; regulation of relationships between entities in a population census, designation of their rights, obligations and responsibilities; fixing the state guarantees on protection of confidentiality for the information obtained through enumeration.

The need in endorsement of the individual Law in addition to the frame law in the sector of statistics – The Law of Ukraine "On National Statistics" – was linked to a crucial provision included in the Constitution of Ukraine that spelled out a rigorous restriction on obtaining personified data on any person and was directly linked to the issue of confidentiality of the population census data.

As early as in a phase when the Law was drafted it was considered that the population census law should regulate not only implementation of the all-national population census in 2001 but serve as the current law for similar statistical surveys in a future. And it was foreseen that the Law would be sufficiently sensitive and flexible in regard to transformations in the society, in particular, individual attitude to a program of a population census, any instrument used for implementing a census, mechanisms of data processing and protection. The Law should also include such objective factors as a speedy progress in science and technology what also normally has a significant effect on the methods, organization and technical provisions for carrying out a population census. It should be drafted in a manner to make both improvement of census procedures that could be included both in the frame law or amending underlying sub-laws and regulations. Given the above considerations were applied in the phase of drafting the law, the current Law of Ukraine "On All-National Population Census" includes such a mechanism for the law implementation that enables an adequate sensitivity on innovations in carrying out a population census and tabulation the census results. It mainly pertains to the content of norms and articles covered in the Law that include the list of the raw (personal) data collected in individual interviews and methods of individual enumeration.

Given a single general objective of a population census in any country that is aimed at obtaining the data on a count, distribution and territory profile it is clear that certain specific features of this demographic and social operation are rather common in many countries. And many countries normally comply to methodological

and organizational principles of a population census that are fixed in the Law as the main principles for the all-national population census. Population censuses should be ***a sequential operation with regular intervals***. This approach is aimed at enabling both the national and international historic data series comparability. The population census data in each country gain a high national, subnational and international weight in case they enable international comparisons. To provide for completeness and quality of the data a population census should cover all respondents without any exclusion to have the universe individual enumeration. The immediateness of a population census foresees obtaining the data based on individual interviews within on a fixed moment. Also it is necessary to provide for ***universality of the program for individual enumeration as well as methods for implementing a census and data processing***. In other words all respondents should be interviewed and asked the same questions included in the program of individual enumeration and the data should be collected and processed under single rules and procedures. ***The personified nature*** of the raw data is characterized in collection by a canvasser method (or householder method) when each individual who according to the Law is subject to individual enumeration. In the householder method, the major responsibility for entering the information is given to a person in a unit being enumerated without any document evidence. This principle facilitates the individual good attitude and perception on a population census. The raw personal data on individual enumeration is the confidential information protected by the law and not subject for promulgation without a consent of an individual and should be used exclusively for statistical purposes being collected as non-personified data. This principle is predominant for operations with the census data. Given a scale and an extreme complexity of a population census, its governing organizational principle is ***central administration and coordination of census operations***. This enables compliance to universality of a program of a population census, methods for implementation of a census and data processing as well as promotes an efficient use of material, financial and human resources.

As provided by the Law, the key authorized body with participation of other relevant agencies, institutions and organizations should develop the methods of carrying out a

population census and instrumentation, makes decision on the technology for data processing and the data tabulation plan. The Law also provides for the rights, obligations and responsibilities of entities in a population census. This regulation should secure diligence of each entity in individual enumeration. Thus, for example, provision for the right allowing respondents to get information on a type of data, those who will collect it and purpose of collecting the census data, as well as future users of the data and also mandatory provision under the Law on an obligation of a respondent to give truthful answers on questions included in the program of population census what, without doubt, will secure a full coverage and obtaining the reliable population census results.

The provisions of the Law on protection of individual survey data are binding for all entities of a population census in context of confidentiality of the population census data. And, as provided by the Law the provisions are binding both for non-disclosure of personified census data and imposition of sanctions for violation of the said norms. These norms fully comply to both the national and international legislation on protection of the personified data. The guarantees under the Law of Ukraine "On All-National Population Census" that provide for a strict confidentiality of individual data are in compliance with the norms of the Constitution, provisions of the Laws of Ukraine "On Information" and "On National Statistics" as well as norms of the Fundamental principles for official statistics in the region of the UN European Economic Committee, Convention of the European Council "On protection (rights) of individuals under automated processing of personified data" (1981) and Directives 95/46/ of the European Parliament and EU Council "On protection (rights) of individuals under automated processing of personified data and free communication of data" (1995). Moreover, as it was already noted this approach is basic for setting an open and constructive cooperation between entities of the population census.

The Law provides for the procedure for publishing a population census data and presentation of the customized aggregated, non-personified information to users. Generation of the population census data, tabulation with a high level of detail and data presentation formats largely depend on such factors as a clearly defined content of the questions included in the program of a population survey and users' interest in any cross-tabulation of data

by any feature with a different level of detail. At the same time, it is necessary to note another important area linked to a requirement that enables the historic data series national/international comparisons and use of the census data for developing subnational and international population-related programs.

Setting up the legal environment for carrying out the all-national population census was not limited to endorsement of a single law. The relevant changes were also introduced in ***the Ukraine Code on administrative violations***. The current list of violations of procedures on presenting the national survey data with provisions for imposition of administrative sanctions was supplemented with such violations as presentation of an incomplete data or in a format not foreseen for statistical records. Sanctions imposed for violation of the procedures for the national survey data presentation were also supplemented in a part of extending the list of categories of individuals to which these norms are binding and also administrative sanctions foreseen for the said actions. Introduction of supplements to the Ukraine Code on administrative violations provided for the legal balance on responsibility between entities in a population census and use of its data as the new wording of administrative responsibility for violations covers not only individuals but also the staff of national statistics offices and the temporary enumeration staff as well as data users.

It is to be noted that operations on carrying out the all-national population census also were regulated by a number of regulatory and legal acts of the President of Ukraine, Verkhovna Rada of Ukraine, Cabinet of Ministers of Ukraine, ministries and other central government institutions. Local administrations and local governance bodies also passed a decision on a due preparation and implementation of the first all-national population census in all region. These acts specified the enumeration period and implementing agencies responsible for all preparatory census works. Local administrations and local governance bodies within their authority were given specific tasks as provided by the Law of Ukraine "On All-National Population Census". The time of the all-national census and main organizational arrangements for its taking were specified. The mechanism was designated for selecting and recruiting the temporary enumeration staff. Local governance bodies at all levels were given recommendations in the frame of the all-national census in a period from 1 July 2001 to 1 July 2002 to refrain

both from any decision making on changes in the territorial-and-administrative division and renaming streets, side streets, avenues, squares, etc. The additional budget assignments were foreseen for preparation and implementing the population census and tabulation of the data.

## 2.2. Method principles for implementing the all-national population census in 2001

### 2.2.1. *First-priority preparation actions*

The method principles on preparation for the all-national population census were based on its general concept. It meant that it should be the universal population survey that should take place by an individual place of residence in interviews for the pre-defined period by the specially trained enumeration staff. And calculation and setting-up of assignments for all categories of personnel was made with the account taken for a type of areas included in survey. Also given the condition that survey should cover such categories of respondents as "usual residents", "temporary absent residents" and "temporary residents", it was important to enumerate the usual and present-in-area population. In view of the abovesaid, in the population census actions the first priority was put at determination of boundaries of urban-type settlements and large rural settlements, putting in a proper order household addresses and, based on this, preparation of cartographic census documents as well as complete and accurate registers of individuals by place of residence. Given the abovesaid, firstly the specified actions included a patient and persistent work on verification of boundaries of administrative-and-territorial divisions and their naming as well as accurate lists of names of streets, side streets, avenues, squares, etc. and numbers of buildings and apartments. This task was specified as the first priority as it served as a basis for all future census works. Significance of this work was also justified by the boundaries, in particular, urban boundaries and address lists especially those for urban settlements that were largely changed in the beginning of 90s. Renaming of populated localities, names of streets, side streets, etc. was a large scale. All these changes were supposed to be adequately mapped on city and district charts. At the same time, deficit of local budgets often lead to absence of street name-boards and building number-boards. All this also called for immediate actions.

As it was mentioned above, having accurate address lists in urban and rural localities preceded to mapping district charts and maps that is treated as a responsible and labour-consuming phase in census preparatory works. Another area in preparatory works for a population census was accuracy and completeness of checks of the current population registers that was taken for a reliability assessment of the administrative population data for any populated locality as well as aimed at elimination of identified shortcomings. The carried out mapping tasks and pre-enumeration data checks were undertaken as a basis for the next phase for census preparation that will be described lower.

### 2.2.2. *Listing of sets of household building blocks, living quarters in other buildings in urban localities and large rural localities; rural localities listing*

It is one of the most crucial preparatory works for the all-national population census. The accuracy of listing had a contribution in accuracy of the census district-zoning and securing a complete coverage in individual enumeration. Sets of household buildings were listed based on relevant documents, namely, propiska and apartment registration cards that were kept at housing authorities, house-management bodies, superintendents of sectoral housing and hostels, heads of housing cooperatives or persons authorized to keep the passport records; rural populated settlements were listed based on household book records.

To provide for a complete coverage in the population census, before listing territorial statistics offices had to determine the sectoral populated localities, residential localities related to service, maintenance and operation of railway and water lines, forest fields, meteorological offices, geological organizations, etc. and present this information to respective district (city) statistics offices.

Over the period when sets of buildings and rural populated settlements were listed, district (city) statistics offices carried out the following tasks:

- delimitation of the territory of urban localities and large rural localities into enumerator districts in compliance with the assignment set up per one enumerator;
- selection and briefing enumerators on a procedure for listing buildings;

- delivery of information on the boundaries of a district set up for each enumerator. When necessary, delimitation was determined at the field work. In some cases enumerators together with heads of statistics offices of adjoining districts (cities) statistics offices checked localities and draw up delimitation acts;
- collection of the necessary supporting documents needed for listing rural localities (location of hunting-ground huts, forestry lodges, railway houses, etc.) in the responsible district (city) administrations together with heads of the railway station; revision with the lists provided by territory statistics offices and after revision list submission to secretaries of village radas;
- in urban localities and large rural localities enumerators were provided with the required number of reporting forms, enumerators' district charts as well as addresses of housing authorities, house-maintenance bodies, information on location of superintendents of sectoral housing, etc, while secretaries of village radas were provided with lists of rural localities;
- control on a quality of each enumerator performance during the first days when sets of buildings were listed; check of a quality of listing through the entire period of line-work as well as providing for a completeness and accuracy of rural localities.

When enumerators and secretaries of rural localities submitted documents to district (city) statistics offices they specified plans of urban localities, large rural localities and district maps as well as had a summary information on listing sets of living quarters in each urban populated settlement, summary lists of urban localities, lists of rural populated localities and summary district lists. The urban population registers obtained by lists of sets of living quarters and rural population registers obtained by lists of rural populated locality were revised with lists of estimated district population. In case of a large discrepancy they identified the cause and when it was due to technical shortcomings during listing sets of household buildings the lists were thoroughly checked and revised.

Lists of sets of housing buildings, rural localities, charts of urban localities, large rural localities and district maps were kept in district (city) statistics offices as long as they are needed in the next phase of preparatory works.

### 2.2.3. *Planning organizational arrangement for carrying out the population census*

To ensure the adequate planning of organizational arrangements of the population census, provide for its completeness, each statistics office a plan of organizational arrangements for developed implementing the all-national population census (hereinafter the plan). Plans were made for each district (including districts in a city) and city that had no district division. The district (city) plan included the following sections:

- enumeration district-zoning;
- staffing with the enumeration personnel;
- briefing and skills quality control of the enumeration staff;
- plan of census publicity;
- explanatory note.

Enumeration offices were set in *all urban localities* with population of 8 thousand persons and more. In urban localities with a population less than 8 thousand persons enumeration offices were not set but depending on the population records, instructors' or enumeration districts were set being included in enumeration offices of the closest urban locality enumeration office or a rural area enumeration office in the same district. In urban localities with a population record ranging from 8 to 18 thousand persons one enumeration office was set. Each enumeration office included 8 instructors districts in average. In urban localities with a population exceeding 18 thousand persons, two and more enumeration offices were set. The enumeration office should cover only whole quarters or developments. It was not allowed to split a set of household buildings between enumeration offices. Enumeration districts made up instructors' districts. Each instructors' district in urban localities should include 4-5 enumeration districts in average.

Enumeration offices in *rural localities* were set based on the whole village radas. Enumeration offices in rural areas included 6 instructors' districts in average. In a district with a rural population record not exceeding 8 thousand persons normally one rural enumeration office was set. In rural areas instructors districts were predominantly set based on one or several village radas. In case a population within a village rada exceeded the maximum assignment allowed for one instructor in rural areas (1.6 thousand persons) then depending on a population record in village rada two and more

instructor's districts were set. It was banned to merge parts of different village radas in one instructors' district. In rural areas one instructors district included 4 enumeration districts in average.

In some cases it was allowed to set mixed enumeration offices and instructors' districts, i.e. enumeration offices in urban localities could include rural areas instructors' or enumeration districts. These arrangements were in place in some cases when rural districts were located at a far distance from rural enumeration offices and at the same time were close to an urban locality. Also in some cases it was allowed for rural enumeration offices to include instructors or enumeration districts of small rural localities in case they had a far-off location from other urban localities. It was prohibited to include buildings of urban and rural localities in one enumeration district. All forms on district-zoning made for instructors offices and enumeration districts were attached to enumeration office documents in which they were included.

Parallel to setting major enumeration, districts based on form *5-org-district* district (city) statistics offices made estimates on the required number of enumeration districts in **hospitals, maternity hospitals, sanatoria, holiday homes (one-day holiday homes not included), orphanages, boarding schools, boarding institutions for the elderly and disabled, hotels, etc.**

The next phase of enumeration district-zoning was estimation of the human-resource needs. In districts (cities) the enumeration personnel included deputy heads of the district (city) statistics office in charge of the census, heads of enumeration offices, instructors, enumerators.

The enumeration personnel did not include those who were employed in national statistics offices but was recruited from students, pensioners, unemployed. Those who were recruited for the census in 1989, sample household surveys as well as local activists experienced in communication with individuals were given a preference. In hospitals, maternity hospitals, sanatoria, boarding schools, hotels and other institutions of this type where enumeration, instructors districts and enumeration offices, enumerators, instructors, heads of enumeration offices and their assistants were appointed by administrations under consent of employees of the above institutions.

The total need in the district (city) enumerators was estimated based on a number of major enumeration districts and those set in

hospitals, maternity hospitals, boarding schools, sanatoria, holiday homes, orphanages, boarding institutions for the elderly and disabled, hotels, etc. and the trained reserve paid staff. It was envisaged that the reserve enumeration staff included in the budget should make up 10% of major enumerators. Total of instructors was estimated by a total of major instructor districts and those set in hospitals, maternity hospitals, boarding schools, sanatoria, holiday homes, orphanages, boarding institutions for the elderly and disabled, hotels, etc. and the trained reserve paid staff. Two-person trained reserve staff of instructors per one enumeration office was included in the budget. The paid reserve staff did not include heads of enumeration offices and their assistants.

Over the census period the budgeted reserve enumerators and instructors should be present in enumeration offices or in district (city) statistics office and fulfil commissioned assignments. In case when any enumerator or instructor is not at work, one should be replaced by a back-up staff. The back-up staff was assigned by heads of enumeration offices or heads of the district (city) statistics offices.

The enumeration personnel to be engaged in the all-national population census in 2001 was recruited both in urban and rural localities for the following period: enumerators – 28 working days; instructors – 38 working days; heads of enumeration offices and their assistants – 60 working days; deputy heads of district (city) statistics offices in charge of individual enumeration – 6 months.

Heads of territorial statistics offices and their deputies in charge of a population census were responsible for briefing heads of district (city) statistics offices, their deputies, heads of enumeration offices and their assistants; heads of the district (city) statistics offices and their; heads of enumeration offices and their assistants were responsible for briefing the enumerators. At the same time, the reserve enumeration staff should be also briefed. In compliance with the census calendar approved by the National Statistics Office territorial statistics offices decided on timing and venue for a separate briefing the staff in urban and rural localities. Groups for briefing were set and included not more 20-30 persons in each. To check skills, briefing of enumerators should also include a practical test on filling-in forms for listing persons who live in a unit, census forms and other census documents. Skills were checked to decide on a level of availability and general suitability of enumeration

personal for enumerating individuals after briefing. Persons that failed the qualification test, i.e. showed lack of knowledge and skills for communication with individuals were not allowed to start to work and were subject for replacement. Heads of enumeration offices and their deputies should be present at qualification testing of instructors who would be engaged at their enumeration offices. Each instructor, in its turn, should be present at skills testing of enumerators to be engaged at their instructors districts. Given the abovesaid, setting up instructors and enumerators to enumeration offices should take place before briefing.

The plan of the census publicity, being an individual section in the plan of organizational arrangements, included a list of actions on publicity of the all-national population census in 2001, its procedures and time as well as rights, obligations and responsibilities of individuals and temporary enumeration personnel and other staff engaged in census operations.

The plan of organizational arrangements should be attached with an explanatory note that will include comments on forms on enumeration district-zoning, justification for setting up assignments for enumeration personnel and comments on selecting and training of enumeration personnel as well as comments on the census publicity. The note should contain specific features of a district in context of the organizational arrangements for the census (like a distribution of localities by population records, main occupational groups of individuals, characteristics of transport means, distance between localities, etc.). For each urban locality it was necessary to make indication on a single residential agglomeration or that composed of scattered small localities with an indication of a distance between them. An explanatory note should also contain categories of the persons able to work that will be recruited as the enumeration personnel, on organizational arrangements of their briefing, additional works planed at context of the census publicity.

*Planning of the summary organizational arrangements for the all-national population census in 2001* was made for AR Crimea, cities of Kiev and Sevastopol by territorial statistics offices based on approved district (city) organizational plans, average-estimated assignments and reported records on enumeration districts. The summary plans for organizational arrangements for the census included the following information: the total population record for urban localities and administrative districts (not included districts

in cities), a total record of rural localities including those that were not habited but which were supposed to be attended by enumerators as well as the a record on small rural localities and free-standing houses. This form should also contain the number of enumeration districts (urban, rural and mixed) set in AR Crimea, cities Kiev and Sevastopol.

Summary organizational plans were made in two copies by territorial statistics offices and upon the approval by local administrations one copy was communicated to the National Statistics Office within the schedule date. Based on organizational plans submitted by territorial statistics offices, the national plan of organizational arrangements for carrying out the all-national population census in 2001was prepared.

### 2.2.4. *Enumeration staff recruitment, training and approval*

As it was stated above, a timely and thorough recruitment of candidates to be employed as a temporary enumeration personnel and their training is a crucial pre-requisite for a successful implementation of the population census. In view of this, the resolution of the Cabinet of Ministers of Ukraine, Ministry of Labour and Social Policy of Ukraine after agreement of the Ministry of Finance of Ukraine approved that the National Statistics Office prepar would the Procedure for recruiting a temporary enumeration personnel, its training as well as preparation and carrying out of the all-national population census in 2001including data processing and payment for the work fulfilled.

A temporary staff was listed by each individual category of the census personnel. Given a complexity of the census program and strict requirements for filling-in enumeration forms, national statistics offices invited to this process the most active, responsible, disciplined staff with the educational attainment that is normally should be not lower the complete secondary school, i.e. those who qualify to requirements to ensure a due and diligent performance. In addition to this upon recruiting candidates a great attention was paid on purely psychological aspects such as ability to appeal to individuals, encourage respondents for open interviews, tolerance during individual enumeration, etc.

Given that briefing of the enumeration personnel is a mandatory line-work and include a practical test on filling-in enumeration documents and skills testing, the National Statistics Office developed the standard probe for testing the enumeration personnel and given special characteristics of localities, territorial statistics offices supplemented them with special topics.

### 2.2.5. *Pre-enumeration check of lists of living quarters in urban localities and lists of rural localities*

Lists of building, rural localities, cartographic documents and plans of organizational arrangements for the census were checked right before enumeration. This operation was objected to updating current documents for all preparatory phases to ensure an adequate allocation of the enumeration personnel by allotted works. In the beginning they checked a completion of numbering sets of buildings, buildings and apartments, names of streets, preparation of charts of urban and large rural localities; a special emphasis was placed on this operation in urban localities that were reorganized from a rural to urban locality after 1 January 2001, i.e. after a final date set by the Cabinet of Ministers of Ukraine for completing listing. In local administrations on urban development and architecture, technical inventory bureaus, housing authorities they checked whether new construction was under way or residential buildings were demolished in urban localities and large rural localities. In rural areas in a joint effort with secretaries of village radas they verified lists of new and liquidated localities (major and not autonomous) as well as free-standing buildings.

Territorial statistics offices started a check of sets buildings, lists of rural localities, cartographic documents and organizational plans to get them ready 12 days before the first day of enumeration. Heads of enumeration offices, their assistants and instructors checked and updated lists and mapping documents in their districts.

The errors identified in a check were corrected and necessary changes were introduced in lists of buildings and rural localities. After verification, heads of district (city) statistics office and their deputy with heads of enumeration offices and their assistants checked and introduced necessary changes in copies of charts and maps, forms and organizational plans.

By 20 November 2001, territorial statistics offices should inform the National Statistics Office on changes such as renaming, liquidation, merge and other transformations with localities. All the changes introduced after updating the lists of building and rural localities should be submitted for approval to territorial statistics office not later 25 November 2001. Setting up additional enumeration districts is decided only after approval by the National Statistics Office of Ukraine.

### 2.2.6. *Pre-enumeration check visits of enumerators to units located in enumeration districts*

From 30 November through 4 December 2001 enumerators had pre-enumeration visits to units located in each enumeration district. Here, enumerators visited not only living quarters but also units of companies and establishments that could be used as living quarters. The purpose of this operation was to get familiar with respondents, their briefing on enumeration procedures and setting the time for enumerating those who reside in a given unit with a main focus put on those who are often outside home. In addition to this, to obtain necessary information and set a line-work communication with the enumeration personnel, individuals were informed on details of addresses and telephone numbers of instructors' offices (enumeration districts) where given living quarters were listed.

Parallel to pre-enumeration visits the details on lists of sets of building and rural localities were checked once again as in urban localities numerators entered notes on each apartment, one-flat building, room in a hostel, made indications on street name, building number, apartments number and the number of individuals who reside in a unit, while in rural localities they indicated name of locality, building number, the first/last name of an owner of the building and number of residents in it. It should be noted that information included in lists of sets of building and rural localities under any conditions should not be made available to enumerators but was used by heads of enumeration offices exclusively with a purpose of controling individual enumeration records obtained in enumeration.

### 2.2.7. *Implementing the all-national population census in 2001 and control of actions*

As it was provided by the resolution of the Cabinet of Ministers of Ukraine, the all-national population census in 2001 was launched on 5 December 2001 at 8 a.m. Respondents were interviewed for 10 calendar days. The census day was set based on the national and international experience that confirms that for a such large-scale demographic and social survey the most suitable period is that of the lowest population migrations. Traditionally in this country these periods are in the first half of December and second half of January. Given the abovesaid, a critical moment for the first all-national population census was fixed at 12 p.m. at night of 4-to-5$^{th}$ of December 2001. At the same time, it should be noted that from practical considerations, namely, unfriendly weather, a short light day, probability of a high morbidity because of the epidemic situation that took place in some regions as well as certain difficulties with remuneration of the enumeration personnel because of the end of a fiscal year December tuned to be not a very appropriate month for universe population surveying. Many territorial national statistics offices are sure that in future the more suitable census period could be the late October or November. Here, the enumeration period should be selected to have not 2 but 4 week-end days.

Under the selected census methods it was envisaged that enumeration should cover all Ukraine nationals, not-nationals and persons without a citizenship who on the census day found themselves in the territory of Ukraine as well as Ukrainian nationals who on the census day were outside Ukraine. Individuals were enumerated by place of their actual residence (usual or temporary) and here it could be coincident or not-coincident with their "legal" place of residence by the propiska registration. Individuals were interviewed with no regard to presence of propiska and its nature (usual or temporary) and right to reside in this or that living quarters.

Enumeration was fulfilled by enumerators after training through individual interviews and records made in enumeration documents (Form 1 "List of household members residing in living quarters and their housing conditions"; Form 2C "Questionnaire" and Form 3 "Unit enumeration documents" based on respondent's information provided without any documented evidence. Form 1, 2C and 3 were

recorded by enumerators when they visited any living quarters that was and could be used as residential unit including those of companies and establishments.

Records were kept by households. In case when at time of an enumerator's visit to a unit any respondent was not available for an interview, enumerators had a right to make entries about respondent having an interview with other household members in case they were able to give an exhaustive answers to all questions included in Form 1 and 2C. In case household members were not able to respond to all the questions instead of a respondent who was not available for interview, enumerators should enter notes in the Form 1 and 2C on the first/patronymic/last name and interview this person at his repeated visit or at least by telephone. Information on household members who were subject for enumeration in a given living quarters, but were not available for an interview through the entire enumeration period could be obtained from neighbors, housing authority, village radas.

The use of the canvasser method – individual enumeration by interviews – was recognized as the most successful, however, according to the opinion of many territorial statistics offices in future it is not excluded a possible use of the integrated method; individual enumerating and use of the householder method.

Given the legal provisions for confidentiality of the raw (personified) population census data, the enumeration personnel is strongly prohibited to communicate a content of enumeration forms to any person (except the respondent). Moreover, all workers employed at the census works were informed on the current law provisions for responsibility for violations of procedures on use of the raw personified data and information communication to other persons as well as violation of other provisions on protection of personified confidential information obtained in the population census.

#### 2.2.7.1. *Categories of respondents in individual enumeration and enumeration procedures*

In every unit all persons who at 12 p.m. at night from 4-to-5th of December 2001 resided in it including those who were temporary residents in it were subject for enumerating. Those who were temporary absent were also enumerated as usual residents.

Usual residents are those who are usual (normal) habitants in a given unit including those who were temporary absent. This category includes the following persons:

1) Persons who are usual residents in a given unit and at 12 p.m. at night from 4-to-5th of December 2001 were present in it.
2) Persons who are usual residents in a given unit and at 12 p.m. at night from 4-to-5th of December 2001 were not at home but:
   a) were within the territory of the same rada (city, urban-settlement, village) with a place of usual residence (for example, visiting the relatives);
   b) were outside the rada boundaries (city, urban-settlement, village) where they were usual residents and could not be enumerated for the following reasons;
   worked at night shifts, were at post, duty or at any work fulfilled at night;
   were at functional service even in cases when they were not present for several days (railway-, water-, air, automobile-transport workers; persons attending freights, post, cattle stocks, etc.);
   watch works (including those employed at the CIS territory) and were not present at locality where they could be enumerated;
   were on a board of planes and vessels, in trains and coaches, local or commuter buses or waited for them, accompanied or met passengers;
   stayed in one-or-two day holiday homes, in 24-hours kindergartens and nurseries;
   traveled in automobiles, tug, by-foot, left for the market (fair), hunting, fishing, etc. and did not stay in places where they could be enumerated;
   left Ukraine for a short-time mission (less than one month) or with no regard to a term left Ukraine as labour migrants or for studies, holidays, medical treatment, visiting relatives and acquaintances as tourists.
3) Persons who on the census day resided in a given unit and could not indicate any other place of usual residence as well as persons who left the previous place of residence and on census day were in it should be enumerated by a given unit as those who are moving in.

Temporary absent are persons who are usual residents in a unit but at 12 p.m. at night of 4-to-5th of December were outside a given city, urban-settlement or village rada provided they were absent by a place of usual residence for 12 months and less. The category of temporary absent persons included those who left for temporary or seasonal works, on-the job training, leave, vacation, visiting relatives and acquaintances as well as:

a) persons admitted to hospitals for treatment (in cases when they were absent by a place of usual residence for 12 months and less), sanatoria, stayed in holiday homes (except one-two day holiday homes); admitted to maternity hospitals including cases when hospitals, sanatoria, holiday homes, maternity hospitals were located within a territory of the same rada where these persons are usual residents;

b) students of boarding schools (not included those who are usual residents in these institutions), forest schools-sanatoria; students who reside at boarding institutions set at schools even in case when the said schools or boarding institutions at school were located in a territory of the same rada where these persons were usual residents;

c) persons at military periodical training and persons under investigation in custody as well as those who are arrested under administrative sanctions for a period not exceeding 30 days including cases when a place of their usual residence was located within a territory of the same rada.

The persons were allocated to temporary residents when at 12 p.m. at night from 4-to-5$^{th}$ of December they were in a given unit while their place of usual residence was outside the boundaries of city, urban-settlement and village rada where they were enumerated in case they were absent at a place of usual residence for 12 month and less. The category of temporary residents included persons who were at temporary or seasonal work, on-the job training, mission, leave, vacation, visiting relatives, acquaintances as well as:

a) persons admitted to hospitals for treatment (in cases when they were absent by place of usual residence for 12 months and less), sanatoria, stayed in holiday homes (except one-two day holiday homes); admitted to maternity hospitals including cases when hospitals, sanatoria, holiday homes, maternity hospitals were located within a territory of the same rada where these persons were usual residents;

b) students of boarding schools (not included those who resided in these institutions permanently), forest schools-sanatoria; students who reside at boarding institutions set at schools even in case when the said schools or boarding institutions at school were located in a territory of the same rada where these persons were usual residents;
c) persons at military periodical training and persons under investigation in custody as well as those who are arrested under administrative sanctions for the period not exceeding 30 days including cases when a place of their usual residence was located within the territory of the same rada;
d) persons who stayed in hotels and passengers waiting rooms, etc. (not included those who used them for usual residence or could not indicate any other place of usual residence).

Thus Form 1 and 2C should include information on all household members who are usual residents in a given unit including temporary absent[1]; persons who had no other place of usual residence or those who stayed in a given unit moving from one to another place of residence; persons who temporary resided (stayed) in a given unit[1] but were usual residents by another place outside the boundaries of a given (city, urban-settlement, village) rada.

The following categories should not be included in lists of those who reside in a unit (Form 1) and the questionnaire (Form 2C) by place of previous residence: persons who at a moment of the census were in the Ukraine military force (except persons at military periodical training); students of high educational establishments, vocational schools, courses and educational institutions with a term of training 12 months and more who resided by place of training with no regard to the date when they left a place of usual residence as well as those who left for 12 months and more before 4 December (even in cases when the said persons had a material relation with household members during enumeration and the right for housing). These persons should be enumerated by a new place of residence as usual residents.

Persons in penitentiary institutions and other closed territories were enumerated by these places as usual residents, while at a place of their previous residence they should not be recorded in Form 1, 2C and 3. (Excluding persons who were arrested under

[1] Details on the categories of respondents are given above.

administrative sanctions for a period of 30 days and less as well as persons under investigation in custody who were enumerated as temporary residents by place of their staying, while by a place of usual residence – as temporary absent).

Ukrainian nationals who worked at Ukraine diplomatic, trade and other representative offices outside Ukraine as well as members of their households who resided with them and also those who left Ukraine for a mission (for a period of one month and more) were enumerated by Ukraine representative and consulate offices while by place of their usual residence in Ukraine they were not recorded in Form 1, 2C and 3.

Not-nationals who came to Ukraine to work or study as well as all those who came to Ukraine as delegation members, on vacation, visiting relatives and acquaintances, as tourists should be enumerated as temporary residents with no regard for their period of staying in Ukraine. Not-nationals who came to Ukraine as usual residents should be enumerated by a place of actual residence in Ukraine under the general rules.

2.2.7.2. *Requirements for filling-in enumeration forms*

Records in Form 1, 2C and 3 should be made in words and figures or with marks. Forms 1 and 2C should be protected from dirt, folds, bends, etc. any damage of the paper could result in optic mark reading errors. Forms 1 and 2C with dirt, folds and bends were subjects to be replaced by blank forms and rewritten.

**The individual** Form 3 "Unit enumeration documents" **should be filled by:**

a) each apartment;
b) each building (when it is one-apartment building), each house, each lodge and any one-flat building;
c) each room in hostel;
d) any other unit where used by persons for dwelling.

In institutional housing units (infant orphanages, orphanages, boarding schools for orphans and children whose parents are deprived the right for care, boarding institutions for the elderly and disabled, convents, etc.) and mobile housing units (hospitals, sanatoria, holiday homes, hostels, passengers' waiting rooms, etc.) Form 3 should be recorded by each building, class, unit, ward, hotel room (depending on a procedure for keeping records in registration books in these housing units).

**The individual** Form 1 "List of members of the household # __residing in a unit and their housing conditions**" should be recorded by each individual household.**

In institutional housing units a general list was made on those who were recorded in individual Form 3, i.e. by each building, class, unit, ward, hotel room, etc. (depending on a procedure for keeping records in registration books in these institutions). In case a married couple resided in the said institutions (husband and wife) or two or more sisters (brothers) then they were enumerated as a family nucleus.

Households were numbered in a unit by a unified ordering numbering.

Enumerators should record the following details in Form 1: # of enumeration office, # of instructors and enumeration district, # of a unit within an enumeration district, # of household in a unit as well as notes were entered on the address by which this household resided, i.e. the address that was included in Form 3.

Before the Form 1 is recorded, enumerators should check how many households reside in a given unit and how many of those stayed in it at night from 4-to-5$^{th}$ December. In case household members residing in a unit make up 10 persons and more than two or more copies of Form 1 are numbered by the same code. In this case in Form 1 in column 1 in a box where the code should be entered the code of a given household in a unit should be recorded, while in column 2 the numeral 1 should be indicated; in second copy of Form 1 in column 1 in a box once again the code of a given household within unit should be indicated, while in column 2 the numeral 2 should be indicated, etc. And on the form face the address details should be indicated both in the first and additional copies of the Form.

Form 1 should include the data on all household members subject for enumeration in a given unit. When it was difficult to decide on a composition, one should be guided by the method principles for individual enumeration under which a household was taken as a whole of persons (or one person) who lived together in one living quarters (or its part), had a common economy (had common expenses on housing-maintenance, foodstuff, oth.), had a fully or partly shared budget and expenses. These persons could be in relations of relatives, brother/sister-in-law, not or be in any of the said relations, or be in either.

Form 1 should include the ordering number for each household member in a given household (column 1), the first/patronymic/last name (column 2), while temporary absent household members from those who are usual residents should be recorded in column 3 and 4 with an indication of a reason and duration of absence.

To decide on a category in which a respondent should be classified, enumerators should check which of household members in a given household is usual or temporary resident:

- which of usual residents at night from 4-to-5th of December was at home and subject for enumeration without a note "temporary absent";
- which of usual residents at night from 4-to-5th of December was not at home and subject to enumeration with a note "temporary absent";
- which of those who are not usual resident in a given unit and at night from 4-ti-5th of December stayed in it and subject for enumeration as "temporary resident".

Household members who were temporary absent by a place of usual residence in Form 1 should be recorded by reason in column 3, duration of absence – in column 4. In case duration of absence is less one month, "less one month" should be recorded. Respondents who at night from 4-to-5 th of December were at a given unit (as usual residents or those who were in it temporary) should be recorded as "dash" in column 3 and 4 in Form 1.

In each household the first record should be made on one of the adult household members. Here, enumerators should proceed in the following sequence for recording the household members: husband and wife one after one; children (including adult unmarried children) should be enumerated after their parents; in case when several married couples reside in a household, firstly the first couple with children should be enumerated, then the second couple with children, etc.; household members who were not in any relationship and brother/sister-in-law relationship with the other household members should be enumerated as last.

Persons who were temporary residents in a given unit (with no regard to their relationship with other household members), were not allocated to unit owner household but should be enumerated as an individual household. For example, in case when a son-student who is usual resident by a place of study and at night from 4-to-5$^{th}$

of December stayed at his parents' he should not be recorded as the parents' household member but be enumerated as an individual household. On the face side of Form 1 a special note "temporary resident (s) in a given unit", the numeral 1 should be entered in column 1, the first/patronymic/last name should be entered in column 2, column 3 and 4 should be recorded with "dash".

Persons who rented individual living quarters also should not be enumerated as members of unit owner household but be enumerated as an individual household. Persons who were usual occupants in workers/students' hostels, hotels, pension homes and other units of this type as well as homeless persons should be enumerated as an individual household.

A special note should be entered on the face of Form 1 for homeless persons and those who are temporary residents in a given unit as well as all persons who were residents of special institutional housing units – collective living quarters (institutional population). Here, household members who could live on the grounds of these institutions and belonged to those who were in the category of the maintenance staff should not be enumerated as "institutional population".

In compliance with the enumeration plan the back side of Form 1 contained a list of questions on respondents' housing conditions and in practice responds were recorded in interviews with one member of the household. This section of Form 1 was filled-in for all households who are usual residents in individual house, section of the individual house, individual apartment or communal flat (temporary absent persons included).

Households that resided in hostels, hotels and other units (railway car, barges, temporary premises that are not attributed to regular housing) and had no other place of usual residence as well as households which rented individuals' housing units (individual house, section of the individual house, apartment, room) should be recorded by a questions on a type of living quarters and agricultural land plots.

No entries should be made on the questions of this section on households whose members temporary resided in a given unit, homeless persons and those who lived in institutional housing units, i.e. those whose information was recorded on the face side of Form 1 as a special note.

Question ***"Type of living quarters"***

Based on responds obtained in interviews, a record should be made under one of the following tips.

The record "an individual house" should be made in case when with no regard to a form of ownership a whole house was occupied by one household. In case the house was occupied by two and more households, records on each household (also when the house belonged to one owner) should be made as "a section of an individual house".

In case there were two and more flats in the house, then depending on a type of their occupation they were recorded as "an individual apartment" or "a communal flat".

If a household occupied an individual house or an individual apartment or a part of space in a house (apartment) and the remaining space was rented out then this household should be enumerated as that living in an individual house or individual flat.

In case a household occupied space in a hostel (with no regard both to a type of building: apartment building, corridor-type building, barrack and space occupied like a whole room, part of a room or only a bed) it should be recorded as "a hostel".

The record "a hotel" should be made when households occupied space in hotels, motels, oth. and had no other place of residence.

Households that resided in railway cars, barges and other units of this type should be recorded as "other units".

Households that rented individuals' housing space (individual house, apartment, room, etc.) should be recorded as "a rented individual housing space ".

Question ***"Number of occupied living rooms"***

The census methods provide for a definition of a "living room" as a unit intended for residence and separated from other units (rooms) with partitions. Attics, mezzanines, warm terraces and verandas well-arranged and suitable for living through a whole year were also enumerated as "living rooms". The following units: not enumerated as living rooms  kitchens, halls, corridors, bath- and shower rooms, pantries and other auxiliary units in apartments and hostels. The number of living rooms occupied by a household should be recorded in Form 1 in numerals in the designated box. Note "part of a room" should be entered in case when a household occupied not a whole room but only its part.

In case a household occupied two and more rooms but some of them were rented out, records should be made on the total number of rooms occupied by a household (including rented out rooms).

Question ***"Space in individual house, section of individual house, individual or communal apartment"***

Total and living space should be recorded in the designated box as a whole of square meters without decimal points. Total space in an individual house, section of an individual house, individual or communal apartment should be recorded as a sum space of living rooms and auxiliary units. In communal flats total space of a flat was conventionally divided by the number of households that resided in a given unit with the relevant records made by the number of household members. Living space includes the sum space of all living rooms that belonged to a household. In case a household occupied a part of a room, the note should be made on its actual space in the room space.

When a household occupied only a part of the space and the remaining space was rented out, records should be made on the household total and living space.

Question ***"Do you or your household members have agricultural land plots?"***

The record should be made to comply to one of the tips given below.

"Yes" – this note should be made on households which members had agricultural land parcels that were passed over in ownership or tenure for the individual subsistence economy, gardening, vegetable and greenery cultivation, mowing and cattle pasturing as well as those on terms of rent (excluding land plots allocated for individual farming).

"No" – this note was made on households which members had no agricultural land plots as well as households who were given the land title but were not given the land share.

Question ***"Under what terms do you have agricultural land plots?"***

The record "on terms of private property" should be made for persons who had land plots allocated for construction, maintenance of residential and utility buildings (plot of land attached to a house); individual subsistence economy; gardening (gardeners'

cooperatives, individuals' gardening plots) as well as land plots passed over to individuals as land shares under transformation of collective agricultural operations.

The record "on terms of rent" should be made for households which members entered into the land rent agreement.

The record "other" should be made for households which members had land plots passed over for tenure (permanent or temporary) and to be used for vegetable and greenery cultivation; mowing and cattle pasturing, oth.

When household members had several land plots under different terms and conditions, all records should be made in compliance to their rights.

Question ***"What is a total acreage of your land plots?"***

One record should be made to indicate the sum acreage of all land plots that were allocated to members of a given household.

Question ***"Do you rent out your land plots?"***

The record should be made to comply to one of the tips given below.

"Yes" – the note is made for households which members passed over their land plots for tenure to other subjects.

"No" – the note is made for households which members did not pass over their land plots for tenure to other subjects.

When Form 1 is filled, enumerators should fill-in **Form 2C "Questionnaire"** by each person recorded in Form 1.

The questionnaire should be firstly recorded with the following requisites entered in the designated boxes: # of an enumeration office, # of an instructor and enumeration district, # of unit by an enumeration district, # of household by a unit, ordering number under which each household member was enumerated by an individual household (column 1 Form 1).

In the designated boxes the respondent's last name with initials as well as the personal details should be recorded.

Question ***"Relationship to person recorded as the first person in household"***

The record should be made in compliance to one of the tips given below.

A household member entered as the first person should be recorded as «a household member entered as the first person»; all other household members should be recorded in compliance with one of the tips given below. In case an interviewed household member had other than tipped relationship to a person who was recorded as the first person, the record «other type of relationship» should be made. For one-person household, the record «a household member entered as the first person» should be made. Persons who are usual residents in a given household without any relationship to a household member entered as the first person (for example, nurse, domestic servant) should be recorded as «not relative».

Persons who were usual residents in institutional housing units or temporary stayed in mobile residential units excluding those who had a relationship to the other (for example, husband and wife in the boarding institution for the elderly and disabled, or two brothers, three sisters in the orphanage) should be recorded as « a household member recorded as the first person».

Each household member (with no regard to the age as well as marital status – married or not married) who had two parents or single mother giving a respond to this question of Form 2 should be recorded in a designated box by the ordering number under which the mother (own or step) is recorded within the household. In case in a household there was no mother but there was only a father, the father's ordering number was recorded. In case there was neither mother nor father in household, no numbers were entered.

Question ***"Your sex"***

The relevant record should be made: "male", "female".

Question ***"Temporary absent, temporary resident"***

The record "temporary absent» should be made for persons who in Form 1 in columns 3 and 4 indicated and were recorded by a reason and duration of absence.

The record "temporary resident» should be made for persons who under Form 1 were recorded as "person (s) temporary residing in a given unit".

Persons who in Form 1 in column 3 and 4 were recorded as "dash" without a record "person (s) temporary residing in a given unit" by responding this question should not be recorded in Form 2C.

Question ***"Your date of birth"***

The record on the date, month and year of birth should be made in digits in the designated boxes. When recording a date, month or year of birth no approximation is allowed.

When the details of birth are recorded not in interview but with use of "Supplementary probe to verify a respondent's age on 5 December 2001" enumerators got and recorded the age in the designated box. This was an additional tool to control the accuracy of the information given by respondents about one's age. Children in age under 1 year should be recorded as "0" years.

Question ***"Your place of birth"***

The record on a respond given by persons who were born in the territory of Ukraine should be made by a name of one of the administrative territories (republic, oblast, city Kiev or Sevastopol). The record for persons who were born in other countries should be made by the country of birth.

Question ***"Your ethnic origin"***

The record on this respond should be made as nationality (national roots) or ethnic group detailed by respondent. Nationality of children should be classified by parents. In case when it was difficult to decide on the nationality of children, in case parents have different nationality, mother's nationality was superseding.

Question ***"Your language features"***

The record on the question as to the native language should be made as a name of a language that is treated by a respondent as the native language. In some cases the language indicated in respond as "native" was not compatible to the respondent's nationality. The native language of children and juveniles who could not read should be recorded under decision of parents. In case of any difficulty to decide on the native language of children the record should be made on the language that is used for communication at home. The native language of deaf-and-mute children should be recorded as that used in reading and writing, or the language used by their household members or those persons with whom they regularly communicate.

Persons who indicated the Ukrainian language as the native one, giving a respond to the question "If your native language is not Ukrainian, do you have a perfect command of Ukrainian" should

not be recorded. Note "Yes" should be entered for respondents who indicated that they have a perfect command of Ukraine, i.e. they could read and write and speak easily or only speak fluently, in other cases they should be recorded as "No".

Persons who indicated that they have a perfect command of other languages, i.e. those who could read, write and speak easily or only speak fluently should be recorded with a note made on this language. Persons who did not have a perfect command of other languages as well as children who could not speak should be recorded with note "No".

Question ***"Your citizenship"***

Respondents, citizens of Ukraine, should be recorded as "Ukrainian". Persons who had no citizenship at that time should be recorded as "without citizenship". Responds of foreigners should be recorded in the designated box as a name of the state which citizenship they had. Persons who had a dual- or multiple citizenship should be recorded by a choice of a respondent by a name of one of the states. Citizenship of children under 15 years should be decided by the parents.

Question ***"Your marital status"***
*(for persons aged 15 years and more)*

Persons of aged 15 years and over should be recorded in compliance with the tips given below.

The record «never married» should be made for persons who never were married.

The record «in legal marriage» should be made for persons who on the census date were in the registered status.

The record «not in legal marriage» should be was made for persons who were not in a legal marriage.

The record «widowed» should be made for persons who earlier were married (with no regard whether it was a legal or not legal marriage) that stopped because of a death of a husband (wife) and did not remarry.

The record «divorced" should be made for persons who earlier were married but on the census day were not married and legally divorced. The record "separated" should be made for persons who earlier were married but on the census day were had no conjugal relations and were not legally divorced as well as persons who were

not earlier not in a legal marriage but at the census day were separated.

In case in a household there was a married couple then in the designated box for a husband the number is entered under which a wife within the household (column 1 Form 1) was recorded, while a wife should be recorded under the record number under which a husband is recorded in the same form.

For persons under 15 years normally no records were made; only in case when respondents actually were married the relevant records should be made.

Question ***"Your education"***
(for persons aged 6 years and over)

Persons aged 6 years and over should be recorded in compliance with the tips given below.

The record "the complete higher education " should be made for those who completed higher educational institutions like academy, institute, conservatory, university, other higher educational institutions of this grade that provide for the qualification attainment of a specialist, master.

The record "the base higher education" should be made for those who completed college, other higher educational institutions of this grade that provide for the qualification attainment of a bachelor.

The record "the primary higher education" should be made for those who completed technical secondary schools, specialized secondary schools, other higher educational institutions of this grade that provide for the qualification attainment of a junior specialist as well as those persons who in 1996 and earlier completed technical secondary schools or specialized secondary schools.

The record "the incomplete higher educational" should be made for those who in 1996 and earlier accomplished a half or more of the course but did not completed it. Those who in 1996 and earlier studied at higher educational institutions and completed less than a half of the course should be recorded by the grade they had attained before they entered the higher educational institution.

The record "the complete secondary education" should be made for those who finished secondary school as well as pre-revolutionary gymnasium, technical schools, commercial schools or any general secondary school.

Persons who finished vocational educational institutions and in

addition to occupation and qualification attainment of "skilled worker" got a complete secondary education or occupation and qualification "skilled worker" attained as a grade in the general education should be recorded as "the complete secondary education"; other persons should be recorded by the educational level attained prior they entered the educational institutions.

The record "the base secondary general education" should be made for those who completed the base secondary school but not completed the senior school.

The record "the primary general education" should be made for those who completed the primary school but not completed the base school.

The record "do not have primary general" should be entered for persons aged 6 years and over (those who attended and did not attend any educational institution) who had no primary general education but could read and write in any language, or only read (at least not fluently). Persons aged 6 years and over who could not read should be recorded as "illiterate". Children under 6 years should not be recorded.

Completing correspondence and part-time department courses of educational institutions and external study courses provided for the same educational attainment as completing full-time educational departments.

Those who completed educational establishments that do not provide for general education as well as those who on the census day studied in the said institutions should be recorded by their education attainment prior to study in the said institutions.

When any difficulty arises with deciding on respondent's education attainment, enumerators in the box "Educational institution completed, classes (courses), year of completion" should make a record on the educational institution which respondent completed. In the designated boxes they should indicate classes (courses) completed by a respondent and the year.

Question ***" You completed vocational educational establishment"*** (for persons aged 15 years and over)

Persons aged 15 years and over should be recorded in compliance with one of the tips given below.

"Yes" – this record should be made for those who completed secondary or other vocational school in any year.

Persons who did not complete vocational educational institutions as well as those who on the census day attended vocational educational institutions should be recorded by a note "No".

Question ***"Type of educational establishment you attend"*** (for persons aged 6 years and over)

Persons aged 6 years and over who on the census day attended full-, part-time and correspondence educational institutions, courses with an education period of 12 months and more with no regard to a form of teaching (full-time, part-time) should be recorded in compliance with one of the tips given below.

The record "high" should be made for those who studied at higher educational institutions like academy, university, institute, college, technical secondary school, specialized school, etc.

The record "vocational" should be made for those who studied at vocational schools, other institutions that provide for production worker occupation.

The record "general educational" should be made for those who studied at senior classes of base, primary schools as well as schools for mentally- and physically handicapped persons.

The record "other educational institution (course)" should be made for those who studied at schools and courses with a period of attendance of 12 months and more that provides for general education as well as courses that provide occupational training.

Those who studied simultaneously at two educational institutions should be recorded by a higher-graded educational institution.

The record "did not attend educational institution" should be made for persons aged 6 years and over who on the census day did not attend any educational institution as well as those who attended hobby-circles with no regard to a period of attendance.

For children under 6 years no notes should be made. At the same time, children under 7 years who on the census day did not attend school should not be recorded as those who attended kindergartens. The record "Yes" should be made for children who attended nurseries, nursery-kindergartens, kindergartens, etc. Children who on the census day did not attend pre-school educational institutions temporarily, like in case of illness, also should be recorded by a note "Yes". "No" – the record should be made only for children under 7 years who did not attend pre-school educational institutions.

Question ***"Sources of your means of subsistence"***

Before this question is asked, enumerators should give to respondents the probe "Probe on sources of the means of subsistence" (the points listed in the Probe should have the same wording as in question 13 of the questionnaire). When reading the Probe, respondent should indicate one or several sources of the means of subsistence from those listed in the probe. Based on the respond obtained, the record should be made in compliance with one or more tips given.

Also in the designated box the source of the means of subsistence should be recorded by indication made on respondents' answer. And the main source of the means of subsistence was that yielding the highest income in the household aggregated income.

The record "work at enterprise, establishment, agricultural (farming) operation» should be made for persons who entered into the employment agreement, contract or had a verbal agreement with administration of enterprise, establishment or individual on work conditions and wages and were in paid employment at enterprises, establishments of all forms of ownership, like a state or communal enterprise, agricultural (farming) operation, stock company, private company, joint venture, non-public or religious institution, fund, producer's cooperative, etc.

The source of the means of subsistence should be also recorded for:

- persons elected on the elected posts;
- pensioners and students who had a usual work;
- persons at retraining and upgrading training programs;
- persons employed at seasonal works in spring, summer and autumn (for example, at peatbogs, timber rafting, water transport, fishery operations) though on the census day they did not work;
- family members who were contributing family workers paid under regular terms and conditions as for regular employed persons;
- women in a child care leave as long as a child age is 3 or 6 years;
- persons in unpaid or partly-paid administrative leave;
- persons who were not at work for three weeks and less because they changed the job;
- persons referred by employment offices to paid civil works.

The record «employed by own account worker as an employee» should be made for persons employed by individuals (personal secretaries, domestic servants, nurses, drivers, security guards, etc.).

The record «activity at unincorporated enterprise owned and controlled individually or in partnership» should be made for persons who had activity at unincorporated enterprise owned and controlled individually or in partnership to raise profit or family income in cash or in kind. Own-account workers could be those with or without employees.

The record «own account worker» should be made for persons who had individual activity and were not in staff lists of enterprise, establishment; entrepreneurs – including production and trades, creative sphere workers who raised income.

The record «work at agricultural (farming) operation owned individually» should be made for persons who worked in own agricultural (farming) operation registered under established rules who explored own or rented land and assets, were agricultural producers and processed/distributed agricultural products. Here this operation could be owned both individually and household in a whole or only some of its members.

The record «contributing unpaid family worker» should be made for persons who fulfilled any unpaid work at private and family company, farm that was owned individually by one of members of household.

The record «activity in the subsistence economy» should be made for persons who worked in the subsidiary economy that produced agricultural products, tendered cattle with no regard whether they worked for profit or family gain.

The record «property income» should be made for persons who raised income through enterprise owned individually (here, owner is outside work); rental charge for land parcels, housing, dachas, garages and other property that was property of a person; interest paid on deposits, credit bank loans as well as dividends, stock-trading price difference, etc.

The record «pension» should be made for persons who got the age pension, disability pension, pension on lost of bread-winner, social pension. And this record should be made for persons to whom pension was granted but not those who benefit it.

The record «stipend» should be made for persons who attended educational institution and get stipends.

The record «benefit ***(not included unemployment benefit)***» should be made for persons who were granted the social benefit under the national welfare schemes.

The record "unemployment benefit" should be made for persons able to work in the employable age who were filed at employment office as unemployed and received unemployment benefits/ unemployment cash benefits.

The record «other type of government provision» should be made for persons in infant orphanage, orphanage and boarding schools; persons who lived in boarding schools for the elderly and disabled, etc.; persons who were under provision of government or non-government organizations.

The record «dependent of other persons» should be made for persons who were engaged in housemaking and made living at expense of relatives or other persons. This record should also be made for persons who were paid the alimony. For example when the alimony was paid on juveniles with no regard of father (mother) income the record «dependent of other persons» should be made for children but not mother (father).

The record «other source» should be made for persons whose source of income as the means of subsistence was that not included in the above list (for example, savings). This record should be made for religious servants (priests, rabbis, etc.).

And for persons having on the face of Form 1 the record "temporary resident in a unit" without any note made on the back side of this form the interview was completed. The records on responds to the remaining questions included in the questionnaire should be made for respondents who were usual residents in a given unit (including temporary absent persons).

### Question ***"Full name of enterprise, establishment, own bisiness as your primary job, type of economic activity"***

Responds on this question should be recorded as a full name of enterprise, establishment where a respondent worked with indication of economic activity. Here, detailed notes should be made on a name and type of economic activity of enterprise, establishment where a respondent worked. Only in exclusive cases it was allowed

to record only a type of activity and production of the enterprise, establishment.

Persons having an own-account activity should be recorded as "own-account workers" with indication for a sphere of activity (for example, "own-account activity, TV-set repair" or "own-account activity, retail trade in tobacco product ", etc.).

Persons who worked as contributing family workers without pay should be recorded by a full name of enterprise with indication of its type of activity (for example, "enterprise "Luidmila", laundering").

Persons who worked only in the subsistence economy (agricultural works or cattle tendering) should be recorded as «subsistence economy».

Persons who had two and more jobs (dual-job holders, as well as persons who worked at one company (establishment) for one part of a year and for the other part – at another job should be recorded with an indication made on a name of enterprise (establishment) which in the respondent's opinion was a main job as well as a type of activity.

Course, group and individual apprentice should be recorded with indication of a name of enterprise where they had on-the job training and a type of its activity. All other students including those of sectoral vocational schools should be recorded by noted «No».

Persons who had any usual work and also received pension, benefit, stipend or worked in the subsistence economy should be recorded by a full name of enterprise, (establishment, etc.) where they worked and a type of activity. Persons who were own-account workers and also received pension, benefit, stipend or worked in the subsistence economy should be recorded as "own-account workers" with an indication of a type of business.

Persons who worked as religious servants should be recorded with indication of a name and venue of their religious service (church, roman-catholic church, mosque, synagogue, convent, etc.). Persons who worked at enterprises set up under religious institutions should be recorded with indication of a name of enterprises but not a religious institution.

Pensioners, stipend-holders not at work as well as pensioners and stipend holders who had a temporary work or worked in the subsistence economy; persons in orphanages and nursery homes; persons in boarding institutions for the elderly and disabled and

other persons under the state social welfare schemes as well as dependants and other inactive persons should be recorded as «No».

Question ***"Your occupation at primary job"***

Persons who had any occupation-raising wage and income should be recorded with indication of profession, position or work performed by respondent by a place of work indicated in a respond to the previous question in Form 2C.

Persons having activity as own-account worker in the creative-activity sphere should be noted as «composer», «writer», etc. Other own-account persons should be noted with indication of a trade, occupation (for example, «seamstress», «stove-maker», «shepherd», «photographer», «stomatologist», etc.).

Persons who worked only in the subsistence economy (agricultural works or cattle tendering) should be recorded as «subsistence economy».

Course, group and individual apprentice should be noted with indication of skills (for example, «apprentice of milling-machine operator»). All other apprentice including those of sectoral vocational schools should be recorded as «No». In case an apprentice had a usual work or occupation one should be recorded by this work and occupation.

Persons who had any usual work or occupation and also received pension, benefit, stipend or worked in the subsistence economy should be recorded with an indication made on a type of work and occupation.

Pensioners and stipend-holders not at work as well as pensioners and stipend-holders who had a temporary work or worked in the subsistence economy; persons residing in child orphanages and infant orphanages; persons in boarding institutions for the elderly and disabled and other persons under the government provision should be recorded as «No».

Question ***"Place of your work"***

Respond to this question should be noted for each person who was interviewed on two last questions in Form 2C.

The record "in locality of residence" should be made for those persons whose job was in a territory of usual residence.

Those persons whose job was not in locality of usual residence should be recorded with an indication of one of the administrative

division units (republic, oblast, city Kyiv, Sevastopol, or other country.

Question ***"Status in employment, (what is your function)"***

The record should be made in compliance with one of the tips given below.

The person's status in employment was normally defined by a respondent's place of work and occupation.

The record «employee» should be made for persons who entered into the employment agreement, contract or verbal agreement with administration of enterprise, establishments of all forms of ownership or the individual and got remuneration in wage (both in cash and in kind). This record should be also made for persons elected on elective posts, unpaid family workers who got wages as persons in employment and persons who were employed as religious servants.

The record «member of collective enterprise, cooperative» should be made for persons who had their stake in the company (cooperative) where they worked.

The record «employer» should be made for persons who managed one's own company, had one or more employees being own-account workers.

The record «self-employed» should be made for persons having activity as an own-account workers with or without employees.

The record «contributing family worker without pay» should be made for persons who worked without a fixed remuneration and a formal execution of labour relations in family companies that were managed by one member of a household and the profit was raised to the benefit of its members.

Question ***"In this locality do you live for the entire period from your birth?"***

The record should be made in compliance with one of the ticks given below.

"Yes" – the note should be made for persons who lived in a given locality from birth.

"No" – the note should be made for persons who lived in urban localities not from birth including those who was born there but left as usual resident (for 12 months and more) for another urban or rural localities. "No" – the note should be made for persons who

lived in rural localities of a given administrative divisions not from the birth including those who was born there but left as usual resident (for 12 months and more) for another urban or rural localities in other administrative divisions.

Persons who responded "No" to the previous question should be asked the following questions:

a) ***indicate the year from which you are usual resident.*** Here, the respondent should indicate the year from which he/she is usual resident in a given urban locality or rural locality in a given administrative division. Persons (including both those who lived in a given locality from and not from birth) who left for another places of residence for a period of 12 months and more should be recorded by the year of their last return to a given locality. A special note should be made in case the respondent's last travel took place from 5 December 2000 to 5 December 2001.

b) ***indicate a place of your previous residence.*** Responds to this question for those whose last place of residence was Ukraine should be recorded with indication of one of the administrative divisions (republic, oblast, city Kyiv, Sevastopol). Those who came from another country should be recorded by a name of the country.

c) ***specify a type of locality from which you came***. The record should be made in compliance with one of the tips given below. In case respondents came in a given locality from cities or urban settlements the record "urban" should be made; if from rural localities – "rural".

d) ***specify whether you are a refugee or deported.*** A relevant record should be made for persons that are allocated to these categories.

Question ***"Did you give birth to children?"***
(for women aged 15 years and over)

Women aged 15 years and over (those who were married (in a legal or not legal marriage) should be recorded in compliance with one of the tips given below.

In case the note "Yes" is made then in this question in item *a) **"how many children did you give birth"*** the total of children that were given birth by a women should be indicated with no regard to whether on the census day all children were or were

not living and whether they lived or did not live with this women or separately. Here, adopted and patronized children as well as husband's children out of a previous marriage should not be included in a record of those who were given birth by a woman. Out of the total of children born by a woman in *b)* ***«how many of those are living»*** the record should be made on those who were living on the census day. In case a woman did not give birth to children, the note "No" should be made and item "a" and "b" should be entered with "0".

For persons under 15 years, normally, no responds on this question should be recorded. Only in case a woman actually gave birth to children their total should be recorded with an indication on those who were living.

2.2.7.3. *Control actions*

The above section was not the last one when the census documents were filled-in. Here it is the case when enumerators take so called control actions.

Enumerator should issue **a special evidence confirming that a person was enumerated** to all persons who were enumerated in a unit as temporary residents as well as persons included in as usual residents in a given unit who through the set enumeration period and check visit, i.e. through 5-20 December 2001 had an intention to leave for another rural locality or civil division in rural areas even for one day. Enumerators numbered the evidence issued with an enumeration district and notified respondents on keeping the evidence.

Persons who had a special evidence confirming that they were enumerated should not be recorded in Form 1 and 2C for the second time outside their place of usual residence, however, by a place of usual residence when they had evidence these persons should be recorded in Form 1 and 2C as temporary absent.

The enumeration evidence should also be issued to those who were usual or temporary residents in a given unit and who in interviews confirmed that at 12 p.m. at night from 4 to 5th December 2001 they stayed in the other place were they had to be enumerated as temporary or usual residents (without record and note on temporary absence) and also they had no evidence as those who were enumerated. A control form should be recorded for these

persons: it should include questions of the questionnaire that detail a person's sex, age, ethnic origin, language features, citizenship, marital status, educational attainment and source of the means of subsistence. Also, three addresses should be recorded in the control form: on the face side on top the record should be made on the address where the control form was recorded; in the first question – the respondent address of usual residence; on the back side of the control form – details of the address where a person should have been enumerated as a permanent resident (without recording and note on temporary absence) or as a temporary resident by the address where respondent was actually present at night from 4-to-5th of December. Then by the address indicated on the back side of a control form they checked whether this person is recorded in Form 1 and 2C by the address where person was present-in-place on critical moment of the census. Enumerators should assign numbers to control forms by the enumeration district.

By each unit after all the persons' enumeration documents were recorded, enumerators counted up and made records on the total in the summery record on the enumeration district. When enumeration was completed each enumerator summed up the total in the summery records by the enumeration district. In enumerating on a day-to-day basis instructors should check the enumeration documents recorded in by enumerators. When enumeration was completed, they accepted the enumeration documents from enumerators and based on the checked summery record by enumeration districts they kept the summery record by the instructors district.

Enumerators' documents were accepted in one day after completion of individual enumeration.

In the same period, from 16 to 20th of December 2001 instructors with enumerators **had post-enumeration random check visits** under which they checked absence of omissions and duplications in enumeration records obtained in interviews, accuracy of records and notes made on temporary absence and temporary residence. In urban localities random control visits were in enumeration districts with a 25% coverage of living quarters; in rural areas – in 25% of enumeration districts with a 100% coverage of units in each. In urban and rural localities housing units with movable residents (hotels, hospitals, maternity hospitals, sanatoria) were subject to a 100% check based on the in-house documentation in these institutions. Both housing units where an individual enumeration

district was set and those that were included in the enumeration district and counted by a major enumerator were checked. The overall check also was in institutional housing units (orphanages, infant orphanages, boarding schools for orphans and children whose parents were deprived the right to care, boarding homes for the elderly and disabled).

In units included in check visits they checked whether all household members including those who returned after 4 December were enumerated. After the check persons who were subject to enumeration but were omitted by enumerator were included into the list of those who resided in a unit with records made in a questionnaire. During check visits, for persons who were subject to enumeration by the other place and did not have the evidence confirming that they were enumerated a questionnaire should be filled and the evidence should be issued.

### 2.2.8. *Acceptance of population census documents*

Acceptance of the population census documents took place in phases. Documents should be passed from enumerators to instructors, then instructors passed it to heads of enumeration offices or their heads. Enumeration offices should pass the documents to district statistics office and then to territorial statistics offices. The documentation was checked in every phase with check of the output data by a summery record, inaccuracy was clarified and eliminated with the analysis made on organization of individual enumeration and control actions on recording and passing over the enumeration documents.

When the enumeration documents were checked and accepted, it was put in portfolios and folders by each enumeration district in compliance with the established procedure: Form 3 (covers) with lists of residents and questionnaires placed by the ordering number of a unit. Each first Form 3 by each locality (a part of locality) was preceded by a covering list (Form 10) while the enumeration district summery records and enumerator's diary should be put the portfolio pocket.

When checked, all summery records were included in "Inventory of the all-national population census documents". The report should be made and signed by heads of district (city) statistics offices and this meant that individual enumeration works were completed with a switch to the next phase – processing of the data obtained.

### 2.2.9. *Preparation of enumeration documents for automated processing*

The enumeration documents were prepared for automated processing by the staff of national statistics offices in the following phases:

- putting-in order and checking the control forms and getting more specific records and categories obtained by the population census results;
- putting enumeration documents in sets by civil divisions;
- checking a completeness and accuracy of the responds recorded by enumerators in questionnaires and the data quality;
- coding the responds given on questions and recorded in questionnaires;
- checking accuracy of questionnaires put in portfolios, their numbering and records in the covering lists.

#### 2.2.9.1. *Putting in order and checking the control forms*

As it was noted use of control forms was aimed at ensuring a complete enumeration of the current population, i.e. to avoid omission of individuals during enumeration. Control forms were put in order and checked by district (city) statistics offices, main statistics offices in AR Crimea, oblasts, Kyiv and Sevastopol city statistics offices to specify the population crecords and categories.

And the following procedure was used to check internal migrations by the control forms: by the address details on the back of a control form filled-in for the person who should have been enumerated as usual resident (without indication on temporary absence) or as temporary resident and enumerators picked Form 3 and list of household members living in a unit and checked whether this person was enumerated by this address (namely, whether the questionnaire was filled-in).

The results obtained could reveal the following cases:

a) person was recorded by Form 1 with a questionnaire filled-in and an accurate note made on the population category. In this case the control form was cancelled (crossed out);

b) person was recorded in Form 1 with a questionnaire filled-in and inaccurate note made on the population category. In this case necessary changes were introduced in the list of residents and questionnaire;
c) the person was not included in the list of residents and a questionnaire was not recorded. In this case based on the data included in a control form a person should be included in a specific list with a questionnaire and Form 3 recorded;
d) in case the control form did not allow to get details on the address where a person was enumerated this control form was discarded as an inaccurately filled-in form.

When control forms were put in order and checked they were accurately counted and kept saved. When control forms were verified with the lists and questionnaires they were orderly put in enumerators' portfolios. Persons that were not counted during individual enumeration were recorded on an individual blank of a questionnaire by urban and rural localities.

Control forms for **inter-district and inter-oblast migrations** were put in order and checked in territorial statistics offices after their submission by district (city) statistics offices. They were sorted out by districts and coded by enumeration offices, instructor offices and enumeration districts with verification of control forms and enumeration forms. When checked, all necessary changes were included in the lists of residents and enumeration summary records. In every enumeration office all census forms recorded by persons not enumerated during the enumeration period were pooled and stored together.

When all works on ordering and checking the control forms were completed through 10 February 2002, the report was made.

2.2.9.2 *Setting-up the population census documentation*

Setting-up the all-national population census document by civil divisions was the function of population census departments under territorial statistics offices based on guidelines "Population territorial statistics divisions" (ТерСОН) and "Catalogue for territorial portfolio array codes" prepared by the National Statistics Office specifically for processing the census documents based on the Classifier of civil divisions in Ukraine (КОАТУУ).

Portfolios with covering lists and questionnaires were set by territorial arrays for AR Crimea, each oblast, city Kyiv and Sevastopol. Each territorial array portfolio should be set by every locality in the array.

The portfolios set were numbered starting with digit "1" within each territorial array. The number of the last portfolio should be equal to the total of portfolios in the array. The portfolios set should be compulsory passed to coding as the whole territorial arrays. Before portfolios are passed for coding, based on the covering lists the territorial array inventory should be drawn (form M) in two copies separately covering the urban and rural population. The inventory heading included: name of a territory, name of a territorial array and its code, record of localities and portfolios included in the territorial array and record of the persons enumerated in the array.

2.2.9.3 *Coding of the population census data*

To obtain the quality data, lists of residents in a unit (Form 1) and questionnaire (Form 2C) were prepared for automated processing based on the unified methods without any exclusion given in "Procedure for preparation of the 2001 all-national census documents for automated processing" approved by the order of the National Statistics Office.

Those who worked at preparation of enumeration documents for automated processing should be familiar not only with Procedure but also Instruction on implementing the all-national population census in 2001 and recording the enumeration documents as well as be familiar with the guidelines for checking and coding (glossaries and tabulations indices).

One of the important issues in preparation for all-national population census was development of special glossaries-indices for checking and coding responds given on questions included in questionnaires.

M.T. Rylskii Institute of arts science, folklore study and ethnology of the NAS of Ukraine developed the glossary of nationalities and languages that after the review and discussions with the relevant research institutes, ministries, local governance bodies, NGOs and public was elaborated and approved by a commission at the National Academy of Sciences. This glossary wad compiled in two formats as systematical and alphabetical.

The Law of Ukraine "On education" endorsed by Verkhovna Rada in 1996 significantly changed the classification of educational institutions, educational attainments and qualification grades. And therefore when the pilot population census was implemented in 1997, enumerators and respondents experienced significant difficulties when they answered the question on their educational attainment. To assist enumerators and to facilitate preparation of enumeration documents, the Research Institute of Statistics under the National Statistics Office with specialists of the Ministry of education and science prepared the guidelines in the Ukrainian language that will assist respondents when they are interviewed on the educational attainment during the all-national population census in 2001.

Harmonization of the national statistics with international standards was the effort within the methods to be used in labour force surveying, in particular, types of economic activity and occupations by main jobs that captured all active usual population in the country. For coding types of activity the Research Institute of Statistics under the National Statistics Office prepared the Glossary of types of production and types of enterprises and establishments by a type of activity. It contained the systematic list of types of activity as well as the alphabetical list of types of production and services and alphabetical list of a type of enterprises and establishments. The codes in the Glossary are fully compatible to three digit symbols in Classification of types of economic activity (NACE Rev.1) and two digit symbols of the UN International standard branch classification of types of business (ISIC Rev.3). The Glossary of occupations was developed by the Research Institute of Statistics under the National Statistics Office and Research institute of social and industrial relations under the Ministry of Labour and Social policy of Ukraine based on Classification of occupations (ДК 003-95) approved and introduced by the National Statistics Office on 27 July 1995, No257. The Glossary-classifier complies to the 1988 (ISCO-88) in the part of concepts, structural principles and key features for occupational groups. It was developed both as systematical and alphabetical guidelines. And as persons could easily interpret their trades and occupations, the Glossary contained two additional lists:

- list of occupations typical for certain activities but not included in the National classifier of occupations and analogous vocations included in the Glossary;
- lists of non-legitimate names of occupations that are rare in practice (and often used at a household level).

Before work started all coders and enumeration office staff was on training where in details they studied the Instruction on implementing the all-national population census in 2001 and recording the census documents; the Procedure on preparation of the 2001 all-national population census documents for automated processing as well as reference to glossaries-indices for coding responds recorded in questionnaires. During training they had practical data encoding and checking.

When the census documents were passed to automated processing, it was kept in the same portfolios as at the time of enumeration. In the main section of each portfolio, in addition to Form 1, 2C and 3 there was also the covering list (s) and form (s) 10. In case the incorrect order was found during preparation of enumeration documents for automation processing, the inaccuracy was immediately eliminated.

The census documents were prepared for automated processing in 4 phases.

To fill-in the bottom margin of the covering list (form 10) the read-out area the record for the persons enumerated by a portfolio by form 2C was summed up. The record of the enumerated persons was compulsory verified by the respective data in the array (form M). In case any difference is present, the reason was checked and in case the data in the array was inaccurate they were edited; at the same time the total taken by localities was edited (in case it was composed of several portfolios) and the total by an array in a whole. The obtained and specified records on persons enumerated in the portfolio were entered in stylish digits in the readout zone.

When preparation of the entire array for automation processing was completed, on the back side of the last page of the array description (form M) the date of completion and signature of the authorized person was entered. These works completed the process of preparing the census documents for automated processing.

### 2.2.10. *Monitoring preparation and implementing the 2001 all-national population census and preparation of enumeration documents for automated processing*

All works on population census including the initial supporting actions were strictly regulated both in part of the enumeration period and designation of responsible persons. For example, the documents on the checked housing, produced cartographic documents and current population records was monthly reported by territorial statistics offices to the National Statistics by five forms developed by three profiles (with breakdown by an urban and rural population). The data was submitted as the accumulated count and were integrated into different areas of the first-priority census works. This enabled the progress analysis in general context of challenges set for the preparatory phase as well as comprehensive comparison of work scopes and implementation dates by regions.

Each phase of the census works was supervised by the higher national statistics bodies – the vertical supervision while commissions on assisting the all-national population census provided supervision at a level of a territory. The most rigorous monitoring over works implementation was within the dates when the 2001 All-national population census was implemented. In compliance with the order of the National Statistics Office of 29 November 2001 No 478 at the head office as well as territorial statistics offices the operations' headquarters were set to address immediate issues that could arise in individual enumeration as well as to provide for duty shifts of the managerial staff to answer telephone "hot lines". Also the calendar was set for reporting the operational data on the pre-enumeration actions to the National Statistics Office, interviews with individuals and data communication to the higher national statistics body. Each communication contained the information on certain topics of the population census and made it possible to have an immediate evaluation and interference in the current situation.

The follow-up works on preparing the enumeration documents for automation processing were also supervised by a specially developed reporting forms, however, the dates of their submission were not so strict. Thus, the information on on-going setting-up and coding the census data was submitted by territorial statistics offices to the National Statistics Office on the daily basis beginning from

4 March 2002 through the date of completing coding of the census documentation data. As envisaged, the report should enable monitoring over work implementation by the following variables: a total count of the territorial arrays including the count on fully processed arrays with indication of a count of the packed, checked/encoded and prepared for the next cycle of scanning enumeration portfolios with the count of persons enumerated in them. The monitoring data enabled analysis of the current situation, checking-up reasons why some regions do not keep to the dates, organizational adjustments aimed at elimination of inaccuracies with preparation of monitoring reports and recommendations for dissemination of the best field practice. All these actions supported the next phase of the population census, namely, processing of the data obtained.

### 2.3 Technology principles used for processing the 2001 all-national population census data

The technology principles for processing the 2001 all-national census data contained the basic principles on development and upgrading software, hardware and technology support necessary for processing the 2001 all-national population census data. The choice of software-hardware complex based on the Concept was oriented on setting the technology units within local computation regional/national network included in the current system of the national statistics offices.

The technical means for processing population census data were integrated in local network and should include; optic character reading systems, work stations for data entry management with use of optic character reading systems; work stations for checking and validation of the data included in questionnaires; network file-servers for requests and data storage; devices for creating the back-up copies and necessary network software.

The technology for processing the census data envisaged use of the licensed hardware and software that should comply to the requirements for the compatible open system.

The Automated system (AS) "Perepys-2001" is the three-tier "client-server" automated system for processing population census data where SYBASE Adaptive Server Enterprise 12.0 was employed as the database management system. The basic processing was managed at server; work stations supported the user graphic

interface to provide for access to the data base. The server part in the system was developed for programming languages Transact-SQL, C ++, Visual Basic. Two last languages also were used for development of the client part.

It should be noted that development of software for the national level operation to provide for autonomy of processing population census data envisaged inclusion of some additional technical means (servers and work stations) to receive data from territorial statistics offices, their control and processing. For the census documents the minimum batch for the data entry, overall verification and data outload was a portfolio with questionnaires; the minimum batch of the fragment verification is the questionnaire.

At the national and subnational level, to create the population census data back-up and zipped copies the zip software was employed; to control data integrity – means for manual and automated document registration; data files and process operations under data communication from one unit to the other, from one level to the other (data transfer from sub-national to national level) machine media (couriers) were employed. To secure the data protection, certain actions were taken on delimitation of access to the population census data and elimination of non-sanctioned access. Census data compatibility was provided by use of national information classifiers and tabulations on compatibility of local hand-books on individual enumeration with all-national classifiers.

According to the Concept, processing of the 2001 all-national population census data should be started upon completing all preparation for document automated processing.

The first phase in data processing was entering the data from paper copies with use of optic character reading systems to provide for the data control (limited to a certain level), preparation of enumeration form files for loading in the database; building up a graphic image archive. This phase was implemented with support of a hardware-software complex for reading and entry of enumeration data that was built based on Eyes&Hands Forms software of ReadSoft Swedish manufacturer.

The complex was developed for PCs class Pentium III, HDD-15Gb, RAM-128Mb with operational system MS Windows 2000 Professional that are included in domain with the server domain at OC MS Windows 2000 Server. To make available enumeration forms reading, one of the computers was connected to reading

system compatible with the complex. For graphic imaging of enumeration forms on the laser disks one of this computers was equipped with a recording unit – CD Recorder. At the PC designated for recording laser disks no other works should be implemented at time of recording.

The complex was implemented as a modular-based technology providing for a step-by-step operations. This allowed the process be organized at this phase at several computers with a time split. The number of the Eyes&Hands Forms parallel modules in running should not exceed eight. Before reading out certain array portfolios the data should be compulsory keyed from Form M into AS "Perepys 2001".

The program scanning complex included 5 Eyes&Hands Forms modules: Manager, Scan, Interpret, Verify, Transfer and a separate module CensusCDR for graphic imaging. The table given below presents a brief description of these modules:

| Name of module | Module function |
|---|---|
| Manager | Description of questionnaire. Removal of defected census documents and cleaning of internal base of census documents |
| Scan | Scanning the census document portfolio |
| Interpret | Interpreting the scanned census documents |
| Verify | Verification of the operator interpretation accuracy |
| Transfer | Building the output file and catalogue of census document graphic images by verified portfolio |
| Census CDR | Recording census document graphic images on laser disk |

Two categories of operators worked with the complex: scanning and verification. A scanning operator scanned the enumeration documents, started modules Interpret and Transfer, recorded enumeration document graphic images. A verification operator started module Verify with enumeration document control implemented by module Verify.

All other processing phases were implemented with support of AS "Perepys 2001":

- ✓ generating reports in processing the enumeration documents, filing and return of processed enumeration document portfolios to the archive;
- ✓ loading the questionnaire files into the database; generation of loading protocols;

- ✓ verification of questionnaires, generation of questionnaire verification protocols; editing the questionnaires data based on verification protocols with use of graphic image archives; the subsequent verification, generation of reports on course of processing the population census data;
- ✓ generating the array-based aggregated data, its intra-tabulation, inter-profile and inter-tabulation, generating the reports on progress of verification in processing, generation of reports on processing the population census data;
- ✓ generation of territory files (a part of territory file) for sending (communication) to the national level, generation of archive copies;
- ✓ receipt of territory files from territorial statistics office, filing and anti-virus control at the national level; drawing up the evidence on receipt of territory files; preparation of a territory file for loading in the central data base;
- ✓ loading the territory files to population census data central database; generation of loading protocols;
- ✓ verification of questionnaires included in a territory file, generation of questionnaire verification protocols, as well when necessary make additional requests for territory files or their parts; generating the processing reports on population census data (quality of territory files);
- ✓ generation of the aggregated data (output tables); their intra-table, inter-profile and inter-tabulation verification;
- ✓ printing output tables;
- ✓ generating the information for data users;
- ✓ generating the subnational sections of the population census dada central database with its communication to territorial statistics offices; printing the aggregated data (output tables) in territory statistics offices;
- ✓ preparation of the all-national population census results for publication and dissemination as printed, Internet and magnet and optic disk files.

Given the above, the hardware-software complex for processing population census data ***at the subnational level*** should provide for:

- – scan-entry loading of the data into the database and generation of the loading protocol;

- building the graphic image archive and data retrieval from it within the outer interface for processing enumeration forms;
- use-friendly system for navigating the population census data;
- revision and printing the regulatory-reference information;
- interactive entry and editing of questionnaires;
- overall and fragment verification of questionnaires with generation of protocols;
- automated editing of questionnaires with generation of protocols;
- generation of reports on the database content, quality of data, status in processing the population census data and other information for making an operational decision in progress of the data processing;
- generation of the aggregated data (output tables);
- intra-tabulation, inter-profile and inter-tabulation verification of output tables and generation of protocols;
- printing the complete or partial verification protocols;
- non-regulated data-base query support system;
- system for copying and recovery of the population census data; archive copy administration and update;
- generation of territory files for their communication to the national level;
- communication of data after editing (territory file fragments) to the national level using the available communication means;
- loading the subnational fragments of the population census data central base;
- printing the output tables in the profiles required with their transfer to hardware carriers;
- the population census data access administration and restriction support system.

The hardware-software complex for processing population census data ***at the national level*** should implement the same set of functions as at subnational level with support of the following additional functions:

- ✓ entry and editing the regulatory-and-reference information;
- ✓ loading the territory files to the central base of population census data;

- ✓ outloading the subnational fragments of the population census data central base;
- ✓ generation of the population census information for data users.

Having examined the technology for processing the population census data and its implementation at AS "Perepys 2001", the conclusion could be made on the system features. When AS "Perepys 2001" is run its features often change (accumulation) both the functional capacity and the data under processing. The scope of the data accumulated upon running the system is large in size, however, analysis and study is available only with the data that is size-compatible to the system capacity (a fixed list both of the output tables and profiles to be constructed). Such features are typical for the systems that are allocated to operational systems designated for assisting a person's day-to-day work. Consequently, such software complexes are named OLTR-systems (On-Line Transaction Processing).

In contrast to the OLTP-system, the OLAP-system (On-Line Analytical Processing) is intended for decision-making or support to a search for certain regularities by a speedy analysis capacity for large scopes of data to be processed. In other words, the OLAP-system is intended for search of regularities over the data (for example, dependence could be found between the year of birth and educational attainment). These systems bear the following features:

- adding up the new data to the system occurs relatively not very often and in large batches (for example, the new census data for a new period);
- the data added to the system normally never deleted;
- before loading in the system, the data should be validated what eliminates possible adding of the duplicated or inaccurate data;
- queries to the system are not regular and, normally, rather complex; very often a new query is formulated by an analyst to specify the result obtained by the previous data query;
- an important feature is a speedy query response.

Therefore after AS "Perepys 2001" was designed and introduced, the need was identified for developing the new system AS "Perepys 2001 Analytic" based on the OLAP-technology.

The system is basically intended to enable the data analysis of the aggregated database in AS "Perepys 2001" to be made by a large

circle of demography, population census and other census statisticians.

With this in view for the 2001 all-national population census data the system should implement the following tasks:

- ✓ construction of output tables by arbitrary profiles;
- ✓ support of a suitable imaging interface to manage data generation process;
- ✓ support of a suitable interface for imaging the set data;
- \- time disposal minimization for obtaining the data;
- ✓ support to the data analysis over on-line obtaining and imaging.

Being the operational system, AS "Perepys 2001 Analytic" employs the russified Windows 2000 Professional for work stations and Windows 2000 Server for servers.

The following means are used to make wider the capacity of the operational system AS "Perepys-2001 Analytic":

- ♦ Sybase ASE 12.0 system for the data base management;
- ♦ Sybase IQ 12.4 data storage;
- ♦ Microsoft Analysis Services system supporting decision making;
- ♦ Microsoft Excel PivotTable system for constructing flexible queries.

The functional AS "Perepys-2001" supporting sup-systems are listed in the table given below.

| No | Name |
|---|---|
| 1 | AS "Perepys-2001" sub-system for data communication for AS "Perepys-2001 Analytic" data archive |
| 2 | Sub-system for multi-parametrical cube construction |
| 3 | Sub-system flexible query construction |
| 4 | Administrative sub-system |

AS "Perepys-200 1 Analytic" operational mode in the following.

The first sub-system in the above list enables user to transform the aggregated database in "Perepys-2001 Analytic" with a simultaneous data storage in dimension tabulations of a special data archive. The data transformation and storage is implemented by a readily available chart with the algorithm and structure embedded in the system. The storage dimensions is representation of data

tabulations in the aggregated database of AS "Perepys – 2001" which content is subject for analysis. The storage dimension is the tabulation that contains all necessary data on the one-type data objects. The tabulation of dimensions contains all necessary combinations of the margin entry values. Dimensions are used for constructing data tabulations by the "star" chart.

The second sub-system in the above list enables user to construct the archive-based cube data by respondents, households, family nuclei and populated settlements. The edges of each data cube is a representation of dimensions that were employed for constructing data tabulations.

The sub-system for constructing flexible queries provides for users' analytical information that could be presented as dynamic output tabulation of any arbitrary profile or numerous diagrams, graphs, bar charts that give a visual presentation of regularities on data distribution depending on the profiles selected. Excel allows users to have a handy navigation over the OLAP-cube, sampling the analytical data by different features, analysis of the data obtained with their graph imaging. The data depth variation function for a certain dimension allows users to obtain data with a different level of detail what is critically important in view of observance of confidentiality of census information. Filtering enables a possible selection of data subsets from the available sets.

The administrative sub-system is intended for implementing the task on users' authorization and a AS "Perepys-2001 Analytic" operationability support function.

## 2.4 Application for tabulation of the 2001 all-national population census data and procedure for the data dissemination

The population census is generally known as the largest in scale and most high-cost statistical survey. As it was already mentioned, success of this operation depends on many factors: a well-grounded legal base, well-thought methods, precise organization, sufficient material-and-technical base and timely funding. However, on top of the labour-intensity issue in addressing the said issues there were two outside basic aspects: respondents' attitude to interviews and extent to which needs of various categories of users could be satisfied.

In regard to dissemination of the census data the key task of the population census as any other statistical survey is obtaining the data outputs containing such an information that could meet needs of many users, and ideally all of them. As the population census is rather a high-cost operation, it is important to have information needs be specified in advance to secure their cost-effective satisfaction. Given the above specific objectives as to use of the first all-national population census data, the specific objectives were considered at the early preparatory stages, in particular, selection of the features to be included in the questionnaire. Building up the census program was a multi-phase process for selecting and approval of not only the topics to be included in the questionnaire but wording of each item as well. This patient work took place for three years and about 150 government institutions, research institutions and NGOs made their contribution in this process. Based on the list of the topics to be included in the census program the National Statistics Office built up the Plan of tabulation of the 2001 all-national population census data that presents a pre-set systematic cross-tabulation and combination of features included in questionnaire which served for the raw census data generalization and, in fact, presents a catalogue of data tabulations which will be a basis for preparing the official publications and bulletins of national statistics offices based on the population census results.

Here the following comments could be made. In the countries where Internet access is limited and electronic communication means are not largely in use, edition of the printed census data publications remains very large. To certain extent this situation is true for Ukraine. With this in view, the calendar plan for disseminating the 2001 all-national population census data envisages publication of 14 printed thematic census collections in 17 volumes. Also there is the historical meaning of paper documents, namely printed publications of the population census results as well as objective need in observance of a certain thematic legacy. Therefore, tabulations to be constructed under the program of tabulation of the census data should be used as documents for preparing the official statistical publications to give the widest content coverage with publication of analytical tables with comments to them, graphs, diagrams, maps, etc. In other words, presentation of the first all-national census results should be adequate to their historical value.

The program for tabulating the population census documents should be grouped by 8 sections:

1. Population count and its distribution by territories
2. Population demographic characteristics
3. Population educational attainment
4. Population socio-economic characteristics
5. Population profile by nationality; citizenship
6. Population migrations
7. Household count and composition
8. Household housing conditions

And the population census data in tabulations is given by administrative-and-territory units (largely the data is given to the level of rural localities with the population record of 3000 and more) and by certain categories of population (usual and current, active population, population in the employable age, population above the employable age, population by the largest nations; homeless, deported, refugees, etc.).

To meet the needs of data users, the calendar plan for dissemination of the 2001 all-national population census data envisaged release of the electronic versions of thematic census collections. The following topics are available on CDs: "Population counts and distribution by territories in Ukraine", "Sex and age distribution for population in Ukraine", "Distribution by nation and language for population in Ukraine", "Educational attainment of population in Ukraine". This documents contain not only tabulations and analytical data that is the same as in printing publications but also electronic charts that allow to have a more demonstrative presentation of the population census data. This largely facilitates a user work with the population census data as electronic charts give the images by geography distribution and regularities that are captured in the census data. The combination of electronic charts, tabulations and graphs is a very effective illustration tool for the data presentation and the universal tool for the data analysis.

For the recent decade Internet has become a specific media that enables a free user access to necessary information. The national statistics offices also have on-line Internet channels enabling access to the census data. With this in view, a large scope of works was performed on developing the all-national population census WEB-site. Currently this site has placed information on the census

findings, information on the territory-and-administrative division, population count and distribution, population socio-economic characteristics. The site also presents information on the subnational administrative-and-territorial division, Ukraine historical census data for the soviet and post-soviet time, lists of regulatory and legal acts and documents on the census preparation and implementation, information on official publications of the National Statistics Office, references.

For the users who visit the all-national population census site (www.ukrcensus.gov.ua) it will be interesting to find the methodata like methods, classifiers that were in use for data processing as well as specific details on the census data. Access to the methodata will allow users to make a more streamlined and well-thought use of the census data. It is important to bring to users the information on difficulties that took place in implementing the census. This will help them to assess quality of the data.

## 2.5 Implementation of organization arrangements on preparation and implementing the all-national population census in 2001; processing, aggregation, dissemination and use of the census results

As the Cabinet of Ministers resolved that responsibility on preparation, implementation, processing, aggregation and dissemination of the 2001 all-national population census data is with national statistics offices, special divisions were set as those that will be responsible for implementation of the entire scope of works on preparation and implementing the population census. The staff workers to be engaged at the census works made up 989 persons with the following distribution: at the national level – 17 persons; at the subnational level (including the main statistics office of AR Crimea and city statistics offices in Kyiv and Sevastopol) in average 11 persons in each subnational division; at the district level –1-2 persons.

Many central government agencies that under their competence made a contribution in preparation and implementing the 2001 all-national population census also invited to the process their territorial offices. The enforcement ministries and agencies were responsible for organization and enumerating of military, other

persons that in the enumeration period were in closed territories; Ministry of foreign affairs organized enumeration of Ukraine citizens (and members of their families) who worked in diplomatic and consulate institutions of outside Ukraine; Ministry of labour and social policy, Ministry of education and science, Ministry of health was responsible for enumerating individuals who were usual residents in medical and social institutions. Also local administrations and local governance bodies as well as many of NGOs made their contribution in enumeration.

To coordinate and give efficient guidelines to implementing bodies engaged in the census, in 1999 the Cabinet of Ministers set up the Inter-ministerial committee that should overview the all-national population census. The territorial committees (716) were set up at all levels of the administrative-and-territorial division. The status and authority of these advisory bodies allowed them to consider any issue related to the census and give operational support to local statistics offices.

The calendar plan contained the dates for preparatory works and census-taking that served the benchmark terms for national statistics offices and other implementing authorized bodies.

Within the terms fixed by the Cabinet of Ministers territorial statistics offices implemented a set of the first-priority preparatory actions in the field. By 1 April 2000 they delimited urban localities (1340) and approved their count 1335 (99.6%). It should be noted that according to subnational enumeration offices it was extremely difficult to delimit oblast capitals and adjacent village radas as well as intra-city inter-district margins. Within the same period the urban locality housing addresses were put in order. As it was confirmed by checks, only 3% of streets had no name-plates and 2% of building have no plates with a building number.

Before 1 October 2000, 2460 census cartographic documents were produced and specified; 1971 charts of urban localities and large villages and 489 maps of districts. The total cost of mapping works was UAH 6.2 million. National statistics offices had mapping documents as required, however, the quality of those not always met all specifications, in particular, did not provide a full coverage of objects and their update. As of 1 October 2000 the State inspection of geodetic supervision approved 85% of mapping documents. On the same date 99.1% of the identified closed entities under the enforcement ministries and other central government agencies were

delimited and included in plans and maps (military, children in orphanages and boarding schools, persons admitted to hospitals maternity homes, sanatoria and holiday homes, persons in institutions for the elderly and disabled, those in penitentiary institutions, etc.) where individuals were counted by workers of those institutions.

On the same data check for accuracy and completeness of lists of individuals was accomplished. Among the drawbacks identified by the checks, under-counted lists of residents as those who were usual residents both adults and children under 16 years without propiska and registration as provided by the law as well lists of those who by that period moved away, legal successors and those who lived at dachas in rural areas. The check over completeness and accuracy of lists of individuals was complicated by reorganization of the institute of propiska and introduction of registration that took place at the same time.

When in September 2000 the necessary state budget allocations were made, they started setting the technical base for processing the population census data with provision of the hardware-software complex. The equipment was procured in tendering (including 30 optic character reading system to scan the census documents) and software package systems that were recommended by the European Union as those to be used by countries in the region of Europe. It should be noted that equipment and software was tested in a pilot census and their performance was assessed as perfectly suitable.

On 1 December 2000 rural localities were listed. Lists were produced by the staff of village radas based on household books (lists) with their submission to district (city) statistics offices (in rural localities that subordinated directly to city and district radas lists were compiled by radas). By the end of the year lists were produced on sets of buildings and living quarters in other buildings for cities and large rural localities. When these works were fulfilled certain difficulties arised with privatized building and privatized apartment listing. It was also due to passport office reorganization as a complete information on individuals in these units was not available. It should be noted, that after lists were produced by buildings enumerators also specified the charts.

Six months before the census the main inter-regional statistics office in Kyiv, main statistics office in AR Crimea, oblast, Kyiv and Sevastopol city statistics offices responsible for the census started

training on instrumentation to be used in census surveying. During 1-2 month training was provided for authorized staff and specialists of main statistics office in AR Crimea, oblast, Kyiv and Sevastopol city statistics offices. Heads of district (city) statistics offices studied the instrumentation in August-September 2001, while deputy heads of district (city) statistics offices were on training 3.5 month right before the enumeration period.

In the first semester in 2001, plans of organizational arrangements for the population census taking were produced and approved by the calendar plan. The final product of this operation was census zoning – delimitation of territories of cities, districts, urban localities, urban-type villages made by enumeration offices, instructors' and enumeration districts with the allocated census personnel, material-and-technical means, census instrumentation, etc. Certain difficulties arised with zoning in urban localities that had a "village" one-storey built because enumerator's assignment was set up by the criteria for urban settlements, i.e. it means that the assignment was too high.

Before August 2001 the census instrumentation was developed in full and approved; in September-October it was copied and made available for the temporary census workers.

By the end of October 2001 practically all material-and-technical and financial arrangements were implemented. In particular, stationary, office aids, census portfolios and shelves for census documents as well as other inventory was procured in tendering.

In October-November 2001 temporary census staff was recruited and trained. To prepare and implement the population census and process its results, the temporary staff was recruited from citizens of Ukraine aged 18 years and over who were both active and inactive.

Beginning from 22 October 2001, the first phase of training for the temporary enumeration staff was started for the level of managers: heads of enumeration offices and their assistants. 5485 persons – heads of enumeration offices and 5483 their assistants were in training. All the temporary enumeration staff got to work on the date in compliance with the dates of the contract. However, in course of training 329 heads of enumeration offices and 232 their assistants what made up 6% and 4%, respectively, refused from their future job. The largest proportion of those who refused from these positions was in Kyiv (199 persons or 44%), Lviv oblast (132

persons or 21%) as well as in Vinnytzia, Ivano-Frankivsk, Mykolaiv and Chernivtsi oblast (33-44 persons or 9-14%).

The second phase of staff training (instructors) was started on 15 November. The total of instructors covered by training made up 50890 persons or 99.3% of the need. During training 2053 persons in this category of workers refused. The highest refusal rate was in Lviv oblast (604 instructors or 20%), in Donetsk oblast – 190 persons (4%) and Kyiv city – 158 persons (7%).

As expected the third phase appeared to be the most complex as it was training for enumerators that took place through 23-30 November. This training was delivered to 169992 enumerators with the need of 168629 (enumerators in enforcement ministries are not included). During training 12386 persons refused (7% of the enumerators recruited).

Based on the monitoring data on preparation and implementing the population census by territorial statistics offices, enumerators refused during and after training in all regions without exception. Difficulties largely arised with the unemployed recruited as a temporary enumeration staff from those who were filed at employment offices. Mainly these difficulties were due to uncertainty with their discarding from the list of those who were granted the status of unemployed; not very clear qualification criteria for workers to be recruited at enumeration works as well as not a full information on remuneration and employment benefit, eligibility for subsidy, etc.

The total of persons recruited at the census works counted 248666. In this total deputy heads of district (city) statistics offices made up 676 persons; heads of enumeration offices and their assistants –10972 persons; instructors – 51032 persons; enumerators – 185986 persons. The count of the temporary enumeration staff (including the paid reserve staff) was 227767 persons. Many of those were women (82.5%). The overall personnel profile was as follows: persons in age of 30 years and less – 26.1%; persons with the complete higher education – 30.4%; those who had a certain experience in socio-demographic and statistics surveys – 41.0%. By the occupational status, in the recruited staff one-fifth were those employed in management, accounting and planning; one of ten persons was a teacher or lecturer; one of twenty was a student.

The most powerful push for a successful launch of the first all-national population census was a message of L. Kuchma, President

of Ukraine to people of Ukraine that had a positive effect on formation of attitude of both individuals and executive power bodies to the census. Also a significant contribution was made by the census publicity campaign through national statistics offices and other implementing agencies and largely through mass media.

To inform the public on the objective and significance of the national population census, mass media including Internet gave a regular coverage in special publications and information bulletins, booklets and posters with the logo of the first 2001 all-national population census. The practice showed that posters with the census information including the Instruction on individual enumeration and rules for recording the forms is the most efficient method of a visual campaign and publicity interventions. Lectures and topical discussions were offered on the program of the census and enumeration procedure. Other printed matters as well as student note-books, postal envelops, stamps were printed with the census logo. Recommendations were made to prevent a biased attitude of certain categories of individuals to the population census.

The National Statistics Office developed the Concept on the population census publicity; press-releases and a series of direct TV/radio broadcasts. Discussions based on addresses and deliberation were lead by the management-level officials of the National Statistics Office and territorial statistics offices as well as other ministries/agencies specialists and also researchers and public figures were invited to the process. As it is given in the Concept in context of publicizing national statistics offices monitored placement of the population census information materials in mass media and drafted reports. Video and audio materials were released to cover preparation and implementation of the first all-national population census on TV and radio.

From 1 to 20 December 2001 "hot" telephone lines were set at the National Statistics Office, statistics offices in AR Crimea, oblast, Kyiv and Sevastopol city statistics offices. It is clear that such an event of the caliber of the all-national population census could not but get an effect on the public opinion, therefore it is quite natural that there was a powerful feedback on this national-level operation. The total of communications made by individuals to central government institutions counted 2.3 thousand. It should be noted that to have a true idea about the scale of this operation and

individuals' feedback on the population census to be implemented in the country, this figure should be multiplied by dozens of time as the same operations took place in territorial statistics offices in all regions. More than a half of the references made to central government institutions were those to the National Statistics Offices as the main implementing agency (1.3 communications). And 97.1% of requests to the national statistics office were made by "hot" telephone lines.

Also it should be mentioned that prevention actions taken by law-enforcement institutions and operational actions during enumeration that were taken based on the agreed plan approved by the Ministry of interior and National Statistics Office delivered positive results. Thus during pre-census and check visits as well as during enumeration a single case was not reported when the census activity was used in interests of criminals.

According to monitoring of national statistics offices, it was evidenced that 98.4% of the census documents were recorded in direct interviews with respondents by visits to place of residence. The national average as to the actual assignment was as following: in urban localities – 359 respondents (350 interviews were envisaged by the organizational plan), in rural localities – 248 respondents (250 interviews were envisaged by the organizational plan). Many territorial statistics offices commented that in rural localities of the urban type that have village-type buildings enumerators assignment should not be set up by the criterion applied to urban localities as in practice it turns to be much higher. Also they made a proposal to reduce the assignment per one enumerator (with the maximum assignment being by 15-20% higher the average one) and to reduce the difference in assignment for enumerators in urban and rural localities, for example, increasing enumerators' assignment in rural localities.

Over 410000 persons were interviewed and counted in enumeration districts. The highest count was in Kyiv – 90 thousand; in Dnipropetrovsk and Kharkiv oblast – 41 thousand in each.

In general the above data allow a conclusion to be made that individuals in Ukraine formed a serious attitude to such all-national operation as the population census as largely individuals in Ukraine did their duty. According to official data, only 1200 persons refused from interviews by political, social-and-domestic and religious considerations.

To get the information on individuals not enumerated as well as to specify the data on those who was not at home, territorial statistics offices made recommendations to use the administrative statistics from the following sources: housing authorities, village radas; individuals' registers as personal income tax payers; electorate lists, list of non-privatized apartments that were not habited; pensioners lists at local social protection offices; lists of trainees and students who came for studies and rent apartments (by the data provided by deans of higher educational institutions, study offices); the data on pre-school and schooling age children was obtained at district education administrations. Questionnaires were recorded based on the administrative data and included only personal data of a given person. These questionnaires also were marked in the designated margins.

Moreover, the temporary enumeration staff together with national statistics office/domestic affairs office workers visited hostels in the evening to identify illegal habitants and to reconcile the census data and the data on those who have a legal propiska and registration. They made an address to foreign student associations to assist them in enumerating their members that are illegal habitants in the territory of a given locality. The dacha areas were thoroughly checked and using the information obtained with guards the information was obtained on those dacha habitants that were usual dacha residents and were subject to enumeration by this place of residence. Workers of national statistics offices, the temporary enumeration staff together with workers of domestic affairs offices visited city dumps and shelters for homeless adults and children. Each case of individuals' reference on topics related to census taking, refusal from the interview, claims on actions of the authorized staff were considered by national statistics offices, local executive offices, local governance bodies and other concerned agencies to take up additional actions to provide for the overall individual coverage in the census.

The political situation around the census could be assessed as comparatively homogeneous given that parallel to it there was an active pre-election campaign. Here, a significant role was played by a clear and defined stand of L. Kuchma, President of Ukraine in regard to inadmissibility of politicizing the census actions. Over a period of carrying out the census only comparatively few cases of political interference were reported. In many cases they were linked

to topics on nationality and language. These organizations took active actions both in the center and in regions, however, the arguments on discrediting the census were largely focused on getting dividends in pre-election racing. In these cases national statistics offices took adequate actions on the census publicity with a wide coverage of the public.

Clear actions of all implementing staff were taken through coordination and day-to-day assessment of the current situation. During the census taking the monitoring allowed to control implementation of the plan of organizational arrangements and supervise individual enumeration at the national and subnational level.

During five-days post-enumeration visits (from 16 to 20 December) they checked the respondents' coverage rate in surveying and quality of recording the census documents. The total of respondents whose data was recorded in the forms during a check made up 214.7 thousand persons. More than a half of those were enumerated in Lughansk, Dnipropetrovsk, Donetsk oblasts, in the city of Kyiv and AR Crimea.

The all-national population census document acceptance took place through 1 February 2002. Unfortunately, there were some complications in this process due to insufficient funding in the end of 2001 what caused cutting the count of the temporary enumeration staff at the district level. Unfortunately, this operation was complicated by an unadequate funding in late 2001 what caused cut of the temporay enumeration staff at a reginal level. Through the acceptance period of the census documentation deputy heads of district (city) statistics offices together with heads of enumeration offices who worked only through 11 January 2002 sorted out and checked control forms which as well as enumeration evidence were taken into account for to provide for completeness and quality of the census data, to exclude any omission and duplication in the census documents. Territorial statistics offices also sorted out and checked the control forms. During the census 86617 control forms were kept where 47062 – forms on intra-district migration, 24038 – forms on inter-district migration, 15517 – forms on inter-oblast migration.

Upon completing this stage the census documents were set in blocks and communicated to coding offices to get the data prepared for automatic processing.

According to resolution of the Cabinet of Ministers coders were recruited for a period beginning from 1 February through 1 September 2002. The count of coders was approved higher the estimated demand estimated based on a pilot census (the pilot labour force, migration and fertility surveying covered 25% of the sample totality) as the questions on types of economic activity required a considerable workforce. The average listed records of the coders recruited was 2886 persons or 58 coders per 1 million of individuals (the estimated need included in a plan was 70 coders per 1 million of individuals).

As the Main inter-regional statistics office located in Kyiv coordinated and exercised operational census-data processing management, it approved the Processing schedule for automated processing of the census data with a final date for the data processing by each region. Scanning was daily overviewed. And territorial statistics offices reported to the National Statistics Office the following variables: the cumulative count of Form 2C after scanning; proportion of persons who were recorded in Form 2C to the total of persons included in the enumeration lists; the count of territorial data arrays available for constructing output tables. Also, to secure a line-work operation and necessary scanning-work intensity, the report included the count of Form 2C scanned during a week that proceeded the reporting week, each workday and average workday.

The first data on the count of individual enumeration by the temporary enumeration staff was made public at seating of the Cabinet of Ministers of Ukraine on 26 December 2001 practically after completing the check visits. This information was immediately released through mass-media. Having obtained the quantity benchmark data, many users being aware about the tentative population estimates were satisfied with a speed of processing and publicizing the census data.

The tentative but more detailed census summary data were made public in May 2002. This data publicity included the general characteristic on the current population in Ukraine and at the subnational level, distribution by a sex and place of residence (urban and rural localities), total count of cities/towns in Ukraine and their habitants (for cities/towns with population 50 thousand and more). In late December the National Statistics Office got ready the key final data on the first all-national population census. This

publication contained the data on the count of the current and usual population in Ukraine and at the subnational level on 5 December 2001, population density by the residential territory, distribution of the usual population by nationality, rural and urban population counts, sex and age distribution of individuals, individuals' ethnic and language habits in Ukraine, distribution by the marital status and educational attainment. In early January 2003 all territorial statistics offices provided users with the subnational data.

The calendar plan for publicizing the 2001 all-national population census results set the dates for releasing the main topic collections on paper and electronic media. According to the plan, printed materials on the census results should be also published by territorial statistics offices but given the administrative-and-territorial division in these publications the level of detail of data presentation should go lower to the district and oblast capital level.

One of a largely used tools for dissemination of the information for many users is placement of articles in press, radio- and telecasts, press-conferences attendance by national statistics office specialists, etc. And it should be noted that despite the lower work intensity compared to preparatory and implementation phases, significance and social value of public interventions is much higher. Each following phase of publicizing the population census data gives an impulse for many publications and comments in mass-media, a keen interest and attention of many users.

# 3.

# National and subnational population counts in Ukraine

According to the first all-national population census of 5 December 2001, the current population in Ukraine was 48457.1 thousand persons. Today Ukraine ranks the seventh country among all the countries in Europe (after Russia, Germany, Turkey, UK, France and Italy) and the fifth among the countries with a territory fully situated in Europe.

Ukraine has a high population density: on 5 December 2001 it was 80 persons per 1 sq. km. The population density is higher in the eastern industrial regions (especially in Donetsk oblast where it goes as high as 183 persons/sq. km.) and the lowest density was recorded in the northern and southern regions (the lowest population density is captured in Chernighiv oblast – 39 persons/sq. km.) what is lower the average-national estimate. The general population density largely depends on the level of urbanization; the density of a rural population in the western part of Ukraine is above the national estimate (in Chernivtsi oblast – 68 persons/sq. km., Zakarpatska – 62 persons/sq. km., Ivano-Frankivsk – 59 persons/sq. km.) and lower in the eastern regions with a high urbanization (the lowest estimate is for Lughask oblast – 13 persons/sq. km.) as well as in Chernighiv, Kherson and Mykolaiv oblast.

Population trends. Over the longer period in the XXth century the population growth was recorded in Ukraine and was stopped by the wars and famine. In 1989 the population in Ukraine was 1.5-time higher the count in 1913 (within the current boundaries). However, long before the early 90s pre-requisites of depopulation were set in the country. Firstly, due to international trends for a decrease in births when as early as in 1960 there was a switch to a narrow generation reproduction (daughter's generation was lower

compared to the generation of their mothers). Secondly, positive developments in the health care resulted in increase in life expectancy, a higher proportion of those who live to the old age and a relevant transformation in a distribution of a population by age – growing processes of aging of a population. It is known that the crude reproduction ratios (that describe trends in the population) are largely dependent on the age distribution: probability of deaths is always higher for the senior age groups compared to young persons but only women in young and average age give birth to children. Therefore, given such a factor as a distribution of a population even with a high birth rate and low mortality rate due to the structural factors the deaths will be a surplus to births.

Given both the intensity factor (decrease in frequency of births) and structural factors (a higher proportion of persons in the late age in a population) in the middle of the XXth century in Ukraine the population growth was accompanied with slowing down its rate (figure 4.1.1). Thus, in the first post-war period between the censuses (1959–1970) the population increased by 12.6 percent, while in the second period between censuses (1970-1979) – by 5.6 percent, in the third period (1979- 1989) – by 3.9 percent.

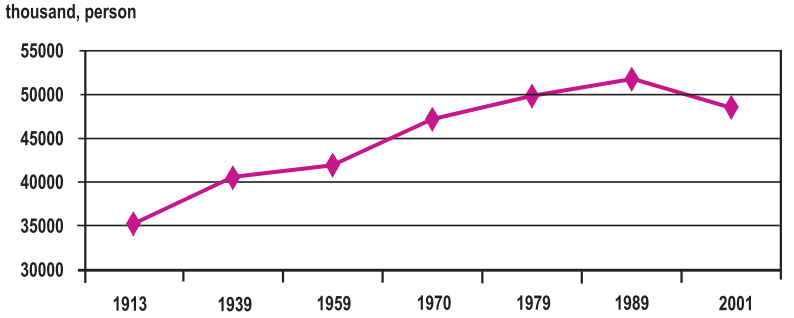


**Figure 3.1. Population trend in Ukraine, 1913–2001 ***
* 1913 and 1939 –estimates over the current boundaries

Over the 90s trends in a population of Ukraine drastically changed.

In 1991 firstly in Ukraine, in a period without wars and famine, total deaths was above total births, in two years the absolute

population was declining (the positive migration balance taken by a module was lower natural decrease) and in one year the out-migration balance became negative. And as a consequence when the maximum count was reached (52.2 million persons in the early 1993) during 1993-2001 the population in Ukraine declined by 3.8 million persons. Over the recent years the annual population decline was 400 thousand persons.

In the second half of the XXth century the main trend for the population in Ukraine was determined by natural migration flows; only in 1990-1992 the migration balance reached a higher value (module-based) compared to natural increase (decrease). In general, during 1959-1989 a surplus of births to deaths contributed for almost 90% in the population growth, while in 1989-2001 90 percent in a total reduction in a population of Ukraine was due to natural decrease (figure 3.2).

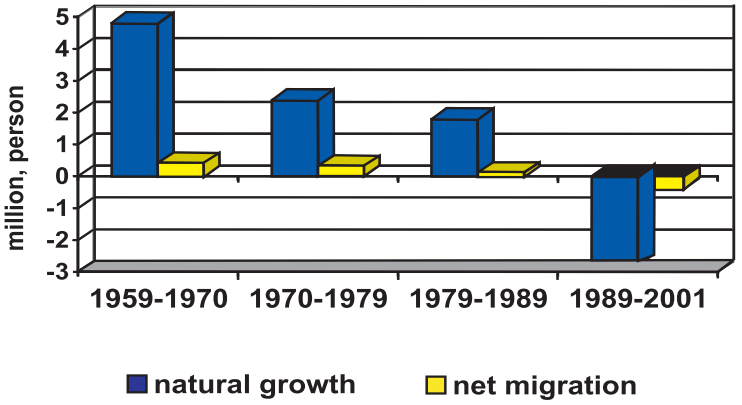


**Figure 3.2. Natural and migration population growth in Ukraine, 1959–2001**

For some regions of Ukraine a decrease in a population was recorded as early as in the time of the USSR. And according to the census in 1989, in 7 oblasts (Vinnytsia, Zhytomyr, Kirovograd, Sumy, Khmelnytskyi, Cherkasy, Chernighiv) the number of a population was lower compared to the count recorded by a census in 1979. In the soviet period there was a sizeable growth of a

population: over 1959-1989 in the city of Sevastopol the population increased by 2.7 times, in city Kyiv – 2.4 times, in AR Crimea – almost two-times. Because of a non-heterogeneous growth of a population in al regions, over 1959-2001 considerable changes in a population were recorded in Ukraine over territory divisions. The proportion of a Kyiv (capital) population in a total population increased almost two-fold (from 2.6 to 5.4 percent), a population in AR Crimea – 1.5 time (from 2.5 to 4.2 percent). At the same time, in regions adjacent to Kyiv oblast (mainly in Vinnytsia and Chernighiv oblast) the population decreased by 0.7-1.5 percentage points.

In 1993-1994 depopulation was recorded in all regions of Ukraine. The longest period of the population growth was in Rivno, Ivano-Frankivsk and Zakarpatska oblast (in these oblasts depopulation processes were recorded firstly in 1995, 1996 and 1997, accordingly). In 1999 a population in the city of Kyiv grew (after decrease over a six-year period) due to migration. For the period between two last censuses the population growth was recorded only in Kyiv and several western regions (Zakarpatska, Rivno, Volyn oblast); the most sizeable population losses were in Donbas.

**Urbanization.** Over two-thirds of the population in Ukraine (67.2 percent) lives in urban localities. In Ukraine, according to the legislation urban populated localities include towns and urban-type settlements. Towns are localities with a population of 10 thousand persons and more, while urban-type settlements are those with a population of 2 thousand and more conditioned to a predominant individual employment not in agriculture. Over 1939-1989 the level of urbanization in Ukraine (a proportion of the urban population) increased almost two-fold reaching 50 percent in 1963. Urbanization was largely due to migration flows from rural to urban areas: in 1960-1980, in Ukraine the annual migration balance for rural population was – 150-200 thousand persons and for urban population – + 150-130 thousand persons.

As migrants are predominantly young persons such trends in migrations caused a higher intensity of aging of a population in rural areas and their slowing in urban areas. Consequently, the crude natural reproduction ratios were more favorable in urban areas than in rural areas (in particular, the cumulative is higher in urban areas than in rural areas despite an obviously higher fertility rate in rural areas) what also lead to a higher urbanization.

With emerge of the economic crisis the migrant flows from rural areas got slowed but the reverse flows became more sizeable as with a growth of unemployment and limited employment opportunities to find a well-paid job the role of the subsistence economy as a reliable source of income became more significant. Thanks to these processes over the years after Ukraine acquired independence a proportion of the urban population almost has not changed.

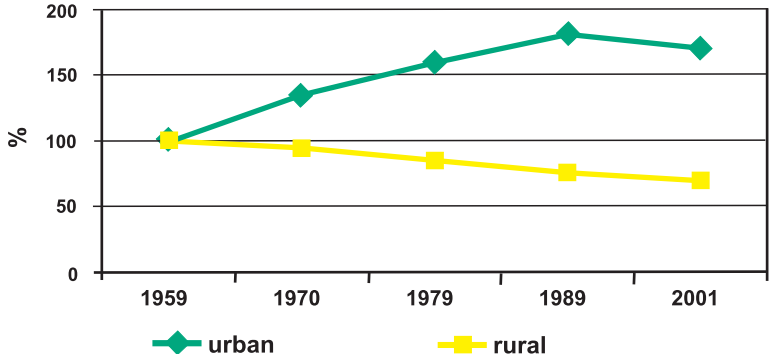


**Figure 3.3. Urban and rural population, 1959–2001 (1959 – 100%)**

In general, for 1959–2001 with an increase in a total population by 15.7 percent, an urban population grew by 70.1 percent while a rural population decreased by 30.1 percent (figure 3.3).

The following regions are regions with a high level of urbanization: Donetsk (90 percent), Lughansk (86 percent) and Dnipropetrovsk (83 percent). Vinnytsia, Rivno, Ternopil, Ivano-Frankivsk, Chernivtsi and Zakapatska oblast had a low urbanization rate (in the latter oblast a proportion of an urban population does not reach 40 percent), while according to census in 1959 an urban population was prevailing only in AR Crimea and five industrial regions in the East of Ukraine.

In the period between the first and last post-war census an urban population increased in all regions of Ukraine: In Donbas – by 13-19 percent, Dnipropetrovsk and Kharkiv oblast – by 1.5 time, in many regions – by 1.7-2.4 times, Ternopil oblast –2.7 times, Rivno – 3.5 times. Over this period a rural population grew only in AR

Crimea (by 78.2 percent mainly due to a sizeable migration flows) and in Zakarpatska oblast (by 20.9 percent due to a high natural growth).

As on 5 December 2001, Ukraine counted 454[1] towns, 889 urban-type settlements and 28619[2] rural populated localities agglomerated in 10272 village radas. According to the census, in Ukraine there are 46 large cities, i.e. those with a population of 100 thousand and more persons, 56 towns had population of 50-100 thousand persons. A proportion of a population of large cities counts 38.3 percent in a total population or 56.9 percent of an urban population. A half of large cities situated in the eastern industrial regions (7 – in Donetsk oblast, 5 – in Dnipropetrovsk oblast, 4 – in Lughansk oblast, 3 – in Zaporizhzhia oblast) and in AF Crimea (3 – in AR Crimea including city Sevastopol). In Ukraine there are 5 cities with population above one million: Kyiv – 2611 thousand, Kharkiv – 1470 thousand, Dnipropetrovsk – 1065 thousand, Odesa – 1029 thousand and Donetsk – 1016 thousand and also four large cities – Zaporizhzhia (815 thousand), Lviv (733 thousand), Kryvyi Rig (699 thousand) and Mykolaiv (514 thousand).

Characteristics of a regional formation of a network of rural localities to a certain extent correspond to territorial differentiation of natural conditions (they had a minor effect on urban localities). In Polissia small villages settled in watersheds are mainly predominant while in a steppe zone villages are mainly settled in hollows and lowlands. In the Carpathian and Crimean mountainous areas mountain-valley type rural populated settlements are predominant.

In Ukraine 504 villages have population of 3 thousand and more, and in this count 94 villages had population over 5 thousand. Large-size villages are largely situated in Zakappatska and Odesa region, while in Polissia region their number is negligible.

### 3.1. Sex and age distribution of a population

Age of people is an extremely important feature on the micro- and macrolevel. Intensity of demographic processes largely depends on an extent of the population "youth"; a distribution of a population by age has an impact on the vital and reproduction

[1] Two towns are not habited.
[2] 167 localities are not habited

potential. The extent to which a population is "young" or "old" – this is not only its quantitative feature (different distribution by age), but also demonstration of the in-depth demographic links between different strata of a population (generations, persons able- and unable to work, parents and children, etc.) as a component in a type of the population reproduction. A distribution of a population by sex and age is both a demographic and economic phenomenon. In particular, it has an effect on the labour potential in the society being a crucial factor in functions and development of all spheres of life.

In the surveyed period a distribution by sex in Ukraine showed a gradual improvement due to a larger age bias shift towards the senior age groups. A sizeable sex disproportion got lower in rural areas. For 1959-2001 in urban areas the women-men ratio taken for 1000 women changed from 827 to 857; in rural areas – from 774 to 868 and by a distribution on sex a larger proportion of men had a bias towards the older age. In 2001 in urban areas more men than women were under 24 years; in rural areas – under 49 years (Table 3.1.1). It is not only due to a fact that always in the demographic meaningful universe there are more boys than girls but also a distribution by sex of migrants.

The most significant feature of a long-term transformation of a population in Ukraine is its aging, i.e. an increase in a proportion of persons in the old age and the elderly in a total population. According to the all-national population census in 2001, Ukraine has a high rate of aging excluding men in urban areas who showed an average level of aging (15.3 percent of persons aged 60 years and over) (table 3.2.2). With a lower variance in a percent of persons aged 15-59 years[1] there was a sizeable decrease in a proportion of children. In 2001 a proportion of children aged 0-14 year was 16.5 percent (in urban areas – 15.5 percent, in rural areas – 18.6 percent).

The age pyramid on the population is often used to present a distribution of a population by sex and age. Its horizontal lines present births "adjusted" to deaths and migration. The classic shape of a sex and age pyramid was constructed in countries with a high

[1] Herein and after non-compliance to the officially set limit of the employable age is used for a comparison of the indicators obtained for men and women.

## Sex ratio in Ukraine by age groups according

| | Men per | | | | | | |
|---|---|---|---|---|---|---|---|
| | Urban and rural areas | | | | | Urban | |
| | 1959* | 1970* | 1979 | 1989 | 2001 | 1959* | 1970* |
| **Total population** | **797** | **825** | **838** | **857** | **861** | **827** | **861** |
| Age, years | | | | | | | |
| 0-4 | **1048** | **1042** | **1032** | **1041** | **1052** | **1052** | **1044** |
| 5-9 | **1040** | **1047** | **1035** | **1036** | **1052** | **1041** | **1051** |
| 10-14 | **1030** | **1045** | **1035** | **1030** | **1051** | **1025** | **1047** |
| 15-19 | 985 | **1033** | **1064** | **1038** | **1046** | 984 | **1007** |
| 20-24 | 960 | 967 | **1001** | **1010** | **1026** | 933 | 950 |
| 25-29 | 927 | 934 | 975 | 991 | 999 | 988 | 969 |
| 30-34 | 782 | 937 | 946 | 974 | 980 | 823 | 955 |
| 35-39 | 631 | 937 | 908 | 953 | 945 | 649 | 987 |
| 40-44 | 600 | 818 | 919 | 918 | 919 | 672 | 878 |
| 45-49 | 610 | 631 | 888 | 876 | 879 | 686 | 657 |
| 50-54 | 639 | 601 | 742 | 872 | 842 | 683 | 670 |
| 55-59 | 539 | 551 | 559 | 803 | 763 | 589 | 617 |
| 60-64 | 577 | 569 | 521 | 651 | 711 | 579 | 597 |
| 65-69 | 550 | 501 | 498 | 489 | 674 | 557 | 506 |
| 70 and over | 490 | 465 | 424 | 379 | 436 | 461 | 441 |

* In 1959 and 1970 – current population, y 1979, 1989 and 2001 – usual residents.

Note: the population census in 1959 – on 15 January; the population census in 1970 – on 15 January; the population census in 1979 – on 17 January; the population census in 1989 – on 12 January; the population census in 2001 – on 5 December.

Source: Distribution of a population by sex and age according to the all-national population census in 2001 – K.: National Statistics Office, 2003. – P. 18-330.

Table 3.1.1.

**to the population censuses, 1959-2001**

| 1000 women by age groups | | | | | | | |
|---|---|---|---|---|---|---|---|
| areas | | | Rural areas | | | | |
| 1979 | 1989 | 2001 | 1959* | 1970* | 1979 | 1989 | 2001 |
| **861** | **873** | **857** | **774** | **784** | **804** | **827** | **868** |
| | | | | | | | |
| **1035** | **1044** | **1056** | **1045** | **1041** | **1026** | **1035** | **1047** |
| **1038** | **1039** | **1054** | **1039** | **1044** | **1031** | **1028** | **1049** |
| **1037** | **1033** | **1052** | **1035** | **1042** | **1033** | **1022** | **1048** |
| 984 | 977 | **1042** | 986 | **1078** | **1243** | **1224** | **1057** |
| 939 | 965 | **1011** | 991 | **1004** | **1158** | **1129** | **1064** |
| 945 | 956 | 980 | 868 | 882 | **1056** | **1088** | **1046** |
| 944 | 936 | 935 | 740 | 907 | 950 | **1089** | **1087** |
| 921 | 924 | 891 | 615 | 877 | 884 | **1044** | **1082** |
| 928 | 914 | 865 | 534 | 743 | 904 | 928 | **1062** |
| 919 | 888 | 833 | 551 | 603 | 848 | 854 | **1006** |
| 787 | 878 | 813 | 606 | 529 | 684 | 861 | 918 |
| 586 | 828 | 765 | 506 | 491 | 530 | 768 | 761 |
| 574 | 686 | 712 | 575 | 546 | 463 | 604 | 711 |
| 539 | 510 | 686 | 547 | 497 | 459 | 465 | 656 |
| 423 | 402 | 458 | 507 | 483 | 426 | 355 | 408 |

Table 3.1.2.

**Sex distribution of Ukraine population given by age according to the population censuses, 1989 and 2001, %**

| Age | Urban areas and rural areas | | | Urban areas | | | Rural areas | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % |
| | Men and women | | | | | | | | |
| 0–14 | 21.6 | 16.5 | 76.4 | 21.9 | 15.5 | 70.8 | 20.9 | 18.6 | 89.0 |
| 15–59 | 60.4 | 62.1 | 102.8 | 63.2 | 65.4 | 103.5 | 54.9 | 55.3 | 100.7 |
| 60 and over | 18.0 | 21.4 | 118.9 | 14.9 | 19.1 | 128.2 | 24.2 | 26.1 | 107.9 |
| | Men | | | | | | | | |
| 0–14 | 23.8 | 18.3 | 76.9 | 24.0 | 17.2 | 71.7 | 23.4 | 20.4 | 87.2 |
| 15–59 | 64.3 | 65.0 | 101.1 | 65.1 | 67.5 | 103.7 | 60.0 | 60.0 | 100.0 |
| 60 and over | 12.8 | 16.7 | 130.5 | 10.9 | 15.3 | 140.4 | 16.6 | 19.6 | 118.1 |
| | Women | | | | | | | | |
| 0–14 | 19.7 | 14.9 | 75.6 | 20.1 | 14.0 | 69.7 | 18.8 | 16.9 | 89.9 |
| 15–59 | 57.9 | 59.6 | 102.9 | 61.6 | 63.7 | 103.4 | 50.7 | 51.3 | 101.2 |
| 60 and over | 22.4 | 25.5 | 113.8 | 18.3 | 22.3 | 121.9 | 30.5 | 31.8 | 104.3 |

births and deaths. In countries with the developed economy this shape has not been valid for a long time but this definition is still in use. In the age pyramid on the population aging is always represented by widening of the upper section and narrowing of the lower section. Intensity of demographic processes is known to be formed primarily under effects of a general socio-economic situation in the society. A sizeable impact could be due to such destructive events as wars, famine, etc. what affects a shape of the pyramid. In a certain sense the age pyramid is a specific country chronicle.

The first «gap"» in the pyramid both in 2001 and 1989 corresponds to low births during the first world war and revolution in 1917; the second gap on the top – birth losses and high child deaths due to historic shocks in the 30s (famine in 1932-1933, repression); the third gap – a dramatic decrease in births and a high child mortality during the years of the second world war and first years in the post-war period; the forth gap represents a decrease in births due to entry of not numerous women population groups born in years of the second world war in the period of a high fertility (so called "demographic echo") of the second world war. Widening of the 2001 pyramid on the age group of 13-18 years demonstrates an impact of higher births in 1983-1988 as a result of the policy actions

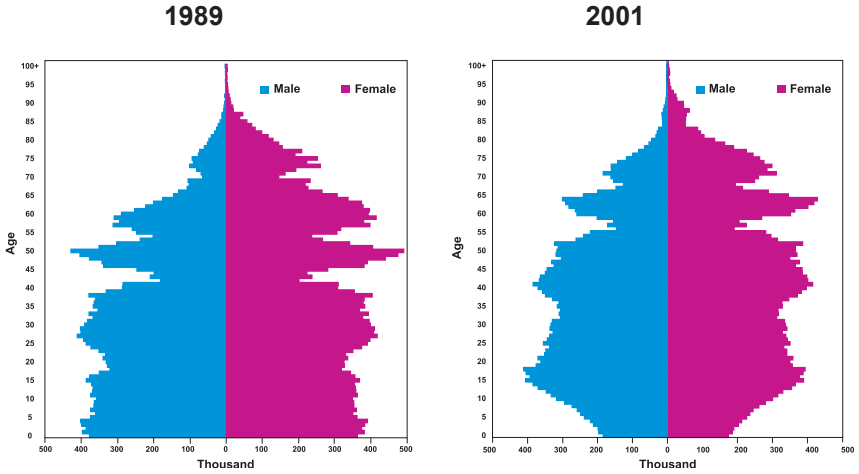


**Figure 3.1.1. Age pyramids of a population of Ukraine according to the population censuses, 1989 and 2001.**

taken in 1982 on support to families with children when women became eligible for a partly paid leave on taking care about children below 1 year. Narrowing of the pyramid bottom section corresponds to birth decrease caused by a deep and lengthy economic crisis that accompanied the vector to the market economy. As is seen in figure 3.1.1, as early as in 1989 the pyramid had a rather wide base. Decrease in births in a transition period gave it a shape of a fir tree.

Especially a high aging rate was recorded in rural areas of Ukraine (table 3.1.2.) where a distribution of a population by age is very close to a type that often is referred to as "regressive". In 2001 a proportion of persons aged 60 years and over in rural areas was 1.6-time higher compared to urban areas – 26.1 percent (men – 19.6 percent, women 31.8 percent). Comparison of sex and age pyramids on the urban and rural population constructed by the absolute data and in one scale is given in figure 3.1.2. The pyramids present the correlation between numbers of the urban and rural population and differences in its age distribution.

The sex and age distribution of rural population compared to persons in urban areas calls for objections not only because of a higher rate of aging but due to an unnatural variance in a population

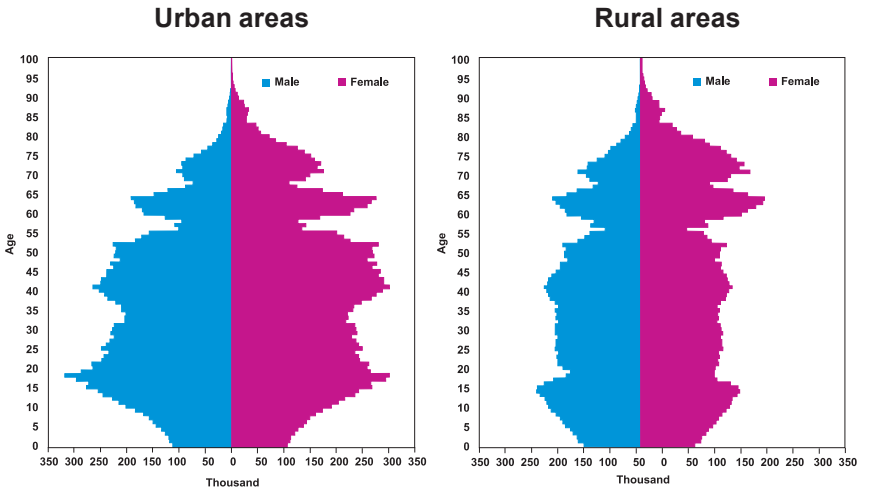


**Figure 3.1.2. Age pyramids of the urban and rural population in Ukraine according to the all-national population census, 2001**

by age groups. As seen in figure 3.1.2, for persons aged 20-34 years a distribution by age groups was recorded where the population is almost the same, practically there is no variance over by the next age groups through 47 years. A complete loss of a classical pyramid shape by a sex and age pyramid on a rural population is due to migration processes that "washed out" the young population in the employable age from rural areas. More persons in age groups of 15-19 years in urban areas and 13-16 years in rural areas presented by gaps in the pyramid is largely due to a birth growth in 1983-1986 due to the above actions taken in 1982.

The highest proportion of persons above the employable age was recorded in Chernighiv, Cherkasy, Poltava, Vinnytsia and Sumy oblast; the lowest proportion of persons by this category was in Zakarpatska, Rivno, Volyn, and Ivano-Frankivsk oblast (table 3.2.3). In Chernighiv oblast in rural areas this proportion was unprecedentedly high: it was 2.3 times higher compared to the indicator for Zakarpatska oblast that by the demographic situation is the "youngest". A high proportion of persons at a late age corresponds to a low proportion of children and vice versa, i.e. the

table presents a statistic regularity – more persons at a late age less children[1].

One of the characteristics of the demographic "old age" is also an average population age. According to the all-national population census in 2001, in rural areas it was 40.2 years (men – 36.9 years, women 43.1 years); in urban areas – 38.3 years (35.9 and 40.3 years, accordingly)[2]; the highest average demographic age was in Chernighiv, Sumy, Poltava and Cherkasy oblast (40.4 – 42.0 years). In these oblasts in rural areas the highest womendemographic average age was 46.2–50.7 years. The population in Zakarpatska, Ivano-Frankivsk, Volyn, Rivno and Chernivtsi oblast was relatively young (35.0-37.1 years) and in these oblast both an urban and rural population is young. A direct relationship is found between birth rates and an average population age. It is known that the childbearing activity is responsible for a distribution of the young population: in the western regions it is higher compared to other regions. The difference between the average age of oldest population in Chernighiv oblast and the youngest population in Zakarpatska oblast is 7 years; for women in rural areas – 14.1 years. According to the all-national population census in 2001, 1089.8 thousand persons were aged 80 years and over (10.7 percent) that is 15.1 percent of persons aged 60 years and over and persons aged 65 years and over. It is much lower compared to countries of a region of the European Economic Commission[3], where the life expectancy is considerably higher compared to Ukraine. More than 1.5 thousand persons were above 100 years and 87.2 percent of those were women.

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[1] Today this regularity is not statistic but also economic: because of a low level of the pension provision the generation in the employable age should sustain economically not only children but also persons in the old age what has an impact on reduction of births on the background a low birth rate.

[2] Sex and age distribution of a population based on the all-national population census in 2001, -K: National Statistics Office of Ukraine, 2003. – P.41-42.

[3] George C.Myers. Population Growth and Age Structure: Implications and Policy Responses//European Population Conference. Proceedings. Volume 1. –Geneva, 23-26 March 1993.-New York and Geneva: UN Economic Commission for Europe, Council for Europe, UNFP, 1994, – 447p.

Table 3.1.3.

**Ukraine population aged 100 years and over**

| | Population aged 100 years and over, person | there of | | | |
|---|---|---|---|---|---|
| | | urban areas | rural areas | men | women |
| **Total** | 1549 | 661 | 888 | 199 | 1350 |
| Including those in age, years | | | | | |
| 100-104 | 1378 | 593 | 785 | 182 | 1196 |
| 105-109 | 139 | 56 | 83 | 15 | 124 |
| 110-114 | 30 | 10 | 20 | 2 | 28 |
| 115-119 | 2 | 2 | - | - | 2 |

Source of data: National Statistics Office of Ukraine.

Over 1989-2001 the population aging in Ukraine was predominately from a "bottom" what was caused by a decrease in births. The same direction of a higher infant mortality was observed in 1991-1998 compared to 1990. Aging from a "top" was impeded to a certain extent by the cut of the life expectancy in the first half of the 90s and in the turn of the centuiries. Today when aging of a population is studied it is also necessary to take into account the negative impact of the HIV/AIDS epidemic situation on a distribution of a population by age because it will cause the most sizeable damage to persons in the young and middle employable age.

An in-depth process of the population aging caused a significant decline of the demoreproductive poptential that is contained in a distribution of a population by age. In 1989 the gross and net population gain was below 1 only for rural areas, while in 2001 it was also captured for urban areas. The net gain in villages remains lower compared to towns. The demoreproductory gain over the age structure of a population accumulated by our ancestors (the favorable age distribution was set by births of the earlier generations) has sizably dropped. According to the forecast made for a case if Ukraine will retain the reproduction rate at a level of 2001 for several decades with a zero net migration then as late as in 2055 the population in Ukraine will decrease two-fold. Depopulation leads to the further negative qualitative changes in a distribution of a population by age, namely, deepening of aging. And even in case of a surplus of birth to death an aging of a population will

impede Ukraine withdrawal from depopulation. This situation could be characterized as "spending on eating" the demographic "capital" accumulated in the age composition by previous generations when the birth rate was higher.

The rate of aging of a population is its critical quality characteristic. A variance in the rate of aging of a population brings out a line of different–in-quality demographic and socio-economic implications. Aging of a population in Ukraine, narrowing of a bottom part of its age pyramid will have a long-term impact on different areas of life in Ukraine. It will cause not only socio-economic problems that push for the demographic aging but a wave-type trend in a total number of population and its age cohorts in case when after stabilization of the macroeconomy births will slightly grow and it will impede setting of a sustainable development of society for a long period.

The consequence of an aging of a population in Ukraine is sizeable changes in a distribution of a population by ability to work (table 3.1.4). They are most pronounced in rural areas where a proportion of persons in the employable age is by 16.4 percent lower compared to urban areas. According to the census data, both in urban and rural areas there is a systematic decline of a proportion of persons under the employable age and growth of a proportion of persons above the said age. Thus, a proportion of persons above the employable age increased by 1.8-time in 2001 compared to 1959.

In 2001 compared to 1989 the highest growth rate in a proportion of persons under the employable age was recorded for men and women in urban areas. The highest growth rate of a proportion of persons in a pension age was recorded for men in urban areas (1.4 time). The most sizeable proportion of persons under the employable age in 1989 and 2001 was recorded for women in rural areas – 37.9 and 36.5 percent, accordingly. Over this period in urban areas a proportion of persons of either sex in the employable age was slightly increased; in rural areas this indicator for men has not almost changed while for women it showed a noticeable increase.

Specific characteristics of changes in a distribution of a population by sex and age stipulate a rate and trend in a so called demographic "dependency ratio" that first of all has an economic content. In 2001 compared to 1989 there was a notable decrease in the "dependency ratio" both in urban and rural areas (table 3.1.5). But it occurred due to a lower "dependency ratio" on the part of children. Thus, in urban areas a proportion of a contribution of

Table 3.1.4.

**Age distribution of the Ukraine population according to the population censuses, 1959-2001, %**

| | 1959 | 1970 | 1979 | 1989 | 2001 | 2001 to 1959, % | 2001 to 1989, % |
|---|---|---|---|---|---|---|---|
| | Urban areas and rural areas | | | | | | |
| 0–15 | 27.1 | 26.6 | 23.1 | 23.0 | 18.1 | 66.8 | 78.7 |
| 16–54 (59) | 59.4 | 55.7 | 58.1 | 55.8 | 58.0 | 97.6 | 103.9 |
| 55 (60) and over | 13.5 | 17.7 | 18.8 | 21.2 | 23.8 | 176.3 | 112.3 |
| | Urban areas | | | | | | |
| 0–15 | 25.1 | 24.7 | 22.6 | 23.4 | 17.1 | 68.1 | 73.1 |
| 16–54 (59) | 63.7 | 60.6 | 62.0 | 58.9 | 61.3 | 96.2 | 104.1 |
| 55 (60) and over | 11.2 | 14.7 | 15.4 | 17.6 | 21.5 | 192.0 | 122.2 |
| | Rural areas | | | | | | |
| 0–15 | 28.7 | 28.9 | 23.8 | 22.1 | 20.1 | 70.0 | 91.0 |
| 16–54 (59) | 55.9 | 49.8 | 52.0 | 49.6 | 51.3 | 91.8 | 103.4 |
| 55 (60) and over | 15.4 | 21.3 | 24.2 | 28.3 | 28.6 | 185.7 | 101.1 |

Notes:

1. The reference census date: 15 January (1959), 15 January (1970), 17 January (1970), 12 January (1989), 5 December (2001).
2. In 1959 and 1970 – current population; in 1979, 1989 and 2001 – usual population.

Source of data: National Statistics Office of Ukraine.

children in the "dependency ratio" dropped by 29.7 percent; in rural areas – by 12.3 percent under reduction of the cumulative pressure by 9.6 and 6.6 percent. In 2001 a contribution of children to the "dependency ratio" was much lower compared to persons of the senior employable age and a contribution of persons in the employable age in the "dependency ratio" by those in the non-working age the proportion of children was lower but a proportion of persons in old and extreme old age was higher.

In rural localities every person in the employable age should sustain almost one person unable to work; for urban areas this indicator is 0.6. A distribution of the "dependency ratio" also shows a sizeable difference between urban and rural areas: in urban areas it is 279 children and 350 persons in the pension age and in rural areas it is 392 children and 558 persons in the pension age per 1000 persons in the employable age, i.e. over a distribution of the

Table 3.1.5.

**Dependency ratio in Ukraine according to the population census data, 1989 and 2001**

| | Urban and rural areas | | | Urban areas | | | Rural areas | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % |
| Total "dependency ratio", ‰ | 791 | 723 | 91.4 | 696 | 629 | 90.4 | 1017 | 950 | 93.4 |
| Including | | | | | | | | | |
| Children and teenagers | 412 | 312 | 75,7 | 397 | 279 | 70,3 | 447 | 392 | 87,7 |
| Persons above the employable age | 379 | 411 | 108,4 | 299 | 350 | 117,1 | 570 | 558 | 97,9 |
| Percent in total "dependency ratio" | | | | | | | | | |
| Contribution of children and teenagers in 'dependency ratio" | 52.1 | 43.2 | - | 57.0 | 44.4 | - | 44.0 | 41.3 | - |
| Contribution of persons above the employable age in the "dependency ratio" | 47.9 | 56.8 | - | 43.0 | 55.6 | - | 56.0 | 58.7 | - |

Source of data: National Statistics Office of Ukraine

"dependency ratio" in rural areas compared to urban areas there are more children (1.4 time) and persons above the employable age (1.6 time). Hence, there is a different household load on women as they mainly take care about children and family members in old age. A 1.5-time higher "dependency ratio" on persons in the employable age by those in the age beyond the employable age in rural areas compared to urban areas is an important demographic factor that affects formation of the living standard in towns and villages and, consequently, an intensity of demographic processes.

Subnational characteristics of the demographic "dependency ratio" are primarily determined by the birth rate. The highest ratio is in oblasts where the fertility rate is the lowest. The highest "dependency ratio" is in Chernighiv oblast and the lowest ratio is in Zakarpatska oblast. In the predominant share of oblasts there is a much higher contribution of persons in old and extreme old age in the "dependency ratio" compared to that by children. An exclusion from the regularity found is observed in Volyn, Rivno and Zakarpatska oblast where the "dependency ratio" due to children is higher the ratio due to persons in old and extreme old age. In Ivano-Frankivsk this indicators are almost equal.

In the aging society it is very important to have a longer life expectancy accompanied by a preservation of health[1] and ability to work. "The longer lifetime, – I.I. Mechnikov said- should be parallel to a preservation of forces and the ability to work"[2]. In this context it is extremely important to focus on topics of formation of a reasonable attitude to one's health, formation of behavior that is in line to ideals of the rationally built and long person's life, issues on formation of "will to health"[3]. And parallel to enhancement of a status of health of persons in old and extreme old age[4] that degraded enormously in the transition period promote development of generations in a manner that will exclude a moral "wearing-out" before physical depreciation. When aging of a population is treated from a negative point of view, a focus primarily is put on search for means that will slow down aging but not on topics that will enable a wider efficient use of an enormous life experience of persons in old and extreme old age and means for setting decent conditions for living and development. Such an interpretation does not oriente towards a search for efficient and perspective ways for getting over the social and economic hardships that are caused by this process in general and, in particular, and gave rise to not very well-thought policy considerations.

The proposals made on rejuvenation of a population by a growth of births are doomed to failure. In countries having a low birth and economic crisis – because of the known socio-economic causes and in countries with the developed economy because of formation of a life-style characterized by a low birth rate but also due to a significant positive development in extending a life expectancy, i.e. the absolute aging or as it is named "bottom-top" aging. Aging of a population in countries with the developed economy in part when it is a contribution of a higher "normal" age of death cannot be neutralized. To have a lower rate of aging it will be necessary to have such a gain in fertility that hardly could be realistic.

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[1] De Bono A.N.B. Discussants Remarks on Further Key Actions in the Field of Ageing. –International Institute on Ageing (INIA). UN/Malta.-Regional Population M, 7-9 December 1998,Budapest. –P.4.

[2] Mechnikov I.I. Sketches on optimism. M.: Nauka, 1964.-P.137

[3] Tomilin S.A. Demography and Social Hygiene. M.: Statistics.1973. – P29.

[4] Population of Ukraine in 2002. Annual Review. –K: Institute of demography and social research, NAS, Derzhkomstat of Ukraine, 2003, P.156-157.

### 3.2. Ethnic and language distribution of population

Ukraine is a poliethnic country. The all-national population census in 2001recorded a presence of more than 130 ethnic groups. However, in a distribution of a population there is a prevalence of two major ethnic groups – Ukrainians and Russians. According to the population census in 2001, 37.5 million persons (77.8 percent) are Ukrainians and 8.3 million persons (17.3 percent) are Russians. The population of 30-300 thousand persons is recorded for other 16 nations: Bielorussians, Moldovians, Crimean Tatars, Bulgarians, Hungarians, Romanians, Poles, Jews, Armenians, Greeks, Tatars, Romas, Azerbaidjanians, Georgians, Germans and Gagauses.

The following distribution of a population is recorded for urban areas: Ukrainians (73.3 percent), Russians (22.4 percent), other ethnic groups (3.7 percent); a rural population – 87.0, 6.9 and 6.1 percent, accordingly. In Ukraine Jews are the largest ethnic groups in urban areas: in rural areas – Romanians, Moldovians and Gagauses. Within the frontiers of Ukraine there are largest territories of residence of Tatars, Karaims, Crymchaks and partially Gagauses.

Persons who treat the Ukrainian language as native count 67.5 percent; for 29.6 percent of persons it is Russian; for 2.5 percent of persons – other languages. In rural areas, a proportion of persons who treat the Ukrainian language as native is 85.8 percent (the Russian language – 9.5 percent); in urban areas – the Ukrainian language – 58.5 percent (the Russian language – 39.5 percent). Only in 4 of 27 regions in Ukraine respondents predominatly treated the Russian language as native (city Sevastopol, AR Crimea, Donetsk and Lughansk oblast); in three regions (Zaporizhzhia, Odesa and Kharkiv oblast) person counts for those who treated the Russian and Ukrainian language as native is almost equal. Almost two-thirds of a population in twenty regions treated the Ukrainian language as native. In Zhytomyr, Kmelnytskyi and seven western regions a proportion of persons who treat the Ukrainian language as native is higher a proportion of Ukrainians while in the other regions the reverse situation was recorded.

According to the all-national population census in 2001, 87.9 percent of persons have a perfect command of Ukrainian (in 1989 – 78.0 percent); Russian – 65.7 percent (in 1989 – 78.4 percent). However, according to experts many individuals overestimated their own level of mastering the Ukrainian language and underestimated

their level of mastering the Russian language; in the soviet period a reverse situation was recorted. It could be proved by the fact that currently in Ghalychyna (Lviv, Ternopil, Ivano-Frankivsk oblast) less one-fourth of persons have a perfect command of Russian, while 13 years ago they counted more than a half. At the same time a proportion of those who have a command of Ukrainian was higher by 1.3 –1.5 times in AR Crimea, Donbas, Odesa oblast.

Ukrainians believe that their command of Ukrainian is perfect (96.8 percent), Russian – 58.1 percent; for Russians these indicators are 58.8 and 98.9 percent, accordingly (figure 3.2.1). Thus, Russians are reported slightly higher indicators on having a command of both a language of their own ethnic group and a language of one of the largest national ethnic groups. When Russians and Ukrainians are asked about their knowledge of foreign languages, for Russians it is two-times higher (English –3.0 and 1.5 percent; German –0.7 and 0.4 percent); and it is only partially due to rural residence of the title nation; in urban areas a proportion of the Russian population who know English and German is 1.5 time higher. Among the ethnic groups having the largest population, knowledge of one language is high for Romanians and Hungarians who are concentrated in monoethnic villages in Zakarpatska and Chernivtsi oblast.

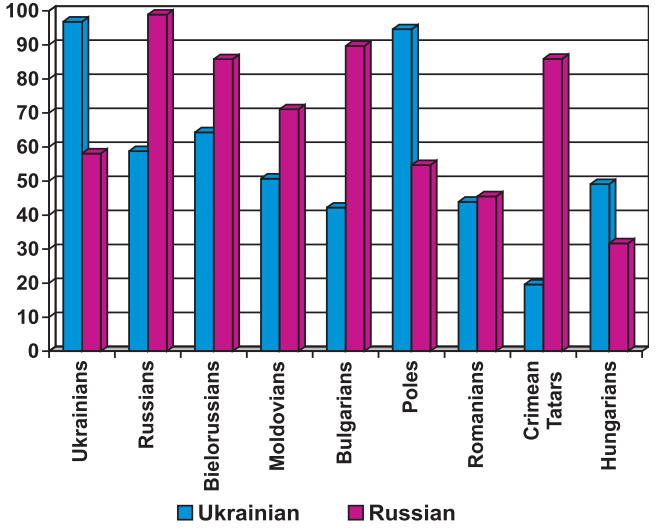


**Figure 3.2.1. Knowledge of Ukrainian and Russian language by the largest ethnic groups**

In the age groups of 17-55 years the level of mastering the Russian language among Ukrainians is high (above 65 percent) and lower for persons in old age as well as youth. Ukrainians who treat the Russian language as native are three-years younger in average compared to those who treat the Ukrainian language as native.

In a total Ukrainian population 32.4 thousand persons belong to ethnic groups that have cultural and language differences compared to a main part of the Ukrainian people. The largest population of the ethnic groups was recorded for Hutzuls (31.4 thousand persons largely in Ivano-Frankivsk oblast) and Rusyns (10.2 thousand persons largely in Zakarpatska oblast); Lemkys count 672 persons; Boiks – 131 person; Lytvyns –22 persons; Polishchuks – 9 persons.

Russians is the largest ethnic group in city Sevastopol and AR Crimea (71.6 and 58.3 percent, accordingly); almost in all other regions they rank the second group and only in two regions they rank the fourth largest group; in Zakarpatska oblast (after Ukrainians, Hungarians and Romanians) and in Chernivtsi oblast (after Ukrainians, Romanians and Moldavians). In addition to AR Crimea a high proportion of Russians settle in Donbas oblasts (38-39 percent), in the other eastern and southern oblasts as well as in Sumy oblast (Pulivl' district).

The highest ethnic variance over the regions in Ukraine is recorded for Chernivtsi, Odesa, Zakarpatska oblast and AR Crimea. The aggregate proportion of all ethnic groups less Ukrainians and Russians is 16-21 percent (in other regions it does not exceed 6 percent).

Presence in Ukraine of a large variety of ethnic groups calls for a classification to be made by researchers. This classification is necessary not only for an accurate estimate of a distribution of the ethnic population but for development of the ethno-demographic policy.

Excluding Ukrainians and Russians, all ethnic groups in the country could be classified to four groups by a type of locality and period of residence.

*Group I* includes the nations that live within the frontiers of the country normally for many centuries in small cluster localities (from several villages to two-three administrative districts) and make up the absolute majority in localities of their historic cluster residence. Such resident clusters of Moldovians are found in Odesa, Chernivtsi and Mykolaiv oblast; Bulgarians – in Odesa and Zaporizhzhia

oblast; Hungarians and Slovaks – in Zakarpatska oblast; Gagauses and Albanians – in Odesa oblast; Romanians – in Chernivtsi and Zakarpatska oblast. The Crimean Tatar residence cluster is being formed in AR Crimea and the southern districts in Kherson oblast; in this oblast also there are two Swedish villages. With certain reservations, to this group of nations Turks-meskhetins could be allocated who in a turn of 1980/1990 settled in rural areas in Kherson, Donetsk oblasts and AR Crimea. These nations have a high level of self-determination and a sustainable ethnic feature; mainly their absolute majority in rural areas (for some nations – in urban areas) treat a language of their ethnic group as native with exclusion of Swedish who treat the Ukrainian language as native.

*Group II* includes other nations whose numerous representatives settled in the current territory of Ukraine as early as in the early XXth century. A part of this ethnic groups have cluster localities of residence within the frontiers of Ukraine: Bielorussians (Polissia), Polish (Zhytomyr, Khmelnytskyi and western oblasts), Greeks (Donetsk oblast), Czechs (Zhytomyr oblast), Karaims, Krymchaks and Estonians (AR Crimea) and other small ethnic groups which in past (Armenians and Germans) or since old times scattered among main nations in the country (Jews and Romas). Currently they largely live in the poliethnic environment of cities and large towns. Many Poles treat the Ukrainian language as native; many persons in other ethnic groups treat the Russian language as native.

*Group III* includes the ethnic groups that originate from countries formed after a split of the USSR (excluding the above nations). In Ukraine their representatives settled in time of the USSR. They mainly reside exclusively in large and average-size cities, about a half of those treat a language of their ethnic group as native and almost a half treats the Russian language as native.

Russians take an intermediate position between nations of Group I and III. On one hand, many-person groups of Russians lived in the territory of Ukraine back to the pre-soviet period, and area of their cluster residence in Putivl' district in Sumy oblast formed back to a first half of the second millenium, however many Russians in Ukraine are returning persons from the Russian Federation in the XXth century and their ancestors.

*Group IV* includes those who left countries of an "old neighborhood" of Ukraine partly in the Soviet time but largely after

Ukraine became an independent state. Many of those treat a language of their ethnic group as native.

In the soviet time a basic trend in the ethnic development in Ukraine was an increase in a proportion of Russians with a decrease in a proportion of Ukrainians due to population migrant flows between soviet republics and russification of a population of Ukraine in the eastern and southern oblasts. Also a proportion of persons was higher for those who treat the Russian language as native. Over 1969-1989 the share of Ukrainians in a total Ukraine population dropped by 4 percentage points, while a share of Russians went up by 5 percentage points. The prevalence of two major ethnic groups used to be more pronounced (but with a variable rate) through the entire period when Ukraine was a part of the USSR.

On the background of an increase in a population of Ukraine over 1959-1989 there was a drastic decline in the Jewish and Polish population. The census in 1979 firstly captured a decrease in the Greek population; the census in 1989 – reduction of Bulgarians and Hungarians. Over 1960-1980, the highest population growth rate was recorded for Russians and Tatars, while over the last years of the USSR – Crimean Tatars, Armenians and Azerbaidjanians.

For the period between the censuses (1989-2001) despite of the net decrease in a total population the Ukrainian population slightly grew, at the same time the number of ethnic Russians dropped by one-forth. Over 18 largest ethnic groups only the population of 6 ethnic groups grew; firstly there was a reduction of the absolute population of Bielorussians, Moldovians, Tatars, Romas, Germans and Gagauses. Jews had the 4/5 population losses and by the population now they are ranking the tenth being before the third. Firstly after the Second World War there was an increase in a proportion of Ukrainians and other people who treated the Ukrainian language as native. In other words, there was a break in a trend of russification of a population that was dominating in the soviet time (figure 3.2.2).

The main factor contributing to changes in a distribution of a population by ethnic groups was linked to the migration processes. After a split of the USSR and declaration of Ukraine as an independent state the process of ethnic Ukrainians and deported people (Crimean Tatars, Germans, Greeks, Armenians and Bulgarians) returning to Ukraine from the former soviet republics was started. At the same time many Russians, Bielorussians,

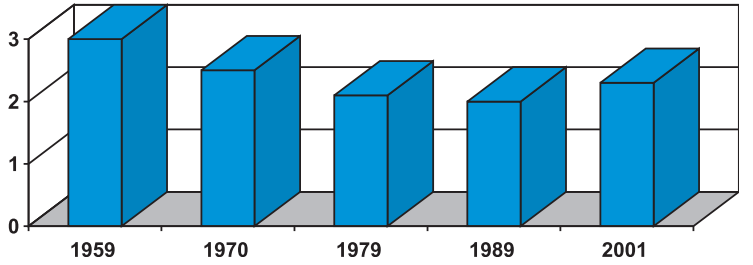


**Figure 3.2.2. Trend and ratio for persons who treat Ukrainian and Russian language as native in 1959-2001 (the number of persons who treat the Ukrainian language as a native language versus 1 person who treats the Russian language as a native language)**

representatives of other ethnic groups of the "new neighborhood" emigrate to countries of their origin. When the "iron curtain" was removed emigration flows from Ukraine outside the former USSR became more sizeable (in the beginning largely Jews, Germans and Greeks and presently practically persons representing other ethnic groups). The economic crisis in the Transncaucacian countries got aggravated compared to the situation in Ukraine and war conflicts in the Caucasus pushed for emigration flows from this region to Ukraine.

Currently Ukrainians from the former soviet republics (excluding Russia and Belorus) are in emigration to Ukraine. The emigration flows from Ukraine to Belorus are almost equal. Emigration flows of Ukrainians to Russia, countries of the Western and Eastern Europe are larger compared to immigration flows of Ukrainians thereto.

Repatriation flows of the earlier deported people are recorded for the last dozen of years. Ukraine, as independent democratic country, recognized the right of the deported people to return to places of a habitual residence. Today about 280 thousand Crimean Tatars, Germans, Greeks, Bulgarians, Armenians returned to Ukraine (mainly to AR Crimea). In a comparatively short period repatriation inflows made problems of the existing housing, land, employment, social-cultural services more urgent in context of providing for localities with the necessary infrastructure. And Ukraine practically

faced on its own the problem on welcoming and maintaining the earlier deported people as despite of all the commitments taken by the countries of their emigration they did not fund emigration programs. Only certain resources planned for the repatriation programs were made available by the Department of the UN Supreme Commissar on Affairs of Refugees, Renascence International Fond, Turkey Agency on International Development, oth). The political and legal topic of entering into a citizenship is still an urgent topic.

Among the repatriated people Crimean Tatars rank as the largest group. From 1989 immigration of Crimean Tatars was a sky-rocketing process; after 1992 this process slowed down what was mainly due to a decline in the economy of Ukraine. Many of the earlier deported Crimean Tatars returned to Ukraine (mainly to AR Crimea) from Uzbekistan, Russia, Tadjikistan, Kazakhstan and Kirghistan.

Families of deported Germans settle in the eastern and southern regions (Odesa, Mykolaiv, Kherson, Zaporizhzhia, Kirovograd oblast) and in AR Crimea. And parallel to immigration of Germans to Ukraine from the eastern regions of the former USSR emigration of Germans from Ukraine also takes place as a process that started as early as the Soviet time. Poles also emigrate from Ukraine; in the early 90s several thousands of Czechs and Slovaks who lived in the Chernobyl zone emigrated from Ukraine.

If a distribution of internal migrations by ethnic groups in a whole was compatible to a distribution of a population by ethnic group, then in the middle of the census period among immigrants Ukrainians counted 40 percent (emigrants – 30 percent). 55.6 percent of emigrants to the former soviet republics were ethnic Russians. Immigration flows of Armenians and Crimean Tatars to Ukraine are mainly from the former soviet republics (mainly from Armenia and Uzbekistan), at the same time Armenians emigrate from Ukraine to Germany, Russia, US, Israel. A proportion of Jews in all migrations with the CIS and Baltic countries is common, at the same time this ethnic group representatives formed almost a half of emigrations from the former USSR. When compared to their share in a population in Ukraine a proportion of their immigration from other than CIS countries is higher what is a proof for the reverse migration. Emigration rates outside the frontiers of the former USSR is higher for Russians compared to Ukrainians.

Over the recent years emigration to the countries of "new neighborhood" has gradually changed its ethnic distribution: a proportion of Jews is lower, a proportion of Ukrainians and Russians is higher. However, the analysis of the ethnic characteristics for migrants was complicated as in the second half of the 90s a proportion of persons who had passports of a new type where the item "nationality" started to grow. Consequently, when summary records of migrants are analyzed a proportion of persons whose nationality is not specified became higher.

The natural increase also has a certain impact on trends in ethnic distribution of a population. In particular, more children are in families of Crimean Tatars, Armenians, Romas, Azerbaidjanians than in families of Russians and Ukrainians. For Ukrainians, births are normally higher than for Russians because of a larger settlement of the title nation in rural localities. Also, for all nations there is a different distribution by age groups what results in a variance of the crude natural reproduction ratios. Here, compared to the national average the highest aging rate is found for Jews (many of young Jews emigrated or assimilated) what resulted in negative values of the natural increase indicators for this group well before depopulation of the Ukraine population started in the country. For nine ethnic groups having the highest population the oldest age distribution is found for Poles and Belorussians (table 3.2.3), the pyramid for these ethnic groups has an extremely narrow base what is a pre-requisite for the further rapid decline of population of these ethnic groups in Ukraine.

Among the largest ethnic groups Hungarians, Romanians and especially Crimean Tatars have the youngest population; for the latter, a contribution of persons above the employable age in the dependency ratio is only 258 persons. It is important to note that the sex and age pyramid for the Crimean-Tatar ethnic group has an apparently narrower base than that for Hungarians and Romanians. It is the evidence of a sizeable decrease in births after repatriation: firstly, immigration to regions where there are traditions not to have many-children families, accelerated demographic introduction into the environment of Crimean Tatars, secondly, the birth rate depends on many open problems encounted by the deported people.

In average, Ukrainians are younger compared to Russians what also had an effect on the population trend for two nations over the period between the censuses (it should be noted that in rural areas

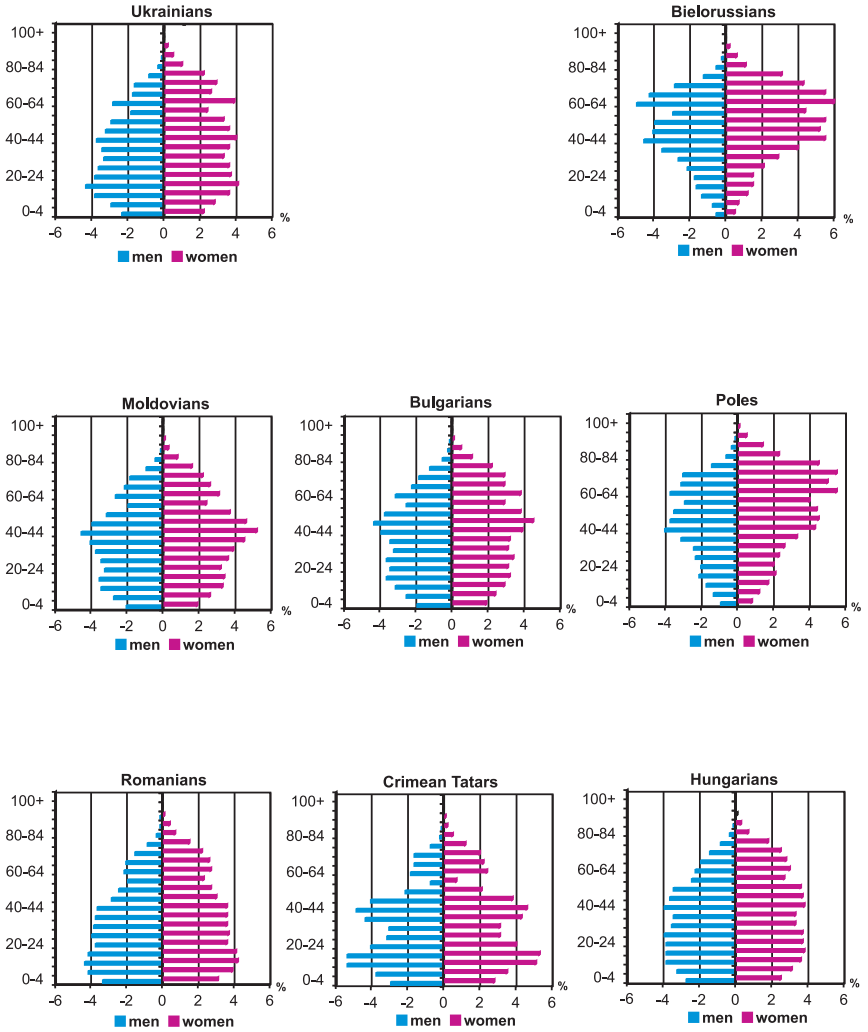


**Figure 3.2.3. Distribution by sex and age for largest ethnic groups in Ukraine, 2001**

where differentiation in distribution on age for Ukrainians and Russians is less pronounced compared to urban areas, variation in distribution for these ethnic groups over 1989-2001 was not so striking).

One more factor in transformation of the ethnic distribution in the period between the censuses is a higher self-consciousness of certain individuals and groups of population. In the soviet time concealing of the nation by the origin was a rather sizeable phenomenon that, in particular, could be an impediment in a carrier. And therefore Ukrainians partly (like many other nations) attributed themselves to Russians – the nations that unlawfully were a privileged group in the USSR. Today they attribute themselves to a base ethnic group in independent Ukraine. Poles and Jews show a more accelerated asimilation rate in the environment of the Ukrainian ethnic group. In Ukraine over 1989-2001, a population of Russians, Jews and Poles decreased more sizeably compared to the estimated decrease based on the trends in natural flows and migrations. A higher decrease in a population of Russians was in the regions where they are a minor proportion in the population while their population in AR Crimea decreased slightly and in city Sevastopol their population grew.

However, the natural reproduction and assimilation processes compared to migrations had a lower effect on trends in the ethnic distribution of a population. This, in particular, could be demonstrated by a comparison of the data on two censuses (1989 and 2001). Firstly, over 1989-2001 due to migration flows with the former soviet republics in Ukraine the population of Crimean Tatars increased by 5.3 times; Armenians – by 84 percent, Chechens – by 56 percent, Abkhazians – by 47 percent, Georgians – by 45 percent, Azerbaidjanians – by 22 percent; the population of Greeks and Germans regardless their high emigration to the historic motherland almost did not change, however, a population of the largest ethnic groups of the former soviet republics decreased by 1.5- 2 times. As the immigration from countries of the "third word" was higher, the population of Indians-Pakistanians grew by 8.5 times, Vietnamese – by 8.2 times, Arabians – by 5.3 times, Chinese – by 3.3 times, Afghans – by 2.8 times. The population of Kurds increased due to immigration from both the Middle East and the former soviet republics. The process of Ukraine integration in the world economic space, a wider presence of international organizations, founding

joint ventures and international company operations caused a multi-fold growth of a population of title nations from countries with a developed economy (Americans by 64.5 times, Dutch – by 3.2 times, British and Japanese – almost two-fold).

Crimean Tatars and other representatives of the earlier deported people settle mainly in rural areas, while immigrants from the Caucasus, countries with a developed economy and third-world countries give preference to urban areas. The fact that these nations mainly settle in urban areas is due to their intensive immigration to Ukraine to get education. According to the 2001 population census, the population of Arabians in urban areas is 14.5 times higher their number in rural areas. For Georgians this ratio is 7, Azerbaidjanians – 4.4, Armenians – 3.8 times.

In a distribution of immigration from the region of the Caucasus and Central Asia as well as the "third-world' countries there are more man. Consequently, among Tadjiks who live today in Ukraine men count 67.0 percent, Azerbaidjanians – 65.6 percent, Chechens – 61.0 percent, Georgians – 58.75, Armenians – 56.6 percent. For those who immigrated from the "third world" countries a proportion of men is much higher: Vietnamese – 64.2 percent, Chinese – 67.6 percent, in line "other nationalities" (predominantly, Africans and Latin Americans) – 75.0 percent, Persians – 75.4 percent, Afghans – 77.1 percent, Cubans – 80.9 percent, Indians and Pakistanis – 84.0 percent. A proportion of men is also higher for those who emigrated from countries with a developed economy – in particular, British made up 60.7 percent, Americans – 58.3 percent, French – 57.8 percent, Austrians – 54.5 percent, Dutch – 54.0 percent, Canadians – 52.9 percent, Italians – 51.7 percent.

### 3.3. Distribution of population by citizenship

According to the 2001 census, in the total usual population in Ukraine 47950.0 thousand persons (99.4 percent) are Ukraine citizens. In this country 168.0 thousand are foreigners (0.35 percent) and 82.6 thousand persons are those without citizenship (0.08 percent) that were recorded as usual residents; and 40.4 thousand persons did not specify a citizenship.

More than a half of foreigners are citizens of the Russian Federation (95.9 thousand persons), large population groups are citizens of Moldova (13.5 thousand), Armenia (9.9 thousand),

Azerbaidjan (7.6 thousand), Georgia (6.0 thousand), Uzbekistan (5.1 thousand), Kazakhstan (4.9 thousand) and Belorus (4.4 thousand). In general, almost 90 percent of foreigners are citizens of the CIS and Baltic countries; citizens of a "old neighborhood" only count 17.3 thousand.

Among non-nationals in Ukraine there are more man – foreigners (52.5 percent), persons without citizenship (51.0 percent) while among nationals in Ukraine there are more women than men (53.8 and 46.2 percent). An especially sizeable gender bias is observed for a group of citizens of the "old neighborhood"; in the universe per 1000 women there are 3110 men. Those who originate not from the former soviet republics are mainly students who study at higher educational institutions in Ukraine, workers of diplomatic offices, international companies and organizations, refugees – men are predominant over these categories.

Among those who are representatives of the "new neighborhood" the sex ratio is almost in parity and a higher proportion of men is in groups of citizens of Azerbaidjan (59.8 percent), Georgia (57.9 percent), Tadjikistan (56.4 percent) and Armenia (53.8 percent), i.e. those former soviet republics that had war conflicts and lived through long periods of political instability (partly here there are refugees and persons in forced immigration). A higher proportion of women was recorded for citizens of Latvia (58.0 percent), Belorus (56.5 percent and Kazakhstan (54.7 percent). As to two former groups, a higher proportion of women is due to the highest aging rates of foreigners (in senior age groups women are predominant): for citizens of Belorus a proportion of persons aged 60 years and over is 20.9 percent: citizens of Kazakhstan – 20.8 percent what is slightly lower the value recorded for Ukraine (21.4 percent).

In general, for the groups of foreigners the lower proportions are recorded for persons at a late age and children (a high proportion of children is recorded only for Armenia and Azerbaidjan citizens) and a higher proportion of youth and persons in the middle age (figure 3.4.1). A More pronounced prevalence of persons in junior employable age is recorded for citizens of countries of the "old neighborhood" – almost 73 percent of persons had an age 19-39 years.

In Ukraine foreigners largely settle in urban areas (73.7 percent). Citizens of the countries of the "old neighborhood" evidence the highest settlement rate in urban areas (above 96 percent). Only

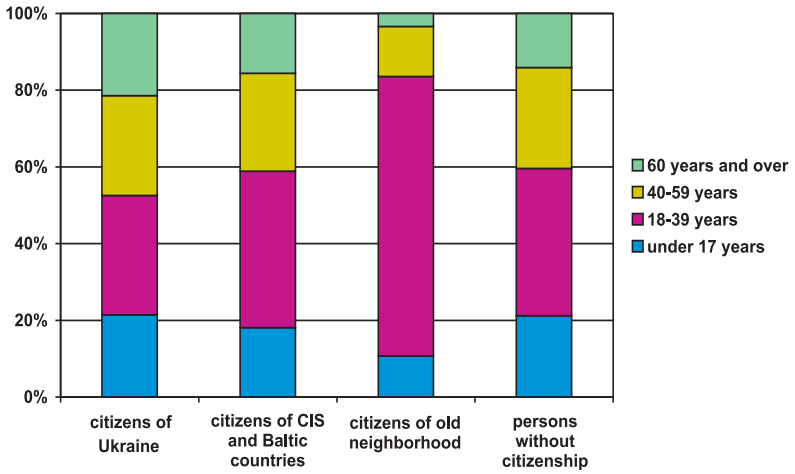


**Figure 3.3.1. Distribution by age for citizens of Ukraine, foreigners and persons without citizenship**

among citizens of Moldova the settlement rate in rural and urban areas is almost equal; while Uzbekistan and Kazakhstan citizens a rural population is slightly lower than an urban population.

The highest proportion of persons is recorded for other citizens than citizens of Ukraine in the city of Sevastopol: citizens of other countries (largely the Russian Federation) and persons without citizenship count almost 3.7 percent of its usual population that is 7-fold higher the national ratio. This ratio is also lower a 1 percent value in two regions – in AR Crimea (citizens of Russia, Kazakhstan and persons without citizenship) and Odesa oblast (persons without citizenship, citizens of Moldova and Russian Federation). The lowest ratio for non-nationals is recorded in the western regions of Ukraine.

Citizens of the Russian Federation who are usual residents in Ukraine predominantly settle in the Crimea (about one-forth) as well as in regions with a high urbanization. In AR Crimea the largest groups are citizens of Uzbekistan and Kazakhstan (among those there are many Crimean Tatars who have not acquired Ukrainian citizenship yet); emigrants from the Transcaucasian region mainly settle in Donbas, industrial Prydniprovia, and also in Kyiv, Kharkiv and Odesa oblast. Distribution concentrated

settlement of Moldovians in Ukraine corresponds to residence of ethnic Moldovians (largely in Odesa oblast and also in Mykolaiv, Vinnytsia and Chernivtsi oblast). Citizens of Belorus largely concentrate in the northern regions (largely in Chernighiv oblast and city Kyiv); citizens of countries of and "old neighborhood" settle in Kyiv, Kharkiv and Odesa where large universities are based.

### 3.4. Migration mobility of population, its reginal variance

Over the period when Ukraine was a part of the Soviet Union flows movements showed a high rate. In the pre- and early post-war years an administrative transmigration was rather sizeable – workforce recruitment for new constructions and development of virgin lands in the eastern regions of the former Soviet Union as well as forced emigration of certain ethnic group, rich peasants whose property was arrested and the repressed persons. Over the years an administrative transmigration was replaced by ad hoc migrations of individuals whose numbers were very sizeable. This was facilitated by a considerable unification of a manner of living over a territory of a single country (anyhow, in urban areas) as well as job vacancies in the country and, hence, citizens of the former Soviet Union were sure about their future employment and also in incomes after migration and for this reason they easily decided to migrate.

Over 1960-1980 the migration balance for a population in Ukraine did not exceed ±100 thousand persons annually. Largely over these years this indicator was slightly positive allowing a 5-10 percent (in some years to one-quarter) total growth of a population. However, migration processes had a considerable indirect effect on trends in the population growth causing changes in a distribution by sex and age. Young persons were recruited and migrated to Siberia, Far East, Extreme North regions and returned mainly in the pension age. Thus, over 1959-1989 the gain in a total population due to migrations was less by 1 percent annually: at the same time, due to a migration factor a population of men aged 20-29 years decreased by 5-6 percent in each period between the censuses, a population of women in the same age – by 2 percent. But due to migrations over 1959-1970 a population of persons in the junior pensioner age groups (men – 60-69 years, women – 55-69 years) grew more than by 4

percent, in the next period between the censuses – by 2 percent and only in the 80s this process stopped.

Such a nature of reverse migrations makes more pronounced a process of aging of a population that Ukraine encounted in the middle of the XXth century. It is possible to confirm that trends in population migrations in the post-war years brought closer depopulation at least by several years.

According to the USSR census in 1989, 44.4 percent of usual residents migrated at least ones in their life. And about 14 percent of Ukraine residents were born outside Ukraine.

In a transition period to the market economy in Ukraine the migration processes significantly changed. The volume of migrations got much lower, in 1991-1992 the positive migration balance grew sizably, but in the next year there was a drastic decline and from 1994 there was a surplus of emigrations to immigrations. For the period between early 1994 and late 2001 the total direct migration losses in Ukraine were above 1 million persons. In this period the internal migration rate was much lower (those that are due to changes in place of residence and recorded by national statistics offices), and at the same time there was a wide growth of other new forms of migrations – labour out-migration, refugees flows, transit of illegal migrants.

After Ukraine was proclaimed as an independent state, many ethnic Ukrainians and persons from the deported people returned to Ukraine and at the same time many groups of Russians and other USSR ethnic groups returned to the country of origin. And consequently, when the census in 2001 is compared to the census in 1989 it became evident a higher proportion of persons who were born in Ukraine and a lower proportion of those who were born in the CIS and Baltic countries (table 3.4.1). A somewhat higher proportion of those who were born in Uzbekistan was due to immigration of Crimean Tatars with a part of those born upon deportation.

Population in all regions of Ukraine is characterized by different migration rates. On the moment of the census, a proportion of migrants included in the migration processes over the total population in regions varied from 13.5 percent (Zakarpatska oblast) to 60.6 percent (AR Crimea) growing from the West to the East and from the North to the South. A proportion of those who were born

Table 3.4.1.

**Distribution of residents in Ukraine by a place of birth, % (according to the censuses, 1989 and 2001)**

| Country of birth | 1989 | 2001 |
|---|---|---|
| Ukraine | 86.2 | 88.9 |
| Other CIS countries | 13.6 | 10.1 |
| including | | |
| Russia | 10.1 | 7.5 |
| Belous | 0.8 | 0.6 |
| Kazakstan | 0.7 | 0.5 |
| Moldova | 0.4 | 0.3 |
| Uzbekistan | 0.3 | 0.5 |
| Outside USSR | 0.7 | 0.6 |
| Not specified | 0.2 | 0.4 |

outside the region is also the highest in the industrialized regions in the East and South being extremely high (above 50 percent) in AR Crimea and city Kyiv. And while many of not native residents in the capital were born in the territory of Ukraine, then 32.0 Crimeans and 33.1 percent of Sevastopol residents were born outside Ukraine.

All in all Kyiv accumulates 15.9 percent of Ukrainian residents who live outside the region of their birth (it is 3-fold higher a proportion of a population in Kyiv in a total population in Ukraine). This group also includes persons born in localities in Kyiv oblast that are included in Kyiv city limits (according to the census, 1.1 percent of a Kyiv population was born outside Kyiv but did not change their place of residence even once). In the Kyiv population born outside Kyiv 24.0 percent are those who were born in Kyiv oblast, and 28.0 percent were persons born in the oblasts adjacent to Kyiv oblast. And those who were born in the capital but reside in Kyiv oblast count 2.5 percent of the population of Kyiv oblast. The census data confirm that there are intensive migrations between neighboring regions and in every region in groups of persons born outside the region the largest groups are those who were born in the neighboring regions. In particular, in Kyiv oblast population of those who were born in Zhytomyr oblast – 3.1 percent, in Chernighiv oblast 2.3 percent; in Zaporizhzhia oblast 2.4 percent of persons were born in Dnipropetrovsk oblast, 1.8 percent – in Donetsk oblast and 1.6 percent – in Kherson oblast.

The highest proportion of immigrants to Ukraine is in AR Crimea where persons born in Russia count 26.9 percent in population of Sevastopol and 18.8 percent in AR Crimea; 8.1 percent of the Crimean population was born in Uzbekistan. Without AR Crimea, distribution of those who were born in the former soviet republics (Moldova not included) is in line with a geography distribution by the economic growth rate. 35.6 percent of Ukrainians born in Moldova live in Odesa oblast, 37.0 percent of those born outside the former Soviet Union live in 3 oblasts of Ghalychyna that before the Second World War were a part of Poland. When compared to 1989, this indicator is lower as in several regions (mainly in city Kyiv) many groups of migrants settled from an "old neighborhood" like migrants from African and Asian countries, workers of international companies as well as children born in families of soviet-army staff officers when they had service in the countries of the Warsaw Treaty.

According to the first all-national population census almost 200 thousand of the employed persons are in pendular migrations[1]; 62.7 percent of those are residents of Kyiv, Chernighiv, and Zhytomyr oblast who work in Kyiv. 16.6 percent of the total employed persons from Kyiv oblast are those in pendular migrations, in Chernighiv – 2.0 percent and in Zhytomyr – 0.8 percent. The pendular migration rate to the capital is lower with an increase in a distance; the cumulative indicator for 10 districts and 6 towns in the Kyiv[2] suburban area is 23.3 percent and this indicator for other administrative division in Kyiv oblast is 2.2 percent.

The higher pendular migration rate to Kyiv is recorded for districts included in the national railways network. And the pendular migration rate to Kyiv in Yaghotyn district located far from a nucleus of the agglomeration is higher than in Makarov district included in the Kyiv suburban area. In Chernighiv oblast a higher pendular migration rate to Kyiv is recorded for localities

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[1] A region stands for an oblast, AR Crimea, Kyiv and Sevastopol city Rada; intra-regional shuttle migrations were not recorded by the census.

[2] The Kyiv suburban area includes Baryshevka, Boryspil, Borodianka, Brovary, Vasylkiv, Vyshghorod, Kyiv-Sviatoshino, Makariv, Obukhiv, Fastiv districts; town of the oblast subordination – Berezan, Boryspil (with rural localities included in the city Rada), Brovary, Vasylkiv, Irpin (with urban-type settlements included in city Rada) and Fastiv.

based along the railway line Kyiv-Moskva, in particular, in Nezhyn district separated from Kyiv oblast by two districts the pendular migration rate to Kyiv is two-fold higher than in Kozelets district that is the closest to Kyiv in Chernighiv oblast. In Zhytomyr oblast the highest pendular migration rate to Kyiv is recorded for several districts that do not border to Kyiv oblast but have the national railways lines (Berdychiv, Andrushev district). Such specific characteristics in the distribution of localities by the pendular migration rate were primarily due to lower commuter train fares compared to bus fares. Consequently, residents in localities next to railways will have more savings on fares than those from localities without railway communication.

In towns under the oblast subordination that are included in the Kyiv suburban area a proportion of the employed persons in pendular migrations to Kyiv is 1.3-1.8- time lower compared to districts where these towns are situated. It is due to higher employment opportunities in urban than rural areas as well as availability of such a reliable source of income as the subsistence economy with rural residents allowing them to agree on a lower-paid work in the capital. Here, an exclusion is the town of Brovary – the locality that firstly, situated in a close proximity to Kyiv with a better transport network than any village in Brovary district and, secondly, as a locality with the highest population (hence, labour force supply) among all towns in the Kyiv suburban area.

Young persons are prevalent among pendular migrants to Kyiv; a proportion of youth in a total of persons from three oblates who work in Kyiv is 1.5-time higher than for all persons who commute to work to Kyiv. Especially a high proportion of persons in pendular migrations to Kyiv is recorded for persons aged 18-28 years. A proportion of youth in pendular migrations to Kyiv is much higher with an increase in distance. Thus, in Kyiv oblast pendular migrants are by 1.7 year younger than a total employed population; in Chernighiv – by 3.9 years, Zhytomyr – by 5.7 years.

Persons in pendular migrations have a higher educational attainment, however it does not differ too much to other groups of employed persons: the average period of study for a total employed population of 3 oblasts is 12.2 years, while for pendular migrants – 12.5 years. In particular, a proportion of those with a high education is 23.6 percent while for a total employed population –

17.3 percent. Apparently, a part of pendular migrants with a high education are persons who earlier studied in Kyiv.

As to spheres of the economic activity where pendular migrants are largely employed in Kyiv they include transport (primarily surface), construction and health care. In Kyiv, pendular migrants compared to a Kiev population are predominantly employed at less skilled works. Compared to employment of Kyiv residents, for those who commute from adjacent oblasts to Kyiv legislators, senior officials and managers employment is by 1.8-time lower (given that a proportion of employment in public administration for two groups is almost equal); professionals – 1.8 time, but employment of service workers (especially guards and those who deliver services like sales of month transport cards, and other in-movement services) is 1.6-time higher, skilled workers with tools as well as operators and assemblers of machinery and equipment – 1.4 time higher and employed at elementary workers – 1.2-time higher.

With limited employment opportunities and low wages many active persons in Ukraine become labour migrants. Today the low labour remuneration rate (especially in equivalent to Dollar and Euro taken by the NBU exchange rate) and a large scale of unemployment make labour migrations as nearly a sole mean of an acceptable living standard for a larger part of a population in the country. Out-migrations to countries of the Western and Central Europe have become an objective reality and without any doubt a sizeable current phenomenon.

The all-national population census recorded 118.8 thousand persons in labour migrations outside Ukraine. This is only a negligible part of total actual international labour migrations (according to different estimates their number goes as high as 1.5 million persons) but only a 3-fold higher number was recorded by employment offices. But the census data in contrast to the current data captured a distribution on international labour migrations by countries of their employment (as recorded by the census, the main countries-recipients of Ukraine labour migrants is Russia, Italy, Portugal, Poland and Czechia).

### 3.5. Marital and family distribution of population

According to comparatively stable traditions of matrimonial mentality, individuals in Ukraine mainly live in families and conjugal relations are largely regulated by a legal marriage. And therefore, a distribution of a population by marital and family status is an important element in the social structure of the society, principles for life and firstly demo-economic and socio-economic basis for reproduction of a population, human development, etc.

A distribution of a population by a marital and family status and the processes on which they are built is characterized by a higher time-inheritance and high sensitivity to socio-ecomomic transformations. Comparison of the 2001 and 1989 census data allows the analysis to be made on changes in a marital and family distribution in the period of market transformations in the Ukrainian society. In particular, to have a more detailed and close research on a scale of the contribution made by hardships in a transition period and manifestation of the socio-economic and demographic crisis. Of an individual value is a contribution made by setting a new type of marriages and families, matrimonial behavior.

A socially oriented market economy enhances re-orientation of a family in all segments of social reproduction and primarily in a segment of the population reproduction. There are changes in a distribution by income. In a large extent it is more due to a person-raised income and family. A higher role is played by the income raised by the parents, family as a provider of vital needs and upbringing of children, their health rehabilitation, education and occupation, etc. Thus, reorientation takes place towards the family self-sufficiency on the labour basis. Moreover, the subsistence economy, family business, small and average own-account business as well as the marital and family income and service support a survival of individuals, preservation of one' health. A protective function of marriages and families plays a more important role. Its role is compared to a shock-absorber, "buffer" that makes easier adaptation to new conditions and mitigates tension in the society and families. However, re-orientation towards self-sufficiency decreases the "demographic pressure" on income of families. But under conditions of scanty means, a certain damage is caused to a demographic potential in a marital and family distribution of a population, its formation and realization. Distortions and

unfavorable structural changes in a marital and family distribution in a population in Ukraine over a transition period call for an individual study. It could be implemented with use of methods of a comparative analysis of the population census results which data could be used for research on changes in a marital and family distribution in a different socio-economic environment in Ukraine.

Marriages are a pre-requisite for formation of a family and a distribution of a population by a marital status is a basis for formation of a distribution of a population by a family status and population reproduction in a whole. A marital distribution of the population features a distribution by a marital status for those who are in or not a legal marriage being taken per 1000 persons with a relevant count of those who was never married (bachelors and maidens), widowed (widowers and widows), divorced (or those in separation).

General trends in structural changes in a marital distribution of a population and processes that are responsible for it in present-day Ukraine is a manifestation of setting a new type of the population reproduction in the market environment. These trends are also adjusted by implications of the demographic crisis caused by hardships of the transition period. A marital distribution of a population is set under effects of demographic processes – the rate of marriage, divorce, deaths, migrations, etc. that have an indirect contribution in socio-economic factors. Here, births have a contribution in context of formation of future marital cohorts in a distribution of a population by sex and age as pre-requisites of a "marriage market" for formation of a marriage couple. Thus, a marital distribution of a population is a summation and manifestation of a net interaction between socio-economic and demographic processes. Comparison of a marital distribution data series makes it possible to examine specific features in the above dependence as well as those in the marital and family orientation, matrimonial behavior, etc.

A general idea on changes in the marital status over the period between the censuses allows a comparative analysis be made on the integrated parameters of the marital status where the major indicator is married persons aged 16 (or 15) years and over. According to the data presented in table 3.5.1 and 3.5.2, in the period between the censuses in 1989-2001 the marital status of persons in Ukraine much degraded. It is largely attributed to men than women, urban population than rural residents. On the

background of a comparative stability of parameters of the marital status for a population after 1959 (post-war year level), in the period between the censuses in 1989-2001 the following changes taken per 1000 thousand persons were recorded for the marital status of married persons aged 16 years and over: for the total population – men from 743 to 663, women from 606 to 552; urban population – from 736 to 646 and 612 to 539, accordingly; rural population – from 758 to 700 and from 594 to 578, accordingly (table 3.5.1).

In the transition period, the general indicators for women in urban areas have not even reached the value for the first post-war years being 539 in 2001 compared to 545 in 1959. Men who perished in war years and a dramatic sex disproportion that took place in that period caused a tension in the "marriage market" in search for a couple, especially in rural localities. The marital situation in the first post-war years caused sizeable losses in the marital status of women what stipulated a structural distortion in a marital distribution of a population in Ukraine in a whole.

Table 3.5.1.

**Men and women aged 16 years and over, in legal (not legal) marriage in Ukraine, according to the census data**

| Census data, year | per 1000 persons of either sex* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Men | | | | Women | | | |
| | Urban and rural areas | Urban areas | Rural areas | Urban to rural, % | Urban and rural areas | Urban areas | Urban areas | Urban to rural, % |
| 1926 | 678 | 637 | 689 | 92,5 | 613 | 563 | 625 | 90,1 |
| 1939 | 702 | 683 | 714 | 95,7 | 603 | 595 | 609 | 97,7 |
| 1959 | 704 | 696 | 712 | 97,8 | 518 | 545 | 496 | 109,9 |
| 1970 | 751 | 727 | 784 | 92,7 | 585 | 597 | 570 | 104,7 |
| 1979 | 744 | 733 | 761 | 96,3 | 588 | 599 | 572 | 104,7 |
| 1989 | 743 | 736 | 758 | 97,1 | 606 | 612 | 594 | 103,0 |
| 2001 | 663 | 646 | 700 | 92,3 | 552 | 539 | 578 | 93,3 |
| 2001 to 1970, % | 88.3 | 88.9 | 89.3 | 99.6 | 94.4 | 88.8 | 101.4 | 87.6 |
| 2001 to 1989, % | 89.2 | 87.8 | 92.3 | 95.1 | 91.1 | 88.1 | 97.3 | 90.5 |

Source of data: National Statistics Office of Ukraine; 1926 – autorths' estimates; 1926–1939 – within the administartive borders for the corresponding years, 1939 – as early as 7 September 1939.

* Based on persons' responds on the marital status both legal and not legal marriages were recorded in enumeration. Firstly in 2001 they were recorded separately.

Hardships of the transition period caused not less sizeable quantitative losses in a marital distribution. According to the population census in 2001, the integrated parameters on counts of married persons aged 16 years and over for the entire period from 1959 were the lowest for men in urban and rural localities. For women it was the lowest only in urban areas; in rural areas it was higher the value recorded for the 60-70s, however when compared to 1989 it went down (table 3.5.1). Given a multi-dimensional general social estimate of a marital distribution of a population in context of the quality estimation of its distortion, damage and losses could be treated as more weightful given a longer effect of implications caused by distortion.

As the trend in extending other forms of marital and family relations became more pronounced in Ukraine, firstly the census in 2001 recorded the so called consensus, i.e. not registered marriages. In Ukraine for 1000 persons aged 16 years and over it was recorded for men 46 consensus marriages (39 in urban areas and 62 in rural areas); for women – 39 consensus marriages (33 in urban areas and 51 in rural areas). Compared to women, men have by 1/5 more consensus marriages; compared to urban areas in rural areas it is by 1.6-time more common for men and for women – 1.5-time (table 3.5.2). Compared to women, a larger proportion of men in consensus marriages is due to prevalence of certain psychological factors by which women compared to men tend more to a legal marriage.

Consensus marriages feature a pronounced differentiation by age and sex. A proportion of consensus marriages over a total population varies: for men aged 17 years – from maximum of 38.9 percent (33.2 percent in urban areas and 48.2 percent in rural areas) to minimum of 5.1 percent (3.9 percent in urban areas and 6.7 percent in rural areas) for men aged 60-69 years; for women aged 15 years – from maximum of 53.7 percent (44.6 percent in urban areas and 60.4 percent in rural areas) to minimum of 5.6 percent (4.0 percent in urban areas and 7.8 percent in rural areas) for persons aged 60-69 years. Consensus marriages are mainly recorded for men below 20 years; for women below 19 years and especially for women aged 18 years. Consensus marriages could appear more popular for groups in the middle age of 25-49 years due to a contribution made by remarriages. In the 70-80s with a high divorce and widowedness rate it was a common situation (life "on trust"). But in the transition period in the 90s a higher rate of consensus marriages largely was recorded for youth. This is a difference in a distribution by consensus

Table 3.5.2.

**Distribution of a population in Ukraine by a marital status in 1989 and 2001, ‰ (according to the census data)**

| | Per 1000 persons of either sex and age | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Urban and rural areas | | | Urban areas | | | Rural areas | | | Urban to rural, % | |
| | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 |
| Men | | | | | | | | | | | |
| In total population: marital status for persons aged 16 years and over: legal or not legal marriage | 743 | 663 | 89,2 | 736 | 646 | 87,8 | 758 | 700 | 92,3 | 97,1 | 92,3 |
| not legal marriage | - | 46 | - | - | 39 | - | - | 62 | - | - | 62,9 |
| never married | 179 | 227 | 126.8 | 181 | 241 | 133.1 | 169 | 198 | 117.2 | 107.1 | 121.7 |
| widowed | 30 | 40 | 133.3 | 27 | 38 | 140.7 | 38 | 45 | 118.4 | 71.1 | 84.4 |
| divorced and separated | 46 | 70 | 152.2 | 54 | 75 | 138.9 | 32 | 57 | 178.1 | 168.8 | 131.6 |
| Women | | | | | | | | | | | |
| In total population: marital status for persons aged 16 years and over: legal or not legal marriage | 606 | 552 | 91.1 | 612 | 539 | 88.1 | 594 | 578 | 97.3 | 103.0 | 93.3 |
| not legal marriage | - | 39 | - | - | 33 | - | - | 51 | - | - | 64.7 |
| never married | 120 | 147 | 122.5 | 130 | 161 | 123.8 | 99 | 117 | 118.2 | 131.3 | 137.6 |
| widowed | 193 | 196 | 101.2 | 161 | 173 | 107.5 | 255 | 243 | 95.3 | 63.1 | 71.2 |
| divorced and separated | 79 | 105 | 132.9 | 95 | 127 | 133.7 | 50 | 62 | 124.0 | 190.0 | 204.8 |

Source of data: National Statistics Office of Ukraine; in the 2001the authors' estimates did not include persons who did not specified their marital status.

marriages compared to the pre-transition period. Wide occurrence of this type of marriage among youth is a demonstration of both degrading the conditions for entry in a legal marriage and a family formation and changes in the matrimonial behavior of youth, evolution of a new tradition for "probation marriages". Also a certain role is played by adaptation to a new system of social security for youth, maternity and child care, protection of private property, etc.

Consensus marriages that are widely recorded in highly developed countries in the Western Europe are not a novelty for Ukraine despite a prevalence of a tradition of legal marriages. Consensus marriages were widely recorded in Ukraine before 1944 when legal and consensus marriages were granted the equal status and over the first post-war years after the Second World War (as a consequence of a sex-and-age distortion in groups of persons available for marriage). But presently their compensation contribution in formation of a marital distribution of a population under a low marriage rate and high divorce rate is insufficient and supplementary.

The comparative analysis for the period between censuses in 1989 and 2001 showed a stable trend in lowering a proportion of those who are married almost by all age groups of men and women in urban and rural areas. An exception was men aged 40-44 years in urban areas, men aged 60 years and over in urban and rural areas and women aged 55 years and over.

The highest losses contributed to a marital situation were in major groups of persons available for marriage (first marriage) – men and women below 35 years in urban areas, men below 30 years in rural areas, women under 25 years. This indicator was almost 2-times lower for women and 2.5 times lower for men for the youngest group of persons below 20 years. A special emphasis should be placed on a sizeable reduction (by 1/3) of a proportion of married men and women aged 20-24 years – the age when marriages are mainly registered and – it is the right time for married couples to give birth to children.

The marital status indicators taken by a distribution by age prove that unfavorable structural transformations were in place for the urban population, they affected rural population in a much lower extent. Family business, farming, availability of the subsistence economy as a base of income security over a family income resulted in a more favorable marital and family situation in rural areas compared to urban localities. This situation was not favorable due to a 2002 leap year when, normally, marriages are delayed and the compensation leverages had no contribution.

Lower marriage rates for the middle and senior age are also due to a higher divorce and widowedness rate caused by a high rate of deaths (as manifestation of the demographic crisis). In the period between censuses in 1989 and 2001, a higher proportion of divorces

for marriages of a long duration (especially those lasting 20 years and over) as well as degradation in the compensation contribution of remarriages was recorded.

However, in general for the middle and early senior age the marriage rate remains comparatively high but only for women aged 70 years and over a proportion of those in marriage is negligible, for 1000 persons only 1/4. Also there were differences on the age of deaths and a life expectancy, in average a lifetime for women is longer compared to men and they got widowed. A general trend is observed for a higher marriage rate for women in the junior and in a certain sense middle age – in urban areas – under 35 years, in rural areas – under 40 years. In the senior age groups this indicator is higher for men. There is also a differentiation over the marital age for men and women (for the latter it is lower): also divorced and widowed men remarry to women in a much younger age. It should be also noted that a relatively high marriage rate and slight structural bias in marriage rates for the middle and senior age is primarily due to a high marriage rate in pre-transition period.

According to the all-national population census in 2001, for 1000 persons aged 16 years and over there were bachelors – 227 (urban areas – 241, rural areas – 198), maidens – 147 (urban areas – 161, rural areas – 117). Compared to 1989, a proportion of bachelors in the said age is higher: in urban areas – by 33.1 percent, in rural areas – by 17.2 percent; a proportion of maidens is higher by 23.8 percent and 18.2 percent, accordingly. Thus, in the period between the censuses the variance in the above indicators became more pronounced in the urban and rural profile – especially for men and bachelors and maidens – especially for urban population. But a proportion of women never married as recorded in 1989 remained unchanged in 2001and in average it is lower than that for men. At the same time proportions of bachelors and maidens in a total population feature their age variance.

Compared to maidens, a proportion of bachelors aged 20-24 was 1.6- time higher; for 25-29 years – 2 times higher. This situation is not only due to a different marital age of men and women (the latter get married in the earlier age than men) but also differing marriages to the "better time". Among causes there was a low income and household difficulties of youth especially when men are believed to be a family bread-winner. In view of a need to eliminate the marital distribution bias that is caused by hardships of a transition period,

a wide occurrence of bachelorship is a reserve that should be switched in through certain incentive actions on a timely realization of a marital and family orientation.

The marriage distribution indicators for a population are a summation of the divorce and mortality rates and remarriages as a compensator. In the period between the censuses in 1989 and 2001, a proportion of divorced and widowed men and women was due to a high rate of divorces and deaths as a manifestation of the demographic crisis in Ukraine. According to the all-national population census in 2001, for 1000 persons aged 16 years and over it was recorded: divorced men – 70 (urban areas – 75, rural areas – 57), divorced women – 105 (urban areas – 127, rural areas – 62), widowed men – 40 (urban areas – 38, rural areas – 45), widowed women – 196 (urban areas – 177, rural areas – 243). In 2001 compared to 1989 a proportion of divorced and widowed persons aged 16 years and over showed a sizeable growth: divorced men – by 1.5 time, women – by 1/3; widowed men – by 1/3, a proportion of widowed women remained as high as it was in 1989. A specific feature of the 90s is a prevailing and sizeable growth of divorced men in rural population – by 1.8 time, urban population – only by 1.4 time; a proportion of widowers in urban population – by 1.4 time, rural population – 1.2 time. In retrospective it was observed a contrary situation when more divorced persons were in urban areas and more widowed persons – in rural areas.

As to the differences by sex and age, normally a proportion of bachelors and married men is higher than maidens and married women; a proportion of divorced and widowed is higher for women (men have better chances for remarriage). Divorced women and widows in the middle age experience more difficulties to remarry, especially when they have children. Also a certain sex bias has a contribution as there are more women than men in this age (caused by a higher mortality rate for men than women). Moreover, more men remarry with much younger women. Due to a such marital situation in 2001, a proportion of widows aged 16 years and over is in average by 5 times higher (urban areas – 4.6, rural areas – 5.4) compared to the number of widowers. But for a rural population a proportion of widows was normally always higher compared to an urban population. As to distribution by age, proportion of divorced men and women are relatively high for the middle age of 30-49 years, a proportion of widowed is high for the senior age over 50

years. The highest rate of widowed persons is recorded for those aged 70 years: for 1000 persons for men – 251, women – 664, i.e. 2.6 times higher. This marital situation makes more acute a problem of loneliness especially for persons in the senior age.

The bias and crisis manifestation in the demographic processes over the transition period in the 90s in Ukraine call forth specific regional characteristics in a marital distribution of a population in the period between censuses in 1989 and 2001. Without exclusion in all oblasts in Ukraine and AR Crimea the all-national population census in 2001 recorded a decrease in the key integrated indicator of a marital situation for a population – a proportion of married men and women aged 16 (or 15) years and over.

The marital distribution of a population over a regional geography also changed. When in a relatively stable socio-economic situation of the 70-80s higher and maximum values of the said indicators on marriage were recorded not only in the western and southern regions but also in the industrial regions, then in the period of hardships over the transition period the marital situation in the industrial regions experienced the highest losses and distortion. Also a geography distribution changed for the minimum and maximum values of the above indicator. In 2001 the highest rate for men was in Vinnytsia oblast (693‰), for women – traditionally in Zakarpatska oblast (602‰), the lowest rate – AR Crimea (613‰) and industrial Kharkiv oblast (510‰), accordingly. These indicators taken for women showed a higher variance compared to men.

The trend and inter-regional comparative analysis showed that the number of married men and women was sizably lower especially in Kharkiv, Lughansk, Donetsk, Dnipropetrovsk, Zaporizhzhia oblast and AR Crimea. In passed years these oblasts accumulated large groups of youth who were employed as well as students' youth what created favorable conditions for their "marriage market". Therefore, in these regions comparatively high marriage rates were recorded regardless high divorce rates. Unemployment, low material security, absence of housing as a pre-requisite for formation of a family had a negative contribution in a marital and family situation in the transition period what caused a structural distortion and manifestation of the crisis by a marital distribution of the population in the said oblasts. The situation is viewed as more pressing as these oblasts have a high population which contribution is considerable

both in the general demographic as well as marital and family situation in Ukraine.

At the same time socio-economic transformations and a higher role played by small business, family companies in macroeconomics and income security of a population facilitated youth settlement in rural areas and improvement of the marital and family situation in agrarian regions. These transformations were mainly in the northern and central regions in Ukraine. Therefore, in several agrarian oblasts the men and women marriage rate remained high compared to industrial regions despite of lower general rates recorded for these indicators.

It should be noted that in 2001 like in the passed years in the western regions of Ukraine a stable trend remained for a comparatively high proportion of man and women in marriage and the lowest proportion of persons in divorce. This is due to original marital and family traditions what is also confirmed by a stable lower proportion of consensus marriages. A high marriage rate is also remained unchanged in the southern oblasts in Ukraine what is due to specific life and family conditions in these oblasts.

Structural transformations in marital distribution of a population were mainly due to a more prononced trend in variance of the marriage and divorce rates in the period between censuses in 1989 and 2001. A considerable contribution was also due to differing marriages to the "better time" especially in context of view of a higher divorce rate. The marriage rate for 1000 persons decreased from 9.5 (urban areas – 10.1, rural areas – 8.0) in 1989 to 6.4 (urban areas – 6.8 and rural areas – 5.4) in 2001, i.e. almost by 1.5-time. Over the same period, the divorce rate increased from 3.7 (urban areas – 4.8, rural areas – 1.6) to 3.7 (urban areas – 4.5, rural areas –2.1); this growth is most noticeable in rural areas – by 31.3 percent. Divorces taken for 100 marriages increased from 39.6 (urban areas – 47.4, rural areas – 19.3) to 58.6 (urban areas – 66.1, rural areas – 38.9), i.e. for the total population – by 1.5 time, urban population – by 39.2 percent, rural population – by 2-times. The unfavorable marriage-divorce ratios lead to a lower gain in married couples what caused a decrease in the marriage rate. The gain of married couples for 1000 persons became lower from +5.8 (urban areas – +5.3, rural areas – + 6.4) in 1989 to +2.7 (urban areas – +2.3, rural areas – + 3.3) in 2001, i.e. in average by 2.1 times. At the same time the higher divorce and death rates contributed to a

growth of a proportion of divorced and widowed persons. This situation is unfavorable in context of urgency in rejuvenation over a marital distribution of a population and upgrading its demographic capacity.

Over 1960-1970, Ukraine experienced progressive trends in improvement of the marital status and its distribution. Trends in reduction of the said indicators taken for men were recorded in the 80s as a result of a higher divorce rate. However, in the period between censuses in 1989 and 2001, these indicators became much lower: for women – from 33.6 to 30.2 years; for men – from 33.8 to 28.2 years. In addition, a trend when these indicators were higher for men compared to women changed to a vice-versa situation: in 2001 in average, a marriage duration for women was longer than for men.

But given the situation when marriages are differed to the "better time" (first marriage and remarriage) and there is a too high decrease in marriage duration for men, the problem on improvement of the marital situation for women in the fertility age 15-49 becomes more acute. The average marriage duration expectancy for women in this age dropped from 23.3 years in 1989 to 20.3 years in 2001 what is much low a demand (average estimation for 6 years). But it should be noted that realization of reserves for improvement of the women marital situation urges a need in a more active marital behavior of men primarily in the young age when they are available for marriages.

Thus, in view of the population reproduction and a multi-dimensional social value the progressive trend in rejuvenation of a marital and family distribution of a population is less pronounced than the recorded status in the 80th under conditions of the junior-

Table 3.5.3.

**Average expected marriage duration for men and women in Ukraine over 1959 –2001, years ***

| Year | Men | Women |
|---|---|---|
| 1958-1959 | 35.3 | 25.6 |
| 1969-1970 | 35.5 | 30.4 |
| 1978-1979 | 34.8 | 31.3 |
| 1989 | 33.8 | 33.6 |
| 2001 | 28.2 | 30.2 |

* Authors' estimates

age marriages. The trend in rejuvenation is less pronounced due to aging over the said distribution of a population. This is a situation of concern as the demographic pre-requisites for improving births, holding up depopulation and getting over the demographic crisis in Ukraine over the future period are minimized. A stronger trend in aging is also unfavorable in context of setting a new social structure of the society in Ukraine as a marital and family distribution is one of its elements.

However, an acute problem of the age and geography distribution bias was observed in a marital distribution of a population both after the Second World War and in the period of a relative stability in the 80s. In that period a trend was recorded for a dropping proportion of married women aged 30-45 years, and later it was recorded for married man aged 25 years and over what has a negative impact on realization of a marital and family distribution of a population as a basis for its reproduction. In the 90s the marital distribution bias manifested more distinctively features of the demographic crisis, as they are characterized by weightful not only quantitative but quality-destructive changes with far going negative implications. It is testified by degradation of pre-requisites for "rejuvenation" of a marital and family distribution of a population due to differing marriages to the "better time" and a wider occurrence of consensus marriages; a stronger trend in a higher divorce and widowedness rate especially for women with children; lower opportunities for remarriage as a compensator under conditions of high divorce rates; a higher variance in a distribution of a population by geography as well as sex and age by the indicators of the marital status, etc. Trends in degrading a marital distribution of a population had a negative impact on marital and family principles as well as a family distribution of a population that serves as a demoeconomic basis for its reproduction.

At the same time when compared to other people, Ukrainians more tend to a marital and family life. A predominant part of Ukrainians especially those in the middle and early senior age are married. Even in hardships of the transition period in the 90s a lower marriage rate was not higher the rates recorded in some countries of Europe and other regions (similar to Ukraine by religion and culture).

In the period between censuses in 1989 and 2001, general regularities for formation of a family distribution of a population

in Ukraine revealed a bias caused by a crisis in the society in the transition period and manifestation of the demographic crisis. A family distribution of a population is an implication of and integrated estimate for an interaction of the demographic processes and socio-economic situation. A family distribution of a population depends not only on marriage and divorce rates but birth rates and splitting young families from their parents especially after marriages.

The long-lasting regularities for an objective "mechanism" for formation of a family distribution of a population in Ukraine include a wider orientation towards splitting a family and as a consequence a prevalence of simple (nuclear) families, more rigorous control of the number and orders in childbearing, a wide occurrence of families with few children and a too high rate of one-child families in families with a mother and a child; a strong trend is recorded for a larger share of one-parent families that are more often composed of a mother and child than a father and a child due to higher rates of divorce and loneliness; a larger variance of young families and wider occurrence of different forms of marital and family relations based on cohabitation; a sizeable and stable proportion of families (compared to countries with a high urbanization) with one of the parents and other relatives (as a consequence of strong inter-relative links typical for the Ukrainian people); a higher rate of loneliness outside marriage and a higher proportion of single persons not only in the senior but also junior marital age (as a consequence of income insecurity, especially absence of housing, higher death in the middle and senior age, labour migrations). In general, the demographic potential of families and a family distribution of a population in the 90s over the transition period to a high extent is dependant on the labour potential which contribution is much higher especially in rural areas. As nuclear families are predominant in Ukraine normally a composition of a family and household does not differ.

During the national population census in 2001, for the first time a household but not a family (the practice of previous years) was taken as a survey unit. A household size is characterized by indicators on a distribution of persons in a household and their average number. These indicators describe the cumulative changes in a family distribution of a population and make it possible to obtain the integrated estimate. Over the period between the censuses the number of family households get lower: from 14.1 million in

1989 to 13.5 million in 2001; in urban areas from 9.4 to 9.2 million, in rural areas from 4.7 to 4.3 million[1]. The higher growth of a total of families was recorded in rural areas – by 8.5 percent compared to 1.9 percent in urban areas (table 3.5.4). At the same time, in urban and rural areas the count of one-person households was higher – from 3.1 to 4.7 million in the period between censuses. This situation was caused by the demographic crisis, namely by a decline in the population, stagnation in processes in formation of families (a drastic decline in the rate of marriage and births); a stronger orientation towards marriage dissolution especially for those who are employed in the "shadow economy" sector as well as low income strata of population to be eligible for the social security benefits, oth. A higher proportion of one-person households is also due to a separation of children even when they are not married and labour migrations (interprovincial and international) for raising income, starting business, training, looking for the better life, etc. In addition, aging of a population over its age distribution has a negative impact on youth marital groups in rural areas.

In the period between censuses in 1989 and 2001, a sizeable growth of small households was recorded in urban areas (two-three person households – by 10.1 percent) and decrease in many-person households of 4 persons and more (within 12.8 –17.9 percent); controversely, in rural areas a proportion of households with 3 persons and more was higher (by 6 – 12 percent) and a lower proportion of two-person households (by 11.2 percent) what is an unfavorable factor from viewpoint of rejuvenation of a family distribution in rural areas. A gain of one-person family households in rural areas was lower than in urban areas (table 3.5.4)

As in a family distribution of a population in Ukraine simple (nuclear) families are predominant, distribution by persons is made on presence or absence of children and their number. Due to regional differences in setting a family distribution of a population a more

[1] In the historic comparison one should take into account the criterion for a definition of a "family" used for the previous censuses when it included not only cognation and person-in-law relations but cohabitation and other characteristics of individual households. See Family in Ukraine (based on the population census in 1989).- Kyiv. Min. Statistics of Ukraine, 1993. –P.3. Individual household distribution by size, by regions in Ukraine (based on the all-national population census in 2001). –Kyiv: Derzhkomstat of Ukraine, 2003 – P.4.

Table 3.5.4.

**Distribution of family households by size in Ukraine in 1989 and 2001, % (according to the population censuses)**

| | Urban areas and rural areas | | | Including | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Urban areas | | | Rural areas | | |
| | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % | 1989 | 2001 | 2001 to 1989, % |
| One-person households (thousand)* | 3133.9 | 4721.2 | 150.6 | 1946.7 | 3254.0 | 167.2 | 1187.2 | 1467.2 | 123.6 |
| Total family households (thousand)** | 14057.5 | 13479.3 | 95.9 | 9397.0 | 9217.1 | 98.1 | 4660.5 | 4262.2 | 91.5 |
| Including households of (persons), % | | | | | | | | | |
| 2 | 35.1 | 35.8 | 102.0 | 32.6 | 35.9 | 110.1 | 40.2 | 35.7 | 88.8 |
| 3 | 27.1 | 29.7 | 109.6 | 29.6 | 32.6 | 110.1 | 22.0 | 23.4 | 106.4 |
| 4 | 24.1 | 21.4 | 88.8 | 26.1 | 21.5 | 82.4 | 20.1 | 21.3 | 106.0 |
| 5 | 8.6 | 8.2 | 95.3 | 7.8 | 6.8 | 87.2 | 10.2 | 11.2 | 109.8 |
| 6 and more | 5.1 | 4.9 | 96.1 | 3.9 | 3.2 | 82.1 | 7.5 | 8.4 | 112.0 |

Source of data: Estimates made by National Statistics Office of Ukraine – Family in Ukraine (according to the population census in 1989). – K.: Ministry of Statistics of Ukraine, 1991. – P.245.
Individual household distribution in Ukraine. Based on the all-national population census in 2001. – K.: National Statistics Office of Ukraine, 2003. – P11

* According to 1989, data on single persons which definition do not fully fall under the definition "one-person household".

** Households of two and more persons could include family and non-family households, the proportion of the latter is small and therefore in tabulations of the 2001 census data they were not singled out as an individual group.

pronounced variance is found for an average family given in a profile for urban/rural areas: in 2001 it was the highest over the entire period from 1959. It occurred due to reduction of an average family size in urban areas to the lowest value for the said period; at the same time, a larger family size was recorded in rural areas. In the period between censuses in 1989 and 2001, in general the average size of a family remained unchanged being at a lower level of 3.2 persons: in urban areas it dropped from 3.2 persons in 1989 to 3.1 persons in 2001; in rural areas it increased from 3.3 persons in 1989

to 3.4 persons in 2001. The average size of a household including one-person households also was higher for rural population – 2.8 persons compared to 2.6 persons in urban areas: the national average is 2.6 persons.

Thus, in Ukraine there are more small households; primarily, due to a contribution in the average national over this indicator made by a proportion of singe persons, as the category largely recorded in urban areas (where there are many educational institutions) and a children population in families. However, a proportion of three-generation households tied by cognation and person-in-law relations is higher in rural areas. The average size of large households recorded at the lowest margin is primarily due to a high nuclearization rate of families in Ukraine firstly recorded in the 60s of the passed century. In the society experiencing a crisis caused by the transition period over the 90s this trend was not novel; it was a continued and a largely growing extension of one-child and childless families.

Regions in Ukraine are different by the natural environment, level and historic characteristics of the socio-economic development, branches of industry, as well as life principles, traditions, etc. Especially this is noticeable in the western, eastern and southern regions. Regional characteristics of a family distribution of a population are formed under a high sensitivity of marital and family processes to specific socio-economic conditions. The comparative analysis of the data on the censuses in 1989 and 2001 makes it possible to clear up the manifestation of this dependence at the subnational for the extreme environment of the 90s. A general trend in a distribution of family households by persons included and an average size of a family was observed almost in all oblasts in Ukraine, in geography and inter-oblast profile for urban and rural population.

As manifestation of the demographic crisis extremely destructive losses were found in a family distribution of a population in the industrial oblasts. 2-3 person households are predominant in these oblasts and in the period between the censuses in 1989 and 2001 their proportion got higher. Specific features of a sex and age distribution of the population in these regions demonstrated themselves as those formed under a specific economy and a structure of employment of groups of persons able to work. In industrial and cultural centers there was a high proportion of youth that study or

in labour migrations. Thus, there are better conditions for a search of a future couple and regardless the economic hardships, in general, higher proportions of young families and married couples were recorded in these oblasts. But in these oblasts one-person families are predominant. At the same time in the western regions and regions with the agrarian economy a proportion of 3-4 persons household is higher. It is due to a specific nature of the economy and marital and family life principles that form a smaller part of childless and one-family families and more parents living with children in one family. In these oblasts many believe upbringing of children to be a sense of their life. Thus, marital and family as well as life orientations respond to not only personal but social interests as children is the major wealth in the country.

The highest number of two-person households was recorded in Kirovograd oblast (41.7 percent), the smallest number – in Zakarpatska oblast (22.5 percent). In 12 oblasts it was higher than the average national (35.8 percent). Only in 8 oblasts of the western region a proportion of family households with six and more persons was higher the average national (4.9 percent). Maximum of these households was recorded in Zakarpatska oblast (13.9 percent), minimum – in city Sevastopol (2.2 percent), Kirovograd and Lughansk oblast (2.5 percent).

A more pronounced character of regional differences in a family distribution of a population in Ukraine and their geography is also proved by an average size of a family as an integrated contribution made by many factors. Only in 5 oblasts in Ukraine an average size of a family was equal in urban and rural areas; in other oblasts it was larger in rural areas. This situation also proves a stronger variance in a family distribution of a population by a profile on urban and rural areas. For urban areas only in 5 oblasts, predominantly in the western and southern regions as well as AR Crimea, in the period between the censuses in 1989 and 2001 an average size of a family remained unchanged while in other oblasts it became smaller. At the same time for rural areas in many oblasts this indicator was higher with a higher growth rate in the western regions; in rural areas in 5 oblasts it did not change.

The degree of changes in the interoblast variance of indicators on a family distribution of a population could be analyzed in the comparative study of their extreme (maximum and minimum)

values. According to the all-national population census in 2001, the maximum value for an average size of a family was recorded in Zakarpatska oblast: the oblast average – 3.9 persons, urban areas – 3.5 persons, rural average – 4.1 persons. The interoblast comparative analysis proves that in urban and rural areas an average size of a family dropped to the minimum value – 3.0 persons. This minimum value was recorded for all localities mainly in Poltava, Cherkasy and Chernighiv oblast; in urban areas in the industrial oblasts; in rural areas in Kirovograd, Cherkasy and Chernighiv oblast.

A specific finding of the period between two censuses in 1989 and 2001 is that over the said period among the oblasts with the minimum value for an average size of a family there are not only oblasts with a relative high population aging but industrial oblasts with a high urbanization where a proportion of young persons available for marriage is high. Low living standards and absence of conditions for the vital and work-force reproduction do not promote realization of a marital and family orientation, in particular, towards child-bearing. This situation has a negative impact on setting a family distribution of a population, especially in the said oblasts and degrades its demographic and reproduction potential. The problems on improvement of a family distribution of a population in oblasts with a high urbanization get more in the focus as a large part of an urban population in Ukraine are residents of these oblasts. A negative contribution on the marital and family processes was also made by certain environmental factors linked to the Chernobyl accident and other natural cataclysms. Changes in a family distribution by regions were caused by resettlement of families, reduction of the fertility rate (mainly caused by infertility) and other[1].

Thus, a comparative analysis of indicators describing a size of family households in oblasts showed significant changes in a family distribution of a population by geography. Due to integral

[1] Gun'ko N., Omel'ianetz' M., Population migrations in Ukraine as a consequence of the Chernobyl accident // Demographic research. Edition 23: Collection of scientific papers/NAS, Institute of Economy.- Kyiv, 2001. – P.94-98. Zhylkina N., IrkinaT., Steshenko V. Situation in the Reproduction Health, NAS:I 1751, Institute of Economy, 2001. – P.14-24.

unfavorable socio-economic and demographic impacts, in the period between two censuses in 1989 and 2001 the total number of families was lower in all oblasts in Ukraine. This situation worsened the demographic pre-requisites for counteracting the demographic crisis.

The population distribution by demographic types of family, household is a consequence of changes in their distribution through the full life cycle of a family setting from the date of marriage. Ukraine as many other countries with a high urbanization features general trends in splitting (nuclearization) of families; they are characterized by parting of adult or married children from the parents as well as divorce, widowhood, etc. The higher number of an urban population, higher women employment, higher divorce rates as early as before the transition period caused a wide occurrence of childless and one-child families, single parenthood, general orientations of young couples towards separation from their parents. Thus, a stronger trend is recorded for splitting families due to which simple one-child families became predominant in Ukraine; still a tradition is retained when either of single parents live in a family of children what was recorded more often in rural areas in the western regions.

As in other countries (especially in Europe) with high divorce rates and a wide occurrence of out-of-union motherhood, in Ukraine a strong trend is observed for a growth of a proportion of one-parent families. This situation emerged in 1970-1980 with a higher divorce rate; it was higher in the society under the social crisis in the transition period. In the period between censuses in 1989 and 2001, the trend in a growing proportion of one-parent families was due to an integral contribution of three major factors: a higher rate of divorce, morbidity and a stronger orientation towards out-of-union motherhood. It was also given a push by a wider occurrence of different types of consensus cohabitation.

In the period between censuses in 1979 and 1989, a proportion of one-parent families in Ukraine got higher from 12.8 to 13.5 percent: in urban areas – from 13.1 to 14.8 percent; in rural areas it got lower from 12.3 to 10.8 percent. In the period between censuses in 1989 and 2001, a proportion of one-parent families in Ukraine got higher from 13.5 to 17.0 percent in all localities (25.9 percent); in urban areas – from 14.8 to 19.3 percent (30.4 percent); in rural areas – from 10.8 to 12.0 percent (11.1 percent). Especially

a high growth rate of one-parent families was recorded for urban population: mothers with children and one of the parents of a mother (father) – by 42.1 percent, fathers with children – by 60 percent. A specific finding of the period between the censuses in 1989 and 2001 is also a higher proportion of one-parent families in rural areas: fathers with children – by 37.5 percent. But compared to urban areas, in the rural areas a growth of one-parent families was much lower. A higher divorce rate, out-of-union motherhood under conditions of a wider occurrence of different types of marital and family relations was reported for urban areas.

Proportions of one-parent families show a more pronounced geography differentiation given as a profile by urban/rural areas and regions. Their variance is higher for the industrial oblasts where there are more urban residents and in the southern oblasts; much lower values were recorded in the western regions and other regions where rural population is predominant. In 1989 the maximum values of one-parent families were recorded for all types of localities in AR Crimea – 15.9 percent and the minimum value was recorded in Zakarpatska oblast – 10.3 percent; accordingly, in urban areas – in AR Crimea – 17.6 percent, Ternopil oblast – 11.2 percent; in rural areas the maximum value was recorded for Ivano-Framkivsk – 12.2 percent, the minimum value was recorded in Zakarpatska oblast – 9.4 percent. The population census in 2001 recorded interprovincial changes in formation of family cohorts of not full individual households. These changes include a stronger trend in a growing proportion of the said families in the eastern oblasts with developed industry as well as the southern oblasts and a less pronounced trend in the central oblasts; the lower gain in a proportion of these families was recorded in rural localities, particularly western.

The cohorts of fragment families but of another composition than one-parent family include also “other families”. Their proportion in Ukraine is negligible and variable for urban and rural population and over the regions. Not excluded that in the period between censuses in 1989 and 2001, formation of these families and households was due to a wider occurrence of orphanhood and children whose parents were deprived the right for care, larger migration volumes and loneliness. In the said period for all localities in Ukraine a proportion of these families got higher from 2.9 percent in 1989 to 6.9 percent in 2001 (by 2.4 times); urban areas – from

2.7 to 7.3 percent (by 2.7 times); rural areas – from 3.1 to 6.0 percent (by 1.9 time).

As to the regional variance, in 1989 almost in all oblasts a proportion of these family households was slightly higher in rural than urban areas. As recorded by the 2001 population census, the regional variance for a proportion of these families showed a higher gain in urban areas. This situation is primarily due to labour migrations and resettlement of families from regions of inter-ethnic conflicts in the former Soviet Union, etc.

In view of the marital and family traditions Ukrainians mainly live in families and adults are predominantly married (legal or not legal). But in the period between censuses in 1989 and 2001, there was a sizeable growth of individual one-person households, i.e. single persons: in Ukraine – by 1.5 time, urban areas – by 1.7 time, rural areas – 1.2 time. Consequently, a higher number was recorded for one-person households in a total of individual households (family and not family). Based on the authors' estimates, for the total population – from 18.2 percent in 1989 to 25.9 percent in 2001; for the urban population – from 17.2 percent in 1989 to 26.1 percent in 2001, for the rural population – from 20.3 percent in 1989 to 25.6 percent in 2001. While in 1989 a proportion of single persons was higher in rural areas, then in 2001 it was by a 2-percent higher for urban population. The single-person population was and remains higher in urban areas as recorded for the period between censuses in 1989 and 2001: here its growth rate is much higher compared to rural areas.

Only in 10 oblasts, largely the central and several northern and southern oblasts, a proportion of single persons was higher in rural areas. The all-national population census in 2001 recorded the highest proportion of single persons in all localities in Chernighiv oblast – 29.7 percent; in urban areas in Chernivtsi oblast – 28.7 percent; in rural areas in Chernighiv oblast – 33.6 percent; the minimum value was recorded for Zakarpatska oblast for all localities – 16.1, 19.1,14,1 percent, accordingly.

Single-person cohorts vary by sex and age. The comparative analysis of the census data fixes presence of general regularities for this distribution: a higher proportion of single persons is recorded for marginal men and women age groups, i.e. for the extreme junior and senior age groups: more single men than women are in all age

groups of 15-60 years; more single women than men are in group of persons aged 60-69 years and particularly for those aged 70 years and over. In the period between censuses in 1989 and 2001, a proportion of single persons below 25 years especially below 20 years grew with the highest rate – 3-fold gain for men and women. This is due to a higher work and study activity of youth, economic hardships and higher volumes of labour migrations, differing of marriages, etc. Over time through the human vital cycle the problem of loneliness of persons in the young and, to a certain extent, middle age is normally addressed through individual efforts.

In the middle age of 30-40 years proportions of single persons were the lowest. In general, they showed a positive trend for dropping (excluded a higher proportion of single women aged 35-39 years). But in the 90s there were more single men aged 40-49 and 60 years and over; it was also true for women aged 70 years and over. For the extreme old age in 2001 a proportion of single women compared to men was higher by 2.6 times in 1989 and 2.8 times. Loneliness is mainly recorded for men in the middle age and women in the senior age. In the middle age the single-person population gain was mainly due to divorces and widowhood, i.e. non-conjugal loneliness. It occurs to a large extent due to more popular cohabitation conjugal relations. This situation is unfavorable for upbringing children and their financial support.

The all-national population census in 2001 recorded a sizeable growth of the bachelor and maiden population. It has a negative impact at context of both managing personal conjugal life and counteracting the demographic crisis in part of the population reproduction. In the period of 1989-2001for the middle and senior age a sizeable growth in the divorced and widowed population was recorded. A high proportion of divorces is recorded for 30-49 years, particularly, woman with children under age. But a proportion of widows aged 16 years and over is in average 5-times higher the number of widowers (urban areas – 4.6 times, rural areas – 5.4 times). In age of 70 years and over, for 1000 persons there are 251 widowers and 664 widows in average, i.e. 2.6 times higher. This situation arized due to difference in the average lifetime for men and women: women live longer.

Loneliness is caused by a series of individual problems. In urban areas it is largely problems of persons in the young age that left a

"family nest" of the parents family. They include the educational and occupational integration in the society, employment and willingness to attain an economic independence and resettlements including those from the regions of the former Soviet Union after aggravation of social and national conflicts. Under these conditions a growth of a proportion of single persons also is due to the unfavorable marital and family situation when marriages are differed to the "better time". But problems of young persons' loneliness are largely those when individuals look for life chances and opportunities, they are addressed and resolved through common efforts made by society and young persons themselves.

From a viewpoint of solutions necessary for addressing not conjugal loneliness and the divorced and widowed persons solitude in the middle and senior age it is a more complex topic. When these problems are not addressed, a proportion of one-parent families gets higher what, in its turn, makes more acute a problem of material support and parents' upbringing of children.

Moreover, unsettled personal life, lack of happiness turns into such losses as hard drinking, drug-abuse, brutality, suicide, etc. These negative circumstances make a contribution to a lower activity, damage of an active life attitude and this causes losses in individual development and human development in a whole.

The problems affecting persons in the senior age include complex problems on their support, giving care to the feeble and sick. They could be resolved with setting a special infrastructure based on different schemes of support and funding (state-, local budget, private). Here, a large international experience should be invited. A higher proportion of single persons in the extreme old age is evidence for difficulties in addressing this problem under conditions of the low living standards despite stability of conjugal traditions of Ukrainians. Also a low pension size contributes to this problem.

But the most acute problem is loneliness of persons under age, i.e. orphanhood, including social orphanhood (unparented children). The extent to which it is addressed is a proof for the level of civilization in the society. The situational analysis confirms a need in immediate actions to be taken to address this problem. In context of a detailed study of orphanhood, an individual topic is study of regularities for grouping families and children by the number of children born, living and planned. The number of children in a

family is one of the key characteristics for a family distribution of a population in a whole.

Changes in the average size of family nuclei and households primarily contribute to a geography variance for indicators on "children in family", i.e. their distribution by the number of children under 18 years what should be treated as an individual topic.

The comparative analysis of the census data makes it possible to trace those changes that occurred in formation of fertility in families for the period between the censuses (10-11 years).

A specific feature of the period between censuses in 1989 and 2001 in Ukraine is that this period overlapped with the transition period to the market economy and new social structure of the society. The mass data on this period that covers the total number of families, households makes it possible to analyze changes in formation of a family distribution of a population in a whole and to have a deeper understanding of manifestation of the demographic crisis in context of fertility in families. This situational analysis is more important with regard to the circumstance that one of the features of the demographic crisis in Ukraine is a drastic decrease in births. Thus, distribution of families and women by the number of children born and living is one of the output data in context of a detailed research on the demographic crisis in a whole and development of mechanisms that will counteract its aggravation.

In the period between censuses in 1989 and 2001, decrease in the total population and number of families as manifestation of the demographic crisis is accompanied (or viewed as a consequence) with a dropping proportion of families with children under18 years. It was largely due to urban population with its contribution made by all demographic types of families, households without exclusion. A proportion of families with children under age dropped: for all localities – from 56.4 percent in 1989 to 51.5 percent in 2001, urban areas – from 60.0 to 51.6 percent (by 14.0 percent). In the same period in rural areas it was higher: from 49.2 to 51.1 percent (by 3.9 percent); this resulted in the lower variance of this group in the profile of urban/rural population, and its higher share for urban areas became negligible. This situation was observed regardless prevalence of a population in the fertile age in urban population. It is a proof for a wider occurrence of childlessness what largely was

recorded in urban areas. But in the rural families of three generations with one or two or more conjugal couples a proportion of family households with children was higher than in urban areas due to a sizeable growth of these families in 1989-2001.

The highest proportion of families (above 4/5) with children under age was recorded in blended three-generation households with two and more conjugal couples in rural areas and in urban one-parent families of a mother and children who live with one of the parents of (mother or father). It is largely due to the production cooperation in small agricultural operations and a wider occurrence of cohabitation, not conjugal maternity and better use of the social protection system of mothers and children in urban areas. The lowest proportion of families with children is recorded for farming operations where a family included a lone father and children. In many cases they are widowers as largely when parents are divorced children stay with a mother.

A special emphasis is with a sizeable (to j) decrease in a proportion of family households with children for such cohorts that consist of one conjugal couple with or without children. In urban and rural areas of Ukraine in many cases these conjugal couples have no children – 52.7 and 56.7 percent, accordingly. In the period between censuses a proportion of these families with children fell very rapidly, particularly, for urban population. Among factors that contribute to this is a wider occurrence of differed marriages to the "better time" in context of a better living. There is also a contribution of aging in the age distribution of a population and parting adult children from parents; this results in a higher proportion of married couples that are outside the fertility age or when more popular are families without many children they do not plan to have more children. More information about the fertility situation in family households could be drawn from the cohorts by the fertility rate.

According to the all-national population census in 2001, the fertility rate for women aged 15 years and over was: for all localities – 1.9 (out of those living –1.8); urban areas – 1.7 (out of those living –1.7); rural areas – 2.3 (out of those living –2.1). To provide for a simple population reproduction (given the normal demographic situation) only indicators in rural areas is close to demand. They are by 35.3 percent higher compared to urban areas (table 3.5.5). Urban population does not satisfy this criterion.

Table 3.5.5.

**Distribution of women in Ukraine by age and fertility rate, according to the all-national population census in 2001**

| Age | Average fertility rate | | | | | | |
|---|---|---|---|---|---|---|---|
| | Urban areas and rural areas | | Urban areas | | Rural areas | | Rural to urban, % |
| | Children, total | there of living | Children, total | there of living | Children, total | there of living | Children, total |
| Total women aged 15 years and over | 1.9 | 1.8 | 1.7 | 1.7 | 2.3 | 2.1 | 135.3 |
| 15-19 | **1.1** | **1.0** | **1.0** | **1.0** | **1.1** | **1.0** | 100.0 |
| 20-24 | 1.2 | 1.2 | 1.1 | 1.1 | 1.3 | 1.3 | 118.2 |
| 25-29 | 1.4 | 1.4 | 1.3 | 1.2 | 1.6 | 1.6 | 123.1 |
| 30-34 | 1.6 | 1.6 | 1.5 | 1.4 | 2.0 | 1.9 | 133.3 |
| 35-39 | 1.8 | 1.8 | 1.7 | 1.6 | 2.2 | 2.1 | 129.4 |
| 40-44 | 1.9 | 1.9 | 1.8 | 1.7 | 2.3 | 2.3 | 127.8 |
| 45-49 | 2.0 | 1.9 | 1.8 | **1.8** | 2.4 | 2.3 | 133.3 |
| 50-54 | 2.0 | 1.9 | 1.8 | **1.8** | 2.4 | 2.3 | 133.3 |
| 55-59 | 2.0 | 1.9 | 1.8 | 1.7 | 2.5 | 2.3 | 138.9 |
| 60-64 | 2.1 | 1.9 | 1.8 | 1.7 | 2.5 | 2.3 | 138.9 |
| 65-69 | 2.2 | **2.0** | 1.9 | **1.8** | 2.6 | **2.4** | 136.8 |
| 70 and over | **2.3** | **2.0** | **2.1** | **1.8** | **2.7** | 2.2 | 128.6 |
| 15-49 | 1.7 | 1.7 | 1.6 | 1.6 | 2.0 | 2.0 | 125.0 |

Source of data: National Statistics Office of Ukraine.

There is a large variance over indicators on born and living children given by the age of women. The average fertility rate is higher with a higher age of a woman. However, it is notable that in the cohort of women aged 20-24 years that is viewed as the most favorable at context of fertility and child upbringing the fertility ratio is too low for women in urban and rural areas – 1.1 and 1.3, accordingly. For the age group of 25-29 years it is also low for urban areas – 1.3 and slightly higher in rural areas – 1.6. But it is right before 30 years women should give birth to planned children (two). But in Ukraine the average fertility rate for women aged 40 years and over was two or slightly more children; in rural areas it was recorded for those aged 30 years and over; women in urban areas had in average less than two children – 1.7, only for those aged 70 and over – 2.1. When the minimum value for the average of children born and living is lower naturally on the age cohort of 15-19 years, the maximum value is recorded for those aged 70 years and over. In general, in Ukraine women of the senior age group gave birth to

children – 2.3; in rural areas – 2.1; in rural areas – 2.7. However, in the fertility age of 15-49 years the values were – 1.7, 1.6, 2.0, accordingly. The highest fertility rate is found for a generation of women who gave birth to children 20 years ago, after 1982. It was the year when women were granted an entitlement for a leave to take care about the child through 3 years.

Thus, the variance over the indicators on the average of children born and living taken by the age of women shows that too low values for women aged 20-29 years, particularly, those in urban areas is a consequence of a wide occurrence of one-child families and differing childbearing to the next order of the 90s. The maximum values on the average of children born taken per one woman aged 15 years and over was recorded for all localities in Rivno oblast – 2.4; urban areas in Zakarpatska oblast – 2.0, rural areas in Rivno oblast – 2.8, The lowest values on the said indicator were recorded in all localities in Kharkiv oblast – 1.7, urban population in Kharkiv oblast – 1.6, rural population in Poltava, Kharkiv and Cherkasy oblast – 2.1.

Only in rural areas women aged 15 years and over in average gave birth to more than two children: in urban areas – less than two. Such a fertility situation is recorded in AR Crimea and all oblasts in Ukraine excluding women in Zakarpatska oblast.

Low values (below 2) on the average of children born taken per one woman aged 15 years and over are recorded in the oblasts with the developed industry and a high urbanization where an urban population is predominant. These indicators are higher for the western regions and rural population in all oblasts without exclusion. Here there is a contribution of not only economic factors, different factors like employment and living conditions but also ethnic-national, religion and cultural principles, marital and family traditions passed over by the Ukrainian people, etc. The above factors also contribute to the interoblast variance over a family distribution of a population by living children under age.

In general, cohorts of women in Ukraine given by children born and living is a proof for a stronger trend in orientations towards one-child families. Reversal of this trend to the better in context of getting over too low births in Ukraine is a key topic on counteracting the demographic crisis. Its solution will have implications not only on the present but far-off future periods at context of the demographic growth in Ukraine.

### 3.6. Educational attainment of population

In the present world education is one of the major general human values and free access to it is one of the features of the democratic society, its orientation toward the human development priorities. Improvement of a quality of education is recognized as one of the strategic priorities in many countries.

A high educational attainment traditionally is a characteristic feature for the Ukrainian people. It is very important that all the censuses in the post-war years recorded a continuous upgrading of educational attainment. When according to the first post-war census in 1959 the average training period in Ukraine for persons aged 10 years and over was 5.05 years, in 1970 it was higher – 6.43 years, in 1979 – 8.07 years, in 1989 – 9.34 years, and in 2001 – 10.32 years. Thus, the average training duration increased two-fold and reached the standards of countries with the developed economy*.

A more pronounced progress is recorded for rural areas where the average training duration increased from 3.89 to 9.03 years, i.e. by 2.3 times practically being at a level estimated for the urban population (initially this difference was higher – from 2.51 years in 1959 to 2.98 years in 1970), but then gradually it dropped and

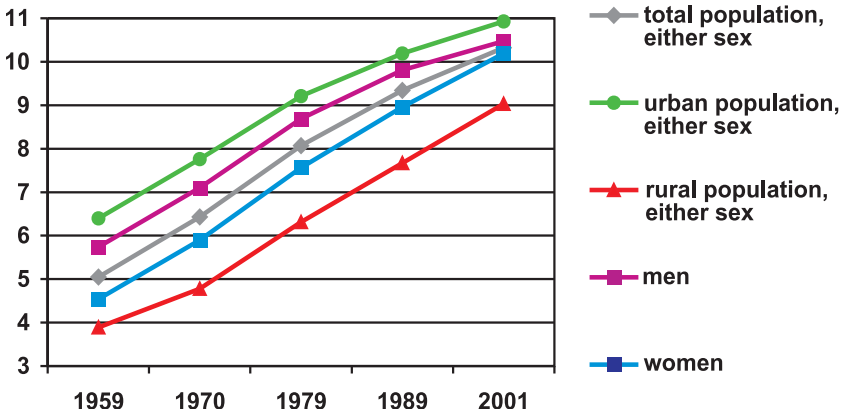


**Figure 3.6.1. Average training duration, years**

* Authors' estimates

according to the census in 2001 it was 1.91 years. Also a more pronounced upgrade of women educational attainment was recorded: the difference between the average training duration for men and women was gradually dropping from 1.2 years in 1959 to 0.3 years in 2001*. These two trends are extremely positive as they demonstrate a gradual phasing out the discrimination in education and access to it.

If a contribution of the age distribution variance is eliminated, then trends in standard (by the population distribution in 2001) indicators on a proportion of persons with the high education (including complete, base and incomplete) are as following: per 1000 persons aged 25 years and over in 1989 there were 77 persons with the higher education; in 1970 – 130 persons; in 1979 – 183 persons; in 2001 – 377 persons. However, the trend in indicators taken by age cohorts is variable; a proportion of persons with the high education for the two junior-age cohorts (25-29 and 30-34 years) was slightly lower over the period between the last censuses. When compared to a sizeable improvement of general indicators on education, in particular, a continuous growth in the number of those who completed higher educational institutions over the 90s, the above indicator is a proof for a high international labour migration of persons aged 25-34 years having a high education. The "brain drain" as a consequence of globalization of labour markets, removal of an "iron curtain" and a great difference in living standards in Ukraine and countries with the developed economy is manifested by social losses of young persons having the high education.

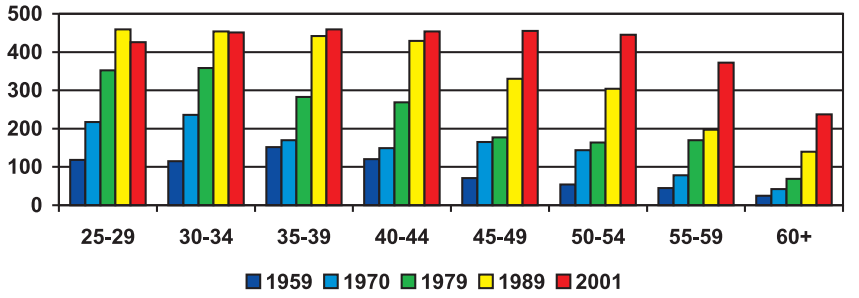


**Figure 3.6.2. Persons with the higher education by age cohorts, per 1000 persons**

The level of education in Ukraine is one of the highest among countries of the Central and Eastern Europe. According to the population census in 2001, in Ukraine 13.7 percent of persons aged 10 years and over had a complete or base higher education; 17.7 percent – incomplete higher education, 34.9 percent – complete general secondary, 16.0 percent – base general secondary, 14.2 percent – primary general education. Those who have no primary general education count 2.6 percent of persons in the said age.

By a proportion of students for persons aged 15-18 years Ukraine is ranking lower only after the Baltic countries and Hungary. Positive developments in the period between the censuses, in particular, a 40-percent increase in a proportion of persons with the higher education is a proof for a considerable improvement of a distribution of a population by education grades. Over these years there was a notable increase of those who graduated from higher educational institutes, what allows optimistic estimates to be made for the future.

But according to the census data, practically all persons get education in the primary grade – and there are no grounds to confirm that in Ukraine there is any evolution in formation of the continuous education. A proportion of persons aged 35 years and over who are in training is negligible. In practice, persons normally stop upgrading of their educational level before 35 years.

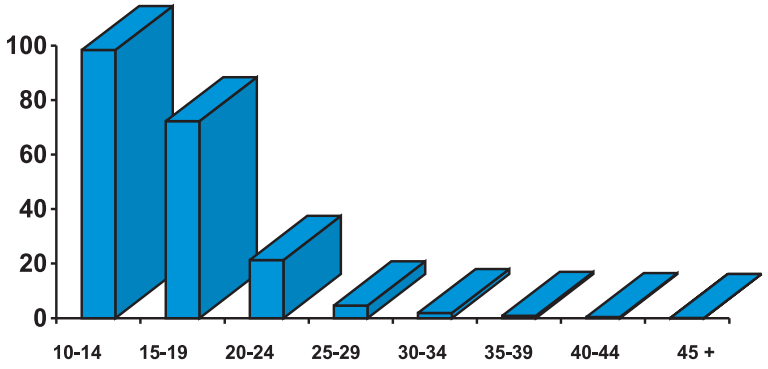


**Figure 3.6.3. Persons in training by age cohorts, %**

At the same time the sphere of education in Ukraine is characterized by unevenness. Positive trends are recorded in the following areas: a) higher education, small sector of the general secondary education, i.e. those services that could be not only self-supporting but also profitable; b) international exchange, projects and programs where efforts under international technical and individual assistance are switched to. In the areas where services in education are not profitable (but associated with considerable expenses), in particular, in the system of pre-school and extra curriculum institutions trends of the other nature are recorded – cutting the network and staff, lower attendance by children and teenagers. A critical situation is recorded for educational institutions in rural areas. Actually these basic grades of a continuous education experienced large-scale losses.

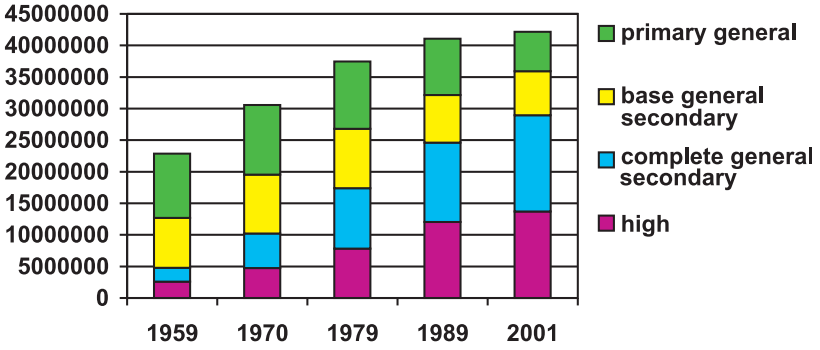


**Figure 3.6.4. Distribution of Ukraine population by a level of education, persons**

But despite of these difficulties that, without doubt, have an impact on a quality of education, the quantitative parameters prove the contrary situation. A high coverage in training is recorded for children aged 15 years and below – those who acquire the base secondary education. According to the census, the coverage in training of children aged 6-9 years is 89.3 percent, children aged 10-14 years – 98.4 percent.

The coverage in training at institutions of the higher grade including the compulsory complete general secondary education is

much lower. Thus, for persons aged 15-19 years a proportion of those who attend general educational institutions is 32.1 percent, vocational educational institutions – 14.5 percent. For those who study at higher educational institutions the following distribution is found: persons aged 15-19 years – 24.3 percent, 20-24 years – 19.7 percent, 25-29 years – 4.2 percent and 30-34 years – 1.6 percent. Less then 1 percent of persons aged 35 years and over is covered by all types of training.

In contrast to many countries not only in a transition economy but those with the developed economy women in Ukraine have a higher educational attainment. At least for persons under 60 years a proportion of women with the higher education is much higher than for men. Only for persons in the extreme senior age the level of education for men was higher. In general in Ukraine persons aged 25 years and over have the higher education in the following shares: men – 35.7 percent, women –39.3 percent. Normally, urban residents have a higher educational attainment than rural residents due to a large contribution made by persons in training and after completing training. In urban areas for persons aged 25 years and over and having the higher education the following the following distribution was recorded: men- 45.3 percent, women – 51.1 percent, while in rural areas 20.1 percent and 24.6 percent, accordingly.

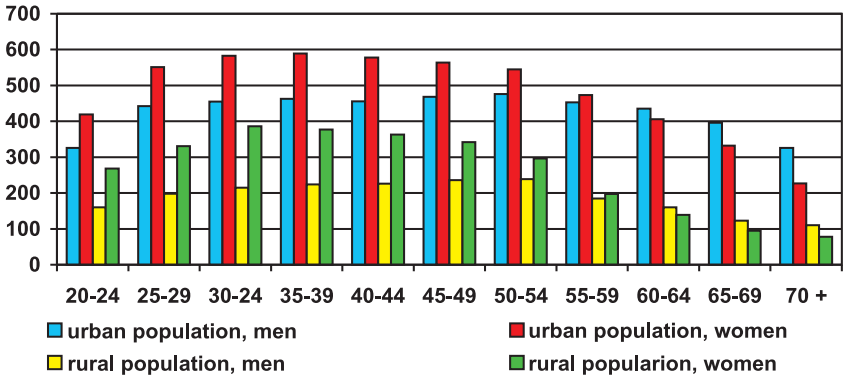


**Figure 3.6.5. Persons with the higher education by age and sex cohorts, per 1000 persons**

A higher proportion of women with the higher education was recorded for the recent years. All the previous population censuses recorded more men with a higher educational attainment: in 1959, for men aged 25 years and over 10.7 percent had the higher education, women – 7.2 percent; in 1970 these indicators were 16.6 and 12.3 percent, accordingly; in 1979 – 24.0 and 19.2 percent; in 1989 – 32.2 and 30.6 percent. **But over the entire period young women had a higher educational attainment than young men.** It was a finding of the first two post-war censuses in 1959 and 1970 only for persons aged 35 years and below, in 1979 – for persons aged 40 years and over, in 1989 – for 50 years and below.

Practically in all population age cohorts there are more women than men covered by training. Consequently, there are all prerequisites to expect that in future there will be more women attending educational institutions. The largest variance is recorded for the high education when practically in all age groups there are more women with university education. The variance over the secondary education both general and special is less pronounced.

While the highest educational attainment is recorded for men born in 1947-1951 (both in urban and rural areas), then for women the highest grade of education is recorded for the younger generations – those born in 1962-1971 (urban areas) and 1967-1971 (rural areas). It means firstly that with time men lose interest in

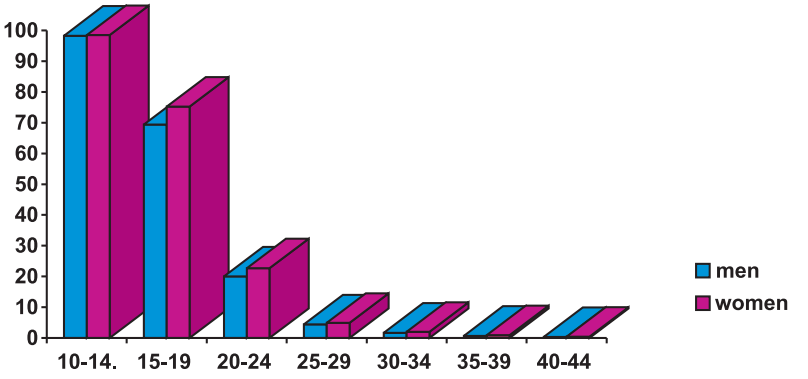


**Figure 3.6.6. Persons attending educational institutions versus the population of the relevant age and sex, %**

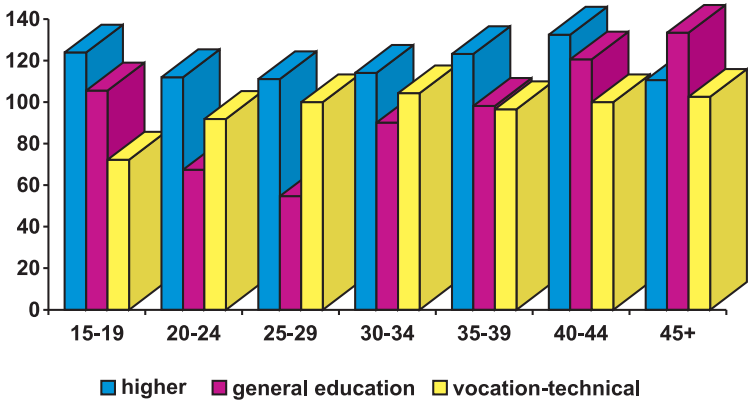


**Figure 3.6.7. Women and men attending educational institutions by age cohorts, ‰**

getting a high qualification and, secondly, that the population strata with the highest educational level in 5-10 years will reach the pension age and gradually quit the labour market. And it could bring out serious problems at context of a quality of the labour force.

The ratio of men and women with the higher education also confirms prevalence of women. From 1989 onwards in all age cohorts there are more women with the higher education, and according to the census in 2001, a proportion of women in the age groups of the highest economic activity (30-54 years) is by 40 percent higher. The said ratio desribes the quality of the women/men labour force supply. The gender difference in the educational potential is more pronounced.

Table 3.6.1.

**Women and men with the higher education, %**

| Age, years | 1959 | 1970 | 1979 | 1989 | 2001 |
|---|---|---|---|---|---|
| 25-29 | 127 | 139 | 136 | 135 | 133 |
| 30-34 | 135 | 110 | 129 | 134 | 142 |
| 35-39 | 139 | 98 | 118 | 131 | 145 |
| 40-44 | 94 | 99 | 104 | 126 | 147 |
| 45-49 | 62 | 122 | 95 | 116 | 145 |
| 50-54 | 55 | 98 | 102 | 106 | 140 |
| 55-59 | 58 | 66 | 125 | 100 | 137 |
| 60+ | 59 | 61 | 55 | 115 | 134 |

The regional variance analysis showed a significant difference primarily due to a different urbanization rate in the regions. At the same time it is notable that the age cohorts with the highest proportion of persons with the higher education shifted from 30-34 years in the regions with the low urbanization (Vinnytsia, Zhytomyr, Sumy, Khmelnitskyi, Chernighiv oblast) to that of 50-54 years in Lughansk oblast due to an inflow of young persons with a high qualification in the earlier period of the highest economic growth. If city Kyiv and Sevastopol are not included as areas with a usual large proportion of persons with a higher grade of education then the variation ratio will be 39.8 percent and the highest proportion of persons with the higher education (Dnipropetrovsk oblast) compared to its lowest value (Rivno oblast) is over more than by 1.5 time.

A significant regional variance in the age distribution of a population necessitates elimination of the contribution on this factor. A standard adjustment made by the age distribution on a population in Ukraine yielded the following results: with the exception of Kyiv and Sevastopol whose population without doubt has a much higher educational attainment compared to persons in other regions in Ukraine (persons aged 25 years and over – 51.4 and 47.6 percent, accordingly), the highest value is recorded for the population in Dnipropetrovsk oblast (45.0 percent). Comparatively low values for persons having the higher educational attainment were recorded in Zakarpatska oblast (23.3 percent), Chernivtsi (27.2 percent), Zhytomyr (30.0 percent), Ivano-Frankivsk (31.2 percent) and Rivno (33.8 percent).

As many ethnic groups live in Ukraine, in formation of the efficient national strategy a significant contribution is made by a level of education of the population of different ethnic groups. Elimination of the variance effect on the age distribution on the population of the largest ethnic groups was made by adjustment on the age distribution of a population in Ukraine as a whole.

The highest proportion of persons with the higher education is recorded for Russians (47.6 percent), Bielorussians (39.2 percent) and Crimean Tatars (39.2 percent). And when the highest proportion of persons with a complete high education is recorded for Russians (22.4 percent), then a proportion of persons with an incomplete high education is almost equal for Russians and Crimean

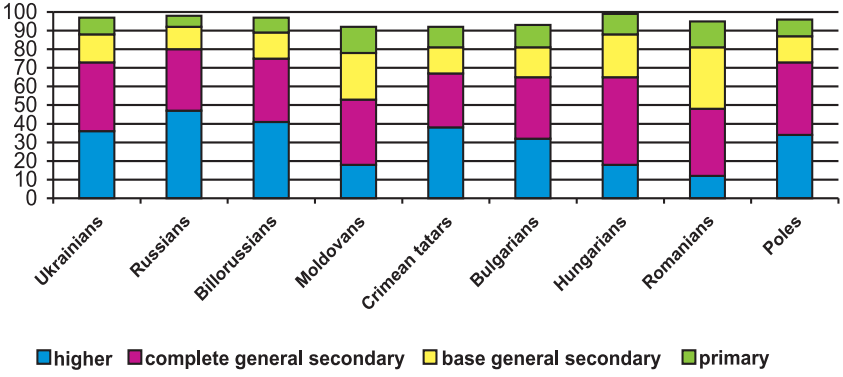


**Figure 3.6.8. Educational attainment of the ethnic group population aged 25 years and over, %**

Tatars – 24-25 percent. Large values for Russians and Bielorussians are due to their predominant residence in urban areas, in particular, as in the passed years many Bielorussians were assigned to jobs in Ukraine upon completing school. As to a high education attainment of Crimean Tatars it could probably be explained by repatriation to Ukraine those categories who were active in spheres that require a high grade of education. It is significant that for persons aged 40-60 years (those born in 1941-1960) a proportion of those with the higher education (included – complete, base, primary and incomplete) for the Crimean Tatars is lower onky the value recorded for Russians and for the age group 45-54 years (persons born in 1946-1955) the difference is minimum. For the Crimean Tatars youth under 30 years a proportion of those with the higher education is much lower. It is rather probable that many young persons are oriented towards training inTurkey as they have no language barrier and have aq financial support of certain circlesis available.

The lowest proportion of persons with the higher education is recorded for Romanians (12.8 percent), Moldovians (18.7 percent) and Hungarians (18.1 percent). And a comparatively low proportion of persons with the higher education among Hungarians is compensated by one of the highest proportions for the largest ethnic groups of those who had the complete secondary education – 48 percent. Compared to other ethnic groups, Romanians and

Табл. 3.6.2.

**Persons with the higher education in the largest ethnic groups, by age, %**

| | Ukrainians | Russians | Belorussians | Crimean Tatars | Romanians | Bulgarians | Moldavians | Poles | Hungarians |
|---|---|---|---|---|---|---|---|---|---|
| 20-24 | 33.0 | 34.2 | 33.4 | 23.0 | 11.2 | 28.5 | 14.9 | 29.5 | 17.1 |
| 25-29 | 42.4 | 46.9 | 44.7 | 33.1 | 14.0 | 37.4 | 19.6 | 39.3 | 22.1 |
| 30-34 | 44.2 | 51.7 | 49.6 | 44.8 | 16.1 | 43.2 | 22.9 | 40.6 | 22.3 |
| 35-39 | 44.7 | 53.6 | 50.5 | 47.3 | 17.6 | 45.2 | 24.1 | 41.4 | 22.0 |
| 40-44 | 43.8 | 53.7 | 49.3 | 50.3 | 17.4 | 42.9 | 23.5 | 41.2 | 21.3 |
| 45-49 | 43.4 | 54.4 | 48.3 | 53.1 | 16.0 | 38.9 | 22.5 | 40.3 | 20.3 |
| 50-54 | 41.8 | 54.9 | 46.0 | 53.2 | 15.6 | 38.1 | 22.2 | 39.5 | 21.3 |
| 55-59 | 34.0 | 51.6 | 38.2 | 39.3 | 11.0 | 29.1 | 17.4 | 34.8 | 18.8 |
| 60-64 | 28.8 | 45.3 | 35.0 | 34.6 | 8.8 | 22.9 | 14.8 | 29.6 | 14.5 |
| 65-69 | 22.1 | 39.3 | 27.9 | 16.9 | 5.8 | 15.3 | 9.9 | 22.2 | 10.0 |
| 70+ | 13.9 | 29.1 | 21.7 | 9.6 | 2.5 | 7.5 | 4.4 | 14.3 | 6.3 |

Moldovians have a considerably higher proportion of persons with the primary education. This distribution is typical for all age groups what is a proof for a relatively poor orientation towards education in these ethnic groups.

Consequently, the average training duration was the highest for Russians (11.5 years), Bielorussians (11.0 years), Ukrainians and Poles (10.6 percent), and the lowest period was recorded for Romanians and Moldovians (9.1 years).

A high competitiveness of persons with a high educational attainment in labour markets is associated with a higher role of the intellectual property in formation of the human capital and social status of an individual, orientation of the present phase in socio-economic development towards science and technology. In Ukraine these benefits could be gained only with the higher education. At the same time, among those who refer to employment offices there are many persons who completed higher educational institutions but seek for retraining. According to the surveys, 70 percent of persons that major in physics, mathematics and engineering; biology, agriculture and medicine (46 percent) and applied science and engineering (76 percent) are employed not after qualification they obtained.

With a higher level of education there are higher requirements of an individual for the work conditions and wages; the worker's retraining cost get higher and a period of search for a suitable job

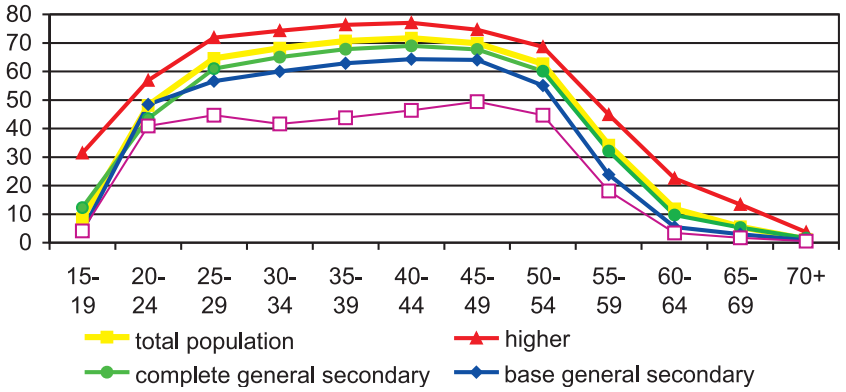


**Figure 3.6.9. Employment rate by age and educational attainment, %**

is longer. When workers are temporarily laid off (it could last for an infinite period) those with a low qualification could easily find a job, while many workers with a high qualification stay in administrative leaves what contributes to a higher rate of a disguised unemployment.

But the population census recorded a clear dependence between an educational level of a person and one's competitiveness in the labour market. When the employment rate for persons with the primary education in any age is not higher 50 percent, then the employment rate for those having the high education aged 26-49 years is much higher 70 percent. Also it should be noted that a high qualification has a considerable impact on duration of the activity period. Among persons aged 70 years and over, 3.4 percent have the higher education and those who do not have this grade count 0.5 percent.

And the educational attainment has a considerable effect not only on employment but the employment gender ratio. When for all age groups employment of women having the primary education is much lower than of men (but in the pension age women are inactive), then for persons with the higher education the situation is variable at least for those aged 45 years and over.

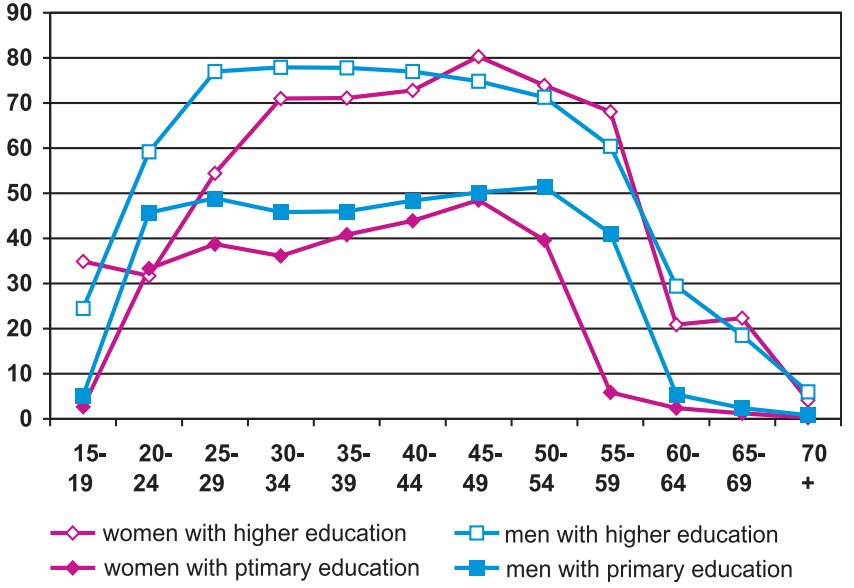


**Figure 3.6.10. Employment of women and men having different educational attainment, %**

Also it is notable that on the background of a generally longer activity period for persons with the higher education, regardless the 5-years earlier age at which women enter retirement, in a cohort of persons aged 65-69 years women employment is higher. This should be taken into account when justification is made for the topic on setting the equal retirement age for men and women.

## 3.7. Employment and socio-economic distribution of a population

One of the major criterion for the socio-economic distribution of a population is the person's activity status. A large-scale program of employment surveys in framework of the population census makes it possible to carry out research on the current socio-economic trends in the population employment, its distribution by industry, status in employment, occupation and a source of income.

According to the population census in 2001, the economically active population in Ukraine was above 17250 thousand or 35.8 percent of the total population. Above two-thirds (68.3 percent) of the employed surveyed at a moment of the census lived in urban areas and about one-third were rural habitants. In the employed population almost a half (48.7 percent) were women and a proportion of men was accordingly 51.3 percent.

In the employed population of Ukraine the highest proportion were persons in the employable age (they count almost 16439 thousand or 95.3 percent of the employed). The employed population in the pension age counted 808.8 thousand – about 4.7 percent in the employed population; the employed under the employable age count was slightly above 2000 thousand persons. And youth aged 14-27 years counted almost one-forth of the employed population.

The detailed information on the demographic distribution of the employed population is presented on a pyramid on a sex-age distribution of a population of Ukraine (figure 3.7.1).

Over the employed population the age cohorts of persons aged from 25 to 50 years are the largest and accumulate above two-thirds of the employed in urban areas (68.4 percent) and more than seven in ten of the economically active persons in rural areas (71.2 percent). It is notable that in a demographic distribution of the employed in rural areas there are more men in all age groups compared to those in urban areas but over the middle-age cohorts (from 35 to 55 years) there are more women. Also it is noteworthy that a higher proportion of the junior-age groups (under 30 years) in the employed population is recorded in rural areas compared to urban population. In contrast to the aging rate ratio for rural and urban population in Ukraine that is lower for the urban population, in the rural areas the age of the employed is lower and their average age is about 38.3 years while for persons in urban areas – 40 years; in the employed population a proportion of youth from 14 to 27 years is 20.8 and 18.5 percent, accordingly.

The employment rate distribution in context of the socio-economic parameters characterizes differences by age, sex and type of locality. Table 3.8.1 presents the employment rate distribution by sex and area for the employed population in the employable age (as a major age group of the employed persons).

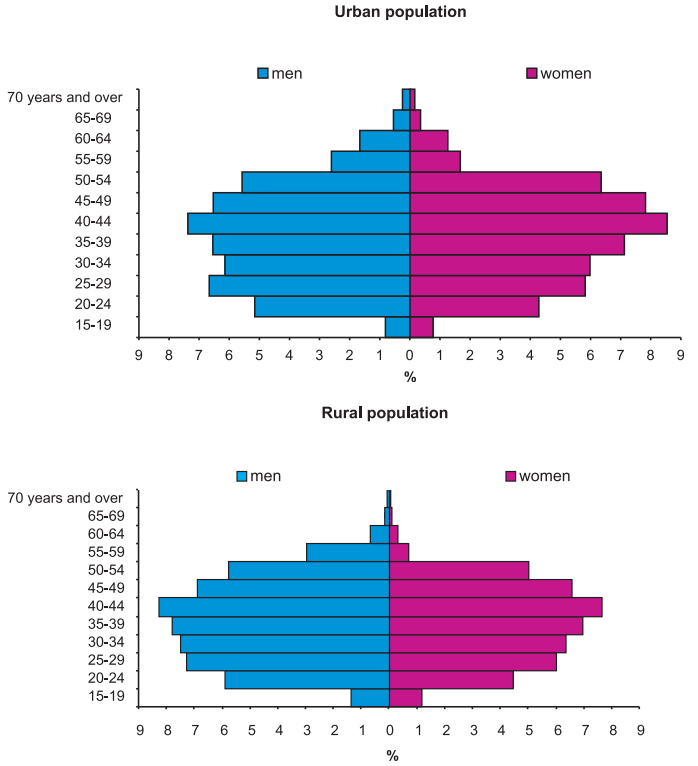


**Figure 3.7.1. Sex and age distribution of the employed population in Ukraine by urban and rural areas according to the population census in 2001 (as percent to total urban and rural population, accordingly)**

Table 3.7.1.

**Employment rate for persons in the employable age in Ukraine, on 5 December 2001.**

| Groups of persons | Total areas | Urban areas | Rural areas |
|---|---|---|---|
| Either sex | 58.7 | 56.0 | 65.5 |
| Women | 57.1 | 54.9 | 62.7 |
| Men | 60.4 | 57.1 | 67.9 |

Given the differences in the employment rates given by sex, a strong willingness for work should be recognized for women in Ukraine. At the same time, compared to indicators recorded by the previous censuses that captured almost the universe activity of persons in the employable age (men, and almost universe activity of women) the employment rate of persons in the employable age for the transition period got significantly low. This decrease is largely due to the socio-economic conditions born by the crisis in the 90s of the passed century that caused a sizeable not manageable decline of employment in the production and social sphere. A certain proportion of persons as job seekers shifted from the formal to informal sector of the economy; other persons added to the unemployed and discouraged, a higher proportion of economically inactive persons (particularly, women) was recorded as homemakers. A decrease in paid employment in the formal sector of economy (currently with the slower rate compared to the early 90s) is recorded presently what is accompanied with a higher self-employment rate (often in the informal sector).

A higher employment rate of persons in the employable age in rural areas is hardly due to better employment (particularly professional) opportunities in rural areas as the record also includes those who work in the subsistence economy. Under conditions of the transition period, decline of the living standard caused by the crisis, aggravation of the employment situation (especially in rural areas where it is more difficult to get a job as an employee) the subsistence economy that in many cases is a main sphere of activity provides for products retained by families-producers and supplied for sale in the market. It could be proved by the fact that 27.1 percent of a rural population (women – 27.9 percent, men – 26.3 percent) counted as the employed population confirmed that the subsistence economy is their main source of income (for the employed population in urban areas it is only 1.4 percent).

The employment rate given by age cohorts of men and women in the employable and above employable age in Ukraine is presented in figure 3.7.2.

It is clear that the age cohorts with the highest proportion of active persons are represented by those of 35-39, 40-44, 45-49 years. Over all age cohorts a higher employment rate is recorded for men compared to women being the highest for persons above the retirement age; for 40-44 years the employment rate for women

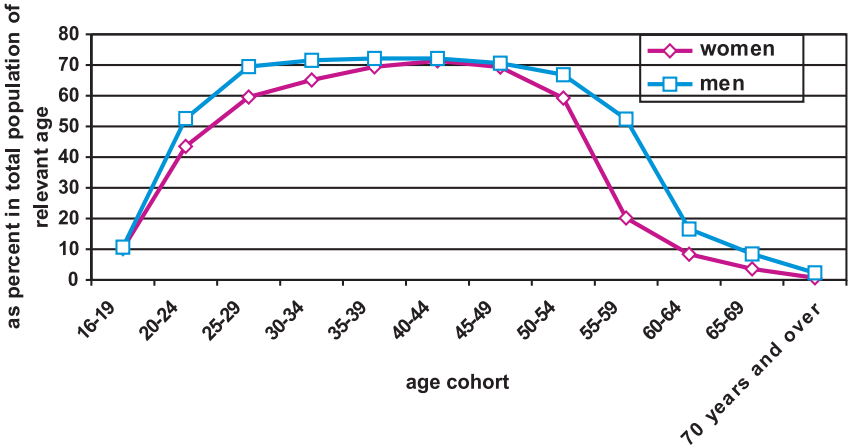


**Figure 3.7.2. Men and women employment rate in Ukraine by age cohorts**

compared to men is lower only by 0.8 percent, 45-49 years – by 1.8 percent, 35-39 years – by 3.8 percent; and for 55-59 years it is higher by 38.6 percent what is a result of a variance in the retirement age; for 60-64 years it is 2-fold higher, 65-69 years – almost 3-fold higher. Compared to the middle-age groups a notably lower women employment rate is recorded for groups of 20-24 and 25-29 years (by 20.8 and 16.5 percent, accordingly) due to the women fertility and taking care about children in this period.

Compared to urban areas, a much higher employment rate due to activity in the subsistence economy is recorded for a rural population over all groups of persons in the employable age (and according to the census in the age above the employable age the reverse situation is observed). A particularly high variance in employment rates given by types of areas is recorded for persons in the junior employable age (20-24 years but especially 16-19 years) what is not accidentally given difficulty in search for the first job of an employee being a person without a work experience. Many young persons in these age groups in rural areas work in the subsistence economy that for five in nine persons aged 16-19 years and about one-third of those aged 20-24 years included in the employed population is a main source of income. Also it is notable that for the junior age groups the highest cut in employment in the transition period was recorded at a moment of the census. And for

the junior age group a "pick" of the unemployment curve is recorded.

In the regional profile the employment rate for persons in the employable age varied from 53.1 percent (AR Crimea) to 65.7 percent (Chernivtsi oblast). The highest employment rate of persons in the employable age (above 60 percent, the national average –58.7 percent) was recorded in Chernivtsi, Vinnytsia, Ivano-Frankivsk, Kyiv, Poltava, Ternopil, Kmelnytskyi, Cherkasy and Chernighiv oblast. It should be noted that in several oblasts listed above, particularly, the western oblasts (Ivano-Frankivsk, Ternopil, Chernivtsi) the higher employment rate is due to a considerable number of persons who worked in the subsistence economy.

The information on the sources of the population income that retrieved from the census data serves as the information base for a distribution of a population by economic groups to capture their role in processes that include production, distribution and consumption.

One of the major first historic economic distribution of the population that was obtained as the census output was a distribution on a self-supporting and not self-supporting population. The distribution is obtained by cohorts that are different by a nature of sources of incomes and hence by their distribution and consumption. Presence of an own, individual, independent on other persons' source of income is a measure to allocate a person to a self-supporting population. Incomes of self-supporting persons are different and not uniform as both to their capacity and a social nature of a source of income; therefore the analysis of a distribution of a self-supporting population is a separate topic with a specific content. The not self-supporting population includes persons without own, individual sources of income and are given a support by a family.

Figure 3.7.3 presents a distribution by a self- and not self-supporting population in Ukraine according to the population census in 2001.

Compared to the previous population census in 1989, a proportion of a self-supporting population get lower by 5.5 percentage points (women – by 6.0, men – by 4.9 percentage points); accordingly, a share of a not self-supporting population was higher what was due to a lower employment of persons in the employable age (particularly women) at enterprises, establishments, agricultural (farming) operations, etc. (see table 3.7.2), to some

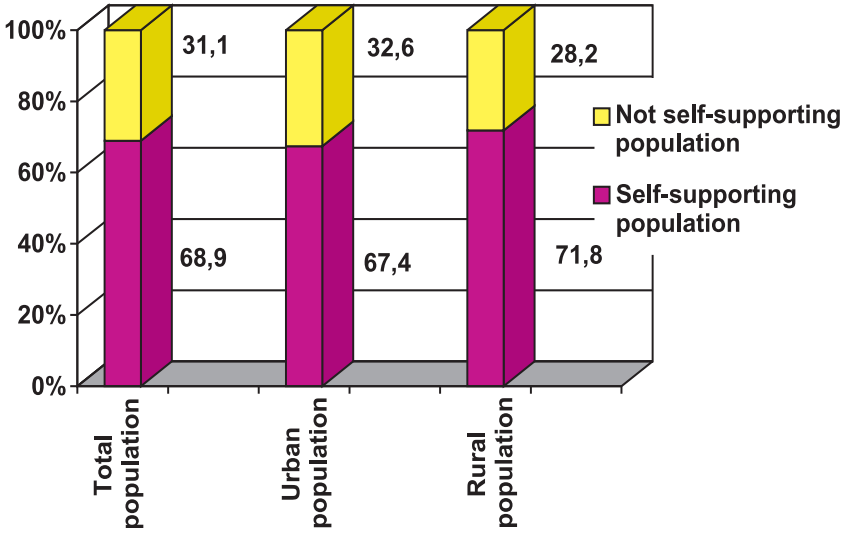


**Figure 3.7.3. Distribution by a self- and not self-supporting population in Ukraine**

extent a higher proportion of teenagers and youth who attended educational institutions and are sustained by a family, i.e. do not have an own source of income or treat a stipend as an insignificant source of income. The statement on a gain in a contribution of persons in the employable age engaged in households in a total self-supporting population that was made for the period between two last censuses could be proved by a growing proportion of women family-dependents in the employable age (26.8 percent): in a proportion of men in the employable age – 19.5 percent. A rather high proportion is recorded for family dependants, persons in the early working age: 16-19 years – a not self-supporting population counts three-forth; 20-24 years – above one-third, and for family dependants aged 16-19 years one of three attended an educational institution while for 20-24 years – only one-third (here one could be without a source of own income, one could have problems with employment). In all age groups in the employable age a proportion of women not gaining income is higher than that of man, and the highest variance on sex is recorded for the period of the highest fertility rate between 20-35 years.

A large share of not self-supporting persons who are dependants covers children under 15 years. Their proportion in a not self-supporting population in urban areas is 46.3 percent, in rural areas – 64.2 percent. A demographic variance over a distribution of a not self-supporting population by a type of locality is a result of both a more popular pattern of a small (often one-child family) family and a phenomenon when homemakers are without any own source of income. Provided all other conditions are equal, compared to the urban population the adult rural population other than employees more often treat their activity in the subsistence economy as an individual source of income what explains a higher proportion of self-supporting persons in rural areas even when more families with the average number of children is recorded in rural areas.

As seen from table 3.8.2, in contrast to the activity at companies, establishments, agricultural (farming) operations and stipend holders, a share of the subsistence economy, as well as pensions and benefits as a source of income got higher for the period between two censuses (this gain is particularly large for persons in the employable age). This change in a distribution by a source of income was due to aggravation of the employment situation in the transition period, population aging, health degradation (what had a contribution on the number of the disabled in the employable age), etc.

For the aging population (both in its total and a self-supporting segment) there is a continuous growth of a proportion of persons who have a pension as a main source of income. It is natural that a pension is a main source of income for persons above the retirement age what is presented in table 3.7.3; pensions is also a main source of income for a certain proportion of children (children in disability, children entitled for pensions at loss of the bread-winner) as well as persons in the employable age granted a pension in disability and work pension – the population of pensioners in the said categories (and as known also pensioners by age) grew continuously in the period between the censuses. It should be noted that a small pension size (in the early 2002 an actual average size of pensions by age was 1/3 of a pension size in the early 1990) forces persons in retirement to search for an additional source of income. Among those who confirmed that pensions is a main source of income a proportion of those who had an additional income was one of the highest (the highest proportion of those who had an additional source of income was recorded for low income persons granted benefits (including

Table 3.7.2.

**Distribution of the Ukraine population by a main source of income (according to the censuses in 1989 and 2001)**

| Source of income | Total population | | | | | | Including persons in the employable age | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Areas, total | | Urban areas | | Rural areas | | Areas, total | | Urban areas | | Rural areas | |
| | 1989 | 2001 | 1989 | 2001 | 1989 | 2001 | 1989 | 2001 | 1989 | 2001 | 1989 | 2001 |
| Persons (%) with main source of income raised from: Activity at enterprise, establishment, agricultural (farming) operations and other spheres of economy (not included persons who work in the subsistence economy) | 50.4 | 31.8 | 52.9 | 35.4 | 45.3 | 24.7 | 85.0 | 52.4 | 84.0 | 54.7 | 87.2 | 47.2 |
| Activity in the subsistence economy | 0.5 | 3.8 | 0.2 | 0.5 | 1.1 | 10.3 | 0.5 | 6.3 | 0.1 | 0.8 | 1.5 | 19.4 |
| Property income | - | 0.2 | - | 0.1 | - | 0.4 | - | 0.3 | - | 0.1 | - | 0.8 |
| Stipend | 2.4 | 0.6 | 3.2 | 0.8 | 0.9 | 0.3 | 4.0 | 1.0 | 5.0 | 1.2 | 1.6 | 0.5 |
| Pension, benefit (not included unemployment benefit) and other types of social welfare | 21.0 | 27.5 | 17.3 | 24.8 | 28.5 | 32.5 | 4.7 | 8.3 | 4.8 | 8.2 | 4.7 | 8.5 |
| Unemployment benefit | - | 1.5 | - | 1.6 | - | 1.2 | - | 2.6 | - | 2.7 | - | 2.3 |
| Other persons' dependant | 25.6 | 31.1 | 26.3 | 32.6 | 24.1 | 28.2 | 5.6 | 23.1 | 5.9 | 25.7 | 4.9 | 16.7 |
| Other source of income and source not specified | 0.1 | 3.5 | 0.1 | 4.2 | 0.1 | 2.4 | 0.2 | 6.0 | 0.2 | 6.6 | 0.1 | 4.6 |
| All sources of income | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source of data: The Table was constructed based on the statistical bulletin "Sources of income for population in Ukraine" / National Statistics Office of Ukraine. –2004. – 382 p.

unemployment benefit) as a main source of income and those who had property income and other source incomes).

A group of self-supporting persons who gain income not from employment, i.e. those who are currently under social (state) welfare schemes include not only pensioners but also stipend and other government benefits holders. As is seen, a proportion is high of those who are under the "state social welfare" schemes in a self-supporting population of the junior working age; it includes children granted the state family benefit for children, teenagers-stipend holders as well as children under state social welfare (in boarding institutions, orphanages, oth.). A certain (but small)

Table 3.7.3.

**Source of income of a self-supporting population according to the population census in 2001 Including**

| Sources of income | Population, total | Including | | |
|---|---|---|---|---|
| | | Under the employable age | Working age | Over the employable age |
| Per 1000 self-supporting persons having income gained from the following sources: Activity at enterprise, establishment, agricultural operation (farm) | 418 | 4 | 616 | 57 |
| Activity as employee at own –account workers | 22 | 1 | 33 | 1 |
| Activity at unincorporated enterprise owned and controlled individually | 7 | - | 11 | 0 |
| Own-account producing of goods and services | 13 | 0 | 20 | 0 |
| Activity at individual agricultural operation (farm) | 1 | - | 2 | 0 |
| Contributing family members without pay | 0 | 0 | 1 | 0 |
| Activity in the subsistence economy | 55 | 4 | 82 | 6 |
| Property income | 3 | - | 4 | 0 |
| Pension | 373 | 276 | 77 | 931 |
| Stipend | 9 | 90 | 13 | - |
| Benefit (not included unemployment benefit) | 10 | 207 | 12 | 0 |
| Unemployment benefit | 22 | - | 33 | - |
| Other source of social welfare | 15 | 365 | 18 | 2 |
| Other source or source not specified | 52 | 53 | 78 | 3 |

proportion of the student youth in the employable age is also included in a group of persons of state stipend holders. In this broad category a slightly higher proportion is recorded for persons granted employment benefits that serve for those as a source of income. Persons in registered unemployment granted unemployment benefits is only a part of unemployed and the program of the first all-national population census does not allow to measure a total

unemployment but it could be surveyed under labour force surveys carried out by the National Statistics Office of Ukraine from 1995. Unemployed is only a certain (not large in a whole) share in the economically active population where the largest proportion are employed persons.

The regional variance in a distribution of a population by the above broad categories for major activities mainly describes specific characteristics of a demographic distribution of a population in some regions, urbanization rate, labour-force situation in various parts of the country, the tension rate of the regional labour markets. The analysis of the data allows one to obtain information on a self- and not self-supporting population ratio in oblasts and by groups of obalsts in Ukraine. A proportion of a not self-supporting population varies by regions from 27.0 percent (Chernighiv oblast) to 34.7 percent (Lviv oblast). A higher proportion of a not self-supporting population is recorded in many western regions with usually high births rates and children population in the population of regions with a high activity in the households (Volyn, Zakarpatska, Ivano-Frankivsk, Lviv, Rivno, Chernivtsi oblast). Also another group of oblasts (Mykolaiv, Odesa, Kherson oblast) is included in a broad category of regions with a lower proportion of persons who have own sources of income: in these oblasts less people gain income as employees at enterprises, establishments, agricultural (farming) operations and, consequently, a higher proportion of persons in the employable age who are homemakers supported by other members. Two western oblasts where a proportion of a not self-supporting population is lower or close to the average national value (Ternopil and Khmelnitski oblast) are regions with the lowest urbanization rate with a comparatively high proportion of a self-supporting population in rural areas due to activity in the subsistence economy; and in these regions the activity rate of a not self-supporting population in urban areas is notably higher compared to the national average (Ternopil oblast – 37.3 percent, Kmelnitskyi oblast –35.0 percent). The ratio of a self- and not a self-supporting population given by areas is higher for urban areas in all regions with exclusion of AR Crimea.

Kyiv, Poltava, Sumy, Cherkasy, Chernignhiv oblasts with a high proportion of a self-supporting population are regions with a high aging rate, comparatively high employment rate for persons in the employable age, average urbanization rate and lower fertility rate

compared to the national average. In the distribution by sources of income for these regions there is a "slightly higher" proportion of persons who gain income through their activity at enterprises, establishments, agricultural (farming) operations, own-account activity and a certain proportion of persons for whom pensions is a main source of income (particularly in Chernighiv, Sumy, Poltava oblast).

In addition to the above regions, employment at enterprises, establishments, agricultural (farming) operations given a distribution by a source of a main income (for the total population and, in particular, persons in the employable age) was high in Donetsk, Dnipropetrovsk, Vinnytsia, Kmhmelnytskyi oblast, and pensions as a main source of income was recorded as a considerable proportion in Zhytomyr, Vinnytsia, Lughask oblast.

In a distribution by a source of income for the population of Zakarpatska and Ivano-Frankivsk oblast there is a sizeably higher proportion of persons active in the subsistence economy compared to the national value (one in eight persons in Ivano-Frankivsk and one in nine persons in Zakarpatska oblast confirmed that their activity in the subsistence economy yields a main income). In the southern oblasts compared to eastern, western and central oblasts more persons confirmed that their source of income is gained by their activity as an employee at own-account workers. And in the southern and some eastern and southern-eastern oblasts (Zaporizhzhia, Dnipropetrovsk, Kharkiv, Lughansk oblasts) as well as in Khmelnytskyi and Chernivtsi oblast a more popular activity is own-account producing of goods and services.

According to the census, a higher proportion of the employed persons (87.0 percent) had a sole source of income and four in five active persons had a sole main source of income through their activity at enterprises, establishments or agricultural (farming) operations. 11.9 percent of persons had two sources of income and 1.1 percent had three and more sources of income.

Opportunities allowing income to be gained through several sources are a comparatively new phenomenon for Ukraine, and in general, for the market economy. Many cases of holding two and more jobs, to a certain extent, correlates with formation of the versatile economy, more freedom in socio-economic choice; and gaining the property incomes (both through secondary and main source) correlates with privatization processes, business

development, setting the economic democracy that is based on the property corporate governance. The situation in the country pushes employees for a multiple-job holding as they get very low wages; in many cases – underemployment by a main job or disguised unemployment that largely demonstrates a forced nature of a multiple-job holding that often shows features of an unmerciful self-exploitation. There is a low probability that a mass evolution of the market income-raising tools will take place in Ukraine as the property right and opportunities for their implementation have still remained limited and not equal for all social strata. It, in particular, concerns a comparatively small strata of employers-owners, limited ability for accumulation of the property (real estate, securities, land parcels, intellectual property) as a stable income-raising tools; underdeveloped economic democracy as to workers' participation in appropriation of profits and stock capital. And according to the census, the property income gained as a main source was recorded only for 5 thousand persons (0.03 percent of the employed), activities at unincorporated enterprise owned and controlled individually gain a main income for 1.3 percent of the employed.

Among persons who confirmed that their source of income is gained through their activity at enterprise, establishment and agricultural (farming) operation 13.4 percent of persons had a secondary source of income and for many (a half of interviews) this income was through their activity in the subsistence economy and only for one in thirty persons the property income was a secondary source of income. According to the census, a proportion of persons who worked at enterprises, establishments and agricultural operations in a total of those who had two and more sources of income made almost one-third and was slightly lower only a proportion of pensioners (35 percent) in a total of persons who had a secondary source of income. And in a distribution of a population of Ukraine by a secondary source of income the highest proportion is recorded for incomes gained in the subsistence economy.

Parallel to the activity at enterprises, establishments that served as a main source of income many confirmed that among other activities the subsistence economy makes a large (in particular, in rural areas) as the source of income needed for the life essentials. As to a distribution of a type of income-gaining activity given by sex, a higher men proportion was recorded for their activity at incorporated enterprises owned and controlled individually, as an

employee at own account workers, own-account producing of produce and services as well as individual agricultural operation (farm). Almost two-thirds of persons who worked at unincorporated enterprises owned and controlled individually confirmed that their activity gains a main income. In general, a contribution of the new sources of income that emerged over the recent decade is insignificant.

Also it is important to have in a focus a distribution difference by age for the activity that gains a main income. The analysis of a distribution on as source of income by age groups given in 5-years interval within the employable age made it possible to find certain regularities as to a contribution by each source of income and variance by age groups.

With a higher age there is a higher proportion of the employed whose source of income is employment at enterprises, establishments or agricultural (farming) operation. At the same time with the higher age a dropping number is recorded for those who work as an employee at own-account persons. This proportion is high only for persons in the pre-employable and early employable age when because of difficulty with a formal employment these persons are in informal employment at own-account persons being engaged at such works as car cleaning, couriers, taking care about small children, etc.; it is often current employment that does not require professional skills when work hours are not specified. With a higher age when youth gets a higher educational attainment and skills having a more firm stand in the socio-industrial sphere a dropping proportion is recorded for persons who have a main source of income gained through their work in the subsistence economy.

With the higher age a proportion is higher for those who have an unincorporated enterprise owned and controlled individually, gain property income, etc. And according to the census, 0.3 percent of the economically active persons aged 16- 19 years gained a main income through their activity at own enterprise, 20-24 years – 0.7 percent, 25-29 years – 1.3 percent, 30-34 years – 1.8 percent, 35-39 years – it reached the maximum (1.9 percent) and then for the senior age it gradually went down. The same parabolic curve was also obtained for the values describing a contribution of the income-source activity for own-account workers and in individual agricultural operations and here the age "pick" is found for 30-39 years (own account activity) and 40-49 years (individual agricultural operation).

In the age above the employable age a proportion drastically drops for those who confirmed that the above activity (unincorporated enterprise owned and controlled individually, own-account producing produce and services) is a source of a main income, a gradual slight decline is also recorded for those who gained a main income at enterprise, establishment and with the older age a proportion of pensioners who confirmed that pensions is a main source of income gets higher. When among the employed persons in the employable age one of ten persons confirmed presence of one source of income, then three-fifths of active persons above the employable age confirmed presence of two sources (and it is clear that one of either is not adequate for essential vital needs), 3.5 percent confirmed a presence of three sources of income.

A notable feature in a distribution of the employed persons by an income-gaining activity given for all types of localities (as well as a total population) is a higher proportion of economically active persons in the subsistence economy in rural areas compared to urban areas. In a small proportion of persons who gain property income there are more persons in rural areas who are renting land parcels. The income-raising activity of an employee (at enterprises, establishments, as well as at own account workers); enterprises owned and controlled individually, own-account activity was higher in urban areas than in rural areas.

The qualitative changes in activity of a population in Ukraine over the transition period closely linked to processes of formation of a new economic system. They reflect difficulties in overcoming stagnation in domestic production, its technical and technology modernization and restructuring; problems in setting civilized social-industrial relations in Ukraine. One of the important qualitative parameters of economic activity that describes both the above process on setting a new market model of socio-economic development and specific characteristics of the national and regional production and economy is distribution of a population by a type of economic activity. The first all-national population census data make it possible to get a distribution of the employed population by a type of the economic activity and status in employment that describes new socio-economic characteristics of the population formed in the period between two censuses. A distribution of the employed population by a type of the economic activity at a moment of the census in 2001 is presented in table 3.7.4.

Table 3.7.4.

**Employed by a type of the economic activity**

| № | Type of economic activity | Person, thousand | As percent to total employed |
|---|---|---|---|
| I | Agriculture, hunting and forestry | 3708.4 | 21.5 |
| II | Fishing | 27.7 | 0.2 |
| III | Mining and quarrying | 588.9 | 3.4 |
| IV | Manufacturing | 3003.5 | 17.4 |
| V | Electricity, gas and water supply | 545.8 | 3.2 |
| VI | Construction | 742.6 | 4.3 |
| VII | Wholesale and retail sale; trade in transport vehicles; repair services | 1881.0 | 10.9 |
| VIII | Hotels and restaurants | 313.3 | 1.8 |
| IX | Transport | 1159.6 | 6.7 |
| X | Financial intermediation | 156.4 | 0.9 |
| XI | Real estate activities, renting and business activities | 583.6 | 3.4 |
| XII | Public administration | 1047.3 | 6.1 |
| XIII | Education | 1448.9 | 8.4 |
| XIV | Health and social services | 1303.2 | 7.6 |
| XV | Collective, public and individual services | 498.9 | 2.9 |
| XVI | Household services | 74.3 | 0.4 |
| XVII | Extra-territorial activity | 4.1 | 0.0 |
| | Not clear or not specified types of activity | 162.6 | 0.9 |
| | Employed, total | 17250.1 | 100.0 |

It is extremely notable that a too high proportion of persons were employed in agriculture, hunting and forestry what was traditionally recorded for the country where the above key activity sphere largely had predominantly an extensive development[1]. Persons employed in agriculture, hunting and relevant services count a higher proportion of employed in the said type of activity. Those who are employed in forestry and relevant services count 3 percent in a total employment in agriculture, hunting and forestry. A high employment rate in agricultural sector in Ukraine was set

[1] In many industrialized countries in Europe a large-scale shift of the employed persons was recorded predominantly in the 70s of the passed century (from the agricultural sector to such sectors as industry, construction, public administration and services). – (A. Mendra. Fundamentals of sociology: Guidelines for higher educational institutions. –M.: Publishing House "Nota Bene", 1999. –P.260-261.

not as so much due to agriculture-oriented economy in the country that has fertile black soils but due to a low labour productivity in agriculture what in its turn correlates with a low inadequate provision with technical means, high labour intensity of the domestic production in agriculture with a high contribution of manual labour in this sector.

Almost one in four workers in agriculture, hunting and relevant services was employed in crop production, one in five workers employed in this sector worked in a mixed-type agricultural operations (thus combining activity in crop production and livestock breeding) with a 5-percent employment share in livestock breeding, about 0.1 percent employment in agriculture and hunting was recorded for hunting and relevant services and thus a half of employment in the sector are those who worked in other branches of agriculture and hunting.

A distribution of employment in mining and quarrying normally reflects specific characteristics of the national natural resources, in particular, reserves of natural resources and their composition. Above two-thirds of employment in mining and quarrying in Ukraine are those who are employed in coal, lignite (brown coal) and peat mining. 16 percent of employment in mining and quarrying is mining of mineral ores (largely iron ore; a smaller share is mining of non-ferrous metal ores). Given not rich reserves in Ukraine, employment in oil and gas extraction is a slightly higher than 6 percent in employment in mining and quarrying and in all other sub-sectors of the industry like quarrying of salt, sand and clay employment goes as high as about 10 percent.

As known in the structure of employment in manufacturing the sector of food products and agro-processing manufacturing is distinguished where according to the First national census one of five manufacturing employees is employed. One in seven workers employed in manufacturing was an employee in manufacture of machinery and equipment, one in thirteen persons – manufacture of transport equipment; one in twenty five persons – manufacture of electrical and electronic equipment. Manufacturing food products and agro-processing as well as manufacturing machinery and equipment are not only major industries in context of a total employment in manufacturing but are sectors that show a rather high growth rate over the recent years.

As it was recorded in the late 2001, four in twenty five employees in manufacturing worked in manufacture of basic metals and fabricated metal products (here three of four were employed in manufacture of basic metals and one fabricated metal products). Among other industries in manufacturing a sizeable proportion of the employed is recorded for such traditional industries as manufacture of wearing apparel and furs (5.7 percent of employment in manufacturing), manufacture of chemicals (5.1 percent), manufacture of textiles (2.9 percent), manufacture of wood and products of wood – (2.7 percent), etc.

One more branch in industry is electricity, gas and water supply. Two-fifth of the employed in this industry work in electricity generation and distribution, one-fifth – heat production and supply, about one-fifth is employed in water intake, sanitation and supply and the remaining share – manufacture and supply of gas-like fuel.

According to the census, fourty three in a thousand persons are employed in construction. As the late 2001, many of those employed in construction (two-thirds) worked at remodeling of the present buildings, civil construction; one of seven was employed at construction in progress, one-tenth – finishing works.

Among economic activity spheres and industries that are allocated to "third-grade" sectors in the national economy the highest rate of growth and employment was recorded for wholesale and intermediation trade, trade in motor vehicles and repair services. As on the late 2001, one in nine persons was employed in this sector. An advance growth of trade and a higher employment in this sector in the transition period with formation of a relevant market infrastructure could be assessed as a regular and positive process (in particular, with respect to an advanced growth of trade and services in countries with the developed economy) if there had not been a visible bias in the national economy development, under which investment, profit, human resource mobility to the sphere of intermediation is accompanied with a decline in production and to-date, in a high extent, is a result of inadequacy of market mechanisms, in particular, in pricing. According to the census, among the employed in wholesale and trade intermediation, trade in motor vehicles and repair services many worked in retail trade (more than 70 percent), wholesale and retail trade – slightly more than 18 percent, the remaining share – trade in motor vehicles and repair services.

One in fifteen persons employed in the national economy worked in the transport sector where two-fifths were employed in surface transport, one-fourth – post and telecommunications, one in eight persons worked at supporting and auxiliary transport services (transport infrastructure, tourist agencies, transport agencies, etc), the remaining share – water and air transport.

The economic content and activity area of the branches allocated to "financial intermediation" and often also such branches that are allocated to "real estate activities, renting and business services" has significantly changed in the period between the censuses. It was an objective reality that financial activities and their main element "financial intermediation" were set in Ukraine right in this period. In total of the employed only one in a hundred persons was employed in financial activity sector, largely in financial intermediation. The growth in the insurance and well as stock market sector in this country is not adequate and therefore employment in these sectors is rather low.

Over the transition period a higher employment was recorded in sectors of real estate, auditing, law, management (including human resource management), IT activities that grew due to institutional intermediation in the country, tailoring the economic and prioritized technology development model to a general model adopted in the west. In "real estate activities, renting and business activities" employment (see table 4.8.4) those who are employed at real estate activities count above one-third and those who work at sector of activities (legal, auditing, management and IT) are splitted evenly over and count slightly higher 6 percent.

One –forth of those employed in the above industries worked at science and research: many of those work at natural and engineering science and only 6.5 percent worked at humanities and social science what reflects a certain underdevelopment of a human science complex in this country.

The third-grade sector in the national economy represented by social infrastructure sectors also includes the sector of education (three-fifths of its employment is the secondary education, one-fifth – a system of the higher education and almost the same employment is in the primary education and the health sector and social services (here, one in seven persons is employed in the health and one-tenth – in the sector of social services and the remaining share – veterinary activities).

Three in fifty persons were employed at public administration. And three of five persons employed in public administration had activities related to competence of the state (international relations, defense, justice, protection of public order and security, oth.); five in thirteen persons included in employment at public administration were employed in general administration and social spheres; among the employed at public administration employment in compulsory social insurance was slightly higher than 1 percent.

More than a half of employees at collective, public and individual services worked in spheres of recreational, culture and sporting activities. About 30 percent of the employed in this sector were those who worked in the sphere of individual services (laundering and dyeing, hairdresser's and ritual services, oth.) and one in nine persons employed at collective, public and individual activities is an employee at public activities and one in twenty of those employed thereto worked at cesspollage, street cleaning and waste treatment.

Use of homemakers' services (see table 3.7.4) is not very popular due to a small population of "well-off" persons as any increase in this group of population is pre-supposed by a rather high (by national standards) income and, to certain extent, absence of a tradition and a force of habit. Also employment at hotels and restaurants is low for the causes given above. In general employment the number of persons employed in the service sphere remains very low in Ukraine compared to countries with a developed economy where over the recent dozens of years there was a high rate of the inter-sectoral workforce shift to the third-grade sector, formation of the "economy for services" and strengthening the economic stand of those who are employed as "service workers" which employment is the highest in the information society.

A distribution of the employed population by industries shows certain geography differences what is due to the natural and climatic conditions, socio-economic and national-historic development of the regions. The regional employment distribution is set and transformed as a summation of economic and demographic factors among which a level of economic development of regions, balance (misbalance) of geographies in allocating production and labour resources, a rate of demoeconomic "pressure" and specific qualitative parameters of a population for an individual geography. And in the regional profile the highest economic potential is recorded for the eastern, south-eastern regions as well as the capital.

Distribution by employment for a population in the south-eastern regions (Dnipropetrovsk, Donetsk, Zaporizhzhia, Lughansk, Kharkiv oblast) feature a bias to industrial types of activity, also a comparatively high employment is recorded for trade, real-estate activities, science and research, transport infrastructure, renting and business activities; collective, public and individual services

In a total of regions in Ukraine, Kyiv is distinguished as a large scientific, financial, trade and administrative center. The above functions of the capital have an impact on a distribution by employment for a population in the capital where the highest (compared to the national value) proportion of the employed is recorded in trade and repair services, financial intermediation, real estate activities; a higher employment is recorded for public administration. The above characteristics for a distribution by employment for a population in the capital are, to a certain degree, peculiar to employment in Kyiv oblast.

Employment distribution for a population in the southern regions (AR Crimea and Mykolaiv, Odesa and Kherson oblast) is set due to a more prevailing development of infrastructure sectors (trade, transport, medical and health rehabilitation complex). And, in contrast to the neighboring eastern regions with a developed industry, in many southern regions there is a higher proportion of persons employed in agriculture (largely crop production and mixed agricultural economy) what is due to favorable natural and climatic conditions of these regions.

Over a distribution by employment the highest values are recorded for agriculture, hunting and forestry in the western oblasts (Chernivtsi, Ternopil, Zakarpatska, Volyn, Ivano-Frankivsk and Vinnytsia oblast). A lower employment was recorded in these oblasts in sectors of industry, transport and telecommunications, wholesale and retail sales, trade in motor vehicles and repair services. It should be noted that a considerable labour potential of the western oblasts has an irrational distribution by employment in industries due to a certain lag of these oblasts (not included Lviv oblast) from the eastern and central regions by a general level of socio-economic (including development of infrastructure), financial activity, etc. In general, the central and northern oblasts show an average national picture featuring a typical national distribution by employment given by industries.

Socio-economic and, in particular, institutional transformations in Ukraine that were captured during the census had an impact on a distribution of a population by a status in employment. Characteristics presented by a distribution by a status in employment is a standard characteristic for a socio-economic structure of a population and at the same time they make it possible to assess results of the reform in ownership, setting national businesses in all sectors of economy through the profile in employment.

Persons in paid employment is the largest category of the employed population (it includes 14255.3 thousand persons) and in a moment of the census a share of persons included in this category made above four-fifths in a total employment in Ukraine. The lowest proportion of employees was recorded only for retail trade, trade in motor vehicles and repair services (here it counts three-fourths of employment in the sector) as well as in agriculture, hunting and forestry where four in nine personswere in paid employment. The absolute majority of persons in paid employment were recorded in other spheres of economic activity.

The next category of the employed given by a status in employment "members of producers' cooperatives" counts 663.5 thousand persons what makes 4 percent in the employed persons. Naturally, a much higher proportion of those having this status in employment is recorded for agriculture, hunting and forestry (approximately one in nine persons) as well as in fishing where one in thirteen had the above status in employment.

The categories of persons with a status in employment as "employer" and "own account worker" did not count many persons as those emerged in the period of the transition economy in Ukraine. According to the first all-national population census, the category "employers" counted 188.3 thousand persons what yields eleven in one thousand employed persons. A much higher proportion of employers was recorded in the following sectors: trade and repair services (these sectors are more advanced due to privatization processes and feature a high activity in small and average enterprises owned and controlled individually or in partnership) as well as in a such sector as "hotels and restaurants". In some sectors where a proportion of employers is low (mining and quarrying, public management, education) now, a large public share is pre-supposed (a prevalent share of public ownership in these sectors is justified

as normal and retained in many countries with the developed economy). In general, a low proportion of owners-employers in the employed population reflects difficulties and contradictions on setting national businesses, extension of the corporate and private sectors in economy that get more complex due to slowing down structural reforms in key sectors of economy, irrelevance of the current legislation and hence these processes go much slower than in many countries in Central and Eastern Europe. And this group features taken by a distribution by a status in employment features the gender inequality where there are more employers-men than employers-women (figure 3.7.4).

According to the census, own-account workers count 502.8 thousand or about 3 percent of the employed population. The status of an "own account worker" (often in informal sector) is more recorded for trade and repair services where persons having a status an "own account worker" count above one-sixth over a total employment in these sectors. A higher proportion (when compared to the national average) of own-account workers was recorded for employment in construction (especially in such a sub-sector as "finishing works" where one in ten is an own-account worker) and collective, public and individual services especially in a segment of

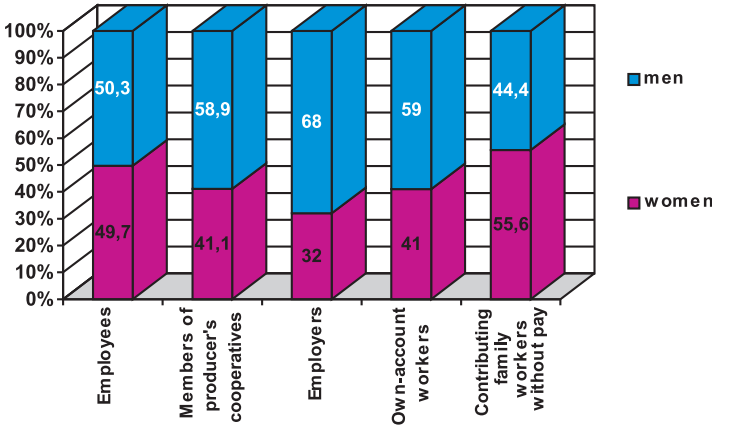


**Figure 3.7.4. Distribution by a status in employment for the employed in Ukraine, by sex**

individual services where two in thirteen persons had a status of an "own account worker".

The smallest group is "contributing family workers without pay" that count only 19 thousand persons and one in nine persons is employed at agriculture, hunting and forestry; another three persons over this distribution are employed in trade (predominantly retail trade) and in repair services, the remaining persons are active in the sector "family hotels and restaurants"; collective, public and individual services (predominately individual services like laundering, dyeing, etc.), in manufacturing (predominantly, manufacture of food products and agro-processing as well as manufacture of textile wearing apparel), construction, oth. where they apply their labour potential within a frame of family cooperation.

The employed persons not included in the above groups by a status in employment are allocated to "not classified by status" and count 1621.2 thousand persons including those who had activity is the subsistence economy (1606.5 thousand persons) and partly religion servants (14.7 thousand person). Among those who are employed in agriculture, hunting and forestry a proportion of persons employed in the subsistence economy is nearly not lower a proportion of employees at agricultural operations what one's again confirms a specific contribution of the subsistence economy in production of agricultural produce and provision of the essential vital needs of a population (especially a rural population) in Ukraine.

The indicators that describe a socio-economic distribution of the employed population by a status in employment are characterized with their low subnational variance. Distribution of the employed population by a status in employment is linked to the sectoral characteristics of an individual geography and often shows misbalance in development of business, etc. Thus, the highest proportion of employees in the employed population (above 85 percent) was recorded in Kyiv and Sevastopol (where a large proportion is employed in public administration, social infrastructure sectors, financial sector, etc.) and also in the eastern industrial oblasts; a too high proportion was recorded in mining and quarrying areas where enterprises are in public ownership.

The lowest proportion of employees was recorded in Chernivtsi, Zakarparska, Ivano-Frankivsk, Volyn, Ternopil, Kherson and Odesa

oblast (largely agricultural regions) where it correlates with a higher proportion of members of producers' enterprises/ cooperatives (Odessa, Kherson as well as Volyn oblast). A higher proportion of contributing unpaid family workers was recorded in the southern and several western regions.

The subnational indicators for a distribution of a population by a status in employment is an indirect proof for a more intensive institutional transformations aimed at promotion of businesses in such regions in the East and South of Ukraine as Dnipropetrovsk, Kharkiv, Odesa oblast and AR Crimea where there are more owners-employers in the employed population. And about two-thirds of employers in Dnipropetrovsk oblast, almost a half of those in AR Crimea and Kharkiv oblast, about one third in Odesa oblast were recorded in trade and repair services.

It should be noted that the count of the employed having a status of an employer in eight regions of Ukraine where a proportion of employers in the employed population is higher than the average national value (AR Crimea, Dnipropetrovsk, Zaporizhzhia, Kirovograd, Odesa, Kharkiv oblast and city Kyiv, Sevastopol) is almost a half of a total of the employed by this status. In addition to the economic activity "wholesale and retail trade", "trade in transport and repair services" where a proportion of employers is high, less employers was recorded in manufacturing (manufacture of food products and agro-processing, wearing apparel and footwear, leather; publishing and printing, timbering and carpenting); in agriculture (largely crop production), construction, as well as in hotels and restaurants, transport and business services (legal, auditing, etc).

Wholesale and retail trade, trade in motor vehicles and repair services are the most popular activities not only for owners-employers but also own-account workers (these sectors employment covers two-thirds of own-account workers). The second largest economic spheres in context of a proportion of own-account workers is agriculture[1] , transport; collective, public and individual services, construction. Thus, a relatively high proportion of own-account workers is recorded in regions with developed trade and branched

[1] A group of own-account workers includes persons whose activity is own-account producting of produce and services as well as activity in agricultural operations owned individually or in partnership

transport network, as well as regions that specialize in agriculture (the southern regions – AR Crimea, Zaporizhzhia, Kirovograd, Mykolaiv, Odesa, Kherson oblast, city Sevastopol; partly the eastern Kharkiv region and Zakarpatska and Chernivtsi oblast.

As a generally recognized measurement of the socio-economic stratification, the occupation of a person is treated as an important element of the social status. In the present society an occupational sphere plays an important role both in allocation to groups that differ by their place in the social hierarchy and by a size of income.

Over the transition period in the specific characteristics of a socio-occupational distribution of a population in Ukraine it is necessary to single out its mobility, multi-parametric nature and, to a certain extent, conditional character (relativity) as well as a higher role of ascriptive characteristics (age, sex, health status, physical state and other natural qualities) and also inherent and individual personal capacities (intellectual, creative, entrepreneurial, etc) in determining a social role and occupational status. One of the features of the transition period is dissociation of the traditional socio-occupational groups, loss of prestige and financial attractiveness by some occupations, absence of a scale that determines a prestige of occupations and skills, its unsteadiness and variability.

Presently in Ukraine in the "blue-collar" (manual workers) broad category groups "elementary occupations", "plant and machine operators and assemblers" and in "white-collar" broad category the group "specialists" are the largest. As to a distribution over a total emploment the following occupational groups are slightly smaller: "skilled workers with tools", "professionals" and "service workers and shop/market sales workers". A much lower proportion in the distribution of a population by occupational groups is recorded for groups of "associate professionals", "skilled workers in agriculture, forestry, fishery and fishing".

As seen from figure 3.7.5, a distribution of a population by occupational groups shows a certain variance depending on a type of areas. It is notable that a considerable proportion of a rural population is allocated to an occupational group "elementary occupations" in which as the late 2001 two in five rural employees were recorded. In rural areas in the group "elementary occupations" two-thirds of persons worked in the subsistence economy; one in seven persons was employed at low-skilled manual works in

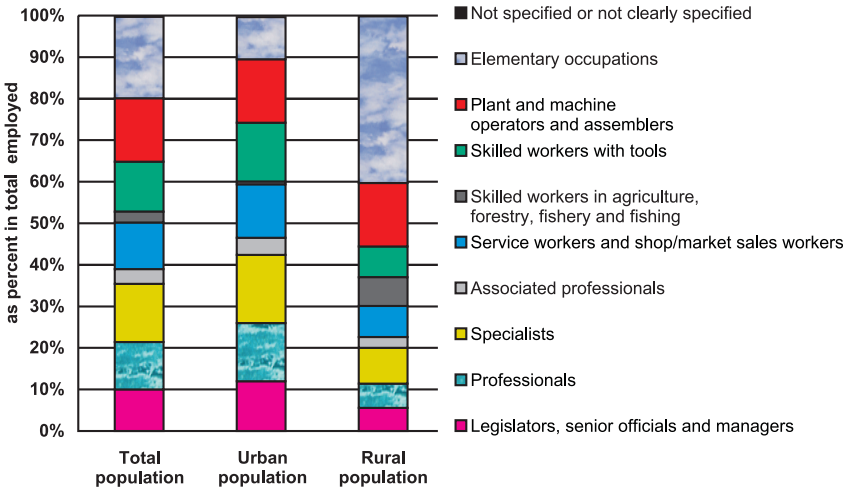


**Figure. 3.7.5. Distribution of the employed population by occupational groups**

agriculture; a slightly higher proportion were watchmen and cleaners of service areas. It is natural that a higher proportion of skilled workers was recorded in agriculture, forestry, fishery and fishing for a rural population compared to town residents. For rural areas in the employed population there was a low proportion of representatives of the "white-collar" groups " ("legislators, senior officials and managers", "professionals", "specialists", "associated professionals") and partly those who under the "blue-collar" broad category were allocated to "service workers and shop/market sales workers" and "skilled workers with tools" what reflects one-dimensionality and, to a certain extent, an archaic nature of a socio-occupational picture for a rural population that is built on the one-sided, impoverished life of rural residents in Ukraine, low development or depreciation of infrastructure, especially the social infrastructure and hence a very low level of a person's self-fulfillment among village residents.

A distribution of an urban population in Ukraine by occupational groups is comparatively more balanced and shows a less archaic nature. A total "white-collar" urban population is 2-fold higher the value recorded for rural residents. A share of a group "skilled

workers with tools" in urban areas is almost 2-times higher than in rural areas and for urban residents a share of "service workers and shop/market sales workers" was 1.7-time higher compared to a rural population.

In contrast to a distribution by a type of areas, variance in the occupational distribution by sex is not so high and an analysis is of interest in view of contribution of a socio-occupational status in reaching the gender parity in the society. A distribution of a men and women population by occupational groups is determined by psycho-physiological specific gender characteristics linked to occupational requirements to a type of works and conditions as well as traditional ideas on a "man" and "women" role and, accordingly, an occupation. In time of the technical and engineering modernization of production, a lower rate of a manual work, regular upgrading of qualification and skill requirements to workers, wider opportunities for a free socio-economic and, in particular, occupational choice, governed by general regularities the contribution made by natural and biological factors becomes less effective and parallel to this in the variance over a distribution by sex for occupational groups, a gender bias and inequality in a sphere of work becomes less pronounced and hence the objective conditions are set for a lower contribution of the gender component in social inequality, a more balanced distribution by sex at different levels of the social hierarchy.

The comparison of a distribution of women/men employment in Ukraine given by occupational groups features a lower proportion of women employment for such "elite" groups as "legislators, senior officials, managers" (8.7 percent, men – 11.2 percent) and a lower contribution of the "blue-collar" occupations by a group "skilled workers with tools" (women employment – 4.2 percent, men employment – 19.5 percent), "plant and machine operators and assemblers" (7.9 and 22.4 percent, accordingly). At the same time, more women than men are recorded in the group "associated professionals" (by 4 times), "service workers and shop/market sales workers" (by 2.5 times),"professionals" (by 2 times), "skilled workers in agriculture, forestry, fishery and fishing" (by 1.5 times).

The men-women ratios given by occupational groups for the employed population confirms that there are more women in a group "associated professionals" "service workers and shop/market sales workers"; they are predominant in the group "professionals" and

"specialists"; a rather high contribution of women is recorded in a group "skilled workers in agriculture, forestry, fishery and fishing" and a negligible share in the group "elementary occupations". A prevailing share of men is in the group "skilled workers with tools" and "plant and machine operators and assemblers", a rather high proportion is in the group "legislators, senior officials, managers".

In general, a total share of the employed in the "white-collar" broad category, that taken by occupational groups represents the higher and middle strata of a population, is notably higher for women (48.9 percent) compared to men (30.2 percent), and in the absolute terms a women population in the "white-collar" broad category is 1.5 time higher compared to a men population. However, prevalence of women in this group is due to a contribution of those having a lower grade in qualification and skills (specialists) as well as associated professionals that are attributed to a "lower middle class"[1]. It should be noted that the above groups included in the "white-collar" broad category cover a wide circle of occupations that pre-suppose fulfillment of different functions that often differ largely by a level of complexity, responsibility, require a different grade of qualification and skills and hence on the scale of prestige are graded differently, have a different level of remuneration and hence with a purpose of an overall diagnostics over a possible gender misbalance or features of an occupational gender discrimination it could be used for the in-depth analysis on a distribution and coordination over broad categories of occupational groups.

In a group "legislators, senior officials, managers" a proportion of women is gradually dropping by the vector towards the elite strata of a population, higher levels of public administration. Figure 3.8.6 gives a clear presentation for a lower proportion of women at a level where important political and economic decisions are made. In the "white-collar" broad category of occupational groups over a group "legislators, senior officials, managers" there are more men and persons senior by age what is confirmed by the indicator on their average age. And in this category the highest age had legislators, the lowest age – managers (not included administration).

A significant variance over a sex is recorded for a distribution of "professionals" given by skills. The largest women sub-group – teachers that count almost 42 percent of women-professionals, while

[1] Gidens, Antony. Sociology. – K. Fundamentals, 1999. – P.305

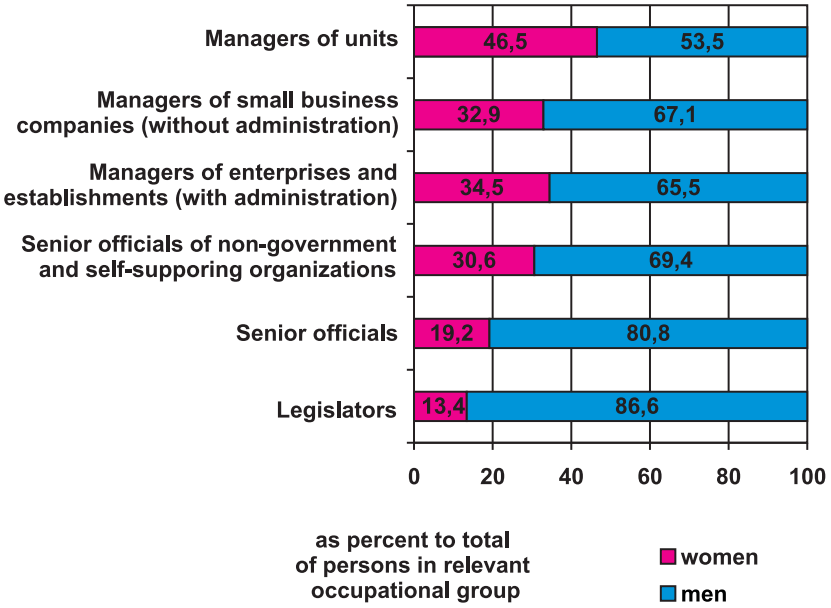


**Figure 3.7.6. Distribution of employment for legislators, senior officials, managers in Ukraine by sex**

men in this group count 22 percent; at the same time, in a group of "professionals" those who are in physics, mathematics and engineering research have the following distribution: men – 38 percent, women –17 percent. The second-ranking sub-group given by skills in context of a women employment is economics, finance, management and law (one-fifth of women professionals, 18 percent – of men); the third ranking group are those employed in biology, agronomy and medicine research (12 percent of women and over 15 percent of men professionals). And in the group of professionals a considerably lower proportion of women was recorded for art-workers and religious servants but a larger share of women-professionals was in socio-political sciences and humanities.

The distribution of women-professionals in the largest sub-group of teachers recorded two-thirds of those in secondary educational institutions, above 15 percent are teachers in the primary schooling and pre-school educational institutions and only 12 percent were

lecturers of the higher educational institutions; a distribution for men yields 55, above 2 and above 36 percent, accordingly. This example shows that regardless a generally higher proportion of women in the group "professionals" women are largely employed in the sub-groups with a higher women employment but lower skill grade. There is a certain women lag by a qualification and skill level under conditions when the general educational attainment of women is not lower than that of men. And in a women employment a proportion of those with a complete higher education is 23 percent, with a base and incomplete higher education (aggregate) – about 32 percent, men 20 and about 21, accordingly. For a group "professionals" these indicators are: women 80 percent (complete higher education) and about 18 percent (base and incomplete higher education); men – about 85 and 12 percent, accordingly.

The figure given below (figure 3.7.7) presents a distribution by occupational groups in the profile of the age groups for the employed population.

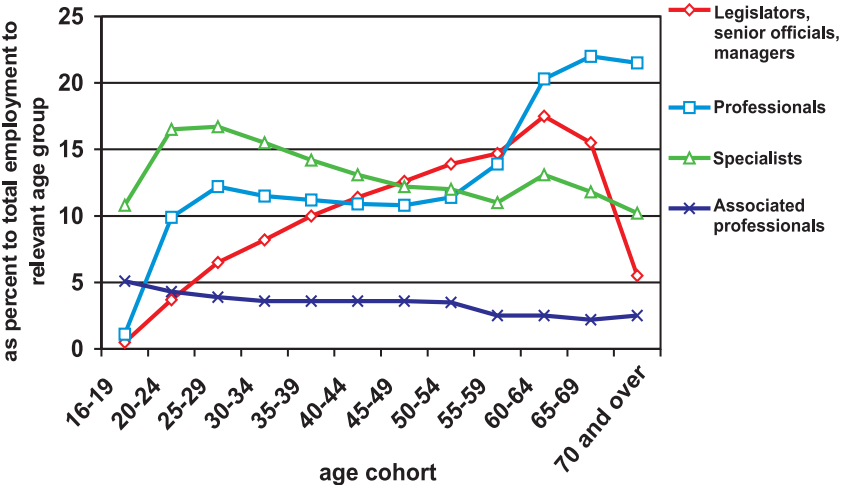


**Figure 3.7.7. Proportion of occupational groups in the "white collar" broad category given by age cohorts for the employed population in Ukraine**

The age curves for employment in the "white-collar" broad category for the group "legislators, senior officials, managers" and "professionals" present a clear picture of convergence of the socio-occupational processes with the higher age versus a higher qualification and skill level. In the group "professionals" (and partly "associated professionals") a general trend is observed for a certain redistribution with a higher age what yields a higher employment in two "white-collar" occupational groups given above (largely for "professionals') that require a higher educational level, qualification, certain experience, etc.

In context of activities the most attractive group for youth employment is "service workers and shop/market sales workers", and it is not surprising that for this group the lowest average age was recorded. With a higher age a contribution of a group "service workers and shop/market sales workers" in a distribution by occupational groups is dropping.

It is notable that an extremely high proportion of persons allocated to a group "elementary occupations" is recorded in the younger age group (see figure 3.7.8) what reflects employment (often current employment) at elementary occupations in the absence of a required qualification and skills for other occupations as well as difficulties with entry in a more attractive first job graded higher by a level of skills. It was revealed that the age intervals over a dropping proportion of persons in the group "elementary occupations" and their stabilization when the 65-years limit is reached changed to a drastically growing proportion of persons in the retirement age employed at elementary works that in many cases have their residual activity in the subsistence economy or as employees who often work as watchmen, unskilled manual workers in agriculture, secondary workers, cleaners of the service area, etc. It should be noted that a too high proportion of persons in the group "elementary occupations" in all age groups (especially in the junior and senior age groups) is due to a mass "savior" activity in the subsistence economy over the transition period when a proportion of those who are active in the subsistence economy counts 48 percent of a total employment by a group "elementary occupations".

Specific characteristics of a distribution of certain population categories by occupational groups taken by a status in employment are of interest in context of the analysis of a socio-occupational distribution of a population. In this regard a group of employers is

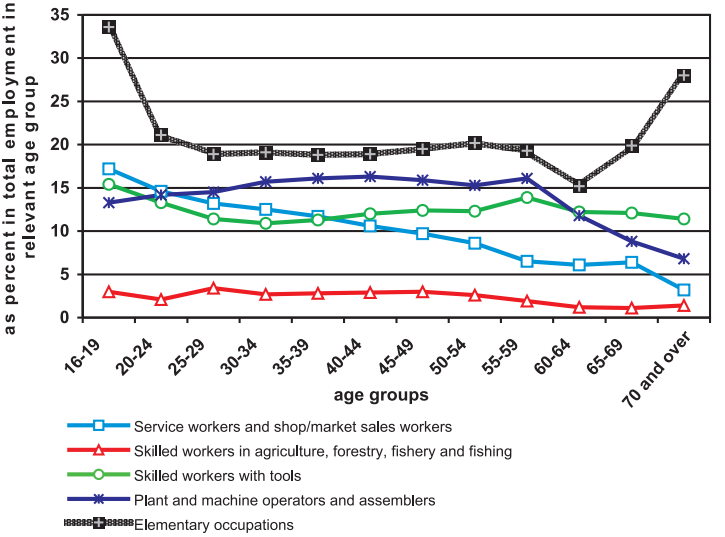


**Figure 3.7.8. Proportion of occupational groups in the "blue collar" broad category given by age cohorts in the employed population in Ukraine**

very specific as many of those (four-fifths) are recorded in a group "legislators, senior officials, managers". Many of those are managers of small business companies without administration (70 percent of managers) and one in nine employers in this group is a manager of enterprise, establishment (with administration).

A group of own-account workers is of interest as many in this group are employed in trade and maintenance and repair services. Thus, about 53 percent of persons taken by this status in employment and occupational group are allocated to "service workers and shop/market workers" among whom there are more shop assistants, other trade outlet assistants, stand and market sales workers.

For persons with a status in employment "members of collective producer's enterprise, cooperatives" a sizably high proportion is recorded for an occupational group "skilled workers in agriculture, forestry, fishery, fishing" (one in nine members of producers' enterprise, cooperative) as well as "operators and assemblers of

machinery and equipment (about one-forth) and often for agricultural workers (tractor operators in the latter group count 37 percent, what is rather natural as a collective form of ownership is extended in the agricultural sector. Also there are many persons who are employed by a group "elementary occupations" having a status in employment a "member of collective producer's enterprise, cooperative" (about 19 percent compared to 11 percent as the national average).

A group "skilled workers in agriculture, forestry, fishery, fishing" counts one-fourth of all contributing unpaid family workers; two in seven persons with this status in employment are allocated to a group "elementary occupations" (largely to "manual workers in agriculture, persons having activity "in the subsistence economy, etc.).

A distribution by occupational groups for the largest socio-economic group in the employed population – employees – is presented in figure 3.7.9. As to a contribution in a total employed population, two groups are singled out – "operators and assemblers of machinery and equipment" and "specialists".

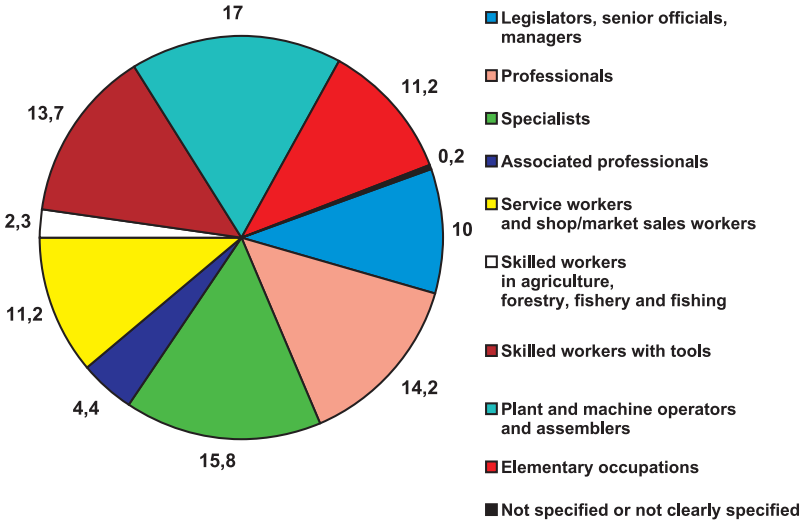


**Figure 3.7.9. Distribution of employees by occupational groups**

Employees count 96.9 percent of all specialists, 96.3 of all associated professionals and 96.2 percent of all professionals employed in the national economy. A much lower proportion of persons with this status in employment is recorded for elementary occupations (47.6 percent), many of those are active in the subsistence economy, as well as in the group "skilled workers in agriculture, forestry, fishery, fishing" (74.3 percent).

The specific characteristics of a distribution of the employed population by occupational groups in context of geography are stipulated by a level of the socio-economic development of regions, their contribution in labour distribution at context of the national economy, current labourforce situation and a degree to which regional labour markets are balanced.

The socio-occupational distribution of the employed persons could serve as an indicator of the economic situation (development) in a region, structure of its production complex as well as situation in the social sphere, etc. Thus, under complex conditions over the transition period, a proportion of persons allocated to the group "elementary occupations" will be representative at context of the socio-economic situation in regions. It is not surprising that a high proportion of this category of workers is recorded in the western regions with a higher share of extensive agriculture and a mass activity of persons in the subsistence economy as their contribution is the highest in a proportion of those allocated to elementary occupations under a sub-group "elementary occupations in agriculture, fishery and alike economies". In many western oblast (not included Ivano-Frankivsk oblast where a proportion of elementary occupations is prevalent by a large contribution made by the subsistence economy as well as Lviv oblast) and several central oblasts (Vinnytsia, Zhytomyr, Cherkasy, Poltava oblast) a higher proportion (compared to the national average) was recorded for persons by a group "skilled workers in agriculture, forestry, fishery, fishing". At the same time, a proportion of other groups given by occupational skills for the sectors other than those directly linked to agricultural production is lower than the national average in such oblasts as Volyn, Zakarpatska, Ivano-Frankivsk, Ternopil. It is due to a lag in the economic development in these oblasts, the low investment activity, inadequate funding in the social sphere, general underutilization of the labour potential (both in terms of quality and quantity).

Practically there is an overlap between areas with a higher employment by such occupational groups with a predominant mental work as "legislators, senior officials, managers", " professionals" and "blue-collar" occupational groups "skilled workers with tools", "operators and assemblers of machinery and equipment". These are largely industrial regions with a lhigh proportion of an urban population, investment attractiveness, rather developed production and social infrastructure: Dnipropetrovsk, Donetsk, Zaporizhzhia, Kharkiv oblast and city Kyiv. The highest proportion of "specialists" and especially "service workers and shop/market sales workers" was recorded not only in Kyiv oblast but largely in regions where economy is oriented towards "services" and is focused on recreation and health, i.e. the southern regions – AR Crimea, Mykolaiv, Odesa, Kherson oblast and city Kyiv.

In general, the above findings is a proof for a need to eliminate the bias in the regional socio-economic development in Ukraine that was inherited from the soviet time and aggravated in the transition period. It should be noted that formation of a model of the modern market economy, a new type of the socio-economic distribution of a population that is characterized by a balance, large capacities of 'white-collars" workers (in particular, professionals having high skills), fullness of the "social environment" is extremely important for irreversibility of the "national renascence" and a further socio-economic growth as its prospects are determined primarily by a result in search for the real drives of the society, authors of the new social experience.

# 4.

# Concept of the demographic development in Ukraine for 2005-2015

Urgency for development of a scientific-grounded concept of the national demographic strategy, necessary actions and mechanisms for their implementation are called for to mitigate the consequences of a demographic crisis, eliminate threats to national security in the socio-economic sphere.

The Plan of actions adopted by International conference on population and development (Cairo, 1964) urged the need in establishing the national institutional mechanisms and favorable environment in the society that will allow manifestation of the factors that will show ability to get over the demographic crisis, make multi-level government decisions responsible for implementation of the strategy and programs in the economic, environmental and social sphere.

The demographic vector should be one of the key priorities in actions of the Ukraine government.

Getting over the demographic crisis and gaining a sustainable demographic growth, stabilization of population reproduction is a long and complex process. And a content of actual actions on getting over the demographic crisis should be aimed not at fighting the depopulation processes but upgrading the quality characteristics of a population, retaining and rehabilitation of its vital and labor potential.

Formation and development of a sovereign state of Ukraine opens a new page in its demographic history but also calls for a great responsibility for a current and future demographic status of Ukrainian people, recovery of healthy generations what calls for intense national considerations on topic of the demographic growth and formation of the efficient national demographic strategy.

## 4.1. Analysis of the current situation and evaluation of its perspective

The unfavorable demographic situation in Ukraine, primarily a dramatic birth decline is mainly caused by problems in functioning of a family as the population reproduction nucleus that shows deterioration of its demographic potential.

The bias in the marital-family processes that firstly had manifested itself as back as the early 60s became more pronounced. Differed marriages and childbearing, lone-mother children and social orphanhood (unparented children) get more extended, the number and proportion of legal marriages dropped, the divorce and widowhood rate became higher. And when the marriage rate got higher in 2003 it was 1.3-time lower the rate in 1989. 28.6 percent of children of women under 20 years were born not in union. 17 percent of children were born in lone-parent families (in urban areas – 19.3 percent).

The fertility situation is largely characterized by a high infertility and one-child fertility: two-thirds of families with children under 18 years are one-child families.

The average family size in Ukraine practically has not changed since 1989 and is 3.2 persons (in urban areas – 3.1 persons, in rural areas – 3.4 persons).

Parents' material subsistence and upbringing of children, solitude and the unfriendly moral-and-psychological climate in families (largely in young, many-children and lone-parent families) demonstrate a trend of aggravation.

***Factors causing aggravation of a problem of a family formation and development.*** Global industrialization and urbanization processes, gradual phasing down the family production function, separation of adult offspring from parents due to economic, cultural, psychological factors lead to formation of a trend in extension of common families with a husband-wife and children. At the same time it is still very common when adult children live with one of parents in singlehood what mainly occurs due to marital and family traditions and certain constraints with housing, a low standard of pension provision, status of infrastructure and services available for the elderly.

Such economic factors as many-children bearing to cover a demand in working hands in agricultural operations and subsistence

in the late age practically do not work. Women are largely included in public production: their education, professional and civil interests compete with an orientation towards childbearing what caused few- and no children bearing. Aggravation of the fertility situation that became evident in the 60s got more noticeable for the recent 10-15 years. A dramatic decline in a living standard of the Ukraine population and formation of a deep gap between the current standards and the actual living standard brought out the prerequisite for orientation towards two-children bearing conditioned to the adequate income (80 percent of young families) and availability of an individual apartment (two-thirds of young families).

***Prospected changes in marital and family situation.*** Regardless a certain orientation towards the European marital standards, in Ukraine legal marriages are predominant. More popular are not legal conjugal relations that mainly take place as a probation period before marriage registration and formation of a family.

Through 2015 it is expected that the marriage rate will get stabilized and go up by 6-8‰ with a slightly higher gain in the compensation periods; the divorce rate will go up by 3.5 – 4.0‰. Due to losses in nuptial population and a wider occurrence of not legal marriages there are no reason to anticipate a recovery of a higher marriage rate in a short-run perspective.

The total number of families will drop from 13.5 million in 2001 to 12.4 million in 2015. The average family size will be 3.0 – 3.1 persons as the national average; in rural areas – 3.4–3.5 persons.

Occurrence of one-child families will be more extended as a constantly growing need in the higher living standards will not be to the benefit of orientation towards a two-children family. Availability of the subsistence economy with rural habitants will be an encouragement for a higher proportion of families having 2-3 children.

## Birth

***General background.*** The fundamental factor of the aggravated demographic situation in Ukraine is a birth decline to a critical margin. The current birth rate covers only a half of a demand in a simple reproduction of population, i.e. to replace the

parent population with a same number of the children population. Ukraine is much below the birth margin when an unrecoverable deterioration of the demographic potential takes place what caused a loss of a good perspective in recovery of a 50-million population. The cumulative birth ratio dropped from 1.9 child in 1989 to 1.1 child in 2001. The growth of the cumulative birth ratio in 2002-2003 (1.2 child per one women in 2003) was due to manifestation of a compensation for a «differed birth" from a period of the acute economic crisis.

***Causes of a critical birth decline.*** The process of a birth decline has a global nature and takes place due to several causes like economic, social, psychological, biological. Primarily it is due to changes in a social status of women, a wider sphere of interests beyond a family focus, higher grade standard of education and employment expectations. Multi-time decline in child mortality currently does not encourage women to give birth to many children as a tool of a family well-being and subsistence in the late age.

Satisfaction of a need in having children, motherhood, fatherhood now competes to other needs and the more common a need the lower level of living. While well-off strata of individuals rate the disposal of time and income necessary for future children physical, intellectual growth and professional training with satisfaction of own needs in a personal growth, then bad-off strata consider their needs in essentials such as food-stuffs, clothing, housing. However, we should not expect that with higher living standards there will be an automatic birth growth. If it had been such a simple dependence then there had not been such a sizeable birth decline in countries with a high economic growth to the level that does not provide for a simple reproduction of population, and without any exclusion, this is valid for all European countries.

The birth decline as a global trend accelerated in Ukraine in the 90s because of the economic crisis, dramatic decline in income for many categories of individuals, insecurity as to future perspectives. Also, there was a gap between the actual low living standard and high European standards of living. An exclusively negative implication on the birth rate had a real demolishing of the system of the child pre-school education and extra-curriculum activities, unsatisfactory status of the reproductive health of the people, firstly women, when many of them worked in the hazardous environment. As a family planning tool abortions remain the major one what is

largely complicated with miscarriages and unplanned infertility. Birth losses in Ukraine due to abortions go very high when compared to the abortion rate in industrialized countries.

Because of a low birth rate in 1993- 2003 Ukraine undercounted 4 million persons. The critical situation in birth featured not only by a speedy birth decline and as a result a low birth rate but in a deformed distribution by births and newborns (birth order, distribution by a mother age, her marital status and other indicators). These unfavorable changes result in a biased population distribution by age groups, degrading population demographic and labor potential.

***Prospected changes in birth.*** Given the general trends in Europe, there are no grounds to expect an increase in the cumulative birth ratios in Ukraine in a short-run perspective. As the open society amplifies a vector towards the higher western living standards, for a certain period individuals will aim at them thanks to refusal for giving birth to a second (and other birth-order) child, i.e. due to a more rigorous birth control.

To rehabilitate the population reproductive health degraded during the crisis, additional allocations for the health support will be needed compared to regular needs what could be taken as the other factor of the birth decline. In 2005-2015 birth losses due to HIV/AIDS epidemic situation could count 200 thousand persons what will have an effect on formation of junior generations.

Through 2006 it is the most probable that the cumulative birth ratio taken per one women will be frozen at the current level – 1.2 child per a woman. Only in future provided that the reproductive attitude is changed this ratio could be expected going up to 1.3-1.4. However, even this scenario will not allow to have a simple replacement.

The crises situation with the population generative activity will have implications on life of several generations not only at a family level but over a society in a whole also in case when situation changes. Consequently, in future the population counts will feature a wave dynamics in its age cohorts what could be a significant impediment in reaching a sustainable country growth.

### Morbidity, mortality and life expectancy

***General background.*** The morbidity trends reflect both the current changes and, to a certain extent, transformations in the system of morbidity statistics. In the 90s the general population morbidity in Ukraine showed a considerable growth. While in the period between two earlier taken population censuses in Ukraine (1979-1989) morbidity taken per 100 thousand of individuals went up by 16.3 percent, then in the period between 1989 and 2001 it went up by 40.4 percent. Over 1989-2001 a higher growth was recorded for cardio-vascular morbidity (by 2.9 times), urino-genital morbidity (by 1.9 time), digestive system morbidity (by 1.8 time). A special concern is child health losses. Child morbidity went up from 1416.0 cases per 1000 children in 1989 to 1745.9 cases in 2003, and endocrine system morbidity – from 31.0 to 96.6 cases; digestive system morbidity – from 82.4 to 133.9 cases, urino-genital system morbidity – from 17.6 to 40.5 cases; congenital anomalies – from 11.0 to 23.3 cases. The positive trend is recorded for contagious and parasitic morbidity.

The population reproductive health is marked with degradation: almost 68 percent of child births are with complications; almost 7 percent of women in the fertility age are infertile – it means that about 870 thousand married couples are childless because of women morbidity.

Today the main demographic problem in Ukraine is the live expectancy indicator that compared to European countries is much lower. Based on the WHO reports, in 2002 Ukraine compared to countries of the Central and Eastern had this indicator by 5.5 years lower, while in comparison to EU countries it was lower by 10.9 years. Surplus unexpected mortality (55 year and below) caused almost 11 year-life losses what is by 3 years higher compared to countries in Central and Eastern Europe, and 6 years higher compared to EU countries. The difference in men and women lifetime in Ukraine is 11 years, while in the industrialized developed countries this indicator is 5-6 years. Mortality risks for men 20-24 years of age are 3.3 times higher those for women while incidental mortality for men in the employable age goes as high as to 37 percent.

Main causes of non-recovered demographic losses is a high mortality of infants under 1 year of age and men in the employable

age due to cardio-vascular morbidity and outside fatal causes. The last indicator is the highest in Europe.

In Ukraine the morbidity rate for contagious, parasitical and outside fatal causes in case when patients could be rescued with use of modern medical and social-hygiene prevention methods is 2.3 and 3.6 times higher those in the Central and Eastern Europe and EU countries, respectively. These causes make up about 11.3% in total lethal cases (in the Central and Eastern Europe and EU countries it is 7.7 and 7.1percent, accordingly). Among mortality caused by outside effects the highest mortality is due to injury, murder, suicide.

***Main causes of health losses, mortality growth and decline of life expectancy*** is a low standard of living and unfriendly living and working conditions for many individuals, low efficiency of the current health system as well as a wide occurrence of bad habits and negligence of the healthy life-style norms.

***Prospected changes in mortality and life expectancy.*** While prospected changes in the birth growth are negligible, challenges in morbidity and mortality could bring out an immediate and noticeable effect.

The most probable challenge is a growth of the average life expectancy for men to 66.2 and women to 76.7 years or by 4 and 2.5 years, respectively. The reserve life expectancy linked to improvement of the sanitary and epidemiological situation as well as reduction of the environment-risk injury hazard but, primarily, due to reduction in mortality caused by contagious diseases and outside effects. Its annual reduction by 1 percent could bring out an increase in life expectancy at birth by 1.2 year. With a possible increase in the average age of persons with cardio-vascular mortality at least by 5 years (what could be attained with improvement of a quality of life), the life expectancy at birth could be extended by 4.5 years and in the employable age – by 4.4 years. With a possible increase in the average age of persons with smoking and alcohol abuse (mainly through efficient awareness raising campaigns aimed at formation of a self-preservation attitude) the average life expectancy will be extended by 6-7 years.

## Migration processes

***General background.*** In the transformation period migration processes largely changed. After the split of the Soviet Union, in-depth economic crisis, the population living standard decline the migration mobility rate dropped considerably (sustainable migration). After a considerable growth of migration in 1991-1992 to the highest rate of the pre-war period (+5.5%) a significant decline was observed and for the recent period the outer migration balance is negligible and value-negative. In 1989-2003 migration losses made up 595.7 thousand persons (rural population went up due to migration by 94.3 thousand). As in migration there were largely representatives of the most child-reproductive and economy-productive age cohorts of the population, the indirect losses are higher the direct losses.

Many emigrants have no intention to return to Ukraine. Out-migrations from the former USSR featured a large scale "brain outflow".

On the background of decline of the sustainable migration, volume of labor emigration, refugee flows, illegal migrant transit became higher.

Low wages especially when compared to the NBU exchange rate, sizeable unemployment make labor migrations a main source of income that provides for a decent living standard for many individuals. Labor out-migrations to CIS countries, Western and Central Europe countries has become a phenomenon of a large magnitude: according to the average-annual estimates, they make up 2 million persons; and only about 40 thousand persons were in legal labor migrations through mediation of international employment agencies.

Many individuals who decided to leave the country as labor migrants when entering countries-recipients concealed the true purpose and de facto are illegal persons in the countries-recipients. This brings out social insecurity of Ukrainian nationals outside Ukraine, their dependence on mediators and employers. When outside Ukraine, high-skilled Ukrainian specialists are often employed not by their specialty, they are employed at common works what degrades their skills.

The international labour migration duration for Ukraine nationals is from two weeks to several years, while the average

period is six months. Thus, the labor force supply of Ukrainian nationals in international migrations makes up 5 percent of the total national labor force.

As to intraprovincial migration trends, individuals move to the capital. Beginning from 1995, Kyiv is the only administrative division where there is a growing positive migrant balance; it makes about two-thirds of the migrant flows to regions-recipients.

***Prospected changes in migration processes.*** Migration processes could be regulated much easier compared to elements of natural moves. In case the current trends in socio-economic development in Ukraine are in place, Ukraine population migrant balance will be stabilized at a level close to the current values. In case of a sustainable growth of the living standard and quality of life international migrations of Ukrainians will gradually fall due to mitigation of factors that push for emigration and a due to higher employment opportunities by place of residence in Ukraine. At the same time Ukraine will be attractive for in-migrants from African and Asian countries. The migrant balance could become positive in a couple of years and in several years by 2015 the in-migrant population gain will be 50 thousand persons per annum.

### Aging of the population

Demographic aging is reported in Ukraine in the middle of XXth century and is a constituent of a demographic growth: in the period between the censuses of 1959 and 2001, a proportion of persons aged 60 years and over has increased from 10.5 to 21.4 percent. Today aging is largely determined by a fall in births but not due to an increase in lifetime in the senior age cohorts; the uneven aging by a type of locality (according to 2001 census, a proportion of persons aged 60 years and over in urban localities made up 19.1 percent, while in rural localities it was 26.1 percent); by sex in 100 women aged 60 years and over there are 56 men: in urban areas – 59, in rural areas – 54.

***Socio-economic implications of population aging.*** A higher proportion of persons in the pension age results in a higher consumption of social resources needed for social provision in the old age. When these resources are there are more impoverished and social inequality goes in-depth with age. Poverty in the old age causes a higher pressure on the labor market in part of person in the

pension age and additional material commitments of the cohorts of population able to work.

A higher proportion of persons in the senior age forms a special need for goods and services, housing, medical and social services.

Difference in a life-span by sex leads to a wider women loneliness in the old age.

Changes in the generation-to-generation ratios have implications on relations between generations in a family and society, tax payers and pensioners.

***Prospected changes in population aging in Ukraine.*** The challenges reached in reduction of mortality and a longer lifetime will be accompanied by an accelerated process of the population aging. It is expected that by 2015 a proportion of persons aged 60 years and over will make 21.7% in a total population (women- 26.0 percent, men – 16.8 percent) and the ratio of persons able to work to pensioners will be 1000:438.

### Subnational demographic differences

***Causes of subnational differences.*** Subnational differences in the demographic situation in Ukraine is due to a contribution of integral natural and geographic, historic, economic, political factors such as a different development of economy and social infrastructure, structure of production, regional differences in the population living standards and quality of life, labor market characteristics, urban and rural population life-style, mainly in megacities; trends in migration processes, urbanization trends, environmental situation, cultural and historical traditions, etc.

Socio-economic reforms that took place for the recent years, especially their greater focus on a regional level have a great effect on subnational differences in the demographic situation in Ukraine and in some cases lead them in-depth.

***General background.*** The most acute demographic situation is in Donetsk and Lughgansk oblast but in Dnipropetrovsk, Kherson and Chernigiv oblasts it could be characterized as very complex. The unfavorable demographic situation in these regions is added to a rather high level of economic development.

The average demographic situation is reported for Zhytomyr, Zaporizhzhia, Kyiv, Kyrovograd, Odesa, Poltava, Kmelnytzkyi and Chrkasy oblasts.

A group of regions with a comparatively favorable demographic situation includes AR Crimea, Vinnytzia, Volyn, Zakarpatie, Ivano-Frankivsk, Lviv, Mykolaiv, Rivno, Ternopil, Kharkiv, Chrnivtzi oblast, city Kyiv and Sevastopol. And such regions as AR Crimea, Zakarpatie, Mykolaiv, Rivno oblast feature an aggravating trend for the demographic situation beginning from 1989.

Over recent 15 years the coefficient of the interprovincial life-span variation went up by 133 percent, natural birth decline – by 38 percent, mortality caused by accidents, poisoning and injury – by 25 percent.

Considerable subnational differences are captured by indicators on development of the labor market and income level that are sound factors of the demographic development. The lower-to-higher ratio for values of the ILO unemployment rate is 2.8, average month wages – 2.5, gross added value per one person – 5.93.

## 4.2. Benchmarks for demographic development in Ukraine

Targets for the demographic growth and national demographic strategy are aimed at reaching the MDGs that are the global development areas in a society were developed and proposed at international conferences in the 90s of the XXth century as well as at observance of principles and objectives recommended by a Program of actions adopted by the Cairo International conference on population and development with account taken for national characteristics.

Provision for the favorable demographic growth foresees improvement of a quality of the population living based on integration of the demographic challenges into strategies aimed at a sustainable socio-economic development, technology for decision making and allocation of resources at all levels of management. A special significance is gained by such factors as fighting the poverty and environment protection.

**Major indicators for demographic challenges in Ukraine, 2005-2015**

| | 2003 | 2005 | 2007 | 2010 | 2015 |
|---|---|---|---|---|---|
| Cumulative birth indicator | 1.2 | 1.2 | 1.3 | 1.3 | 1.4 |
| Infant mortality ratio, % | 9.6 | 9.3 | 9.1 | 8.8 | 8.2 |
| Average life expectancy at birth, years | | | | | |
| women | 74.1 | 74.2 | 74.7 | 75.4 | 76.7 |
| men | 62.4 | 62.4 | 63.9 | 64.3 | 66.2 |
| Probability to live through the employable age, % | | | | | |
| women | 90.7 | 90.8 | 91.2 | 91.8 | 92.9 |
| men | 62.7 | 62.9 | 66.4 | 66.4 | 70.0 |
| Migration balance, th person | -24.2 | -5.6 | +14.2 | +31.9 | +47.8 |
| Total population, th person | 47 633 | 47 047 | 46 351 | 45 553 | 44 458 |
| Proportion of persons aged 60 years in a total population, % | 21.2% | 20.7 | 20.3 | 20.6 | 21.7 |

## 4.3. Conditions for implementation of the concept

The above benchmarks for the demographic development could be reached only under conditions of development and taking actions on the national demographic policy. In 2005-2015 it will be an efficient counteraction to implications of the negative trend in depopulation with a turn to the better.

Pre-requisites for formation and implementation of the national demographic policy is provision of its integrity and well-coordination, necessary resource allocation, its focus on the most immediate demographic challenges.

The first priority of the nation that is concerned about its present and future should be retaining and improvement of the nation health.

The major instrument for implementing the national concept is support to a family that is treated as a nucleus at which all actions under the demographic policy are aimed. It foresees setting conditions for strengthening the effect on the demographic processes through actions aimed at "pro-family" reforms in all spheres of social life. The concept should be granted the national status.

The base provision is treatment of the demographic policy not as a section in the socio-economic policy but as its special vector as orientation towards demography concerns. The socio-economic development strategy should make efficient all action taken in all spheres of a social life, i.e. their «demographisation».

Getting over the demographic crisis could take place only under conditions of a significant upgrading of the living standards of wide strata of population, well-directed government efforts in transformation of the social infrastructure, consistent actions in the market and insurance sphere and taking a set of mutually agreed specific actions. This will secure the base social guarantees for a large proportion of population and reduce the qualitative and quantitative social losses caused by the demographic crisis.

Implementation of the concept of the demographic policy features sectoral characteristics and organically is tied to such national mechanisms as regulation of economy, social partnership, etc.

The national policy on the social infrastructure should be aimed at setting necessary conditions for retaining and preservation of the population reproduction health, formation of encouragement for the a healthy life-style, addressing problems in hygiene and work safety, support to youth, protection of the disabled and elderly, provision for development of such spheres as education, culture, leisure.

It is necessary to provide for the universe population living standards in all country regions, in urban and rural localities.

### 4.4. Main areas of the national demographic policy

In the sphere of family and birth policy the main objective is formation of a system of personal and social values oriented towards a two-children family as a main nucleus in strengthening and upgrading its upbringing potential. The government should have a direct focus on young families and families with children under age. The government support to families should be given under the following priorities:

- ✓ Setting conditions for improving the material status of families by:
  - – increase in the earned income, fighting poverty of the employed population;
  - – assurance of the Constitutional guarantees on setting the minimum wage size, pension and other social benefits at the level not lower the legally established subsistence minimum;
  - – extending crediting on the demographic purposes including the tax credit mechanisms;

- economic incentives for families including crediting and tax instruments;
- support to family business, farming, investments in social and production infrastructure development.

✓ improvement of the living conditions by:
- extending crediting the housing primarily credits made available for youth, mortgage, unit-investment schemes, housing-deposit accumulation schemes;
- construction of social housing for the eligible persons.

✓ provision for children development and upbringing in families by:
- extending the system of pre-school education and extra-curriculum activities including family-based schemes;
- provision for the social patronage and regular attendance of one-parent, problem, needy families with children under age by government and public entities;
- improvement of the legislation and mechanism for adopting children whose parents are deprived the right for care, operational support to homeless children.

✓ strengthening the high status of a family by:
- popularization of birth, experience in formation of a family through mass media; introduction of modern practices for preparing school-children youth to marriages and family life;
- enrichment of marital-family traditions, strengthening the status of mother- and fatherhood in the society;
- extending social service aimed at delivery services to families, counseling.

In the sphere of health improvement, mortality reduction and extending the individual lifetime the following strategic areas are identified:

✓ upgrading quality of life, lessening the socially determined differences in individual morbidity and mortality by:
- prevention and reduction of occupational illness;
- improvement of the hygiene-epidemiological and environmental situation;
- reduction of the environment hazard-risk injury.

✓ reform of the health system by taking necessary organization and prevention actions for health recovery at the level of the society by:

- parallel changes in the health system management and increase of funding, in particular, through extending the paid medical services, implementation of the medical insurance system;
- reorientation of the national health system to prevention of morbidity, in particular, chronicle, contagious, gynecology morbidity;
- enhancement of a role of the primary medical and sanitary care, in particular, through a family medicine system;
- improvement of the reproduction health of a population, provision for access and quality medico-genetic, obstetrician care, popularization of modern family-planning programs.

✓ encouragement for positive developments in individual behavior and life-style through personal outreach:
- formation of a mechanism for individual encouragement for the healthy life-style;
- advocating and provision of equal opportunities for long, healthy, full-value life.

Pre-requisite of the efficient government migration regulation is an essential improvement of well-being and larger employment opportunities for the economically active population with wage ability to satisfy their needs in Ukraine. The key priorities of the national demographic policy in this area are:

✓ reduction of volumes of outmigrations, in particular, international labor migrations of Ukrainian nationals, getting over its negative implications in future by:
- increase of the number of international agreements on employment and social protection;
- encouragement for the reversal of migration outflows;
- assurance of social protection of Ukrainian in international labor migrations.

✓ economic regulation of internal migration flows by:
- setting the information system to inform individuals on job opportunities throughout the country;
- extending shuttle migrations;
- fighting drastic regional differences in quality of life.

✓ enabling the opportunities for mitigating the demographic crisis by:

- implementation of the well-thought national migration policy on immigrations of individuals, citizens of other countries;
- prevention of illegal migrations, in particular, illegal migrant transit flows across territory of Ukraine.

In getting over the negative implications of the population aging the key priorities are the following:

- ✓ setting the mechanisms for provision of a vital activity of the elderly, their active life outside the sphere of work by:
  - improvement of the social security standard for pensioners by age;
  - extending the system for delivery services for the elderly including housing maintenance, production of special food-stuffs, assistance in family life, leisure, education, tourism, etc.;
  - extending the primary medical-sanitary care for the elderly, in particular, lone persons;
  - setting the special national geriatric service with medical and social functions;
  - extending the network of specialized institutions for the elderly.
- ✓ efficient use of the residual labor potential of persons in the pension age.

In the sphere of regional demographic development.

Solving problems of the demographic development at the subnational level is based on implementation of two key interrelated tasks:

- ✓ lessening the difference in subnational demographic indicators;
- ✓ provision for sustainable, well-balanced demographic development of each region.

The main instrument of the government impact is a principle of a differentiated government support to the regions by:

- ✓ strengthening the package-, address-, efficiency-based nature of actions taken under the demographic policy, in particular, at the subnational level;
- ✓ improvement of the mechanism for the government support of regional development;
- ✓ provision for the optimum balance between decisions made by the central government on the priority areas of

demographic development of each region and decisions made at the subnational level.

Development of the strategy on the government encouragement for the regional demographic development should be based on necessary coordination of the actions:

- ✓ long-term national strategy for the regional development and regional development strategies;
- ✓ national target programs;
- ✓ national and regional programs on economic and social development;
- ✓ government encouragement for development of depressed areas;
- ✓ regional programs on development of special economy zones and special investing in areas of the priority development.

When financial resources are limited and many problems in the sphere of demographic development are present it is necessary to designate priorities for each region and their mandatory consistence with sources and volumes of budget funding. Given the current differences in the demographic situation, the following challenges for the demographic development of an individual region in Ukraine is an additional priority to national priorities:

- ✓ Autonomous Republic of Crimea and Zaporizhzhia oblast – reduction of the infant mortality, mortality caused by murder and intentional injury as well as in:
  - – Zaporizhzhia oblast – reduction of mortality caused by malignant tumors morbidity, accident, poisoning and injury; improvement of the environmental situation; life-span and birth increase;
  - – AR Crimea – addressing and managing the problems of the deported people;
- ✓ Vinnytzia and Zhytomyr oblast – reduction of mortality caused by cardio-vascular morbidity; extension of network of social and medical services for the elderly as well as in:
  - – Zhytomyr oblast – reduction of mortality caused by respiratory system morbidity; reduction of unemployment;
- ✓ Volyn, Ivano-Frankivsk and Lviv oblast – reduction of mortality caused by respiratory system morbidity as well as in:
  - – Volyn and Lviv oblast – prevention of the illegal labor

international migrations of Ukrainian citizens, transit and presence of illegal migrants in Ukraine;

- ✓ Dnipropetrovsk and Donetsk oblast – reduction of the infant mortality; mortality caused by contagious and parasitic, cardio-vascular, malignant tumor morbidity; birth increase; improvement of the environmental situation as well as in:
  - Donetsk oblast – reduction of mortality caused by murder and intentional injury, poisoning and injury; prevention of the natural depopulation; extension of network of social and medical services for the elderly; prevention of transit and presence of illegal migrants in Ukraine;
- ✓ Zakarpatska and Kharkiv oblast – reduction of mortality caused by contagious and parasitic morbidity as well as in:
  - Kherson oblast – reduction of mortality caused by malignant tumor morbidity, murder and intentional injury, accident, poisoning and injury; reduction of unemployment;
  - Zakarpaska oblast – prevention of the illegal labor international migrations of Ukrainian citizens, transit and presence of illegal migrants in Ukraine;
- ✓ Kyiv, Kirovograd oblast and city Sevastopol – reduction of mortality caused by malignant tumor morbidity as we as in:
  - Kyiv oblast – reduction of mortality caused by cardio-vascular morbidity, birth increase;
  - Kirovograd oblast – reduction of mortality caused by respiratory system morbidity, murder, intentional injury, accident, poisoning and injury; extension of network of social and medical services for the elderly;
- ✓ Lughansk and Kharkiv oblast – reduction of mortality caused by respiratory system morbidity; birth increase as well as in:
  - Lughansk oblast – reduction of mortality caused by malignant tumor, respiratory system morbidity, murder, accident, poisoning and injury; improvement of the environmental situation; extension of network of social and medical services for the elderly;
- ✓ Mykolaiv and Odesa oblast – reduction of mortality caused by contagious and parasitic morbidity as well as in:
  - Odesa oblast – reduction of mortality caused by malignant tumor morbidity, murder, intentional injury,

accident and injury; prevention of the illegal labor international migrations of Ukrainian citizens, transit and presence of illegal migrants in Ukraine;

- ✓ Poltava and Chernigiv oblast – reduction of mortality caused by cardio-vascular, malignant tumor morbidity, murder, intentional injury, accident and injury; improvement of the environmental situation; extension of network of social and medical services for the elderly as well as in:
  - Chernigiv oblast – reduction of mortality caused by respiratory system morbidity;
- ✓ Rivno and Chernivtsi oblast – reduction of the infant mortality; reduction of unemployment as well as in:
  - Chernivtsi oblast – prevention of the illegal labor international migrations of Ukrainian citizens;
- ✓ Sumy and Cherkasy oblast – reduction of mortality caused by cardio-vascular, respiratory system morbidity; increase in birth; extension of network of social and medical services for the elderly as well as in:
  - Sumy oblast – reduction of unemployment and creation of new jobs; prevention of transit and presence of illegal migrants in Ukraine;
  - Cherkasy oblast – reduction of infant mortality;
- ✓ Ternopil and Khmelnytskyi oblast – reduction of mortality caused by respiratory system morbidity; reduction of unemployment as well as in:
  - Khmelnytskyi oblast – reduction of mortality caused by malignant tumor morbidity; extension of network of social and medical services for the elderly;
  - Ternopil oblast – prevention of the illegal labor international migrations of Ukrainian citizens;
- ✓ City Kyiv – regulation of internal interprovincial migrations; prevention of the illegal labor international migrations of Ukrainian citizens.

These actions could result in a stage-by-stage reduction of differentiation in the demographic situation in Ukraine, setting conditions when regions-donors having a higher level of economic development will not lose incentives for improving the demographic situation; prevention of the illegal labor international migrations of Ukrainian citizens.

## 4.5. Concept implementation phases

Given a complexity and specific nature of demographic problems, perspectives in social and economic development in Ukraine, realization of certain concepts for areas included in the demographic policy will be a stage-by-stage process while some areas will be implemented through a ten-year period:

In compliance with the Strategy of the economic and social development in Ukraine for 204-1015 the concept implementation is planned in the following phases:

**Phase I – 2005-2009**

- ✓ listing, development and approval of the necessary laws and regulatory acts that regulate implementation of the Concept;
- ✓ reform of the wage system aimed at transition to the model of economy based on a high value of labor force;
- ✓ development of the mechanism for implementation and a wider use of a tax crediting with account taken for the entire set of demographic priorities; provision of social tax exemptions for parents who provide for child a pre-school education in a family;
- ✓ development of the integrated model and social patronage and regular attendance of one-parent, problem, low-income families with children under age;
- ✓ setting the minimum wage size, pensions, other social payments and benefits in size not lower the subsistence minimum;
- ✓ strengthening government guarantees on provision for medical and social-hygiene actions on maternity and childhood protection;
- ✓ development of the justified strategy on introduction of paid medical services based on principles of the economic feasibility, social paternalism and transparency; introduction of non-government medical insurance, redistribution of a part of medical services from in-patient to out-patient medical facilities;
- ✓ development and implementation of a set of educational programs on encouragement for self-preservation (vital) human behavior;

- ✓ development of arrangements for individual employment outside Ukraine;
- ✓ reform of the vocational training system; provision for tailoring its structure and quality of training to needs in the labor market;
- ✓ more accelerated implementation of the pension reform with improvement of its efficiency; facilitation in setting professional pension funds;
- ✓ development and introduction of a special technology to deliver services for the elderly in certain spheres like every-day services and culture, trade and other public services; road, cycling and wheel-chair as well as pedestrian area management to meet needs of the elderly; provision for accessibility to municipal transport, convenience and safety for the elderly;
- ✓ reorientaion of a portion of the bed stock in medical facilities into the bed stock in social care institutions;
- ✓ formation of the mechanisms aimed at coordination of the actions and funding of the national target programs in health care, education, government support to low-income families and families with children; housing subsidy program, regulation of migration processes, youth housing programs;
- ✓ legal regulation and introduction of a practice on concluding agreements on regional development between the Cabinet of Ministers, of Ukraine, Verkhovna Rada of AR of Crimea, oblast, city Kyiv and Sevastopol administrations;
- ✓ improvement of Procedure on calculation of a leveling subsidy and subventions from the state budget to local budgets; local budget inter-budgetary transfers; adjustment of Formula on the inter-budgetary transfer allocation (leveling subsidy and resources transferred to the state budget) between the state and local budgets;

**Phase II – 2010-2015**

- ✓ based on programs and their targets decide on the national and local level tasks of the demographic potential reproduction;
- ✓ provision for the efficient employment; wage increase taking

into account demographic factors in reform of the wage system;
- ✓ introduction of the taxation system based not on individual but family taxation (including persons under the guardianship);
- ✓ stage-by-stage extending of types and volumes of crediting aimed at demographic targets like crediting of training, retraining, leave on taking care of children and sick persons; moving out-in as well as medical treatment, health rehabilitation, etc;
- ✓ development and implementation of a special program on constructing social housing for social vulnerable strata of population;
- ✓ development of the Social Code based on principles and norms of the international law;
- ✓ provision of free accessibility for pre-school child education complied to the current standards;
- ✓ participation of private providers selected in tendering for delivery medical and social services under national and regional programs selected;
- ✓ introduction of the mandatory medical insurance;
- ✓ development of the mechanisms for immigrant placement predominantly in rural areas and low-populated regions.

**Activity areas for 2005-2015**

- ✓ Improvement of the legal and regulatory base to cover all areas included in the demographic policy; harmonization with norms of the international law;
- ✓ efficiency enhancement for actions to be taken on the active national employment policy including employment outside Ukraine and immigrant integration;
- ✓ facilitation of a higher demand and satisfaction of needs in crediting family business, farming conditioned to an acceptable interest on credits, low-interest credits for families depending on the number of children;
- ✓ encouragement for investments in setting the modern service infrastructure for agricultural operations and improvement of its efficiency; as well as a root-level restructuring of the

rural social infrastructure to improve the age distribution of the rural population and marital-family orientation;

- ✓ increasing the volumes and extending housing crediting especially crediting the youth housing construction, consumer crediting of young families;
- ✓ development of the service infrastructure to deliver services on giving care to children, sick persons, the feeble, etc.; counseling on marital-family issues, family cultural-and-leisure centers;
- ✓ development of foster families for children whose parents were deprived the right for care; development of actions and mechanisms on the social orphanhood;
- ✓ strengthening control and responsibility as to compliance to labor safety norms; improvement of work conditions for women; protection of the production environment; ergonomic requirements for work-place arrangements;
- ✓ provision for the sustainable funding of social-infrastructure institutions with improvement of fund-use efficiency; tailoring funding to a structure and level of national social standards and guarantees with a reform of a system of management of sectoral social sphere and introduction of efficient social technologies;
- ✓ development of the social insurance schemes for insurant and employer encouragement based on "no insurance case" principles;
- ✓ development and implementation of actions on rehabilitation of the population reproduction health, especially women;
- ✓ provision for the efficient actions on prevention widening contagious morbidity especially tuberculosis and HIV/AIDS, provision for the total and efficient child/teenager immunization;
- ✓ return to practice of compulsory medical check-ups, mass sanitary and hygiene individual education;
- ✓ improvement of quality of the potable water; introduction of the system for operational and efficient control of the food-stuff quality;
- ✓ organization and delivery of the skilled medical assistance to the elderly who reside in rural areas using services of

family doctors, district general practitioners and flight diagnostic, counseling and stomatology crews;

- ✓ strengthening the material and technical base of specialized institutions for the elderly and disabled; allocation of land parcels and assistance in managing the subsistence economy; extending setting of the seasonal (winter season) boarding homes for the elderly;
- ✓ use of the social partnership mechanisms in addressing issues on improvement of standards of living and a quality of life, reproduction and development of labor potential, other aspects in demographic policy and agreements of all levels that are concluded between different government institutions, employer and employee organizations;
- ✓ encouragement for establishing NGOs which functions are aimed at addressing the demographic development issues, in particular, region-level activity, coordination and assistance of local administrations and local governance bodies in support and promotion of local initiatives in this sphere;
- ✓ provision for scientific support of the national demographic policy; formation of the national program for the comprehensive fundamental demographic research;
- ✓ setting the system of monitoring the demographic and social situation, implementation of actions included in the demographic policy and underlying target national programs, their impact on the demographic situation in regions and in the country; information support to demographic research mainly on individual reproductive behavior and labor migrations.

The mechanism for the demographic policy implementation should be oriented towards the market leverages in setting resource and organizational arrangements; plan funding of the general and special programs under the all level budget co-funding arrangements (state, regional, local), economic entities as well as private, charity and insurance funds.

The objective social assessment of the demographic processes is extremely significant. These processes and comments on them made by scientists-demographers should be systematically covered in mass media. This will enable elimination of any biased, political-driven attitude and at the same time will promote formation of the necessary attitude such as reproductive, vital, migratory.

## Contens