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SESSION: MIGRATION IN THE BALKANS

Paper

ASSESSING THE QUALITY OF MIGRATION STATISTICS IN CROATIA

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Abstract

The level of mobility in a country may be observed through international and internal migration. Measurement of both is important as: a) international migration is becoming an increasingly important component of population change relative to other demographic phenomena (mortality and fertility), and b) internal movements may have an influence on the size and the composition of population residing in local areas. However, producing reliable and comparable migration data can be very challenging. Registration of deaths and births is generally required by the law while the same does not apply to migration. Another issue is a feature of population movement: unlike mortality and fertility, migration flows are susceptible to large and rapid fluctuations. Notwithstanding the foregoing, accurate migration data covering flows of people within and into a country are of great importance when it comes to population projections and policy development.

The focus of this paper is aimed at migration statistics quality in Croatia. The preferable system of collecting migration related data is the population register. In the absence of a population register, as is the case in Croatia, migration events need to be counted in alternate ways. Croatian Bureau of Statistics publishes annual publications providing data on migration flows, whereas data on migration stock may be retrieved from population censuses.

Different data collections, however, report substantial differences in counts of migration events. This paper analyses the discrepancies found between the two data sources. It is shown that official migration data are inadequate to draw conclusions about population movement. Possible improvements regarding migration data collection and harmonization are discussed in the final part of this paper.

Assessing the quality of migration statistics is difficult when directly comparable datasets do not exist. In this case, we have at our disposal data from the 2011 Census and yearly data on migration flows in Croatia. These two datasets in combination may be used for the purpose of our analysis. Although we do not employ a perfect method of validation, given the differing time periods covered by the two datasets (1st of April 2010 to 1st of April 2011 for the population census and 1st of January to 31st of December if the respective year for the migration flow data), available data can smoothly be adjusted and compared.

Preliminary results indicate migration data inconsistencies, such as the over/undercount of migration events for some age groups. It is very interesting to notice that the two datasets used in our analysis do not have similar migration flow numbers. The correlation coefficient describing the relationship between the two datasets is satisfactorily high when it comes to data covering internal movement of people, but surprisingly low when it comes to data referring to counts of in-migrants from abroad.

Initial findings of our analysis demonstrate that migration statistics collected under the supervision of Ministry of Interior Affairs does not fully match the data obtained through the 2011 Census. However, we should bear in mind that datasets used in this paper cover slightly different populations, for example migrants who die and infant migrants are included in the yearly flow data but are excluded from the population census. On the other hand, when using census data, migration is recorded as a single transition event in a respective yearly period. But this does not justify relatively large differences in migration numbers found between the two migration data sources being compared.

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We hope to shed light on the way migration data is compiled and highlight the challenges and limitations demographers and other social scientists face when conducting research on this important topic in Croatia. Producers of the official migration statistics should supplement the data being published with explanatory notes on and estimates of over/undercounts of yearly migration flow data.

Keywords: migration statistics, quality validation, Croatia

INTRODUCTION

The level of mobility in a country may be observed through international and internal migration. Measurement of both is important as international migration is becoming an increasingly important component of population change relative to other demographic phenomena (i.e. mortality and fertility), and internal movements influence the size and composition of population residing in local areas. However, producing reliable and comparable migration data can be very challenging. Registration of deaths and births is generally required by the law while the same does not apply to migration. Another issue is a feature of population movement: unlike mortality and fertility, migration flows are susceptible to large and rapid fluctuations. Notwithstanding the foregoing, accurate migration data covering flows of people within and into a country are of great importance when it comes to population projections and policy development.

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SOURCES OF MIGRATION DATA IN CROATIA AND RESPECTIVE PROBLEMS

Two main sources of migration data in Croatia are population censuses and annual reports on migration.

Censuses provide data on place of residence at time of the census, place and country of birth, previous residence and year of arrival (in-migration). In the 2011 Census (CBS, 2015a), the key question aimed at detecting migrant population was whether a person lived continuously since birth in the current settlement. For those whose answer to that question was negative, further questions on place of previous residence (settlement, municipality/city, state), year of in-migration and reason for in-migration were asked. It is noteworthy that the Census records only the last migration experience of an individual (last migration), without providing details on migration history, i.e. possible previous resettlements – except in cases where a person lived abroad for some time. But even then, the census does not record if there were repeated moves to abroad. The questionnaire in this case asks if the person ever resided outside Croatia for a year or more. If the answer was yes, then further questions on the last country in which the person resided, year of arrival/return to Croatia and the reason for the stay abroad were asked.

Annual reports on migration are being published since 1991 (CBS, 2015c), and are based on data delivered to the Central Bureau of Statistics by the Ministry of Interior Affairs. These reports are based on the obligation of individuals to report every single change of residence. However, only basic information on external and internal migration is available through these reports. For international migration, data are available on the total number of out-migrants and in-migrants, their basic demographic structures (i.e. age and sex), country of citizenship, and countries from which they moved in/moved out. For internal migration, data is shown by the area of residence, as well as by age and sex.

A special problem concerning demographic research in Croatia is the methodological inconsistency among the last three censuses (1991, 2001, 2011), which is why the results they provide are not entirely comparable. Although the two most recent censuses (2001, 2011) are based on the concept of the “usual residence”, they are also not entirely comparable. In the 2001 Census, the questionnaire did not contain a question related to a declaration of intention of absence/presence, and persons absent for more than a year who were returning to the place of permanent residence seasonally and monthly were included in the total population. In the 2011 Census, those people were not included in the total population, and the Croatian Bureau of Statistics collected data on the intention of absence/presence.

An even greater problem migration researchers in Croatia are facing is related to very few census-based data on migration, so it is pretty difficult to quantify the scope and direction of migration, both at the national level, and at lower levels covering administrative units.

Unfortunately, no one knows precisely how many Croatian citizens emigrate from Croatia, or who is in charge for keeping accurate records. If historical data on external migration (collected by the Ministry of Interior Affairs, processed and published by the Central Bureau of Statistics) are being examined, one could reach a false impression of Croatia being a country with many in-migrants, with a positive migration balance of more than 350.000 inhabitants (CBS, 2015c). If migration balance over recent decades is positive indeed (as suggested by official migration flow statistics), how come census data on the total population numbers do not lead to the same conclusion?

QUALITY OF CROATIAN MIGRATION STATISTICS

Regardless of the growing importance of migration as a demographic phenomenon, over the last ten years there were no significant improvements in quality of migration statistics in Croatia. In contrast to migration data, data on the natural movement of population can be considered very reliable. So far, the vital statistics method of estimating net migration turned out to be the most accurate. It implies the computation of the difference between total population change, as assessed from two censuses, and natural increase during the intercensal period. Due to methodological inconsistencies between the last two censuses, this method only serves the purpose of gaining an insight into the migration balance in Croatia.

Net migration estimate based on the vital statistics method shows that the total population of Croatia decreased due to out-migration. At the same time, data on out-migration retrieved from the Croatian Bureau of Statistics' release indicate that Croatia is a positive net migration country, which does not match its demographic reality. According to official data (CBS, 2014), 153,442 in-migrants came to Croatia during the period under consideration, while 82,595 out-migrants left Croatia over the same period. This implies a positive migration balance amounting to 70,847 persons. The two data sources obviously provide very different net migration estimates. Such a finding suggests that data provided by the Ministry of Internal Affairs lacks credibility.

Understandably, out-migration flows increased, and the obligation of deregistration was practically nonexistent in Croatia during the wartime period. However, migration statistics quality has not been upgraded during the postwar period either. Registration of out-migration can be significantly improved by the introduction of an effective population register, which Croatia currently does not have, and which would contribute to a greater credibility of Croatian migration statistics.

Among other, high dynamics, susceptibility to external influences, unevenness of migratory movements, unreliability of data on migration, prevent us from providing a reliable estimate of the size of migration processes. Estimates of migratory movements are often subjective evaluations provided by researchers. However, such assessments can never be completely reliable.

Soon after gaining independence (in 1991), Croatia adopted the Law on Permanent and Temporary Residence (Official Gazette, no. 53, 1991) according to which the residence is a place where a person is settled with intention to live there permanently. This law distinguishes between the usual and temporary residence. Usual residence is defined as a place where a citizen usually lives, and temporary residence is defined as a place where a person stays up to 30 days. Although it is legally prescribed that a person who is permanently leaving Croatia to live in some other country shall be obliged to deregister, this is commonly violated and virtually never implemented in practice. Therefore, persons who out-migrated from Croatia to foreign countries generally did not deregister, and they remained statistically classified as permanent residents. Additionally, during the 1990s, numerous refugees and ethnic Croats from Bosnia and Herzegovina reported a residence in Croatia (for the purpose of obtaining Croatian documents), although they have never really lived in Croatia. This enabled them to move to third countries. Therefore, it is very difficult to statistically monitor external migration, and available data should be interpreted with caution.

In 2012, a Permanent Residence Act (Official Gazette, no. 144/12, 2012; Official Gazette no. 158/13, 2013) was passed. According to this act, a person leaving Croatia to permanently reside in some other country must deregister before out-migrating (or do so within 15 days of departure).

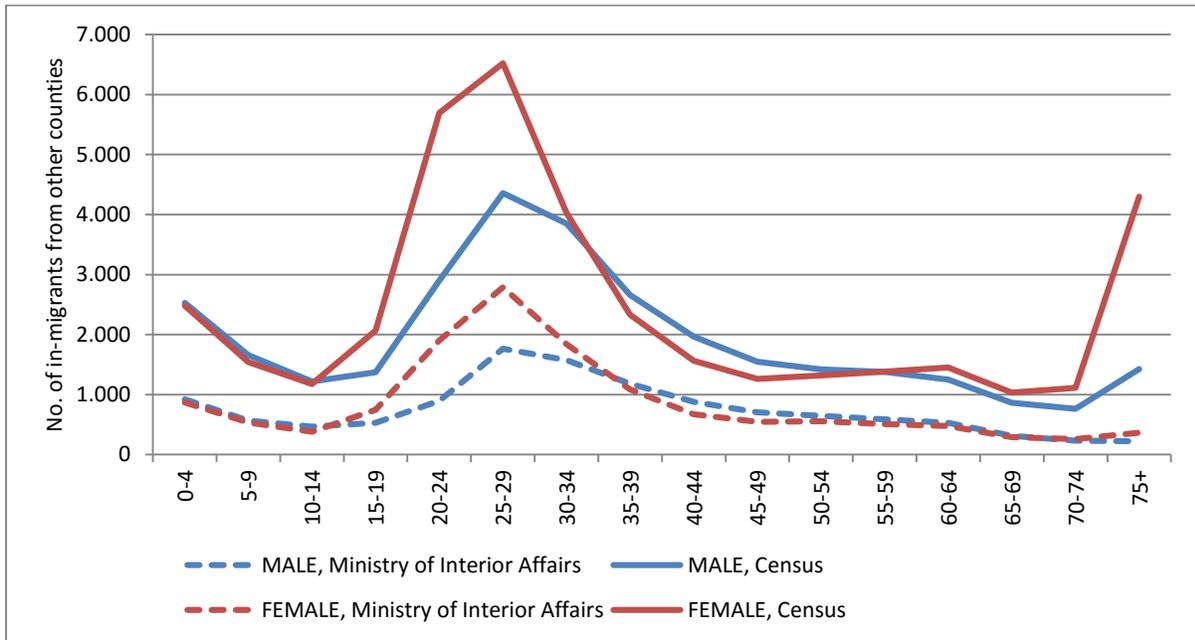
Citizens who were living abroad for over a year on December 29th 2012 (for reasons of education, work of nonpermanent character, long-term medical care, or other) needed to register at their current place of residence. Otherwise, they were to be deleted from the collection of data on residence of Croatian population. Citizens who did not hold a valid identification card on December 29th 2012 had to register at their current place of residence by December 29th 2014. Otherwise, they were to be automatically removed from the collection of data on residence of Croatian population.

Previously described legislative changes led to a rapid statistical “increase” of the number of out-migrants from Croatia. Such a development is mostly attributable to Croatian citizens with dual citizenship, who were treated as out-migrants if they failed to regulate their residence status. This mostly refers to Croats from Bosnia and Herzegovina whose place of residence was registered in Croatia and who moved to third countries or back to Bosnia and Herzegovina, and Serbs who were born in Croatia but haven’t lived in Croatia for a longer period of time.

Since 2011, data relating to external migration are processed according to a new methodology, which is based on UN recommendations regarding international migration statistics, and Regulation no. 862/2007 (dated July 11th 2007) of the European Parliament and the European Council covering European community statistics on migration and international protection. Statistical definition of an international migrant is conceptually related to the usual place of residence. In-migrants from abroad and out-migrants to abroad are defined as persons who change their usual place of residence for a period of time that lasts, or is expected to last, for at least a year. Data on migration, therefore, refer to Croatian citizens and foreigners with a permanent or temporary residence in Croatia. According to the methodology that was used until 2010, data on external migration referred to Croatian citizens and foreigners with a permanent residence in Croatia who have registered or deregistered their stay. Even though many irregularities and inconsistencies are related to data on external migration, annual reports on migration flows within the country may be thought of as quite reliable. They clearly indicate the absence of strong fluctuations in internal migration flows during the observed period of time.

Preliminary results of our analysis indicate migration data inconsistencies, such as the over/undercount of migration events for some age groups. It is very interesting to notice that the two datasets used in our analysis do not have similar migration flow numbers (see graphs 1 and 2).

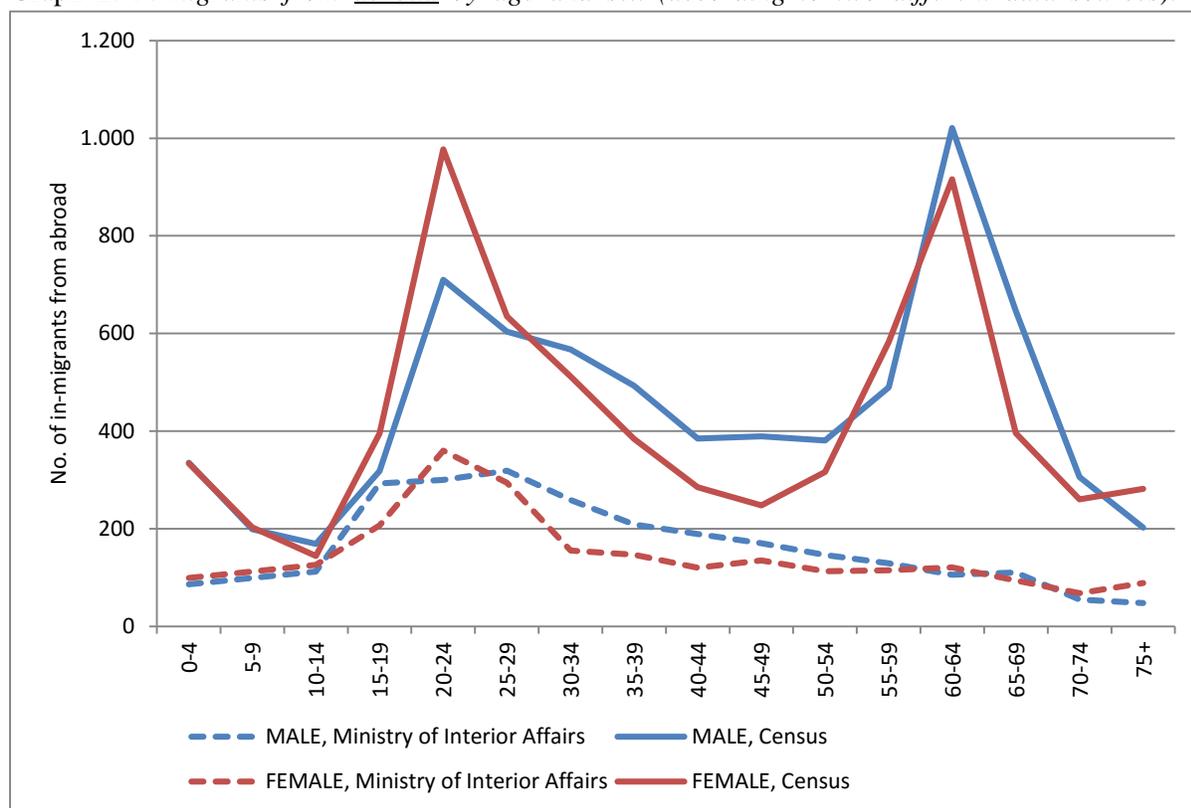
Graph 1: *In-migrants from other counties by age and sex (according to two different data sources): 2010*



Source: *Croatian Bureau of Statistics data obtained by personal correspondence.*

The correlation coefficient describing the relationship between the two datasets is satisfactorily high when it comes to data covering internal movement of people, but surprisingly low when it comes to data referring to counts of in-migrants from abroad (see tables 1 and 2). The most obvious mismatches are found between immigrant population in the year 2010 and 2011 Census data in the pre-retirement and retirement population (age group 50-75). When lacking definitive evidence for this inconsistency, one can only speculate that many Croatian workers from abroad do not change they de iure residence in Croatia, although they formally live(d) in another country.

Graph 2: *In-migrants from abroad by age and sex (according to two different data sources): 2010*



Source: *Croatian Bureau of Statistics data obtained by personal correspondence.*

Table 1: *Correlation coefficients referring to data from two different sources on in-migrants from other countries*

Correlation coefficient referring to in-migrants from other countries		
Males	Females	Total
0.958464	0.867242	0.906866

Source: *own calculations based on Croatian Bureau of Statistics data obtained by personal correspondence.*

Note: *MIA stands for Ministry of Inferior Affairs.*

Table 2: *Correlation coefficients referring to data from two different sources on in-migrants from abroad*

Correlation coefficient referring to in-migrants from other countries		
Males	Females	Total
0.318468	0.639732	0.478603

Source: *own calculations based on Croatian Bureau of Statistics data obtained by personal correspondence.*

Initial findings of our analysis demonstrate that migration statistics collected under the supervision of Ministry of Inferior Affairs does not fully match the data obtained through the 2011 Census. However, we should bear in mind that datasets used in this paper cover slightly different populations, for example migrants who die and infant migrants are included in the yearly flow data but are excluded from the population census. On the other hand, when using census data, migration is recorded as a single transition event in a respective yearly period. But this does not justify relatively large differences in migration numbers found between the two migration data sources being compared.

CONCLUSION

Migration is becoming an increasingly important demographic phenomenon; monitoring it requires data of adequate quality. However, migration data are still very scarce and most of the variables relevant to migration research are still unavailable in Croatia. Comparison of Croatian Bureau of Statistics' publications on natural movement to that on migration by itself speaks about the huge difference in the quality and availability of relevant data. We can say that earlier censuses (those conducted before 2001) provided more migration data (up to the level of settlements) which have been widely publicized. On the other hand, access to these data nowadays requires additional processing and presents a financial expense for researchers.

In this paper we tried to shed light on the way migration data is compiled and highlight challenges and limitations demographers and other social scientist have to face when conducting research on this important topic in Croatia. As a conclusion, it can easily be argued that migration data, when compared to other segments of data provided on demographic processes, lacks quality, and, therefore, should be interpreted with caution. In this respect, producers of the official migration statistics should supplement the data being published with explanatory notes on and estimates of over/undercounts of yearly migration flow data.

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