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Measuring emigration

A new measure of Italian emigration by the integration and analysis of administrative data sources

Note by Istat*

Abstract

International migration is a phenomenon of growing size and complexity and, for this reason, it becomes of crucial importance to have reliable, accurate and timely statistics on the phenomenon. In Italy, migration statistics is based on the direct use of one data source, the population registers (Anagrafi). However, the population registers are not able to meet the needs and the growing demand of statistics on the topic (Bisogno, 2011) mainly due to a significant asymmetry between the availability and quality of data on immigration and that on emigration (UN, 2010). The paper describes a methodology for measuring the size of the Italian migration flows and the main demographic characteristics of the migrants, which, by using data integration of administrative data sources, takes into account movements that are not included in the official statistics. The starting point is the demographic use of the administrative cancellations ex-officio relating to individuals who have left the country without communicating their departure. The integration with other administrative data sources makes it possible to classify some of them as international migration and to provide migration statistics that are more consistent with the other countries' statistics and with the international standards.

*Prepared by Gennaro Di Fraia (Istat) Enrico Tucci (Istat), Corrado Bonifazi (CNR),

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I. Introduction

1. International migration has acquired over time growing attention from the media and public opinion. However, it is a complex phenomenon to be measured mainly for two main reasons. The first lies in its two-dimensional nature which involves different countries, each with its own definitions and measurement systems. The second reason concerns the asymmetry between the quality of statistics on immigration and emigration as it is much easier to count a person who immigrates rather than one who emigrates (Unece, 2010; Poulain, Herm, 2011). As a result, the immigration statistics provided by the host country tend to differ from those of the countries of origin (Poulain, Perrin, Singleton, 2006).

2. Despite the great demand of migration statistics, the quality and availability of official statistics has not managed to keep pace: data on international migration are often incomplete and the sharing and dissemination of available information is still insufficient. Governments' decisions on migration policies, therefore, are often based on data and perceptions which inevitably lead to a bias on the decisions themselves.

3. The United Nations Agenda on Sustainable Development Goals for the years 2015-2030 has recognized international migration as an important factor for community development. Therefore, the awareness and the national and international commitment aimed at producing comparable, timely and accurate migration statistics is growing. The Global Compact on Migration has specified as its first objective the importance of "Collect and utilize accurate and disaggregated data as a basis for evidence-based policies".

4. The comparison between the statistics produced by different countries has highlighted an asymmetry between the availability of data on immigration and emigration: departures tend to be less recorded than arrivals. In fact, most countries are unable to record emigration using administrative sources since those who leave have usually no incentive to notify the authority that they are leaving (Unece, 2010; Poulain, Herm, 2011; Willekens, 1994).

5. In Italy, thanks to a rich administrative system, migration statistics produced by the Italian National Institute of Statistics (*Istat*) cover a large period of time and are available with good territorial detail. Currently Istat provides a measure of migratory flows by the direct use of one data source: the population register (*Anagrafe*). However, in order to fully comprehend the phenomenon, it is essential to have an in-depth understanding of the regulatory framework as laws, regulations and administrative procedures significantly affect the statistics produced by Istat. An example is the case of Law Decree 195/2002 for the amnesty of non-EU workers which in the following years caused an increase of the immigration flow. These immigrants probably arrived in Italy before the amnesty and are included in the statistics only when they have the possibility to be enrolled in the population register. The join of Romania and Bulgaria to the European Union had the same effect on registrations from abroad: in 2007 and 2008 there was a significant increase due to the registration of foreign citizens, especially Romanians, who presumably had already entered the country.

6. The main lack of the population register is the different accuracy of immigration and emigration statistics, especially regarding foreign citizens. The latter, not having benefits to notify the registry offices of departure, often leave the country without official communications. Therefore, they will be counted as "cancelled for other reason" only after ordinary registry checks that confirm their actual absence, removed ex-officio and excluded from the resident population. Since 2011, the Spanish National Statistical Institute (INE) produces estimates of the migratory flows using information from the Municipal Population Register, in particular registrations and deregistrations ex-officio (INE, 2014).

7. According to official statistics, Italy is still considered a country of immigration. The aim of this paper is to show a new methodology and a different use of administrative information that could lead to different conclusions as being able to carry out a more comprehensive measurement of emigration statistics would reduce significantly the positive net migration. In other words, Italy might be still considered a country of immigration only because part of the phenomenon is currently excluded from the official statistics.

II.   Administrative data sources related to migration

8. Data on international migration flows disseminated by Istat are based on registrations and cancellations due to change of residence from and to abroad. The administrative source also provides individual information on registrations and cancellations for other reasons which contribute, like the flows of natural and migratory dynamics, to the determination of the Italian resident population. Cancellations for other reasons mainly include cancellations ex-officio due to absence at the census date or as a result of ordinary checks of the municipality officers. The registrations, on the other hand, mainly include the reappearance of the person following the abovementioned cancellation ex-officio. Many people, especially foreigners, are cancelled from the registry due to absence or due to expiration of the residence permit. This might be people who, despite having moved abroad, have not notified their departure.

9. According to Istat's modernization program, the Integrated System of Registers (SIR) is the core of the data production process and allows to expand the level of analysis and the quality of the information collected by integrating economic and social phenomena at a micro level. In this perspective, the Register of Individuals and Families (RBI) identifies the usual resident population and it is the common reference information for both the census and for demographic and social statistics. To improve the quality of population estimates in terms of timeliness, coverage and consistency, a new micro-demographic accounting information system called ANVIS (ANagrafe VIrtuale Statistica) has been developed (Tucci, Marsili, Terra Abrami, 2014). ANVIS is a longitudinal statistical register that, starting from the Census date, is fed by individual population flows (births, deaths, international migration, internal mobility, changes of residence for other reason) and allows longitudinal analysis but also cross-sectional observation of the population at any reference date.

10. In addition, Istat has implemented a thematic and integrated archive of usual resident population in Italy (AIDA) based on the signs of presence which has allowed the identification of presence profiles on the territory based on the inclusion of individuals in the aforementioned administrative registers. The monthly presence sign is structured along a sequence of 24 characters (as many as the months considered), each of which indicates whether, in a given month, a person is present or not and in which territory. (Gallo et al. 2016). In particular, AIDA integrates the individual information deriving from several administrative archives of work, education, income and social security with the aim of identifying types of presence in the territory and compare them with the population registers to capture the part of individuals who are usually resident but not in the Anagrafe (under cover of the population register) and those who, on the contrary, are in the Anagrafe but do not provide any signs of presence (potential over-coverage).

III.   Data integration: a different use of administrative information

11. As already mentioned, registrations and cancellations for other reasons play a significant role in the demographic balance. Cancellations "for other reasons" are due either to individuals not found resident in their address following a check from a municipality officer or due to the expiry of the residence permit of non-EU foreigners. Registrations "for other reasons" are due to administrative adjustments or to the reappearance of a person previously cancelled ex-officio for the abovementioned reason. These administrative movements contribute to change the stock of the Italian population as do births, deaths and international migration.

12. Individual changes of residence for other reasons included in the ANVIS micro-demographic accounting system between 9 October 2011 and 31 December 2021 are approximately 3 million and 111 thousand: almost 1 million and 887 thousand cancellations and 1 million and 460 thousand registrations (Table 1). Since 2015, the number of cancellations for other reasons exceeds that of emigration. The contribution on the total immigration flows of the registrations for other reasons is also significant but more limited.

Table 1. Registrations and cancellations by type of administrative procedure. Years 2011-2021

Year	Immigration	Emigration	Registrations for other reasons	Cancellations for other reasons
2011*	63,089	12,507	13,977	10,337
2012	321,782	188,811	63,597	82,087
2013	295,592	149,666	87,277	112,836
2014	281,385	147,403	99,140	144,345
2015	286,880	137,551	101,139	215,138
2016	254,662	155,627	181,887	208,450
2017	312,852	146,135	159,897	221,531
2018	304,042	164,793	161,356	236,330
2019	267,873	119,138	153,574	284,259
2020	193,346	119,728	109,387	201,721
2021	278,752	118,613	93,797	169,585
Totale	**2,860,255**	**1,459,972**	**1,225,028**	**1,886,619**

*from 9 October 2011 (Census date)

Source: elaboration on Istat data

13. If we consider cancellations for other reasons, it is possible to distinguish two types of flows: (1) the cancellations of individuals who reappear after some time and are re-enrolled for reappearance; (2) the cancellations of individuals who do not reappear after years and do not leave any sign of presence on the territory. For the latter it is legitimate to reclassify the movement as emigration as we can assume a missing communication to the registry offices. As for the former, a longitudinal analysis of the flows makes it possible to compute the distance among two movements of a person (*actual stay*) and identify those who were erroneously cancelled from the population registers and reappear after few months. On the contrary, the other administrative cancellations could be reclassified as emigration, after the absence (for at least one year) of those people has been checked and verified.

14. The actual stay approach has been extended to all movements in and out of the population. In this context, registrations for abroad and registration for other reasons are considered as "entries" in the resident population, just as cancellations for other reasons and cancellations for abroad are considered "exits". Consequently, the 12-month rule has been applied to all entries and exits, also allowing the exclusion of pairs of "mixed" movements (e.g. registration from abroad followed by cancellation for other reasons; cancellation for other reasons followed by registration from abroad) with a distance of less than 12 months. The same applies to pairs of migratory movements that identify a residence of less than one year whether in Italy (immigration followed by an emigration) or abroad (emigration followed by an immigration) with the aim to meet the international definition of migration which includes a duration of stay of at least 12 months (UN, 1998).

15. As for the couples of movements that have been reclassified as migratory flows (actual stay above 12-months), a significant distance would suggest a movement abroad not communicated to the registry offices. For example, only 20% out of 18,785 individuals canceled ex officio in 2012 and reappeared in following years, has enrolled in 2013 (Table 2); this percentage rises to 23% for those returning in 2014, and then decreases in subsequent years. However, it should be emphasized that the majority of returns take place after three years or more.

Table 2. Migrants canceled ex officio in and reappeared in following years by year of cancellation (2012-2020) and year of reappearance (2013-2021)

Year of cancellation	Year of reapparence									Total
	2013	2014	2015	2016	2017	2018	2019	2020	2021	
2012	3,570	3,942	3,257	2,393	1,648	1,379	1,109	454	433	**18,185**
2013	-	4,502	7,424	4,979	3,349	2,587	2,050	843	760	**26,494**
2014	-	-	6,136	10,771	6,574	4,794	3,409	1,430	1,219	**34,333**
2015	-	-	-	10,370	13,395	8,680	5,978	2,418	1,933	**42,774**
2016	-	-	-	-	9,390	12,041	7,060	2,885	2,083	**33,459**
2017	-	-	-	-	-	11,284	10,977	4,103	3,203	**29,567**
2018	-	-	-	-	-	-	11,049	7,754	5,391	**24,194**
2019	-	-	-	-	-	-	-	7,587	9,526	**17,113**
2020	-	-	-	-	-	-	-	-	7,153	**7,153**
Total	3,570	8,444	16,817	28,513	34,356	40,765	41,632	27,474	31,701	233,272

Source: elaboration on Istat data

However, as there is no evidence that a long distance between cancellation and subsequent registration for other reasons is due to a real movement abroad of the individual. For this reason the absence on the territory of individuals for whom cancellations followed by registrations for other reasons have been observed, has been checked and verified by comparing them with the corresponding signs of presence on the territory (AIDA database). Thanks to this comparison and data integration, a constant presence on the territory due to strong signs of work or study presence was observed for 53,851 individuals. For these individuals, the pairs of exits and entries were removed and not considered as migratory flows.

IV. A new measure of Italian international migration: preliminary results

16. The results of this reclassification process are described in Table 3. As expected, the intensity of the phenomenon increases both for immigration and emigration. Nevertheless, while for immigration the impact of the procedures ex officio is limited (26.0%), the majority of emigrations (53.5%) would be due to cancellation ex officio that have been reclassified in movements to abroad. In the table we consider the date of cancellation or registration ex officio as a date of emigration or immigration, even though they refer to a movement that by definition has occur before the date of the administrative procedure. The net migration shows that Italy could have already became again a country of emigration in 2020 with a negative net migration (-22 thousand) from the first time after 50 years of positive values.

Table 3 – New measure of international migration by type of data. Years 2012-2020

	Immigration			Emigration			Net migration	Net migration (official statistics)
Year	Total	of which registration for other reasons		Total	of which cacellation for other reasons			
		a.v.	%		a.v.	%		
2012	362,520	55,862	15.4	241,878	64,921	26.8	120,642	244,556
2013	348,437	71,386	20.5	220,497	86,549	39.3	127,940	181,719
2014	335,815	76,094	22.7	239,607	109,490	45.7	96,208	141,303
2015	327,126	66,838	20.4	282,580	163,661	57.9	44,546	133,123
2016	359,886	134,848	37.5	294,482	160,431	54.5	65,404	143,758
2017	389,550	111,357	28.6	287,228	163,769	57.0	102,322	188,330
2018	383,226	110,170	28.7	316,207	176,810	55.9	67,019	175,364
2019	348,700	104,250	29.9	339,493	239,321	70.5	9,207	153,273
2020	257,465	78,668	30.6	279,881	174,623	62.4	-22,416	87,642
Total	**3,112,725**	**809,473**	**26.0**	**2,501,853**	**1,339,575**	**53.5**	**610,872**	**1,449,068**

Source: elaboration on ISTAT data

17. The new measure has a different impact on international emigration of Nationals and non-Nationals as Italian citizens has some advantages to notify their departure while foreigners, are more likely to be deregistered ex-officio. The following table shows the importance of registration and cancellation ex officio on the measure of international migration by citizenship. As expected, the huge majority of foreigners are removed from the register only by the municipality officers after their departure: from 2012 to 2020, the number of migration increases from almost 400 thousand of the official statistics to 1 million and 300 thousand according to the new measure. As for the total of the emigration to abroad the number almost doubled from 1 million and 324 thousand to 2 million and 502 thousand.

Table 4. Comparison between emigration from official data and the new measure by citizenship. Years 2012-2020

Year	Italians Official data	Italians New measure	Foreigners Official data	Foreigners New measure	Total Official data	Total New measure
2012	67,998	127,411	38,218	114,467	106,216	241,878
2013	82,095	95,728	43,640	124,769	125,735	220,497
2014	88,859	99,574	47,469	140,033	136,328	239,607
2015	102,259	118,769	44,696	163,811	146,955	282,580
2016	114,512	147,044	42,553	147,438	157,065	294,482
2017	114,559	138,877	40,551	148,351	155,110	287,228
2018	116,732	156,916	40,228	159,291	156,960	316,207
2019	122,020	173,148	57,485	166,345	179,505	339,493
2020	120,950	146,206	38,934	133,675	159,884	279,881
Totale	**929,984**	**1,203,673**	**393,774**	**1,298,180**	**1,323,758**	**2,501,853**

Source: elaboration on ISTAT data

18. An analysis by single country of citizenship shows that there are differences among the behaviours of people with different citizenship. While the majority of Italians tend to notify their departure (65.6%), only few people coming from African countries seem to communicate their emigration: it is the case of Senegal (14,1%), Nigeria (7,6%), Mali (1,8%) and The Gambia (1,9%). Countries of Est Europe, on the contrary, show a higher propensity to notify their departure: Romania (31.3%), Bulgaria (35.8%), Albania (34.7%) and Ukraine (32.2%). Peculiar is the case of German citizens that notify their departure in 75.4% of cases, a percentage even higher of that of Nationals.

Table 5. Emigration by main countries of citizenship and type of data from 2012 to 2020

Citizenship	Total Emigrations	for other reasons v.a.	for other reasons %	Citizenship	Total Emigrations	for other reasons v.a.	for other reasons %
Italy	1,203,673	414,064	34.4	Moldova	24,640	16,104	65.4
Romania	313,673	215,650	68.7	Ghana	17,949	14,898	83
Morocco	86,700	64,337	74.2	Sri Lanka	17,717	13,659	77.1
China	79,468	68,130	85.7	Brazil	17,104	10,322	60.3
Albania	53,157	34,708	65.3	Ecuador	17,005	13,274	78.1
Bangladesh	41,779	33,230	79.5	Macedonia	16,890	9,774	57.9
Nigeria	40,337	37,262	92.4	Peru	16,805	12,997	77.3
Ukraine	39,940	27,096	67.8	Philippines	15,552	11,690	75.2
Pakistan	36,506	29,316	80.3	Bulgaria	15,334	9,840	64.2
Egypt	35,017	29,802	85.1	Kosovo	14,384	8,928	62.1
India	33,869	21,031	62.1	Côte D'Ivoire	11,979	10,457	87.3
Tunisia	28,567	23,521	82.3	Germany	11,517	2,828	24.6
Poland	26,132	13,760	52.7	Mali	11,099	10,904	98.2
Senegal	25,450	21,849	85.9	Gambia	10,382	10,181	98.1

Source: elaboration on ISTAT data

V. Concluding remarks

19. The need for an improvement in statistical production is highlighted at international level with particular regard to the reliability, comparability and timeliness of the information produced. At national and international level, it is necessary to integrate and expand the availability of information to better understand and manage rapid changes of the phenomenon and to shape effective migration policies (United Nations, 2019). The work carried out has highlighted the potential offered by the integrated use of available administrative sources and by the longitudinal approach that have produced a significant change in the statistics both from a quantitative and qualitative point of view.

20. As a matter of fact, the amount of information produced can be expanded by a micro demographic accounting and by the use of a longitudinal perspective. The migration trajectory of each individual can be followed over time and integration with other data sources allows to provide information on new typologies of migration, such as return migration and circular migration on which the need for information is becoming more and more necessary. For many years in Italy there has been discussion on brain drain, of how to contrast it but also of how to facilitate the return of Nationals, but the data produced so far does not allow monitoring the phenomenon to understand the effect of the policies adopted. The results obtained suggest continuing in this direction: the potential offered by the integration of migratory flows with the information coming from the Ministry of Education, University and Research (MIUR) would allow to produce a more accurate profile of migrants both for Italian citizens (brain drain and return) and foreign citizens (ability to attract and withhold qualified migrations from abroad).

21. Quality improvement primarily concerns the relevance and accuracy of the statistics produced. The longitudinal perspective allows to measure the actual stay and apply the 12-month criterion reducing the gap that currently exists between the national definition and the international standards. Finally, the possibility of separating administrative adjustments from movements of the same nature that "hide" a move of residence abroad, makes it possible to exclude the former from the statistics and to reclassify the latter as migratory flows. This reclassification of movements does not change the stock of the population but completely redesigns the extent of movements, especially those leaving the country.

22. Considering the new measure of migration, it turns out that the economic crisis has caused a significant outflow of foreign citizens: in 2020, during the Covid-19 pandemic, Italy experienced a negative net migration after almost 50 years of positive values. The economic crisis has not only reduced the entry of foreigners, as already highlighted by the official statistics, but it has significantly increased the exits. Foreign citizens have partly decided to return to their countries of origin, perhaps anticipating the departure date, while many others have chosen to move to another European country, where the effects of the crisis on the economy have been minor or have had a shorter duration. However, the available data does not allow us to understand whether it is a long-term emigration from Italy or just a strategies for surviving a negative economic situation.

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