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on Migration Statistics*
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Topic 4

**NEW MIGRATION FLOW STATISTICS IN AUSTRIA
(METHODS, PROBLEMS AND OUTCOMES)**

Supporting paper submitted by Statistics Austria¹

Background

1. In Austria, migration statistics at the national level have mainly been collected by means of the population census. The censuses of 1961, 1971, 1981 and 1991 each contained a question on residence 5 years prior to census date. Furthermore, the population totals from successive censuses have been used to analyse net migration for each commune by means of the residual method (population change minus natural increase = intercensal net migration).
2. Current postcensal estimates of net migration by four categories of citizenship are prepared by Statistics Austria for the country as a whole and the nine provinces for the purpose of producing quarterly population estimates. Due to the lack of comprehensive migration statistics, various data of different origin, coverage and periodicity were processed in the past, as available (work permits, foreign unemployment, and asylum seekers monthly, the foreign stock yearly, all nationwide; and a few data on

* The documentation for this work session will be processed as for seminars.

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the total population from two provinces: stocks in Vorarlberg, and migration flows of Vienna). The annual figures of these postcensal estimates have been subject to revision after each decennial census.

3. The current estimates cannot provide flow data nor regional details of migration below the level of province. In principle it would have been possible to collect migration data from administrative sources in the whole country, as it was done by the municipality of Vienna (and several other cities). Neighbouring countries such as Germany, Switzerland and Italy, gave examples of migration statistics based on decentralised registration systems for all inhabitants similar to the one that has also been existing in Austria for a long time. However, the Austrian Central Statistical Office (the predecessor of Statistics Austria) had no legal title for exploiting the local registers. Plans to solve that uneasy situation trace back to the mid-1960s.

4. After a number of unsuccessful attempts to create a legal basis for migration statistics, the necessary regulation has only been enacted in 1991 on the occasion of the last renovation of the registration law. Then the concept of main residence as a prerequisite for counting each person only once was still missing. It was introduced into the legal system by 1 January 1995, and continuous migration statistics based on the inscriptions and deregistrations of main residence finally started on 1 April 1995, with 1996 as the first full year (for legislation see Annex I).

Basic Concept

5. The new migration statistics aims at direct reporting of the migration event as observed in the period of occurrence. It operates within the system of continuous registration of inhabitants at the local level. The subject are the transfers of main residences across the boundaries of communes as measured on the occasion of inscription and deregistration according to the registration act. Main residence is defined as the centre of life, i.e. of occupational, economic and societal relations, of a person.

6. For national migration statistics, the moves within communes and between secondary residences are disregarded. On the other hand, the data refer both to internal migration, i.e. change of main residence from one commune to another, and to international migration, i.e. setting up or giving up main residence when moving into or out of the country. Since moving house (inscription or deregistration of main residence) is the only criterion, no distinction is made between long-term and short-term migration or between permanent and temporary migration.

7. From the standpoint of a commune, in-migrations are inscriptions on the occasion of establishing a main residence, if the former main residence was outside the commune; out-migrations are deregistrations on the occasion of giving up a main residence, if the next main residence will be outside the commune or is unknown. The enumeration of inscriptions and deregistrations of main residence yields immigration, emigration, and internal in- and out-migration totals, with breakdowns by characteristics of the persons and the events.

Data collection

8. The data come from the local administrations where every person taking residence must register. Any change of main residence requires deregistration in the old place and inscription in the register competent for the new dwelling. (For some features of the registration system see Annex II.) In Austria, there are some 2,350 registration offices at the level of communes. They have to select the data needed for migration statistics at the national level. The data for a certain period are stored in a file and reported to Statistics Austria at fixed dates, either quarterly or semi-annually, depending on the size of the commune.

8. According to article 2 of the migration statistics decree , the following information must be reported for statistical purposes:

1. Commune of registration office;
2. Indication of inscription or deregistration;
3. Date of inscription or deregistration, in case of deregistration also the date of inscription at the main residence that is being shut down;
4. In case of inscription the Austrian commune or the foreign country of the last main residence;
5. In case of deregistration the Austrian commune or the foreign country of the next main residence;
6. Indication of ex officio deregistration;
7. Sex;
8. Date of birth;
9. Citizenship;
10. Indication of a change in residence qualification, i.e. a conversion of a common to a main residence or *vice versa (Ummeldung)*; this variable is only optional.

9. The local authorities mostly run electronic registers. Reporting on paper (a copy of the registration form) has almost disappeared. The share of migration cases on paper fell from 5% in 1996 to about 1% in 1999. However, data collection by electronic media is not an easy task either. The software used by the registration offices is very diverse, comprising about 30 commercial products and versions which come from about 20 different suppliers as well as a number of individual applications in larger towns. As there is no unified standard except for the registration form and the electronic format for selecting the statistical data, it requires a great deal of work at Statistics Austria to secure the quality and timeliness of the new statistics. Particularly in the first years when a lot of errors and omissions were detected it was vital to keep close contact with the many communes in order to improve their reporting. Much progress has been made since as regards data quality, but keeping the deadlines for reporting without delay is still a problem for about 12% of all communes. 2% of the reports are on average still missing two months after the deadline.

10. The mode of data transfer to Statistics Austria can be chosen by the registration authority. At the end of 1999 there were 2.359 communes of which for a subtotal of 1.004 six regional computing centres had organised collective reporting, exclusively online or by e-mail; the remaining 1.355 communes reported individually, namely 99 online or by e-mail, 1.176 on diskette, and 80 on paper.

11. As the year 1995 was truncated (the migration statistics decree came into force on 1 April), and it took some time to make all communes acquainted with their new task, the data supplied during 1995 were used for testing the capture, plausibility, and classification programme routines. Another reason for the delay in regular processing was that contracts had to be made between the police directorates and the municipalities of the 15 towns where the Federal Police is the registration authority. The contracts were necessary because the police held their registration data on paper while the municipalities (which are entitled to receive duplicates) have them on electronic files. It would have been uneconomical if the statistical migration data of those towns with about 34 % of the total population of Austria would have to be captured twice. Hence, the year 1996 became the first year of regular processing.

Data processing

12. From the mixture of online or e-mail, diskette, and paper data transfer, a master file is established at Statistics Austria to be processed on the mainframe computer by means of user's programmes and of standard software (SAS). The data records arriving at Statistics Austria are anonymous, except for the data on paper because these are copies of the registration form. In this case Statistics Austria has to take

care of the anonymisation. Processing is exhaustive, as this is a prerequisite for statistical matching, small area statistics and tabulation of details for all countries of the world.

13. Each year a total of about 660.000 migration cases is to be processed. The processing starts with pre-plausibility, a check of completeness of the number of records (by comparison with the numbers notified by the commune) and of completeness of the records themselves (by comparison with the common standards). It continues with coding of full texts that is automatic in case of electronic records. Decentralized coding of data may also occur when the commune or the service provider uses an appropriate software.

14. Plausibility checks are carried out both at the micro-level, i.e. within the records, and at the macro-level of the communes, i.e. by comparing in- and outflows between communes and by comparing the balance of flows with the balance yielded by the residual method. The latter is possible because Statistics Austria started collecting a few population stock data from the communes at the same time as the migration data. These are the totals of main residences at the end of the year by six categories of citizenship.

15. There are three main problems with the data: errors of data capture at the registration office or the service provider, defects of the software used in the registration process, and deficiencies in using it. Frequent problems of data selection concern registrations that are irrelevant for migration statistics (e.g. newborn babies, secondary homes, change of name or nationality, change of main residence within the commune). Such errors can be detected by formal and logical controls. However, this is almost impossible in cases where registrations of secondary residence are declared as formally correct main residences, and where relevant events have been omitted.

16. Another problem are missing statements of last previous or next commune or country of residence. In these cases the missing information is sought after with the data supplier or it is derived from individual comparisons of in- and outflows within the country or with unknown origin and destination. By this the proportion unknown can be reduced to less than 5%. For the remaining unknowns substitutions and imputations are applied: In the case of foreigners the missing country of origin or destination is substituted by the country of citizenship, and for Austrian nationals it is imputed by a hot deck procedure using the available information from other in- or out-migrants of the same commune or region. There are also wrong statements of place or country of origin or destination (e.g. "P" used by the supplier for Poland instead for Portugal) which have to be detected and systematically corrected.

17. The original concept of processing the data on intercommunal migration was to use only the data on inflows (inscriptions). Outflows (deregistrations) should be used primarily for control purposes in order to improve the quality of the data. Micro-level checks showed however that too many inflows had unknown commune or country of origin (while similar omissions regarding destination of outflows would not bother). Therefore the already mentioned individual comparison through matching of inscriptions and deregistrations was developed by which the mutually missing information is borrowed and thus the amount of missing information is reduced considerably. Because no direct identifier is available, the matching is to be done statistically. Special procedures were developed and decisions stated in order to treat cases where a) both registrations have unknown place of origin and destination; b) inscriptions with domestic origin cannot be matched, c) deregistration of certain communes are of such poor quality that the missing information must be taken from the communes of destination, and d) inscriptions of foreigners who come from communes with asylum institutions for which no obligation to register exists. This procedure of individual comparison by statistical matching is carried out only once a year at the end of data processing when the final data are established.

Publication

18. The results are published in an article in "Statistische Nachrichten" (12 pages), in the Statistical Yearbook of Austria (15 pages out of 600), the Demographic Yearbook (25 pages out of 380), as well as in a separate annual brochure of about 270 pages („*Wanderungsstatistik 19..*“) that presents among other things breakdowns by communes. Tables on migration statistics are also stored in Statistics Austria's databank ISIS which gives direct access to the results via computer terminals. The data add new potentialities to research at national, provincial, regional and local level, particularly by analysing matrices between areas of origin and destination and for making population estimates and projections. At present the necessary base population at the local level is still missing because in the start year 1996 there was no census or detailed enough register count available. Thus the next census 2001 and/or the planned central register will bring a great step forward (and also enable backward estimates of regional and local population data).

19. The specialised brochure, „*Wanderungsstatistik 19..*“, contains tables on in- and out-migration across the national boundaries and within Austria by the demographic characteristics age, sex and citizenship (legal nationality). The regional breakdown of data is by the nine provinces (*Länder*), the 35 NUTS-3 regions, the 99 administrative districts, the 2359 communes (as of 1999) and an urban-rural classification. Besides the totals of in- and out-migrations for the regional units, the publication also contains origin-destination matrices describing the migratory interrelationships between provinces and districts. International migration is differentiated not only by demographic characteristics but also according to the countries of origin (last previous residence) and of destination (next residence), respectively.

Possible future developments

20. It is planned that the local registries be combined to form a central register at the Ministry of Interior (section 16 of the registration act) which should already have been operative by 1998. Statistics Austria is to a certain extent involved in the planning process for the central register, particularly with respect to the links that are to be established in order to support the population census of 2001. The data from the central register can also be used for preparing migration statistics, which would be very much facilitated. Furthermore, it would be possible to determine whether an immigrant has stayed outside the country for more than one year before arrival, whether he stayed in the country for more than one year after arrival, whether an emigrant has stayed in the country for more than one year before departure, and whether he remained absent from the country for more than one year after departure. This means that the UN recommendations could be met – as well as any other definition of international migrant which may be based on a time criterion (e.g. 3 or 6 months). At present information on duration of stay is available in migration statistics, but only at the level of commune and not on the level of the whole country. The data from the central register could also be used for establishing immigrant stock statistics (in addition to the population of foreign nationality).

ANNEX I

Legislation concerning migration statistics in Austria

The legal base for continuous migration statistics is article 16a of the Registration Act (*Meldegesetz*) which reads as follows (non-official translation):

Migration statistics

Article 16a. (1) The Registration Authorities have to transmit continuously to the Austrian Central Statistical Office the registration data needed for migration statistics, concerning the inscriptions and the pertaining deregistrations.

(2) The kind of registration data to be transmitted according to paragraph 1 is to be fixed by decree of the Minister of Interior in agreement with the Federal Chancellor.

(3) Registration Authorities managing the register by means of electronic data processing, or employing other legal persons for service in data communication, have to transmit the registration data according to paragraph 1 to the Austrian Central Statistical Office by exchange of machine-readable data files or by means of teleprocessing. The Registration Authority may correspond to this obligation by transmitting all registration data except for the declarations on religion.

(4) Registration Authorities not managing the register by means of electronic data processing may transmit the registration data according to paragraph 1 by means of an additional registration form to be filled in by the person obliged to register. The submission of this registration form is to be prescribed by decree according to article 9 paragraph 2.

(5) The Austrian Central Statistical Office is obliged to
(i) anonymise the transmitted personal data, and
(ii) to make available free of charge to the Länder and communes the migration statistics data concerning them.

Article 16a of the Registration Act came into force on 1 January 1995. The decree according to paragraph 2 (the Migration Statistics Decree, Wanderungsstatistik-Verordnung) was issued on 3 March 1995 in the Federal Gazette (Item No. 152) and came into force on 1 April 1995. Its relevant parts read as follows:

152. Decree by the Minister of Interior on the kind of the registration data to be transmitted for purposes of migration statistics (Migration Statistics Decree)

Article 1. (1) The subject of migration statistics is the transfer of main residences over boundaries of communes.

(2) The Registration Authorities, having been informed by inscription, deregistration or Ummeldung of a person that he/she has transferred his/her main residence into or out of the commune - except for the cases of first inscription of new-born and of deregistration of deceased-, are obliged to transmit the data needed for migration statistics. In doubt, the deregistration of a main residence is worth a transfer of main residence over the boundaries of the commune.

(3) If a deregistration refers to a residence which on 31 December 1994 was designated as an ordinary residence, it is in doubt worth a deregistration of main residence.

Article 2. (1) The Registration Authorities have to transmit to the Austrian Central Statistical Office the following data:

- 1. the designation of the commune from which the obligation to transmit has originated;*
- 2. the designation as foundation or abandonment of main residence;*
- 3. day, month and year of registration, in case of deregistration also the date of the pertaining inscription;*
- 4. in case of the foundation of main residence also the postcode and the commune of the last main residence, in case of in-migration from abroad the last country of main residence;*
- 5. in case of abandonment of main residence also the commune of the next main residence, in case of transfer of main residence to abroad the next country of main residence;*
- 6. designation of ex officio deregistration;*
- 7. in case of automated management of the register the internal identification number of the registration procedure;*
- 8. sex, date of birth and citizenship of the person concerned.*

(2) In addition, the Registration Authorities are entitled to transmit to the Austrian Central Statistical Office the following data within their obligation to report:

- 1. the postcodes of the main residence to which the obligation to report refers (paragraph 1 item 2) as well as of the next residence (paragraph 1 item 5), and*
- 2. the designation as Ummeldung due to change of qualification of residence.*

(3) Furthermore, the Registration Authorities are entitled to transmit to the Austrian Central Statistical Office as "unknown":

- 1. the date of the pertaining inscription (paragraph 1 item 3) if it is not available in the automated register;*
- 2. the designation of the commune of next main residence (paragraph 1 item 5) if it is not available;*
- 3. the sex of the person (paragraph 1 item 8) if there are doubts and the question is a deregistration of which the pertaining inscription was effective before June 1, 1986.*

Article 3. (1) Registration Authorities managing the register by means of electronic data processing, or employing other legal persons for service in data communication, may - instead of proceeding according to article 2 - meet their obligation also by transmitting all registration data except for the declarations on religion, of each inscription, deregistration or Ummeldung for which an obligation to report exists.

(2) Registration Authorities neither managing the register by means of electronic data processing nor employing other legal persons for service in data communication may - instead of proceeding according to article 2 - meet their obligation also by supplying a completely and legibly filled in registration form without a field for entering the religion, of each inscription, deregistration or Ummeldung for which an obligation to report exists.

(3) At transmissions according to paragraph 1 and 2, the Austrian Central Statistical Office is obliged to anonymise the transmitted personal data without unnecessary delay.

Article 4. (1) The transmission of the data to the Austrian Central Statistical Office has to follow fixed dates. Registration Authorities in communes having at least 10 000 inhabitants according to the most recent population census have to transmit the data quarterly. Registration Authorities in communes having less than 10 000 inhabitants have to transmit them half-yearly but may arrange quarterly transmission with the Austrian Central Statistical Office. The data are to be transmitted respectively until the 15th of the 2nd month following the end of the respective period of time. If

there were no registration procedures for which obligation to report exists, vacancy must be notified within the set terms.

(2) The electronically processed registration data may be transmitted to the Austrian Central Statistical Office either by exchange of machine-readable data files or by means of teleprocessing. They have to follow a unified record structure which is to be fixed by the Austrian Central Statistical Office in agreement with the Austrian Federation of Communes and the Austrian Federation of Towns; this applies also for the case that a Registration Authority transmits the registration data according to article 3 paragraph 1.

(3) The Austrian Central Statistical Office has to fix in agreement with the Austrian Federation of Communes and the Austrian Federation of Towns unified codes for the classifications of topics for transmissions according to paragraph 2. At this it is also to be determined in agreement for what codes an obligation to use exists.

Technical details necessary for the implementation of the two legal sources are to be found in an executive circular (*Durchführungserlass*) by the Ministry of Interior that is addressed to the Registration Authorities. It contains the text of the Migration Statistics Decree, instructions consisting of three parts: general information (i), rules for data transmission on paper (ii) and by electronic media (iii), and enclosures (forms). Most important are the instructions for the communes using EDP, regarding the construction of the migration statistics file, the structure and description of the unified data record, the types of data transmission, the procedures for electronic service providers, etc.

Since the constituent criterion for migration is the transfer of main residence over the boundaries of communes, it is important to know the definition of main residence. In first instance the definition is given in the Federal Constitution where it has been introduced by new legislation which came into force on 1 January 1995. At the same time, by virtue of the Main Residence Act, this definition has also been introduced in the Registration Act (article 1 paragraph 7) with a slightly different wording which reads as follows:

The main residence of a person is established in that accommodation in which he/she has settled with the intention, be it proven or emerging from the circumstances, to make it the centre of his/her vital relations; if, under comprehensive consideration of the occupational, economic and social relations of a person, this pertinent presupposition applies to several residences, then he/she shall designate that as main residence to which he/she has the preponderant relation of nearness.

The definition of migration includes those cases where the qualification of residence changes from mere residence (*Wohnsitz*) to main residence (*Hauptwohnsitz*) and vice versa. In such a case the person has to notify deregistration and inscription at once, a registration procedure known as *Ummeldung*.

ANNEX II

Features of the registration system

Registration as governed by the Austrian registration act (*Meldegesetz*) refers both to dwellings and touristic accommodations.

Apart from any obligation concerning the permit of stay and the permit of work (which are not required for EEA-citizens), the foreigner must register with the local registration authority within three days after arrival. At inscription, a set of completed registration forms together with official documents showing the identity data of the person must be produced. In principle, there is no difference in the process of registration between nationals and foreigners nor between immigrants and re-migrants.

Certain categories are exempt from the general obligation to register when moving into or out of a dwelling or a hotel accommodation: persons accommodated in a dwelling not longer than three days; foreigners holding a card issued by the Ministry of Foreign Affairs (diplomats, consuls, international officials, and their dependents) when residing in a dwelling; persons detained on the basis of judicial or administrative decision; asylum seekers accommodated by territorial authorities. Conditionally exempt, i.e. if already registered elsewhere according to this act, are: persons living in a dwelling free of charge not longer than two months; patients in hospitals; minors in children's homes, boarding schools and similar institutions; Austrian armed forces, police, etc, in collective accommodations.

Persons living in dwellings must be registered with the registration authority (*Meldebehörde*). Arrivals and departures of hotel guests are to be entered in a visitor's form which is in the responsibility of the hotel manager. Persons residing in a hotel for more than two months must also be inscribed with the registration authority, namely three days after the two months at the latest. There is a special obligation to register for foreign workers who need a work permit: If accommodated in a hotel, they must in addition be inscribed and deregistered with the registration authority according to the conditions for residence in dwellings.

Persons moving into a dwelling are to be inscribed on the day of move or within three days thereafter. Giving up residence in a dwelling requires deregistration within three days before or after the move. Deregistration can be done also with the registration authority which is competent for the next accommodation, if inscription is carried out at the same time.

Registration authority is the *Bürgermeister* (mayor of the commune) who in this case acts on behalf of the central government, except in those 15 cities for which a *Bundespolizeidirektion* (federal police directorate) exists. Thus, registration is administered by the federal police for at least one third of the total population. The registration office is usually called *Meldeamt*.

The obligation to register is to be met by the person taking residence. For minors or mentally handicapped the authorised representative or, if these persons are not living with their guardian, the landlord is liable. The person obliged to register must sign the filled-in registration forms therewith confirming the substantial correctness of the data. Also the landlord who provides the dwelling has to sign (and print his name on) each registration form; he must refuse signature in case of well-founded suspicion that the person concerned factually did not move into the dwelling or will not do so within one week. In case of justified assumption that the obligation to register has not been fulfilled for a person whom he accommodates, the landlord must report the registration authority within 14 days.

The registration form called *Meldezettel* is uniform all over the country. If the registration authority uses a computer, it may decree modifications of the shape and require only one form to be presented at inscription. Otherwise three forms at least are to be filled in for each person, or four in case of a foreigner.

The topics investigated at arrival (to be entered in the registration form) are: family name including academic degree; forenames; family name before first marriage; sex; religion; citizenship; date of birth; place of birth; travel document (if foreigner); complete address; whether registration as main residence or not; in case of main residence: complete address of previous main residence; places of further residences; name and signature of the person providing the accommodation; signature of the person obliged to register; date of registration; stamp of registration office and signature of the registration official.

The stamped registration form must be kept by the person and produced again in case of deregistration. In this case the place of next residence must be entered together with the date of deregistration; stamp of registration office and signature of the registration official.

The registration authorities have to keep up-to-date the registration data of all persons inscribed with them, including the appurtenant deregistrations. If the *Melderegister* is managed by computer, the initial database may be supplied from registers for other purposes (elections, taxation). The registration data must be preserved for 30 years from inscription. Other data which may be investigated and processed in case of indications on neglected deregistration, or non-registration, must be cancelled when they are no longer needed.

The principles of how the data must be arranged in order to find a person in the register are not prescribed by law. Many registration authorities conduct both an alphabetic nominal index and an address index. Activities carried out by the registration authority include inscription and deregistration, modification, rectification, information, confirmation, and transmission of data (e.g. to the mayor if he is not registration authority; to Statistics Austria for migration statistics; in case of foreigners to the foreigners' police; in case of persons liable for military service to the military administration of the province).