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Integration of data from censuses, administrative sources and surveys for measuring migration

Comparability of migration and residence permits data in the EU statistics

Note by Eurostat*

Abstract

In the search for sources of migration data, residence permits are among the most likely candidates. Eurostat disseminates both residence permits statistics and migration statistics, the former limited to third-country nationals (i.e., persons who are not citizen of the EU), and several users make as well use of residence permits data for a cross-validation of the reported immigration figures. However, such a comparison is less trivial than it seems. This paper reports the analysis carried out by Eurostat to identify possible reasons for differences between these two sets of data in the EU statistics. The 10 potential reasons here examined may be used as conceptual framework to reduce or at least better explain those differences.

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I. Introduction

1. In the search for sources of migration data, residence permits are among the most likely candidates. Eurostat disseminates both residence permits statistics and migration statistics, the former limited to third-country nationals¹ (i.e., persons who are not citizen of the EU²), and several users make as well use of residence permits data for a cross-validation of the reported immigration figures. However, such a comparison is less trivial than it seems. In order to gain a better understanding of the reasons behind the differences between these two sets of data, Eurostat has carried out a survey among Member States in October 2017. Building upon that input, the current working paper³ aims to clarify to what extent residence permits statistics and international migration statistics can actually be compared, and if any additional data would improve their comparability.

II. The Eurostat datasets being compared

2. The comparison between residence permits (RP) statistics and international migration (IM) statistics can be done for stocks and for flows. For the former, the comparison refers to a given moment, here the end of the year / beginning of the following year⁴, for the latter to a time period of reference, in this case the calendar year. The following Eurostat datasets (publicly available) have been taken into account:

3. For the flows:

- i. Immigration by age group, sex and citizenship (*migr_imm1ctz*)
- ii. First permits by reason, length of validity and citizenship (*migr_resfirst*)

4. For the stocks:

- i. Population on 1 January by age group, sex and citizenship (*migr_pop1ctz*)
- ii. All valid permits by reason, length of validity and citizenship on 31 December of each year (*migr_resvalid*)

5. The latest common period for the data is the year 2016, which is taken as the period for comparison. All four input tables have their legal basis in the EU Regulation 862/2007⁵, namely in the Art. 3 for IM statistics and in the Art. 6 for RP statistics, complemented by implementing

¹ In fact, sometimes in the EU policy circles migration is considered such only when concerning third-country nationals, while changes of country of (usual) residence of EU citizens between Member States are rather seen as 'internal mobility', which is not consistent with the internationally accepted definition of 'migration'.

² Definition as from Art. 2.1(i) of the EU Regulation 862/2007.

³ A previous version has been presented to the Eurostat Working Group on Population Statistics in April 2018.

⁴ Whilst data on stocks of international migrants are conventionally published by Eurostat as of 1 January of a given year, data on valid residence permits are published with reference to the end of the (previous) year. They both represent the stocks at the end of the calendar period of reference.

⁵ Regulation (EC) No 862/2007 of the European Parliament and of the Council of 11 July 2007 on Community statistics on migration and international protection and repealing Council Regulation (EEC) No 311/76 on the compilation of statistics on foreign workers (Text with EEA relevance).

regulations⁶. In general, the data providers are respectively the National Statistical Offices and the Ministries of Home Affairs or Immigration Agencies, which usually make use of different data sources.

6. The flow data on immigration refer to the entire inflow of people taking usual residence in the reporting country during the calendar year of reference (here the year 2016). These data must thus be filtered by removing the immigration of EU citizens, for both cases as returnees in the own country of citizenship and as immigrants into another Member State⁷. The flow data on residence permits must instead be filtered to select those permits which give right to stay in the reporting country for a period of at least one year, which corresponds to the required duration of stay abroad for a change in the usual residence of the person⁸.

7. The results are shown in the Table 1, where (very) large discrepancies can be noticed. These differences do not go all in the same direction, as in 11 out of 32 countries the RP statistics are bigger than IM statistics. They are also quite different in terms of relative magnitude, as they range from about $\pm 2\%$, like in Malta and in the Netherlands, to values bigger far above the double, like in Bulgaria, Italy, Latvia and Austria. Curiously, most probably for a mere coincidence, the aggregated results for the EU as from RP and IM statistics are very similar.

8. Data for stocks for both immigration and residence permits are similarly filtered to make the two datasets comparable⁹. The results are shown in the Table 2, where data for Denmark are not available for RP, and the aggregated results are consequently adjusted for the population data. Again, there is neither a single direction of the differences, nor a similarity of their extent in relative terms. At EU level (without Denmark), the difference is more remarkable than for the flows, being the size of the stock of third-country nationals as from IM statistics a quarter higher than as from RP statistics, i.e. over 4.3 million persons of difference.

⁶ For the Art 3, the Commission Regulation (EU) No 351/2010 of 23 April 2010 implementing Regulation (EC) No 862/2007 of the European Parliament and of the Council on Community statistics on migration and international protection as regards the definitions of the categories of the groups of country of birth, groups of country of previous usual residence, groups of country of next usual residence and groups of citizenship. For the Art 6, the Commission Regulation (EU) No 216/2010 of 15 March 2010 implementing Regulation (EC) No 862/2007 of the European Parliament and of the Council on Community statistics on migration and international protection, as regards the definitions of categories of the reasons for the residence permits.

⁷ This is implemented in *migr_imm1ctz* by selecting the codes NEU28_FOR (immigrants with citizenship of non-EU country), STLS (stateless immigrants), and UNK (immigrants of unknown citizenship). It is here assumed that the 'unknown' do not hold an EU citizenship.

⁸ This is implemented in *migr_resfirst* by selecting the code M_GE12 (residence permits for a period of 12 months or more).

⁹ See footnotes 7 and 8. Due to the different way of communicating the reference time for stocks, population data are extracted with reference to (1 January) 2017, while residence permits data with reference to (the end of the year) 2016.

Table 1: inflows of third-country nationals in the year 2016 as from migration statistics and residence permits statistics

Country	Immigration of non-EU citizens	First residence permits of duration $\geq 12m$	Difference	Relative difference (in %)
	(a)	(b)	(c) = (a) - (b)	(d) = (c) / (b)
BE	47 232	35 140	12 092	34.4
BG	10 677	4 453	6 224	139.8
CZ	29 903	62 416	-32 513	-52.1
DK	29 672	25 681	3 991	15.5
DE	515 760	355 060	160 700	45.3
EE	4 182	3 802	380	10.0
IE	28 279	14 161	14 118	99.7
EL	69 497	44 072	25 425	57.7
ES	235 859	169 711	66 148	39.0
FR	158 156	216 312	-58 156	-26.9
HR	4 040	3 550	490	13.8
IT	200 236	77 307	122 929	159.0
CY	6 480	7 488	-1 008	-13.5
LV	2 948	1 100	1 848	168.0
LT	5 204	5 791	-587	-10.1
LU	5 595	3 472	2 123	61.1
HU	13 271	12 728	543	4.3
MT	6 700	6 530	170	2.6
NL	82 832	84 079	-1 247	-1.5
AT	55 042	22 349	32 693	146.3
PL	80 072	44 649	35 423	79.3
PT	7 845	22 906	-15 061	-65.8
RO	12 265	9 140	3 125	34.2
SI	10 371	7 372	2 999	40.7
SK	621	7 381	-6 760	-91.6
FI	20 202	22 130	-1 928	-8.7
SE	112 478	123 597	-11 119	-9.0
UK	265 390	621 765	-356 375	-57.3
EU	2 020 809	2 014 142	6 667	0.3
IS	1 122	484	638	131.8
LI	203	663	-460	-69.4
NO	33 321	27 787	5 534	19.9
Other EEA	34 646	28 934	5 712	19.7
EEA	2 055 455	2 043 076	12 379	0.6
CH	37 682	16 608	21 074	126.9
EFTA	72 328	45 542	26 786	58.8

Table 2: third-country nationals in the usually resident population at the end of 2016 as from migration statistics and residence permits statistics

Country	Non-EU citizens	Valid residence permits with duration \geq 12m	Difference	Relative difference (in %)
	(a)	(b)	(c) = (a) - (b)	(d) = (c) / (b)
BE	463 387	394 017	69 370	17.6
BG	71 163	26 861	44 302	164.9
CZ	302 581	301 785	796	0.3
DK	282 600	:	:	:
DE	5 234 824	3 838 621	1 396 203	36.4
EE	180 033	190 300	-10 267	-5.4
IE	138 416	73 935	64 481	87.2
EL	604 813	584 652	20 161	3.4
ES	2 486 804	2 540 021	-53 217	-2.1
FR	3 050 884	2 133 155	917 729	43.0
HR	33 221	23 952	9 269	38.7
IT	3 509 804	3 314 704	195 100	5.9
CY	37 311	35 808	1 503	4.2
LV	273 509	306 456	-32 947	-10.8
LT	14 594	37 315	-22 721	-60.9
LU	41 207	33 740	7 467	22.1
HU	71 807	44 536	27 271	61.2
MT	24 073	18 295	5 778	31.6
NL	483 179	367 244	115 935	31.6
AT	686 406	391 147	295 259	75.5
PL	186 793	193 285	-6 492	-3.4
PT	279 562	265 911	13 651	5.1
RO	60 984	60 010	974	1.6
SI	95 718	101 467	-5 749	-5.7
SK	16 184	37 003	-20 819	-56.3
FI	146 428	93 712	52 716	56.3
SE	541 431	489 550	51 881	10.6
UK	2 463 847	1 220 443	1 243 404	101.9
EU (-DK)	21 498 963	17 117 925	4 381 038	25.6
IS	5 125	3 037	2 088	68.8
LI	6 056	5 942	114	1.9
NO	210 671	98 031	112 640	114.9
Other EEA	221 852	107 010	114 842	107.3
EEA (-DK)	21 720 815	17 224 935	4 495 880	26.1
CH	718 287	567 484	150 803	26.6
EFTA	940 139	674 494	265 645	39.4

III. Exploring possible reasons for differences

A. Statistical units

9. The statistical unit of reference in the IM data are persons, considered by the reporting country to be (stock data) or to become (flow data) usual residents. Because of the identity between events (migration) and persons (migrants) in annual flow data based on the concept of (change of) usual residence, there is no duplication in flow data. As for IM stocks, there is neither such an issue.

10. Although all the RP tables have titles referring to residence permits and not to persons¹⁰, the related metadata clarify that "*each table refers to the number of persons, not to the number of administrative decisions or acts*"¹¹. Therefore, those numbers should be cleaned by both multiple permits (i.e., more than one RP issued to a same person) and multiple holders (e.g., a single RP issued to an entire family) issues.

11. From the point of view of statistical unit of reference, the RP and IM statistics seem thus directly comparable.

B. Duration of stay and length of validity

12. The concept of population internationally recommended is based on the 'usual residence', which is the place where a person spends the daily rest for a period of at least 12 months. Whilst IM data for flows are expected to comply with such requirement on the duration of stay, IM statistics on population may be affected by some issues of comparability. This happens for countries which make use of an alternative definition of population (such as 'legal' or 'registered' population) or that do not apply the threshold of 12 months. The expected impact, at least in the latter case, would be a population with larger size than the same population derived by a strict application of the usual residence concept. According to the available metadata on population, in the EU this could be the case for Denmark, Germany, Spain, Luxembourg, the Netherlands, Austria, Finland, and Sweden, and as well for Iceland, Liechtenstein and Switzerland in the EFTA. In fact, for all of them but Spain, the IM statistics on stocks are bigger than the corresponding RP statistics (see Table 2), difference which could then be due also to durations of stay other than 12 months taken into consideration.

13. On the RP side, there is a risk of exclusion of persons whose length of stay is of at least one year. In fact, in the flow data, the initial filter on first permits with duration of at least 12 months may cause the exclusion of those cases in which the renewal of the permit in the same year may actually lead to an overall length of stay of (at least) one year. For instance, a person who obtains the renewal for 6 month of a previous 6-month permit is not captured, whatever is the time gap in between the two permits. In fact, if the time gap between the period of validity of the two permits is shorter than 6 months, the second permit will be classified as renewal or

¹⁰ For instance, the dataset *migr_resfirst* could be titled "*Persons/Third-country nationals with first permit in the year YYYY by citizenship of the holder and by reason and length of the permits*"; and the dataset *migr_resvalid* as "*Persons/Third-country nationals with valid permit on 31 December of each year by citizenship of the holder and by reason and length of validity of the permits*".

¹¹ See item 3.5 'Statistical unit': http://ec.europa.eu/eurostat/cache/metadata/en/migr_res_esms.htm .

change of status permit and thus not captured by the data collection of first permits; if instead the time gap is 6 months or longer, the second permit will be classified as new first permit and captured by the data collection. However, in this latter case, either there will be one single record corresponding to the holder (thus removing the 'duplicate') but with the length of validity of the latest first permit, or two records corresponding to the first permits with 6-month validity each¹². In either case, the lack of longitudinal information on the holder, i.e. on the cumulative period of validity of the permits held by a single person, does not allow capturing those migrants (i.e., stayers for at least one year) who hold a permit whose current validity is shorter than 12 months. The same reasoning applies to the stock RP data, where the reported validity length refers to the valid permit only, thus neglecting the length of past permits held by the same person¹³.

14. On the long-term side, RP of long validity may also miss migratory movements occurring in between. For instance, a person who holds a residence permit with validity of 5 years and who emigrates and immigrates again within that period of validity would be captured (possibly) by the IM statistics only.

15. Hence, for both stock and flow RP data it can be assumed that there is under-coverage of migration mainly due to the lack of longitudinal information on RP holders, resulting possibly in figures lower than those derived by other sources. The option of removing the filter on the length of validity in RP statistics (here set on 12 months) may lead to over-coverage of migration, as it may produce figures including short-term migration. A pragmatic approach could be to reduce from 12 to 6 months the threshold for inclusion of the RP.

C. Irregular migration

16. By its own nature, RP statistics are not expected to cover cases of irregular migration. The same should apply to IM statistics on flows, while persons illegally present may be captured in IM stocks¹⁴, especially when these data are derived from traditional census. Therefore, there may be under-coverage of (stocks of) migrants in RP statistics. The extent of such a difference from IM data can only be assessed for those countries which provide an estimate of the illegally resident persons in these latter statistics.

D. EFTA citizens as third-country nationals

17. The Art. 2(i) of the EU Reg. 862/2007 defines 'third-country national' as "*any person who is not a citizen of the Union within the meaning of Article 17(1) of the Treaty, including stateless persons*". The treaty in force by then was the 'Treaty establishing the European Community', which at the article mentioned above reads as follows: "*Citizenship of the Union is hereby established. Every person holding the nationality of a Member State shall be a citizen of the*

¹² If the RP statistics are actually referring to persons, the former case should apply.

¹³ Unfortunately, whilst the Article 8.1(e) of the EU Reg. 862/2007 foresees the introduction of the additional disaggregation by 'Year in which permission to reside was first granted', in 2010 Eurostat has chosen not to propose its implementation. In fact, with the further specification of being referred to the latest first permit, such breakdown would provide a useful input to migration statistics.

¹⁴ This is acknowledged in the EU Reg. 862/2007, that at the Whereas (9) states: "*This Regulation does not cover estimates of the number of persons illegally resident in the Member States. Member States should not provide such estimates or data on such persons to the Commission (Eurostat), although they may be included in population stocks due to surveys.*"

Union. Citizenship of the Union shall complement and not replace national citizenship". This statement is taken over in the Art. 20 of the 'Treaty on European Union', currently in force. Therefore, strictly speaking, citizens of the EFTA States (namely Iceland, Liechtenstein, Norway and Switzerland) should be classified as 'third-country nationals' in the IM and RP statistics.

18. However, such interpretation of 'third-country nationals' can become less clear-cut once considered that the EU Reg. 862/2007 has EEA relevance and it therefore applies to Iceland, Liechtenstein and Norway as well. The Table 3 and the Table 4 show respectively the flow and stock data referring to EFTA citizens. In the IM statistics, the single citizenship is provided on voluntary basis and thus there are not data for all the EU Member States. Looking at the residence permits statistics, there seems to be difference in the way the EU Member States classify EFTA citizens. In fact, half of these countries do not report any residence permit for the flows and 9 of them (out of 26¹⁵) for the stocks of EFTA citizens, contrary to the available evidence from IM statistics. Whatever the reason (possibly specific agreements which exempt from residence permits¹⁶), this would be an under-coverage of non-EU citizens migration by using RP statistics.

19. As for the bottom of the Table 3 and Table 4, where the reporting countries are the EFTA States, the diagonal cells must be blanked because they would simply report the returnees (although strictly speaking they are 'third-country nationals' as well). Uncertainty may arise as for the classification of EFTA citizens other than from the (EFTA) reporting country, as they could be seen either as 'third-country nationals' (because they do not hold the EU citizenship) or as holders of an EU citizenship enlarged to Iceland, Liechtenstein and Norway¹⁷ (because the regulation has EEA relevance) and possibly to Switzerland as well in case of special agreements. The comparison between IM and RP data shows that Iceland and Norway do not report (or do not issue at all) residence permits for the Norwegian and Icelandic citizens respectively.

20. All in all, in the EEA there are different practices across countries as for the reporting of residence permits for EFTA citizens, possibly reflecting specific agreements. In those countries who do not report these data, there is under-coverage of migration in RP statistics. In the EU Member States, for the year 2016, the difference between IM and RP statistics as computed over the available data¹⁸ is over 80 thousand persons for the stocks and over 8.6 thousand persons for the inflows.

¹⁵ Data from Denmark and Luxembourg are not available.

¹⁶ For instance, this could be the case for Sweden, which reports data for Swiss citizens (who do not belong to the EEA), but almost nothing for the other Nordic EFTA countries (Iceland and Norway). As for Liechtenstein, a small number of valid permits are provided but not first permits, which could however be due to the limited size of the population of that country.

¹⁷ Switzerland should be excluded from this list because it does not belong to the European Economic Area.

¹⁸ Difference computed over 18 EU Member States plus Spain, for the latter only data about stocks of Norwegian and Swiss citizens are available from IM statistics.

Table 3: inflows of EFTA citizens in the year 2016 as from migration statistics and residence permits statistics

Country	Migration				Residence permits				Difference			
	IS	LI	NO	CH	IS	LI	NO	CH	IS	LI	NO	CH
BE	29	1	162	175	31	2	153	218	-2	-1	9	-43
BG	0	0	3	6	0	0	5	9	0	0	-2	-3
CZ	7	0	44	65	7	0	46	66	0	0	-2	-1
DK	844	1	1 524	152	0	0	0	1	844	1	1 524	151
DE	:	:	:	:	1	1	2	1 389	:	:	:	:
EE	1	0	39	17	0	0	0	0	1	0	39	17
IE	:	:	:	:	0	0	0	0	:	:	:	:
EL	:	:	:	:	0	0	0	0	:	:	:	:
ES	:	:	1 056	1 119	106	1	607	748	:	:	449	371
FR	:	:	:	:	0	0	0	0	:	:	:	:
HR	0	2	28	17	0	0	0	0	0	2	28	17
IT	15	8	75	361	0	0	0	0	15	8	75	361
CY	:	:	:	:	0	0	0	0	:	:	:	:
LV	1	0	7	5	2	0	58	16	-1	0	-51	-11
LT	2	0	10	2	0	0	0	0	2	0	10	2
LU	29	1	15	46	0	0	0	0	29	1	15	46
HU	7	0	147	135	0	0	0	0	7	0	147	135
MT	:	:	:	:	16	0	44	64	:	:	:	:
NL	100	3	372	344	3	0	15	15	97	3	357	329
AT	20	30	75	527	0	0	0	0	20	30	75	527
PL	:	:	:	:	2	0	16	11	:	:	:	:
PT	:	:	:	:	12	5	99	336	:	:	:	:
RO	0	1	43	57	0	0	0	0	0	1	43	57
SI	1	0	3	14	1	0	3	9	0	0	0	5
SK	5	0	36	14	10	0	50	15	-5	0	-14	-1
FI	21	0	78	47	0	0	0	0	21	0	78	47
SE	667	1	2 145	184	0	0	1	193	667	1	2 144	-9
UK	:	:	:	:	0	0	0	0	:	:	:	:
EU*	1 749	48	5 862	3 287	191	9	1 099	3 090	1 695	46	4 924	1 997
IS	 	0	40	19	 	0	0	0	 	0	40	19
LI	1	 	0	100	1	 	1	423	0	 	-1	-323
NO	414	1	 	81	0	0	 	0	414	1	 	81
Other EEA	415	1	40	200	1	0	1	423	414	1	39	-223
EEA*	2 164	49	5 902	3 487	192	9	1 100	3 513	2 109	47	4 963	1 774
CH	74	112	244	 	55	86	155	 	19	26	89	
EFTA	489	113	284	200	56	86	156	423	433	27	128	-223

(:): not available. (*): sum over the available data.

Table 4: EFTA citizens in the usually resident population at the end of 2016 as from migration statistics and residence permits statistics

Country	Migration				Residence permits				Difference			
	IS	LI	NO	CH	IS	LI	NO	CH	IS	LI	NO	CH
BE	237	5	1 184	2 074	204	5	1058	1 924	33	0	126	150
BG	13	0	56	114	6	0	37	63	7	0	19	51
CZ	40	1	264	611	40	0	261	588	0	1	3	23
DK	8 643	8	16 664	1 641	:	:	:	:	:	:	:	:
DE	1 768	265	6 608	39 885	335	82	2044	29 477	1 433	183	4 564	10 408
EE	18	0	172	62	40	1	327	83	-22	-1	-155	-21
IE	85	11	580	855	0	0	0	0	85	11	580	855
EL	:	:	:	:	0	0	2	7	:	:	:	:
ES	:	:	16 154	14 996	1360	50	15678	16 089	:	:	476	-1 093
FR	:	:	:	:	0	0	0	0	:	:	:	:
HR	:	:	:	:	3	2	93	253	:	:	:	:
IT	140	23	1 062	7 866	0	0	0	0	140	23	1 062	7 866
CY	:	:	:	:	1	0	2	1	:	:	:	:
LV	26	0	89	21	47	0	373	92	-21	0	-284	-71
LT	25	0	91	24	0	0	0	0	25	0	91	24
LU	428	5	264	508	:	:	:	:	:	:	:	:
HU	127	5	1 208	1 001	0	0	0	0	127	5	1 208	1 001
MT	:	:	:	:	36	0	166	263	:	:	:	:
NL	498	7	2 253	2 492	453	7	1945	1 484	45	0	308	1 008
AT	229	422	688	7 862	0	0	0	0	229	422	688	7 862
PL	:	:	:	:	34	0	550	276	:	:	:	:
PT	66	8	573	1 557	65	8	568	1 546	1	0	5	11
RO	66	352	320	197	0	0	0	0	66	352	320	197
SI	2	2	10	96	3	2	14	114	-1	0	-4	-18
SK	61	3	758	325	72	2	604	249	-11	1	154	76
FI	138	1	821	500	0	0	0	0	138	1	821	500
SE	4 606	6	34 557	1 996	0	17	0	1 613	4 606	-11	34 557	383
UK	:	:	:	:	0	0	0	0	:	:	:	:
EU*	17 216	1 124	84 376	84 683	2 699	176	23 722	54 122	6 880	987	44 539	29 212
IS	237	1	276	84	204	0	0	92	33	1	276	-8
LI	2	5	7	3 612	2	0	7	3 568	0	0	0	44
NO	9 246	5	264	1 374	0	0	261	0	9 246	5	3	1 374
Other EEA	9 248	6	283	5 070	2	0	7	3 660	9 246	6	276	1 410
EEA*	26 464	1 130	84 659	89 753	2 701	176	23 729	57 782	16 126	993	44 815	30 622
CH	423	1 711	1 966	508	375	1 701	1 792	29 477	48	10	174	10 408
EFTA	9 671	1 717	2 249	5 070	377	1 701	1 799	3 660	9 294	16	450	1 410

(:): not available. (*): sum over the available data.

E. Elderly persons (pensioners and family reunification with ascendants)

21. Residence permits could be issued without a migration actually taking place. Among others, there are two categories which may be subject to this mismatch, both related to old ages. The first case may occur with third-country nationals entering the retirement age (pensioners). Here the mismatch can occur in both directions: either the retiring third-country national continues to hold the residence permit (most probably of long-term validity, or even permanent) but returns to the country of origin; or such person wish to spend part of the retirement time in a EU Member State¹⁹ and holds a residence permit allowing to move in freely, perhaps alternating between residences. In the former case, the person may be present in the RP stocks, but not in the IM stocks (if the emigration has been caught), whilst the flows are not affected; in the latter case, the person may be counted in the RP statistics (both stocks and flows), but not in the IM statistics (if the duration of stay is less than 12 months). A similar case is for elderly ascendants who are granted a residence permit for family reasons but who actually do not migrate to join their descendants²⁰. The resident permits for these two latter categories should be found respectively under 'Residence only' of the permits granted for other reasons and under 'Other family members' of the permits granted for family reunification.

22. It can however be expected the number of these special cases to be almost negligible. Unfortunately, the available breakdown does not allow disentangle the elderly in those specific categories. Looking then at the age breakdown in wider classifications (i.e., to those aged 65 years and over with residence permit for family reunification or for other reasons), it is possible to compare the data as from migration statistics with an upper limit of the number of residence permits granted to elderly which may fall in the cases described above²¹. These data are reported in the Table 5.

23. In the large majority of the cases, the number of elderly persons is larger in the IM statistics than in the RP statistics. Only in 6 out of 25 countries with both data available, the RP flows are bigger than IM flows; and in 7 out of 27 (of which 4 countries report zero residence permits) the RP stocks are bigger than IM stocks. If ever the reasons described above apply, their impact is not such to show RP statistics biased upwards. It must be added that IM stocks may be affected by inaccuracies due to uncaptured emigration: if a resident person has left the country without notifying the departure, in some data sources may not exist mechanisms such to detect this case and proceed to the deletion of the record, with the result of persisting virtual presences in the population of the country. This may happen particularly for foreign citizens, because national citizens may have convenience to register at their consulate abroad (becoming thus detectable).

¹⁹ See for instance the relatively large number of Norwegian and Swiss citizens in Spain and in Portugal as reported in the Table 3 and Table 4. This may be interpreted as influenced by post-retirement migration to the 'European sunbelt': in fact, the elderly persons represent well over one third of the total presence of Norwegian and Swiss citizens in the population of these two countries at the end of 2016.

²⁰ This may happen because of the natural reluctance of elderly persons to leave their home place and change their habits, while their descendants aim to secure an easy move of their parents in case of need.

²¹ In fact, the residence permits for reason of education or work granted to elderly persons are very limited in number, as compared to those granted for reason of family reunification and for other reasons, which are the two cases considered in the text.

Table 5: inflows and population size at the end of the year of third-country nationals aged \geq 65 years in 2016 as from migration statistics (IM) and residence permits statistics* (RP)

	flow IM**	flow RP*	difference	stock IM	stock RP*	difference
	(a)	(b)	(c)=(a)-(b)	(d)	(e)	(f)=(d)-(e)
BE	423	283	140	21 911	20 297	1 614
BG	1 157	608	549	9 805	5 082	4 723
CZ	339	467	-128	10 703	10 668	35
DK	167	65	102	14 951	:	:
DE	4 604	:	:	433 891	:	:
EE	150	5	145	51 003	52 175	-1 172
IE	195	:	:	2 741	0	2 741
EL	677	418	259	17 669	21 364	-3 695
ES	8 864	1 023	7 841	100 996	87 400	13 596
FR	2 701	3 245	-544	320 634	0	320 634
HR	168	59	109	4 050	2 421	1 629
IT	5 815	494	5 321	133 987	149 528	-15 541
CY	28	148	-120	1 615	721	894
LV	198	91	107	100 002	105 705	-5 703
LT	103	19	84	3 435	4 980	-1 545
LU	81	:	:	1 796	1 532	264
HU	276	117	159	3 776	796	2 980
MT	94	:	:	524	0	524
NL	564	362	202	22 319	:	:
AT	812	294	518	43 388	23 628	19 760
PL	1 226	2 629	-1 403	3 772	5 209	-1 437
PT	291	191	100	12 645	12 633	12
RO	268	43	225	2 450	2 418	32
SI	98	13	85	2 951	3 541	-590
SK	17	:	:	1 417	0	1 417
FI	151	:	:	5 321	:	:
SE	1 404	2 136	-732	20 966	12 660	8 306
UK	1 305	:	:	149 118	:	:
IS	25	4	21	241	137	104
LI	6	14	-8	968	968	0
NO	268	83	185	6 066	780	5 286
CH	383	212	171	28 998	28 412	586

(:): not available.

(*): only residence permits for reason of family reunification and for other reasons.

(**): figures in italics are by age reached at the end of the year.

F. Foreign new-born children

24. Another reason for difference linked to the age is related to the births occurring to non-EU citizens. In those countries where the *ius soli* does not apply at birth – if ever – the new-born child is usually granted the citizenship of the parent(s) by application of the *ius sanguinis*. The national authorities may therefore issue a residence permit for the new-born child from non-EU citizens, although the birth may have occurred in the reporting country and therefore there has been no immigration at all. Additionally, the RP Technical Guidelines²² specifies that "*Children being third-country nationals and born after the issuance of the residence permits to parents shall be reported under category 'Children (Minor/Adults), even if no separate residence permit is issued to the new born child. Shall one of the parents have an EU-citizenship, and this citizenship shall be granted to the new born child, such children are excluded from this reporting (as being EU-citizens)*" (emphasis in bold added).

25. This upward bias affects the RP flows only, because this new-born child should indeed be included in the stock of RP at the end of the year of birth, as in fact (s)he is a resident non-EU citizen holder of a valid permit. Unfortunately, the age disaggregation available for the RP statistics does not allow identifying the new-born children, as it is by 5-year age group and limited to the 'macro' reasons. However, to get an idea of the size of the issue, the Table 6 reports the first permits issued for children less than 5 years old, which would include the new-born cases. Before being compared with the corresponding inflows as from IM statistics, these data should be filtered of the new-born non-EU children who are granted a residence permit. Such operation could be approached by selecting the first permits for family reason (under which is the category 'Children') and then removing an estimate of these cases. Intuitively, this latter could be based on the live births from non-EU mothers, also available in the Eurostat database. These two sets of figures are reported respectively in the columns (b) and (c) of the Table 6. However, to be used for such a purpose, those figures on live births must refer to a country where there is no *ius soli* at birth and to mothers whose partner is also non-EU citizen. The data reported for live births in the Table 6 should therefore be understood as an upper limit to the number of cases of non-EU new-born children. An attempt is made in the Table 6 to estimate the number of births from non-EU partners using the share of non-EU brides with non-EU groom on the total number of marriages with non-EU brides. The assumption is that the fertility behaviour of non-EU women is the same regardless of whether the partner is EU or non-EU citizen; additionally, the figures from marriages by citizenship in 2015 (flows) are taken as estimate of the couples' citizenship (stock), and excluding *de facto* relationships. With all the caveats about the roughness of this estimation, the number of new-born children from non-EU parents (potential recipient of a residence permit) is reported in the column (e). These figures can then be subtracted to the original RP statistics to get a figure a bit more comparable to the IM flows. When the outcome in the column (f) was negative (namely for France and Switzerland), the choice has been made to leave it as such in the Table 6 and to skip the corresponding difference. Despite these efforts, there are still noticeable differences between RP and IM flows. While these differences can obviously depend from the assumptions made in the estimation process as well as possibly from the other reasons mentioned in this paper, they require further investigation, only possible at national level.

²² Available at http://ec.europa.eu/eurostat/cache/metadata/Annexes/migr_res_esms_an8.pdf.

Table 6: comparison of inflows of third-country nationals less than 5 years old as from migration statistics (IM) and residence permits statistics (RP) with correction for non-EU new-born children in 2016

	Flow RP All reasons	<i>Of which: Flow RP for family reason</i>	Births from non-EU mother*	Share in 2015 of non- EU brides with non-EU groom ^{*,**}	Births from non-EU parents (estimate)	Flow RP without non- EU new-born children (estimate)	Flow IM ^{*,***}	Diff. ^{****}
	(a)	(b)	(c)	(d)	(e) = (c) * (d)	(f) = (a) - (e)	(g)	(h) = (f) - (g)
BE	11 269	10 035	16 933	24.5%	4 157	7 112	4 149	2 963
BG	394	372	409	3.6%	15	379	421	-42
CZ	7 888	7 421	3 549	21.0%	745	7 143	3 951	3 192
DK	3 640	2 866	6 448	39.7%	2 561	1 079	2 564	-1 485
DE	:	:	128 255	24.5%	31 486	:	42 771	:
EE	268	238	1 228	45.4%	557	-289	142	-431
IE	:	:	4 564	24.5%	1 120	:	1 160	:
EL	5 904	5 882	10 258	24.2%	2 487	3 417	10 464	-7 047
ES	38 058	36 654	54 157	16.6%	9 011	29 047	13 517	15 530
FR	9	2	113 323	24.5%	27 820	-27 811	9 030	:
HR	133	108	537	11.0%	59	74	110	-36
IT	28 616	27 700	24 790	24.3%	6 036	22 580	8 976	13 604
CY	730	265	976	24.5%	240	490	10	480
LV	538	516	1 203	30.6%	369	169	88	81
LT	229	156	419	0.0%	0	229	152	77
LU	:	:	1 016	21.5%	218	:	377	:
HU	861	721	578	9.8%	56	805	456	349
MT	:	:	493	28.0%	138	:	463	:
NL	11 035	7 630	12 076	22.5%	2 723	8 312	5 369	2 943
AT	9 124	2 115	14 815	24.5%	3 637	5 487	4 001	1 486
PL	5 565	607	2 796	7.8%	219	5 346	3 272	2 074
PT	2 162	1 986	6 537	20.1%	1 311	851	308	543
RO	614	509	1 686	0.1%	1	613	671	-58
SI	709	684	1 717	18.4%	315	394	469	-75
SK	:	:	258	1.8%	5	:	24	:
FI	:	:	1 496	52.5%	786	:	1 391	:
SE	19 393	12 605	15 822	39.6%	6 258	13 135	9 977	3 158
UK	:	:	62 714	24.5%	15 396	:	6 595	:
IS	61	36	132	24.5%	32	29	48	-19
LI	70	56	98	24.5%	24	46	5	41
NO	4 181	3 275	6 440	17.7%	1 139	3 042	2 748	294
CH	274	:	17 237	29.0%	4 995	-4 721	1 753	:

(:): not available. (*): including stateless and unknown citizenship. (**): in italics value for missing countries set equal to the overall share in countries with available data. (***): figures in italics are by age reached at the end of the year. (****): differences from negative values in corrected RP flows are set as not available.

G. Asylum seekers and refugees

26. Third-country nationals and stateless persons who are granted refugee, subsidiary protection or humanitarian reasons status are recorded in the RP statistics in specific sub-categories. However, it is not specified how to classify asylum applicants, whose procedure is still pending – assuming they receive a formal permission to stay as well. There is thus some uncertainty about the way asylum seekers as well as relocated and resettled persons²³ are classified in the RP statistics.

27. As for IM statistics, the recommended practice²⁴ is to include asylum seekers and refugees in the annual usually resident population, vital events and migration data when their actual stay in the reporting country is of at least one year. As secondary option, in fact depending on the statistical infrastructure of the country, it is also accepted that refugees only (persons granted international protection by the reporting country) are to be included in the annual usually resident population, regardless of the actual duration of their stay. The compliance of the countries with these recommendations is reported in the Table 7 and the Table 8²⁵.

28. The first check is thus whether the refugees are consistently captured in the flow RP statistics, given that in the IM statistics on flows they are always included but in Cyprus. The Table 9 compares the RP from the categories 'Refugee status and subsidiary protection' and 'Humanitarian reasons' with the corresponding asylum statistics, namely with the first and final positive decisions of asylum applications granting protection. There are several countries (about a dozen) for which a certain degree of coherence between RP and decisions for refugee status and subsidiary protection can be found – although not a perfect matching. In some cases the closeness is with the first decisions only (compare column (a) and (b)), in others it covers the final decisions as well (compare column (a) and (d)). The closeness degrades in the comparison between RP and positive decisions on humanitarian reasons. Turning now to first-time asylum applications, which may partially overlap with first decisions²⁶, the comparison with RP does not return a better closeness than using data on decisions but for the Czech Republic and Estonia. For the sake of completeness, the number of resettled persons is reported as well, although it does not contribute to make the picture clearer²⁷.

²³ 'Relocation' means a distribution among Member States of persons in clear need of international protection. 'Resettlement' means the transfer of individual displaced persons in clear need of international protection, on submission of the United Nations High Commissioner for Refugees and in agreement with the country of resettlement, from a third country to a Member State, where they will be admitted and granted the right to stay and any other rights comparable to those granted to a beneficiary of international protection. See also the metadata on "Decisions on applications and resettlement", item 3.4. on 'Statistical concepts and definitions' (http://ec.europa.eu/eurostat/cache/metadata/en/migr_asydec_esms.htm)

²⁴ See the Working Paper 13 "Classification of asylum seekers and refugees in internationally comparable migration statistics", presented by Eurostat at the UNECE Work Session on Migration Statistics in 2017.

²⁵ See the working paper ESTAT/F2/POP/2018/WG1/02/SAR on 27 March 2018 on "UNIDEMO Quality Report – Reference year 2016" or the item 3.4. 'Statistical concepts and definitions' of the IM metadata (http://ec.europa.eu/eurostat/cache/metadata/en/migr_immi_esms.htm)

²⁶ This may happen in countries (and years) where the process which leads to the decision on the final application is quite rapid, opening the possibility to record in the same year both the application and the related decision.

²⁷ In principle, those numbers should be added to the numbers of asylum applicants.

Table 7: asylum seekers and refugees in the IM stocks at the end of the year 2016

	Included	Excluded
Asylum seekers usual residents for at least 12 months	DE, EE, IE, EL, ES, FR, IT, CY, LU, NL, AT, PT, UK, NO ¹ , CH	BE, BG, CZ, DK, HR, LV, LT, HU, MT, PL, RO, SI, SK, FI, SE, IS, LI
Refugees usual residents for at least 12 months	BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK, IS, LI, NO ¹ , CH	

(¹) Asylum seekers and refugees without residence permit are not included.

Table 8: asylum seekers and refugees in the IM flows in 2016

	Included	Excluded
Asylum seekers usual residents for at least 12 months	DE, EE, EL, ES, FR, IT, LU, NL, AT, PT, UK, CH, NO ¹	BE, BG, CZ, DK, IE, HR, CY, LV, LT, HU, MT, PL, RO, SI, SK, FI, SE, IS, LI
Refugees usual residents for at least 12 months	BE, BG, CZ, DK, DE, EE, IE ² , EL, ES, FR, HR, IT, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, IS, UK, LI, NO ¹ , CH	CY

(¹) Asylum seekers and refugees without residence permit are not included.

(²) Refugees who do not live in a private household are not included.

29. As for the stocks, it is not possible to carry out an equal comparison because it can only cover the persons subject of asylum applications pending at the end of the month (in this case December 2016) and not the number of persons granted protection following a positive decision, to be compared with the number of valid permits for reasons of refugee status and subsidiary protection. These data are shown in the Table 10, where it can be noted that only in a few countries there is proximity between the two figures – and this despite the conceptual difference, being the first referred to person granted protection, the second to persons who have applied for protection.

30. All in all, it is unclear whether the RP statistics systematically include persons granted protection and/or asylum seekers, either in stocks or in flows. Only once this issue is clarified, the comparison with migration statistics can be improved by including / excluding that specific component, depending on the country.

Table 9: comparison of the flows in residence permits, refugees and asylum statistics for 2016

	Refugee status and subsidiary protection				Humanitarian reasons				1 st time asylum applicants	Resettled
	Residence permits	First decisions	Final decisions	First and final decisions	Residence permits	First decisions	Final decisions	First and final decisions		
	(a)	(b)	(c)	(d) = (b) + (c)	(e)	(f)	(g)	(h) = (f) + (g)	(i)	(l)
BE	9 192	15 050	350	15 400	665	:	:	:	14 250	450
BG	0	1 350	15	1 365	0	:	:	:	18 990	0
CZ	932	430	10	440	121	5	0	5	1 200	0
DK	7 415	7 080	280	7 360	3	50	0	50	6 055	310
DE	254 584	409 830	9 370	419 200	19 027	24 080	1 935	26 015	722 265	1 240
EE	154	130	0	130	0	0	0	0	150	10
IE	478	485	305	790	60	:	:	:	2 315	355
EL	0	2 715	930	3 645	142	0	4 900	4 900	49 875	0
ES	6 237	6 855	15	6 870	1 534	0	5	5	15 570	375
FR	23 139	28 755	6 420	35 175	0	:	:	:	76 790	600
HR	86	100	0	100	82	0	0	0	2 150	0
IT	2 841	16 890	30	16 920	2 438	18 515	15	18 530	121 185	1 045
CY	1 975	1 300	125	1 425	18	0	0	0	2 840	0
LV	130	135	10	145	0	:	:	:	345	5
LT	192	195	0	195	3	0	0	0	415	25
LU	731	765	5	770	7	:	:	:	2 065	50
HU	0	425	5	430	0	5	0	5	28 215	5
MT	1 137	1 135	65	1 200	78	55	0	55	1 735	0
NL	21 988	20 445	915	21 360	12 260	365	100	465	19 285	695
AT	17 036	30 040	1 190	31 230	2 014	330	190	520	39 875	200
PL	195	260	70	330	3	50	15	65	9 780	0
PT	449	320	0	320	0	:	:	:	710	0
RO	756	800	20	820	0	0	0	0	1 855	0
SI	170	170	5	175	0	:	:	:	1 265	0
SK	169	15	5	20	588	195	0	195	100	0
FI	6 557	6 025	235	6 260	456	1 045	60	1 105	5 275	945
SE	65 272	64 085	2 300	66 385	3 344	2 500	875	3 375	22 330	1 890
UK	123	8 620	6 545	15 165	230	1 315	595	1 910	39 240	5 180
IS	131	90	5	95	28	5	10	15	1 100	55
LI	15	30	0	30	0	15	0	15	75	0
NO	11 631	11 965	190	12 155	482	810	225	1 035	3 240	3 290
CH	133	7 655	110	7 765	288	5 535	40	5 575	25 820	620

(:): not available.

Table 10: comparison of the stocks in residence permits and asylum statistics at the end of 2016

	Valid residence permits for refugee status and subsidiary protection	Asylum seekers with pending application
BE	54 476	24 735
BG	0	15 595
CZ	2 935	770
DK	:	7 020
DE	538 222	601 905
EE	273	70
IE	1 659	4 055
EL	0	40 015
ES	15 593	20 365
FR	170 604	44 070
HR	196	495
IT	66 493	99 920
CY	4 904	2 860
LV	228	225
LT	417	190
LU	2 009	2 465
HU	0	3 415
MT	0	1 070
NL	68 125	12 245
AT	0	77 445
PL	3 464	2 880
PT	1 264	50
RO	3 105	935
SI	403	555
SK	464	95
FI	0	15 000
SE	185 788	82 960
UK	36 118	36 860
IS	290	580
LI	61	75
NO	36 119	7 005
CH	64 923	31 475

(.): not available.

H. Golden visas

31. Several EU Member States have programs to attract substantial investments by third-country nationals, for instance in the form of participation in defined investor schemes or by acquisition of real estate property. In return, these wealthy investors are granted a residence permit (e.g., in Greece, Spain, Hungary, Latvia, Portugal, the United Kingdom) or even a citizenship (e.g., in Bulgaria, Cyprus, Malta, Austria). Such schemes are also popularly called 'golden visas'.

32. From the statistical point of view, these persons are included in the RP statistics when granted a residence permit, although the actual migration may never occur. Therefore, golden visas are a bias factor in migration data, leading to higher RP statistics as compared to IM statistics. The golden visas may be classified under different categories of RP²⁸, such as 'Other remunerated activities' in the first permits for reason of work, or as 'Residence only' or as 'Other reasons not specified' in the first permits for other reasons, which does not help in assessing its impact.

I. Date of occurrence and date of registration

33. Data on migratory events should be provided with reference to the time of occurrence, unlike the data on residence permits, for which the date of reference is the one of the administrative act. Priority of one event on the other is not necessarily the same across countries, or it may depend on the reason for migration: a valid residence permit may be requested before the immigration takes place (e.g., a residence permit for reason of work or family reunification), but it could also be issued after the arrival (e.g., asylum seekers / refugees). Therefore, most likely there is a time gap between the two events (factual migration and issuance of the residence permit), and the closer the occurrence of the first of them to the end of the year, the higher the probability that the two events are reported in two different years. This can happen with even higher likelihood in period in which there are high inflows which put the regular administrative system under unusual (and unexpected) burden. While this ends up in punctual differences year by year, analyses over a longer term should be less affected, as the overall volume would be simply differently distributed over time, most likely with a partial shift of one year only.

J. Acquisitions of citizenship

34. The stock at the end of the year from IM statistics is affected not only by inflows and outflows of non-EU citizens, but also by the acquisitions of the EU citizenship. These new EU citizens (about 875 thousand persons in 2016) may be still holder of a valid resident permit for non-EU citizens at the end of the year and as such included in the RP statistics.

IV. Conclusive remarks

35. The analysis carried out in the previous chapter has shown that many factors interfere in the comparability between RP and IM statistics. Given that some of them actually apply only on

²⁸ This is based on the interpretation of the technical guidelines in the Annex 8 to the metadata on residence permits statistics (http://ec.europa.eu/eurostat/cache/metadata/en/migr_res_esms.htm).

specific categories of RP, it could be considered that there may be a different mismatch depending on the reason for migration, conclusion which would undermine those analyses that build on such disaggregation in RP statistics to speculate on the typology (and related mechanisms) of migratory flows. This feature is quite relevant, as policies can actually be based upon such analyses. The statistical community should therefore put all possible efforts to improve the understanding of the differences between RP and IM statistics. As several of those factors of difference are country-specific and/or require detailed information, such endeavour should be undertaken at national level.

36. Ideally, the difference between RP and IM statistics should be decomposed in quantitative parts attributed to the various reasons for difference, like in an accounting schema. The reasons here listed may apply in different ways across countries, or even do not apply at all. The target should be to minimise the unexplained part of the differences between RP and IM statistics. Any progress in that direction would be of great usefulness to the users – and to the data producers as well, because it may well lead to quality improvements. Following a discussion held last April with its counterparts in the EU Member States, Eurostat has launched an initiative to gather such information. The results will be made available in form of metadata, and it may trigger sharing of best practices, suggestions for enhancements and clarification of conceptual issues. All such improvements must however continue to rely on a close coordination and exchange at national level between the data owners of RP and IM statistics.
