

ENGLISH ONLY

**STATISTICAL COMMISSION and
UN ECONOMIC COMMISSION FOR
EUROPE (UNECE)**

**STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES
(EUROSTAT)**

**CONFERENCE OF EUROPEAN
STATISTICIANS**

Joint UNECE-Eurostat Work Session on Population Censuses
Organized in cooperation with UNFPA
(Geneva, 23-25 November 2004)

Session 2 – Invited paper

**TYPES OF CENSUSES, ENUMERATION METHODS AND SELECTED
OPERATIONAL ASPECTS: RESULTS OF THE ECE QUESTIONNAIRE**

Submitted by Statistical Division, UNECE¹

INTRODUCTION

1. This paper presents a review of the practices followed by countries in the ECE region on the occasion of the 2000 round of population censuses, with regard in particular to census methodology adopted and various operational aspects.
2. In the first part, the type of censuses and enumeration methods adopted by countries in the 2000 round will be discussed, and countries will be classified in different categories on the basis of the census methodology adopted. In the second part, the legal and administrative context in which censuses have been carried out in the various countries is analysed, and possible relations with the census methodology adopted are discussed. Issues to be discussed in this section include: the existing statistical legislation, the presence and use of Personal Identification Numbers (PIN), the presence and use of registers, and the uses of census data.

¹ The paper was prepared by Paolo Valente of the Social and Demographic Statistics Section, with the valuable assistance of Chiara Orefice for information and data processing. The views expressed in this paper are those of the author and do not necessarily reflect the views of the United Nations.

3. Objective of this paper is to provide a broad overview of how censuses were taken in the ECE region in the 2000 round, to be used as a basis for the discussion on the revision of the “Recommendations for the 2000 Censuses of population and housing in the ECE Region”² (in the paper referred as the “ECE Recommendations” or “2000 Recommendations”) for the 2010 round of censuses. In fact, while the 2000 recommendations focussed on the information content and included only a very short section on census methodology, the joint ECE-Eurostat Steering Group on Population and Housing Censuses in January 2004 proposed to add in the new census recommendations a new expanded section on census methodology and technology, covering issues such as: possible ways in which registers can be used for censuses; possible use of sampling techniques; the so-called “rolling censuses”; the publicity campaign; and the evaluation.

4. It should be noted that the present paper is based on a preliminary analysis of the replies (submitted by 44 countries) to the “ECE questionnaire on population and housing censuses”. In preparing the paper, some errors and inconsistencies were found in the results of the ECE questionnaire. In most cases, the results were corrected on the basis of clarifications provided by countries or additional information available to the author, but it is possible that some error and inconsistencies are still present in the information presented in the paper. Therefore, attention should be paid to the general trends presented in the paper, rather than on individual practices followed by specific countries.

I. THE 2000 ROUND OF POPULATION CENSUSES IN THE ECE REGION: WHERE, WHEN AND HOW

Where...

5. In 1995, a resolution of the UN Economic and Social Council³ urged Member States “...to carry out population and housing censuses during the period 1995-2004, taking into account international and regional recommendations relating to population and housing censuses...”.

6. With regard to the UNECE region, in the period 1995-2004 a population census was taken in 48 out of 55 countries, that is 87 per cent of the countries. A population census was not taken in the 2000 round in the following seven ECE countries: Andorra, Bosnia and Herzegovina, Germany, Iceland, San Marino, Sweden and Uzbekistan. In Andorra, Iceland and San Marino, population figures were compiled from population registers. In Bosnia and Herzegovina, a census was planned in 2001 but then it was postponed and currently no date is fixed for the next census. In Germany, a test census took place in 2001 to assess the feasibility of a census supported by registers but that would still require some field operations. A decision of future censuses in Germany will be taken on the basis of the results of this test. In Sweden, the next population and housing census is planned in 2005, and will be totally based on registers.

² United Nations Statistical Commission and Economic Commission for Europe Conference of European Statisticians, Economic Commission for Europe Committee on Human Settlements, Statistical Standards and Studies – No. 49, “*Recommendations for the 2000 Censuses of Population and Housing in the ECE Region* jointly prepared by the United Nations Economic Commission for Europe and the Statistical Office of the European Communities”, United Nations, New York and Geneva, 1998.

³ UN Economic and Social Council, Resolution 1995/7.

When...

7. Table 1 presents the ECE countries where a census was taken, sorted by reference day⁴. The population censuses were taken in all countries in the four year period between 1999 and 2002, with the exceptions of Turkmenistan, Israel and Malta, where the census was taken in 1995, and the Republic of Moldova, where it was taken in October 2004. The year in which most countries (23) took their census was 2001: 15 countries took their census in the period from January to May 2001 (which was the period recommended to EU countries in the Community Census Programme), and 8 countries in the second half of the year.

8. With regard to the length of the enumeration period, it ranges from 1 day (typically in countries where the census was based on registers, like Denmark, Finland and the Netherlands) to a maximum of 180 days in the United States.

How...

9. Until the 1970s, population censuses were traditionally taken by collecting information using census forms. The distribution and collection of the forms was done by census enumerators or, in some cases, by mail. As for the compilation of census forms, in some countries they were compiled by the respondents, while in others (traditionally in CIS countries) they were compiled by interviewers.

10. During the 1970s, several Scandinavian countries started to work to use their registers for census purposes. Denmark was the first country to take a fully register-based census in 1981, followed by all other Scandinavian countries that have already completed or are planning to complete the transition from traditional to register-based census in the next few years.

11. In the last 10-15 years, many countries in the ECE region other than Scandinavian countries started developing innovative approaches to carry out their population census. In some cases this was done to overcome organisational problems or opposition from the public opinion or the political environment to traditional censuses. In other cases the reason was the need to reduce census costs (for instance by taking advantage of the information available in the registers or taken from other sources), or the desire to produce census data more frequently than every ten years, or even on a continuing basis. Often, the interest in developing new approaches to census taking was in response to a combination of the reasons listed above.

12. In most of these countries, the use of population and other registers was at the centre of the new methods being developed. In fact, in several countries in the ECE region, population registers do exist but their quality is not sufficiently good to produce census data without the recourse to field operations. Moreover, very often the existing registers do not cover all census topics. For this reason, mixed systems were developed in the last years in many countries, making use of the information available in the registers complemented with information collected through field operations or taken from other sources like sample surveys.

⁴ In addition to the 55 member countries of the ECE, the present report also covers Australia. In fact, the Australian Bureau of Statistics participates regularly in the activities of the Conference of European Statisticians and is represented in the Task Force on Families and Households which contributes to the work on the revision of the ECE census recommendations, in particular on the part on statistics on families and households.

**Table 1: Population censuses in the ECE region, 2000 round
Reference day and enumeration period**

Month	Country	Reference day	Enumeration period (days)
Jan-1995	Turkmenistan	10 Jan 1995	
Nov-1995	Israel	4 Nov 1995	51
	Malta	26 Nov 1995	21
Jan-1999	Azerbaijan Republic	27 Jan 1999	8
Feb-1999	Belarus	16 Feb 1999	8
	Kazakhstan	25 Feb 1999	8
Mar-1999	France	8 Mar 1999	28
	Kyrgyzstan	24 Mar 1999	8
Jan-2000	Tajikistan	20 Jan 2000	
Mar-2000	Estonia	31 Mar 2000	10
	Latvia	31 Mar 2000	30
Apr-2000	United States	1 Apr 2000	180
Jun-2000	Monaco	14 Jun 2000	
Oct-2000	Turkey	22 Oct 2000	1
Dec-2000	Switzerland	5 Dec 2000	1
	Liechtenstein	5 Dec 2000	
	Finland	31 Dec 2000	1
Jan-2001	Denmark	1 Jan 2001	1
	Netherlands	1 Jan 2001	1
Feb-2001	Hungary	1 Feb 2001	21
	Luxembourg	15 Feb 2001	21
Mar-2001	Bulgaria	1 Mar 2001	14
	Czech Republic	1 Mar 2001	14
	Portugal	12 Mar 2001	60
	Greece	18 Mar 2001	1
	Croatia	31 Mar 2001	15
Apr-2001	Albania	1 Apr 2001	15
	Lithuania	6 Apr 2001	10
	UK	29 Apr 2001	50
May-2001	Austria	15 May 2001	30
	Canada	15 May 2001	90
	Slovakia	26 May 2001	21
Aug-2001	Australia (not member of ECE)	6 Aug 2001	35
Oct-2001	Belgium	1 Oct 2001	90
	Cyprus	1 Oct 2001	60
	Spain	1 Oct 2001	60
	Armenia	10 Oct 2001	10
	Italy	21 Oct 2001	30
Nov-2001	Norway	3 Nov 2001	7
Dec-2001	Ukraine	5 Dec 2001	10
Jan-2002	Georgia	17 Jan 2002	8
Mar-2002	Romania	18 Mar 2002	10
	Serbia and Montenegro (a)	31 Mar 2002	15
	Slovenia	31 Mar 2002	15
Apr-2002	Ireland (b)	28 Apr 2002	1
May-2002	Poland	20 May 2002	19
Oct-2002	Russian Federation	9 Oct 2002	8
	The FYR of Macedonia	31 Oct 2002	15
Oct-2004	Republic of Moldova	5 Oct 2004	8

Notes:

(a) Montenegro: 31 October 2003

(b) Census postponed due to the outbreak of the foot and mouse disease

Source: ECE questionnaire on population and housing censuses (preliminary results).

13. Even in countries where population registers do not exist, innovative approaches were developed, based for instance on field operations repeated every year and adoption of sampling techniques (the so-called “rolling censuses”). These approaches are aimed at reducing census costs on one side, and meet the users’ demands for more frequent and detailed information on the other.

14. As a result of the development of these new methodologies, today there are many more different approaches to census taking than in the past, and classifying the countries with respect to this aspect is much more difficult than it used to be.

15. Table 2 presents the picture of how population censuses were taken in the ECE countries in the 2000 round. In this table, information is presented on type of census and enumeration methods used. It should be noted that in the ECE questionnaire countries were allowed to indicate more than one enumeration method, specifying the order of importance (in terms of percentage of units enumerated). In this section, we will focus on the main enumeration method for each country, but table 2 shows all enumeration methods indicated by each country, including secondary enumeration methods (which are indicated in the table by a progressive number 2, 3, ... after the name of the country).

16. The large majority of countries that replied to the ECE questionnaire on population and housing censuses (35 out of 44, that is 80 per cent) collected census data through field operations or, in other words, carried out a traditional census. Among these countries, the most widespread enumeration method was interview, which was adopted in twenty-one countries, including all CIS countries and various Eastern European and Balkan countries. In nine countries, enumerators distributed and collected the forms, which were compiled by the respondents.

17. Only five countries used the mail for the main enumeration method, in different ways. In the **United States** the mail was used to send out and collect the forms (“mail-out, mail-back”). In **Canada**, **France**, and the **United Kingdom** the forms were distributed by enumerators and collected by mail. In **Malta**, finally, the forms were sent out by mail and collected by enumerators.

18. In **Canada** and the **United States**, as tradition, two types of census forms were used: a detailed long form submitted to a small proportion of the households (20% in Canada and approximately 17% in the United States) and a short form with only few questions submitted to the remaining households.

19. With regard to type of census, at the other extreme of traditional censuses there are the censuses completely based on existing administrative registers. Three countries out of the 44 that replied to the questionnaire (7 per cent) carried out a population census completely based on existing registers: **Denmark**, **Finland** and **Norway**. In the **Netherlands**, information on population was completely based on the population register, but some of the variables measured at the personal level were taken from sample surveys. For instance, information on level of education and occupation was taken from the Labour Force Survey⁵. It should be noted that while the Netherlands was the only country in the ECE region to adopt this approach, several countries are planning to adopt a similar approach for the 2010 round (see the section of this report on plans for 2010).

⁵ See: The Dutch Virtual Census of 2001, Statistics Netherlands, 2004, <http://www.cbs.nl/en/publications/articles/general/census-2001/census-2001.htm>

Table 2: Distribution of countries by type of population census and enumeration methods[#] adopted in the 2000 round of censuses

Enumeration method:	Type of population census:				Total number of countries using the method as MAIN method	Total number of countries using the method as SECONDARY method
	Information collected through field operations (traditional census)	Based on pre-existing administrative registers plus questionnaire submitted to all units to confirm/complete information	Based on pre-existing administrative registers plus sample survey data to complement available information	Completely based on pre-existing administrative registers		
Interviewer, paper questionnaire	Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Cyprus, Estonia, Georgia, Greece, Hungary1, Kazakhstan, Kyrgyzstan, Lithuania, Poland1, Romania, Russian Fed., Serbia and Montenegro, The FYROM, Turkey, Ukraine, USA2	Latvia, Slovenia1			23	1
Interviewer, electronic questionnaire	USA4					1
Enumerators, self-compiled form, collected by enumerators	Australia1, Austria, Czech Rep., Ireland, Israel, Italy, Luxembourg, Portugal1, Slovakia, Hungary2, Poland2, UK2	Spain, Slovenia2			10	4
Enumerators, self-compiled form, mailed back	Canada (a), France, UK1, Poland3, USA3				3	2
Mail-out, collection by enumerators	Malta, Portugal2	Belgium2, Switzerland2			1	3
Mail-out, mail-back	USA1 (b), UK3 (c)	Belgium1, Switzerland1			3	1
Internet	Australia2, USA5	Belgium3, Switzerland3				4
Enumeration based on registers			Netherlands (d)	Denmark, Finland, Norway	4	
Total number of countries by type of census:	35	5	1	3	44	

When countries indicated more than one enumeration method, the main method is in bold font and with number 1 (ex: **Slovenia1**), and the secondary methods are in normal font and with numbers 2, 3... (ex: Slovenia2).

(a) Canada: "Long form" filled by 20% of households.

(b) USA: "Long form" filled by about one in every six households.

(c) UK: Mail-out and mail-back only in Scotland and Northern Ireland, in response to foot and mouth disease.

(d) Netherlands: Information on population was completely based on the population register. Some of the variables measured at the personal level (like level of education and occupation) were taken from sample surveys.

Source: ECE questionnaire on population and housing censuses (preliminary results).

20. In addition to the four countries that based their population census on registers and carried out no field operations (**Denmark, Finland, Norway** and the **Netherlands**), five others (11 per cent of the total) adopted a mix system where some variables were taken from existing registers and others were collected through field operations, using census forms submitted to all households in a traditional way. In **Spain** and **Switzerland**, the information taken from the registers was pre-printed on the census forms, so that the respondents had the possibility to check

it and make corrections, if necessary⁶. In **Belgium**, only name, surname and birth date were pre-printed on the forms, to facilitate their identification. In **Latvia** and **Slovenia**, finally, some variables were taken from the registers but they were not pre-printed on the forms, which were used to collect the remaining information.

21. With regard to the enumeration methods, in **Belgium** and **Switzerland** census forms were sent out and collected by mail, and enumerators were only used as secondary method for collecting the forms. In **Spain**, enumerators were used to distribute and collect the forms. In **Latvia** and **Slovenia**, enumerators interviewed the respondents and filled the census forms.

22. With reference to the secondary enumeration methods adopted as complement to the “main” enumeration methods, it should be noted that Internet was offered as an option to submit census data in four countries: **Australia**, **Belgium**, **Switzerland** and the **United States**. The **United States** is also the only country reporting the use of electronic questionnaires. In fact, during the US Census 2000, the call centre agents used a web-based CATI (computer assisted telephone interview) instrument for conducting telephone interviews.

23. Since the methodology adopted to take the census has a significant impact not only on the organisation of census operations, but also on census content, definitions and other census aspects to be analysed in the present report, it is proposed to classify countries in a few groups for the purpose to identify possible associations between census methodology and census topics covered, definitions adopted, etc.

24. Base on the results presented in table 2 on type of census and enumeration methods, the 44 countries where a census was taken in the 2000 round and that filled the ECE questionnaire on population and housing censuses were classified in three groups (see also table 3):

- **Group A** includes 35 countries where the census was taken in a traditional way. This group is subdivided in two sub-groups: **Group A1** including the 21 countries where forms were compiled by the interviewer and **Group A2** including the 14 countries where forms were compiled by the respondents.
- **Group B** includes 5 countries where some data was taken from registers but questionnaires were also sent to all households to check and/or complete the information.
- **Group C** includes the 4 countries where the population census was based on data from registers and no questionnaires were used.

25. Looking at the composition of these groups in geographic terms, group C is quite well defined as composed by Scandinavian countries (Sweden is planning a register-based census in 2005, therefore will join very soon this group) plus the Netherlands. Sub-group A1 includes mainly countries from Eastern Europe, Balkans and CIS, while sub-group A2 includes most Western and Central European countries. Group B, finally, is composed of five countries from different European regions, with no geographical characterisation.

⁶ In Spain, basic demographic data were taken from the population registers (“padron”) and pre-printed on a separate form. After the census, this form - signed by the respondents and with the possible corrections - was transmitted by the Statistical Office to the relevant municipality for the updating of the population register.

Table 3: Classification of countries according to methodology adopted for the population census, 2000 round

Group A: Traditional census (35 countries)		Group B: Data from registers + questionnaires sent to all households (5 countries)	Group C: Data from registers, no questionnaires used (4 countries)
Group A1: Traditional census, interviewer (21 countries)	Group A2: Traditional census, self-compilation (14 countries)		
Albania Armenia Azerbaijan Belarus Bulgaria Croatia Cyprus Estonia Georgia Greece Hungary Kazakhstan Kyrgyzstan Lithuania Poland Romania Russian Fed. Serbia and Montenegro The FYROM Turkey Ukraine	Australia Austria Canada Czech Rep. France Ireland Israel Italy Luxembourg Malta Portugal Slovakia United Kingdom United States	Belgium Latvia Slovenia Spain Switzerland	Denmark Finland Netherlands* Norway

* Information on population was completely based on the population register. Some of the variables measured at the personal level (like level of education and occupation) came from sample surveys.

Source: Based on information from the ECE questionnaire on population and housing censuses (preliminary results).

II. CENSUS METHODOLOGY IN RELATION TO THE LEGAL AND ADMINISTRATIVE CONTEXT

26. In this section, the legal and administrative context in which censuses are carried out in the various countries is analysed, and possible relations with the census methodology adopted are discussed.

II.I The legal context: existence of statistical legislation at the time of the census

27. In most countries, the preparation and conduction of a census requires a legal basis, regulating issues like: allocation of funds to take the census; obligation of citizens to provide the information; relationships between the agency responsible for the census and other public administrations involved in the census operations; possible use of registers to produce census data or to support field operations; data confidentiality; etc.

28. In the majority of countries, a specific **census act** is approved before each census, to deal with issues like those mentioned above. In some countries, however, the **statistics act** includes all necessary provisions, and therefore a specific census act is not needed.

29. One of the issues that are typically covered in census acts and statistics acts is data confidentiality. In an increasing number of countries, specific **data protection acts** have been approved to regulate this field. In some cases, data protection acts include all necessary provisions to cover the specific needs of censuses, including for instance the possible use of register data for censuses, or specific measures to be applied to census enumerators. In others cases, specific provisions have to be included in the census acts, to take into account aspects which are peculiar to the censuses.

30. Table 4 presents information – for the ECE countries where a census was taken in the 2000 round - on the presence of census act, statistics act and data protection act at the time of the census. Countries have been grouped by census methodology (using the classification proposed in the previous section) to highlight possible relationships between the type of census and the legal framework existing in each country.

31. First of all, it can be noted that in the large majority of countries (38 out of 44) a census act was approved. In most cases, the census act was passed a few years before the census, which means that probably a census act is approved for each census round. On the contrary, the census act was approved many years before the census in the following countries: Turkey (1990), Australia (1905), Canada (1870), Malta (1948), United Kingdom (1920), United States (1976) and Finland (1938). However, it should be noted that in some of these countries (including Turkey, Malta and the United Kingdom) special orders or regulations were approved at the time of the last census to complement the census act⁷.

32. As for the six countries where no census act was approved (Belarus, Cyprus, Kazakhstan, Israel, Denmark and Netherlands), in most of them a statistics act was approved a few years before the census. The exception is Israel, where the legal basis for the 1995 census was the 1972 statistics act.

33. It should be noted be noted that among the four countries where the census was based on registers, only in Norway a census act was approved for the last census. In fact, this act concerned only the housing census, which was traditional, and the population census. In Finland, the legal basis was represented by the 1938 census act (followed by decrees until 1971), while in Denmark and the Netherlands no census acts were needed for the 2001 censuses.

34. With regard to statistics acts, they have been approved in 36 out of 44 countries. It should be noted that the eight countries where statistics acts were not approved are all countries where the census was taken in a traditional way. In other words, a statistics act was approved in all nine countries where registers were used to produce census data, probably to define properly the legal framework in which the register data were used for the censuses.

35. As for statistics act, data protection acts were approved in the majority of countries (33 out of 44), including all nine countries where registers were used to produce census data and only in two thirds of the remaining countries.

⁷ See: “documentation of the 2000 round of population and housing censuses in the EU, EFTA and Candidate Countries”, EU, May 2003, page 21.

Table 4 - Legal framework for the population censuses: dates of census acts, statistics acts and data protection acts in force at the time of the last census

Country	Census year	Census act (year)	Statistics act (year)	Data protection act (year)
Group A1 (Traditional census, interviewer):				
Albania	2001	2000		
Armenia	2001	1999	2000	
Azerbaijan Republic	1999	1996	1999	1994
Belarus	1999		1997	1994
Bulgaria	2001	2000	1999	
Croatia	2001	2000	1994	2000
Cyprus	2001		2000	2002
Estonia	2000	1998	2000	1996
Georgia	2002	2000	2001	2001
Greece	2001	2000	1956	1956
Hungary	2001	1999	1993	1992
Kazakhstan	1999		1997	
Kyrgyzstan	1999	1998	1994	1998
Lithuania	2001	1999	1999	1996
Poland	2002	1999	1995	
Romania	2002	2001	1992	2001
Russian Federation	2002	2002		1995
Serbia and Montenegro	2002 (1)	1999	2001	2001
The fYR of Macedonia	2002	2002		
Turkey	2000	1990		1962
Ukraine	2001	2000	2000	2000
Group A2 (Traditional census, self-compilation):				
Australia (not member of ECE)	2001	1905		
Austria	2001	2001	2000	2000
Canada	2001	1870	1970	
Czech Republic	2001	1999	1995	2000
France	1999	1998	1951	1978
Ireland	2002	2002	1993	
Israel	1995		1972	
Italy	2001	2000	1989	1996
Luxembourg	2001	2001	1962	
Malta	1995	1948		
Portugal	2001	2000	1989	
Slovakia	2001	1998	1992	1998
UK	2001	1920 (2)		1998
United States	2000	1976		1976
Group B (Data from registers + questionnaires sent to all households):				
Belgium	2001	2001	1962	1962
Latvia	2000	1999	1997	2000
Slovenia	2002	2001	1995	1999
Spain	2001	1999	1989	1999
Switzerland	2000	1998	1993	1993
Group C (Data from registers, no questionnaires used):				
Denmark	2001		2000	2000
Finland	2000	1938	1994	1999
Netherlands (3)	2001		1996	1988
Norway	2001	2001	1989	1978

Notes: (1) Montenegro: 31 October 2003

(2) Northern Ireland: 1969

(3) New legislation entered into force after the 1 January 2001 census: Statistics Act (November 2003); Personal Data Protection Act (September 2001)

Sources: ECE questionnaire on population and housing censuses (preliminary results); websites of: Agency on Statistics (Rep. of Kazakhstan), Danish Data Protection Agency, Statistics Netherlands, Dutch Data Protection Authority, INE (Portugal), Statec (Luxembourg).

II.II The administrative context: existence and use of PIN

36. In this section we will discuss the existence and use in the various ECE countries of a national Personal Identification Number (PIN), where by PIN we intend a unique identification number assigned by the public administration to each individual for identification. In many countries a PIN is assigned to identify individuals in connection with administrative matters (like registration in the population registers, electoral lists, tax system, etc.) and/or the provision of services (healthcare, school, social security, etc.).

37. The PIN is potentially a powerful statistical tool, because it allows linking individual data from different sources with relatively little effort and very limited errors. For this reason the PIN is used in many countries not only for administrative purposes but also for statistical purposes.

38. However, precisely for the possibility of linking individual information from different sources, the statistical use of PIN has to be regulated to ensure that data confidentiality is guaranteed. For this reason, in many countries where the PIN exists, its use for statistical purposes is strictly limited or even prohibited. In some countries where the public concern about data confidentiality is particularly strong, the PIN does not exist at all.

39. From what written above, it is clear that the existence and possibility of use of PIN for statistical purposes is an important indicator of the administrative framework existing in the various countries.

40. Table 5 presents information on the existence of a PIN and on its use for censuses, surveys and administrative sources. Available data show that a PIN exists in 31 out of 44 countries. The PIN is used for administrative sources in the high majority of these countries (24), while its use is more limited for censuses (15 countries) and for surveys (12 countries). In five countries (Belarus, France, Italy, Slovakia and United Kingdom) the PIN exist but it is not used for statistical purposes.

41. It is interesting to note that among the countries that carried out their census using registers data, some used the PIN for censuses, surveys and administrative sources, while others (including Spain, Switzerland and Netherlands) do not have any PIN at all. This mean that the possibility of using the PIN for the census is not a necessary condition to carry out a census based on registers.

Table 5 - Administrative framework for the 2000 round of population and housing censuses in the ECE region: existence and use of PIN

Country	Existence of PIN	Use of PIN			
		Census	Surveys	Admin.	(None)
Group A1 (Traditional census, interviewer):					
Albania					
Armenia	Y			X	
Azerbaijan Republic					
Belarus	Y				X
Bulgaria	Y	X	X	X	
Croatia	Y	X	X	X	
Cyprus	Y			X	
Estonia	Y	X	X	X	
Georgia	Y			X	
Greece					
Hungary	Y			X	
Kazakhstan	Y			X	
Kyrgyzstan					
Lithuania	Y	X	X	X	
Poland	Y			X	
Romania	Y			X	
Russian Federation					
Serbia and Montenegro	Y	X			
The fYR of Macedonia	Y	X		X	
Turkey					
Ukraine	Y			X	
Group A2 (Traditional census, self-compilation):					
Australia (not member of ECE)					
Austria	Y			X	
Canada					
Czech Republic	Y	X			
France	Y				X
Ireland					
Israel	Y	X	X	X	
Italy	Y				X
Luxembourg	Y			X	
Malta	Y	X	X	X	
Portugal	Y			X	
Slovakia	Y				X
UK	Y				X
United States					
Group B (Data from registers + questionnaires sent to all households):					
Belgium	Y	X	X	X	
Latvia	Y	X	X	X	
Slovenia	Y	X	X	X	
Spain					
Switzerland					
Group C (Data from registers, no questionnaires used):					
Denmark	Y	X	X	X	
Finland	Y	X	X	X	
Netherlands					
Norway	Y	X	X	X	

Source: ECE questionnaire on population and housing censuses (preliminary results)

II.III The administrative context: existence and use of registers

42. As it emerged in the section on how censuses were taken, the extent to which registers (including population registers, business registers and others) were used for the population censuses is probably the most important variable with regard to the census methodology adopted by the different countries. Some countries based their census entirely on data from registers, some took part of the census data from the registers and the rest was collected through field operations, but the majority of countries still carried out their census in a traditional way that is with field operations and without using registers to produce census data. However, in many of the countries in this last group administrative registers do exist, but they were not used for some reasons (including: data of poor quality or outdated, lack of standardisation among different registers, technical or legal problems in linking data, presence in the registers of only few variables, political or public opposition, and so on) or were used only in support to field operations, but not to produce census data.

43. It is therefore interesting to see which registers exist in the various countries and if and how they were used in connection with the census. This information is particularly important in future perspective, to see how many countries could potentially move from a traditional census to a census based (partially or exclusively) on data taken from registers.

44. Table 6 presents the information on the types of registers existing in the various countries. In 39 out of the 44 countries, there exist at least one administrative register (the five countries with no registers are: Albania, Malta, Russian Federation, Serbia and Montenegro and the United States).

45. The most common administrative registers are business registers (including agriculture registers), which exist in 34 countries, and population registers, which exist in 25 countries. Insurance registers (including social security registers) exist in a large number of countries (24), while dwelling registers exist in only 7 countries. In addition to these four types of registers which were listed in the ECE questionnaire, 23 countries reported the existence of various types of registers, with the most common being tax/income registers (10 countries).

46. Considering the existence of registers in groups B and C (where census data are produced partially and exclusively from registers, respectively), and the situation of registers existing in countries in group A (where the last census was taken in a traditional way), it can be said that a significant number of countries in group A potentially has the registers that would allow to move to a census based, at least partially, on registers. For these countries, however, the real issue is not the existence of the registers, but rather their content, especially in terms of coverage and quality, which should be sufficiently good (and in most cases are not) to be used for census purposes.

**Table 6 - Administrative context for the 2000 round
of population and housing censuses in the ECE region: existence of registers**

Country	Existence of registers	Which registers exist:					Other registers:
		Population	Business (incl. agr.)	Dwellings	Insurance (incl. soc. sec.)		
Group A1 (Traditional census, interviewer):							
Albania							
Armenia	Y		X				
Azerbaijan Republic	Y		X				
Belarus	Y		X		X		
Bulgaria	Y	X	X		X	Tax, health insurance	
Croatia	Y				X		
Cyprus	Y	X	X		X		
Estonia	Y	X	X	X	X	Tax, vehicle, birth, etc. (governmental and institutional databases)	
Georgia	Y		X				
Greece	Y		X		X	Tax Service Register (not used for the census)	
Hungary	Y	X	X	X	X		
Kazakhstan	Y					Registers maintained by the Ministry of Internal Affairs	
Kyrgyzstan	Y		X		X		
Lithuania	Y	X	X		X	Farmers, Real property, Mortgage, Administrative units, settlements and streets etc. (about 50 registers)	
Poland	Y		X	X	X	Register of inhabitants	
Romania	Y	X	X		X		
Russian Federation							
Serbia and Montenegro							
The fYR of Macedonia	Y	X	X		X	Territorial units	
Turkey	Y	X					
Ukraine	Y		X		X	Physical persons, taxpayers, pension registrations	
Group A2 (Traditional census, self-compilation):							
Australia (not ECE)	Y		X		X	Births, deaths and marriages	
Austria	Y	X	X		X	Address register, tax register	
Canada	Y	X	X		X	Tax register	
Czech Republic	Y	X	X				
France	Y		X				
Ireland	Y		X				
Israel	Y	X			X	Business register and institution register (being set up)	
Italy	Y	X	X		X		
Luxembourg	Y	X	X		X	Tax register, driver licence register	
Malta							
Portugal	Y	X	X	X	X	Tax register, driver license register	
Slovakia	Y	X	X				
UK	Y		X		X	Electoral	
United States							
Group B (Data from registers + questionnaires sent to all households):							
Belgium	Y	X	X	X		Dwelling registers being set up	
Latvia	Y	X	X			Registers under responsibility of other ministries and institutions	
Slovenia	Y	X	X			Register of territorial units, statistical register of employment	
Spain	Y	X				Cadastre	
Switzerland	Y	X	X			New register of Buildings and Dwellings based on census 2000 data	
Group C (Data from registers, no questionnaires used):							
Denmark	Y	X	X	X		Income, education, social security	
Finland	Y	X	X	X	X	Buildings, unemployment, work pension, taxation, completed educational attainments, conscripts, pensioners	
Netherlands	Y	X	X		X		
Norway	Y	X	X		X	Jobs, wages, income, addresses, buildings, education. Dwelling register will be established as a part of the Census project	

Source: ECE questionnaire on population and housing censuses (preliminary results)

47. After having seen which registers exist in the different countries, it is interesting to see what use was done of these registers in connection with the census. In the section on types of census it was showed that only a limited number of countries based their census exclusively on data taken from registers, or used registers as source of census data to be confirmed and completed through field operations. However, registers can also be used to facilitate census fieldwork (for instance, to establish address lists) in countries that decide not to use them to produce directly census data. On the other hand, in several countries the census is an opportunity to update existing registers or even to create new registers.

48. According to the replies to the ECE questionnaire 30 countries out of 44 (that is 68 per cent) used in some way their registers in connection with the 2000 census round. The results on the different uses of the different registers are summarised in table 7.

49. The most frequent use of registers is as support to fieldwork and, in particular, to establish address lists (21 countries). The most used registers for this purpose were population registers (11 countries), followed by dwelling registers and post office address lists. Data from registers were used to pre-fill census forms in 8 countries. Population registers were the most used registers also for this purpose.

50. A total of 9 countries used registers to produce census data, including Denmark, Finland, Norway and the Netherlands - that based their census on registers – and five more countries that produced part of census data using the available registers. For this purpose, the most used registers were business registers (used in 8 countries) and population registers (used in 7 countries).

51. In a number of countries, censuses represent an opportunity to update existing registers or even to create new registers. The census was used to update the registers in 11 countries, with the population register as the one updated in most countries (5). With regard to the use of censuses to create new register, this practice was followed in 7 countries. In 6 of them, the dwelling register was set up.

Table 7 – Number of countries in which different registers were used, for various purposes, in connection with the 2000 round of censuses in the ECE region

Type of register:	Use of registers:			Use of censuses:	
	To establish address lists	To pre-fill census forms	To produce census data	To update existing register	To create new register
Population	11	6	7	5	2
Dwellings	5	0	4	3	6
Business	0	2	8	1	2
Insurance	0	1	4	0	1
Post office address list	3	0	0	2	1
Other registers	6	2	7	5	2
TOTAL NUMBER OF COUNTRIES:	21	8	9	11	7

Source: ECE questionnaire on population and housing censuses (preliminary results)

52. To conclude this overview of the context in which the population census are taken in the various ECE countries, we present in table 8 the results on the uses of census data. The large majority of countries (37 out of 44, that is the 84 per cent) indicated that the census would be

Table 8 – Uses of census data

Country	Uses of census data:			
	Revision of intercensal population estimates	Base for population projections	Revision of administrative records	Frame for sample surveys
Group A1 (Traditional census, interviewer):				
Albania	X	X		X
Armenia	X	X		X
Azerbaijan Republic	X	X	X	X
Belarus	X	X		X
Bulgaria	X	X	X	X
Croatia	X	X		X
Cyprus	X	X		X
Estonia	X	X		X
Georgia	X	X		X
Greece	X	X		X
Hungary	X	X		X
Kazakhstan	X	X	X	X
Kyrgyzstan	X	X	X	X
Lithuania	X	X		
Poland	X	X		X
Romania	X	X	X	X
Russian Federation	X	X		X
Serbia and Montenegro	X	X		X
The fYROM	X	X	X	X
Turkey	X	X		
Ukraine	X	X		X
Group A2 (Traditional census, self-compilation):				
Australia	X	X		X
Austria	X	X		
Canada	X	X	X	X
Czech Republic	X	X		X
France	X	X		X
Ireland	X	X		X
Israel	X	X		X
Italy	X	X	X	X
Luxembourg	X	X		
Malta	X	X		X
Portugal	X	X		X
Slovakia		X		X
United Kingdom	X	X		
United States	X	X		X
Group B (Data from registers + questionnaire sent to all households):				
Belgium				X
Latvia	X	X		X
Slovenia				
Spain	X	X	X	X
Switzerland	X			X
Group C (Data from registers, no questionnaires used):				
Denmark				
Finland				
Netherlands				
Norway				
Total:	37	37	9	34

Source: ECE questionnaire on population and housing censuses (preliminary results)

used for the revision of intercensal population estimates and as base for population projections (two traditional applications of the censuses to population statistics). Censuses will also be used as frame for sample surveys in 34 countries, while only 9 countries plan to use the census for the revision of administrative records.

53. It should be noted that all countries where the census is based on registers do not plan to use the census for any of these purposes. In fact, some of the uses of census data presented in table 8 are not relevant to these countries (like the revision of intercensal population estimates), while for other uses they would use directly data from the population registers.
