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Improvements in use of administrative data for migration statistics

Exploring immigration reasons by linking administrative and survey data

Note by Swiss Federal Statistical Office *

Abstract

For a detailed picture of migration landscape, official statistics seek to produce information on the reasons for migratory movements. This type of data makes it possible to classify immigration according to reasons. However, collecting data on the reasons for immigration is a challenge as these reasons are usually multiple and their identification has a subjective dimension.

In order to quantify immigration according to its reasons, Swiss official statistics can rely on two sources: the Swiss Labor Force Survey (SLFS) conducted by the Swiss federal statistical office (FSO) and the administrative register “Central Migration Information System” maintained by the State Secretariat for Migration (SEM) and used by the FSO for migration statistics. Along four main reasons – work, education, family and asylum – the two sources show divergent aggregate percentages.

For a better understanding of these differences, we match the SLFS (survey) data with the register data. This allows an analysis of the consistency between the reasons for immigration reported by both sources.

We find that reasons indicated in register and in survey correspond in 68% of the cases. This percentage varies along specific reasons, as well as according to sociodemographic characteristics. The results thus suggest that register data reflects grounds for legal admission that do not always coincide with (subjective) reasons motivating persons to immigrate to Switzerland. The fact that reasons differ in one third of the observed cases indeed underlines that immigration reasons tend to be multiple and not unique.

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NOTE: The designations employed in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

I. Introduction

A. Migration reasons

1. Reasons for migration are generally multiple and complex. They show how a person engaging in migration perceives and assesses the situation he or she is confronted to. They reflect the projects and personal priorities of the migrating person. Migration reasons may relate to the country or place of departure (traditionally called “push factors”) and/or to the destination (“pull factors”).
2. Migration reasons are relevant for the right to stay that the host country may grant to the migrating person, according to the country’s laws and regulations. They thus also bear a “strategic” dimension. This means that reasons alleged towards the border control and migration authorities of the country of destination may not be fully congruent with the subjective reasons motivating a person to move from one country to another.
3. Data on migration reasons is highly relevant since it helps to distinguish different types of migration flows, to analyse the situation in countries of origin and destination and the needs of persons settling in a new country. Reasons for migration are an indicator of the difficulties and threats the habitants of different parts of the world are struggling with. They can also help to disentangle chain migration and interdependence between successive migration flows. Even though reasons are generally multiple and complex, state authorities as well as researchers tends to capture and process them in clear-cut categories. On a high level of aggregation, one generally distinguishes four main reasons, namely work, education (the latter two sometimes being considered in one category), family and asylum.

B. Data sources on immigration reasons

4. In Switzerland, there are two main data sources on migration reasons: register data from the immigration authorities and data from surveys. Both sources thus look from the perspective of the host country. For this country, the persons arriving are thus immigrants. As far as register data is concerned, an indication of reasons is only relevant in the context of immigration, due to legal requirements (leave alone irregular immigration). In the case of surveys, persons are sampled in the place where they actually live. Yet, some surveys may ask questions on the intention to migrate in the future and the reason for this possible upcoming decision.
5. The Swiss federal statistical office (FSO) disseminates few information on migration reasons. The most important typologies used in official migration statistics of Switzerland refer to other variables than migration reasons (i.e., regional variables like nationality, country of birth, or migration status).
6. Nevertheless, the FSO holds information on the reasons having motivated migration moves towards Switzerland from two sources:
 - Administrative register called “Central Migration Information System” (hereafter Zemis) and ran by the migration authorities (State secretariat for migration, SEM).

- Swiss Labour Force Survey (SLFS), a sample of 120,000 persons from the resident population. The survey includes one question on the main reason of the last immigration which is addressed to persons born abroad (filter).
7. Currently, the FSO only disseminates information on immigration reasons based on the second source (SLFS)¹. The SEM disseminates information on immigration reasons drawn from their register (Zemis)².

II. Aim and research question

8. Two main interests prompted the FSO to carry out an exploratory analysis on immigration reasons. These will be explained in the following subchapters.

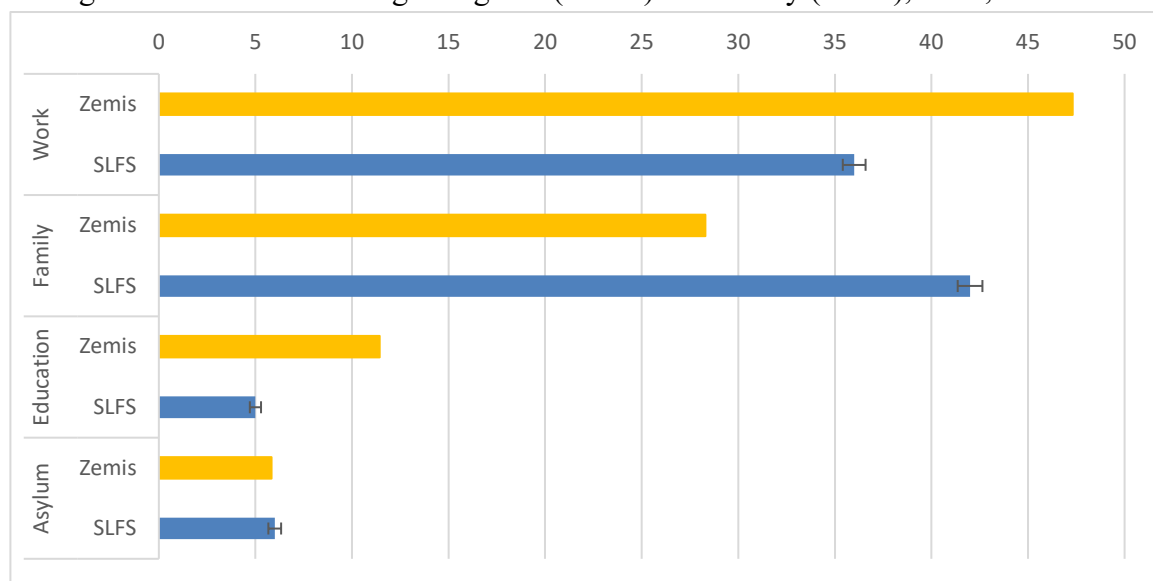
C. Making best use of administrative and survey data

9. One major principle of the FSO is to collect data “once only”. Giving priority to register data whenever possible, the once-only principle aims to reduce the survey-burden on the population and to avoid that the same information is collected several times.
10. In the case of immigration reasons, the FSO only produces and disseminates data based on the Swiss Labour Force Survey (SLFS). The SEM disseminates information on immigration reasons based on their administrative register (Zemis) referring to the type of residence permit they deliver to immigrants. Indeed the SEM delivers data from this register to the FSO. The FSO uses this register data to produce many of its migration statistics, but not those on immigration reasons. According to a long-standing arrangement between both offices, the exploitation of the variable indicating the residence permit falls under the competence of the SEM.
11. A further reason encouraged the FSO to take a closer look at immigration reasons. Since 2015, the Migration Mobility Survey (MMS) – a survey that has been carried out every two years since 2016 by an academic research network (NCCR – on the move) – produced relevant information on immigration reasons in the Swiss context. The financing of this research cluster and thus the Migration Mobility Survey will soon end, meaning that an important source of information on immigration reasons may disappear.
12. The MMS uses a long and detailed code list, and allows to indicate more than one reason. If more than one reason is chosen, respondents are invited to classify the reasons according to importance. The results are thus not comparable with those disseminated by the SEM (based on register Zemis) and by the FSO (based on SLFS).
13. Comparing results from Zemis and SLFS, one notices significant discrepancies (see Figure 1).

¹ See: <https://www.bfs.admin.ch/bfs/en/home/statistics/population/migration-integration/international-migration/reasons-migration.html>

² See chapter 3 of “Jahresstatistik Zuwanderung”:
<https://www.sem.admin.ch/sem/de/home/publiservice/statistik/auslaenderstatistik/monitor.html>

Figure 1
Immigration reasons according to register (Zemis) and survey (SLFS), 2021, in %



Note: Figures disseminated by the SEM (Zemis) and the SFSO (SLFS) for 2021

14. The differing frequencies especially among family and work related reasons are not intelligible at first glance. Assumably due to the data source both results stem from, the discrepancies rise questions on how to interpret the figures and if the two statistics – both referring to “immigration reasons” – indeed measure the same concept.
15. Referring to the first aim, this analysis addresses the following question: Which data sources on immigration reasons are adequate for what purpose?

D. Improving the interpretation of the available data on migration reasons

16. A quality requirement of official statistics consists in employing accurate concepts, labels and meta-data information to make sure that external data users correctly interpret the disseminated results. Considering the mentioned discrepancies between two statistics delivering information on the same concept but on the ground of data from two different sources, it is important to understand where the discrepancies come from, to be able to explain them and to adapt meta-information if necessary. In the case at hand, one may ask if “immigration reason” is the most adequate concept for results drawn from administrative data and if this data possibly rather reflects reason for deliverance of a permit of stay.
17. Referring to the second aim, the analysis addresses the following questions: How do immigration reasons differ along the used data source? Which independent variables may explain the observed discrepancies?

III. Methods

18. To answer the research questions relating to the two aims mentioned above, we linked data from the register and the survey source via the personal identification number (social

security number OASI³) available in both datasets. As mentioned before, the FSO uses Zemis data delivered by the SEM to produce its statistics on migration flows within the Population and Households Statistic (henceforth called “STATPOPmove”). Thus, the register data to be linked with the survey data was available “in house”.

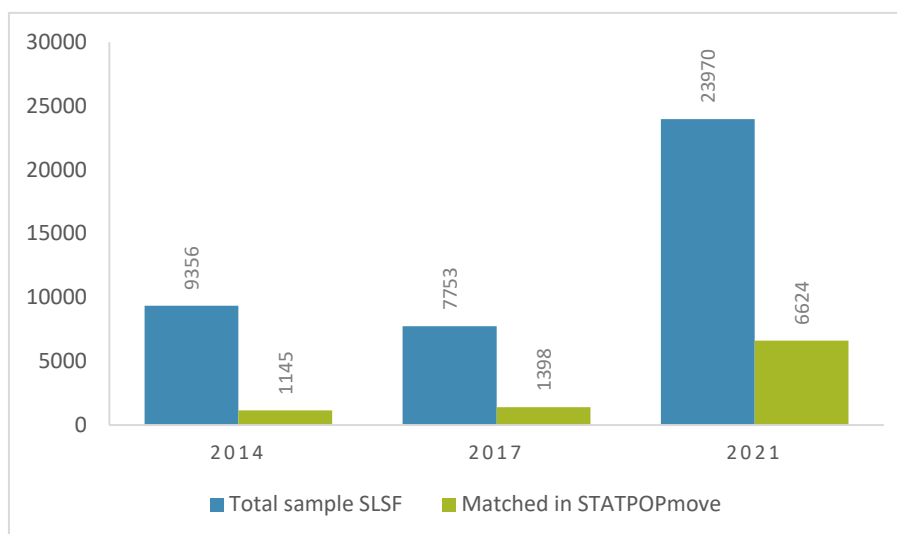
19. The two linked datasets are:

- Participants of the SLFS 2014, 2017 and 2021 born abroad and having answered the question on the main reason of their last immigration to Switzerland (“What was the main reason you came to live in Switzerland?”); the survey sample is drawn from the permanent resident population of Switzerland aged 15+ years.
- Foreigners for whom an immigration to Switzerland has been registered in Zemis and that thus appear in STATPOPmove between 2011 and 2021 (this statistic is available since 2011).

20. We matched both datasets via the personal identification number (OASI). Among the net 41,079 participants of SLFS (cumulated over the three years where the survey was run), we find 9,220 (22%) of them in STATPOPmove. The unmatched individuals (31,859) have probably migrated to Switzerland before 2010. The share of survey participants that matched in STATPOPmove rises throughout the three years the survey was carried out (2014: 12%, 2017: 18%, 2021: 28%). Indeed, the probability that the immigration of a participant of the SLFS took place in the observation period of STATPOPmove (2011-2020) rises over the years.

Figure 2

Total observations of SLSF in matched dataset



Note: In 2021, the question on immigration reasons was transferred from a module with a smaller sample to the main survey with a larger sample.

21. Persons comprised in the matched dataset all have an information on their immigration reasons according to both the register and the survey source. Due to the data sources and the used method, they furtherly all respond to the following criteria:

³ Old age and survivor's insurance

- Foreigners in the year of their immigration (the variable immigration reason in STATPOPmove being based on residence permit, only foreigners are concerned) but may have been naturalized between the year of their immigration and the year they took part in the survey;
 - Born outside Switzerland (filter of the relevant question in SLFS);
 - Part of the permanent resident population of Switzerland (sampling frame of SLFS);
 - Aged 15+ years in the calendar year of their SLFS participation (SLFS sample only includes persons aged 15+ years);
 - Last immigration to Switzerland ulterior to 2010 (availability of STATPOPmove);
 - OASI available in both sources;
 - Value (no missing) for the variable of interest in both sources.
22. The code lists of our variable of interest, namely immigration reason, is not identical in both data sources, the register source having a finer granularity. Based on information from the SEM (administration holding the register) concerning the forms of legal admission the different codes they refer to, we aggregated codes from the register and matched the two code lists in the following way:

Table 1
Common code list for the variable of interest

Matched dataset	SLFS	STATPOPmove
Work	Work	Starting a gainful activity inside the contingent
		Internship
		Conversion OLCP or seasonal worker
		Starting a gainful activity outside the contingent
Education	Training / (further) education	Pupil, student
		Doctorant, post doctorant, invited academic fellow, sabbatical, scholarship of the confederation
Family	Family reasons	Fostered or adopted child
		Partner
		Child
		Other parent
		Partner (foreigner)
		Child (foreigner)
		Other parther (foreigner)
Asylum ⁴	Asylum / political refugee	Recognized refugee
		Persons formerly provisionnaly allowed to stay
Other	Retirement	Pensioner
	Other reason	Other foreigner without gainful activity
		Other case of hardship
		Other immigration
		Swiss
		Not applicable
		Without indication
		Retour

IV. Results

E. Sample characteristics and sociodemographic profile

23. In total, 9,220 SLSF participants had a match in STATPOPmove, which is 22% of the total number of SLFS participants. This number of cases obtained via data linkage allows for carrying out robust analysis. The 31,859 participants of the SLFS that did not match in STATPOPmove are probably persons that immigrated before the beginning of the observations period covered by STATPOPmove (2011). For reasons of data availability, we could not include any persons whose immigrations goes back to the years before 2011.

24. Comparing the sociodemographic profile of the matched dataset with that of the SLSF participants that did not match, we notice that the proportion of matched cases decreases

⁴ Recognized refugees or persons that are going through the asylum procedure and that have been in Switzerland for at least 12 months.

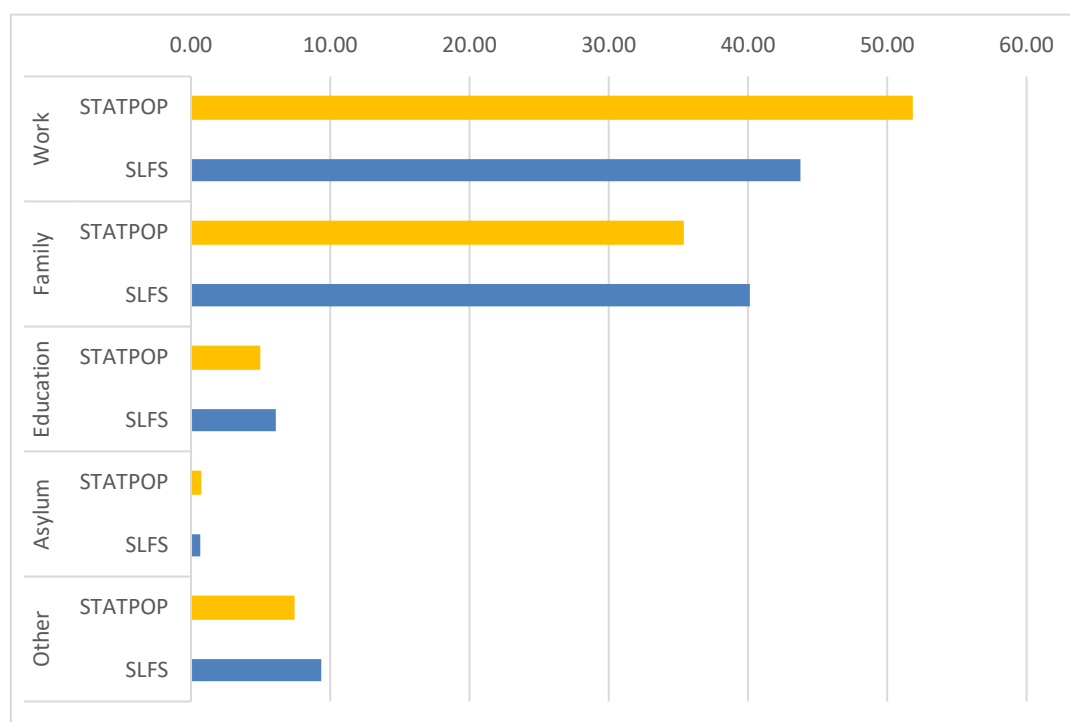
with age. This means that younger age groups are strongly overrepresented in the matched dataset, compared with the total sample of SLSF participants. Persons aged 15 to 35 have matching rates over 40%, whereas this rate is below 10% from 60 years on.

25. The overrepresentation of young age groups may be explained by two factors:
 - Firstly, the mean age of immigrants (as covered by the flow statistic STATPOPmove) is lower than that of the permanent resident population (stock). The total SLSF sample is representative for the permanent resident population.
 - Secondly, young person's immigration is more likely to have taken place during the observation period covered by STATPOPmove (the past decade) – and thus a higher proportion of matches. We assume that further overrepresentations we observe in the matched dataset (especially matching rates of 36% for singles, 41% for trainees / students) relate to the before mentioned higher shares of young persons in the sample.
26. The matched dataset has a total size of 9,220 persons and is gender-balanced (4,412 men, 4,808 woman). Persons aged between 30 and 40 years (in the year of their participation in the SLSF) are most numerous. Married persons and singles form with respectively 46% and 48% the most frequent civil statuses; only about 5% of the persons are divorced.
27. 73% of the persons in the matched dataset are citizens of EU/EFTA countries and 10% of other European countries. Yet, all other continents are represented in the sample. We observe a similar distribution concerning country of birth.
28. Regarding activity status, employed workers (64%) form the majority, followed by unemployed (7%) and self-employed (7%) persons and houseman and -woman (7%). Persons with a tertiary education level form the biggest group (50%) but nearly 20% have elementary school as the highest achieved education level.
29. The matching procedure produced certain distortion effects and, in particular, a specific age-structure of the matched dataset. We thus underline that the results of this descriptive analysis are not representative for any larger population (neither for the population of Switzerland born abroad or all SLSF participants nor for all persons appearing in STATPOPmove 2011-2021). The analysis does not allow for any extrapolations to a larger population and simply aims to give indications based on the observed cases from the matched dataset.

F. Prevalence of reasons in the matched dataset

30. Among all 9,220 persons of the matched dataset, 6,308 have an identical immigration reason in both sources. The overall correspondence rate is thus 68%. In all other cases (2,912), reasons differ (divergence rate of 32%).
31. Immigration reasons in the matched dataset still show discrepancies according to source (see Figure 3), even though they appear to be smaller than those visible when considering the sources separately (see Figure 1). The share of persons indicating work is higher in STATPOPmove than in SLFS, whereas the contrary is the case for the share of persons indicating family (higher in SLFS than in STATPOPmove).

Figure 3
Immigration reasons in matched dataset according to source, in % of the total matched dataset



Note: 2011-2021 for STATPOPmove, 2014, 2017 and 2021 (cumulated) for SLFS.

G. Correspondence according to specific reason

32. In absolute terms, the most frequent case is the indication of work as immigration reason in both sources, followed by the coincident cases of the reason family. Looking at shares of cases with identical reasons in both sources, the number of correspondent cases can either be related to the total number of cases with this reason in SLFS or in STATPOPmove. These percentages – in lines and in columns – are of course influenced by the size of the denominator that varies for each reason according to source (see Figure 3).

Table 2a

Correspondence and divergence of reasons according to source, absolute numbers

		STATPOPmove					
		Total	Work	Family	Education	Asylum	Other
SLFS	Total	9220	4772	3256	452	61	679
	Work	4034	3320	473	53	3	185
	Family	3700	834	2475	56	13	322
	Education	562	155	56	329	0	22
	Asylum	61	2	13	0	40	6
	Other	863	461	239	14	5	144

Table 2b
Common code list for the variable of interest

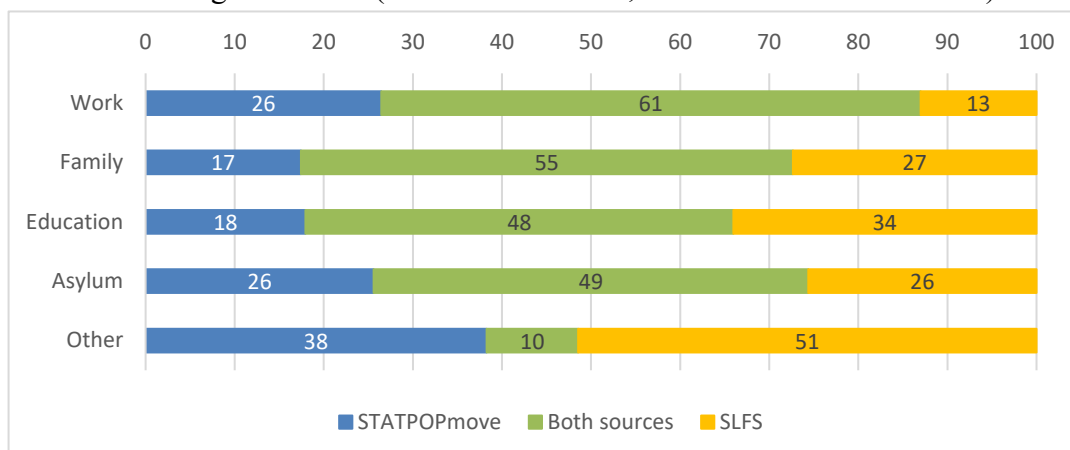
		STATPOPmove					
		Total	Work	Family	Education	Asylum	Other
SLFS	Total	100%	52%	35%	5%	1%	7%
	Work	100%	82%	12%	1%	0%	5%
	Family	100%	23%	67%	2%	0%	9%
	Education	100%	28%	10%	59%	0%	4%
	Asylum	100%	3%	21%	0%	66%	10%
	Other	100%	53%	28%	2%	1%	17%

Table 2c
Common code list for the variable of interest

		STATPOPmove					
		Total	Work	Family	Education	Asylum	Other
SLFS	Total	100%	100%	100%	100%	100%	100%
	Work	44%	70%	15%	12%	5%	27%
	Family	40%	17%	76%	12%	21%	47%
	Education	6%	3%	2%	73%	0%	3%
	Asylum	1%	0%	0%	0%	66%	1%
	Other	9%	10%	7%	3%	8%	21%

33. On a general level, it appears that the share of cases with identical reasons in both sources tends to be higher regarding work and family than regarding education and asylum. Unsurprisingly, the correspondence rate for the category other reason is particularly low. Due to a small number of observations, we renounce to further analyzing the reasons education and asylum.

Figure 4
Relative correspondence of reasons according source, in % of the total number of cases mentioning the reason (in STATPOPmove, in SLFS or in both sources)



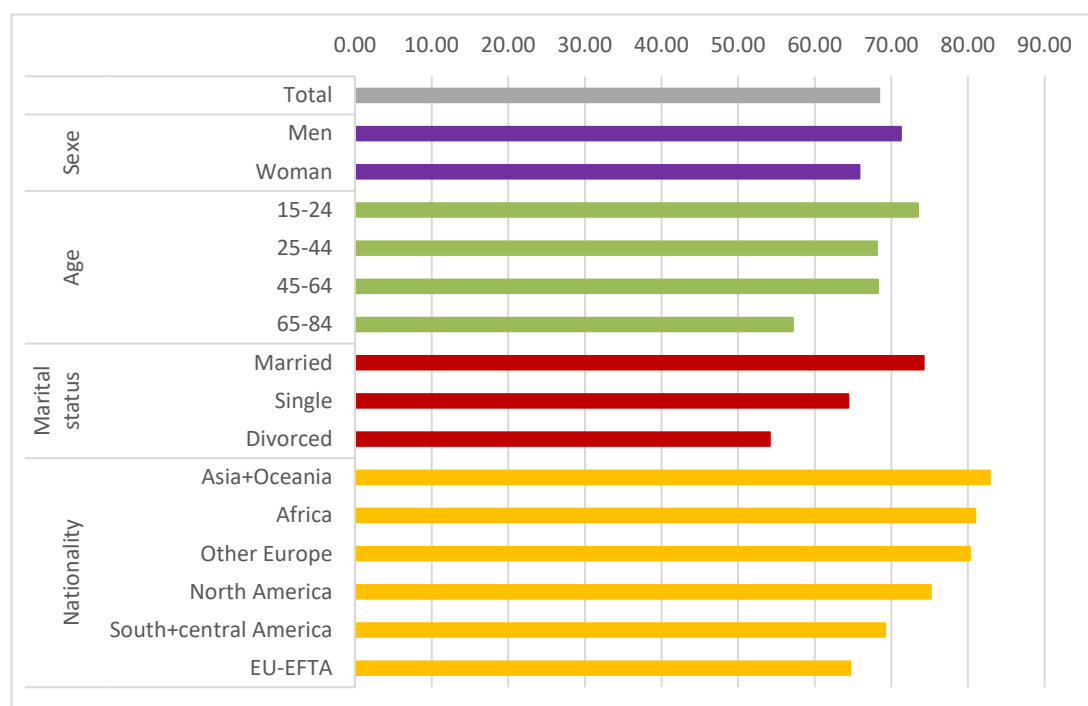
34. Focusing on family and work, we see that the most frequent divergence is survey indicating family and register indicating work (23% when related to the total number of cases indicating family in survey and 17% when related to the total number of cases indicating work in register). Register indicating family and survey indicating work is less frequent (15% when related to total of register and 12% when related to total of survey).
35. We can conclude that in about one fifth of the observed cases, register indicates work whereas survey indicates family. In these cases, both reasons seem to play a role in the decision of immigrating to Switzerland. Considering the applicable legal dispositions, a possible explanation is that these persons obtain a residence permit by virtue of a professional activity they undertake in Switzerland (register consequently indicating work)⁵. Nevertheless, their move to Switzerland may be, at a subjective level, mainly motivated by the project of joining family members (indication of family when asked about the main reason of their last immigration to Switzerland in the SLFS).

H. Correspondence according to sociodemographic profile

36. Correspondence rates further vary along standard sociodemographic variables available in our sample.

Figure 5

Correspondence rates according to sociodemographic profile, in %



Note: Share of cases with identical immigration reason in both sources.

37. Several of the observed differences can be interpreted in the context of the immigration reasons typically applying for the described groups and the prominence and singularity of a particular reason motivating migration to Switzerland. For instance, it seems obvious that

⁵ Federal Act of 16 December 2005 on Foreign Nationals (FNA), Ch. 5, Section 1.

immigrations of persons aged 15 to 24 are most often motivated by family reasons, and legally framed by the right to family reunification⁶. The analogue argument applies for married persons⁷.

38. The lower correspondence rate of woman is more difficult to explain with this argument. As the analysis of the cases with coincident reasons shows, family reasons are more frequent among women than among men (among all women with coincident reasons, 55% indicate family, among all man this share is 23%). The lower correspondence rate of women may thus be partly explained by immigrations of unmarried woman joining a partner but also taking on a job. Not being entitled to family reunification, these persons would apply for a residence permit by virtue of a professional activity in Switzerland even though their personal main motive might rather refer to a partner or family member.
39. Beyond age and family situation, correspondence rates vary along nationality groups. Persons holding a passport of an EU or EFTA state, and thus enjoying free movement inside the Schengen area, have the lowest correspondence rate. This could point to the fact that, if legal obstacles are low or inexistent, persons might more confidently indicate, in a national survey, a subjective reason not corresponding to the legal reason their permit of stay is based on. On the other hand, citizens of African countries, Asian countries and European countries not part of EU/EFTA show high correspondence rates. Among these, the share of persons displaying asylum reasons in both sources is notably high. The particularly frequent correspondence of immigration reasons from register and survey source in the case of third country nationals (except those from countries of South and Central America and the Caribbean) is probably related to the fact that they often immigrate via the asylum system.
40. The data does not show any clear link between the correspondence rate and the length of period between the moment of immigration and the moment of the participation in the survey. Contrarily to what one could have expected, correspondence rates do not significantly decrease with increasing time lags; only a slight effect appears for the longest possible timespans of 10 to 11 years. Yet, an effect would possibly be visible if a longer timespan could have been observed (the present analysis being limited to 10 years).

V. Limits

41. Compared to the total SLFS sample (which is representative for the permanent resident population of Switzerland of 15+), young age groups (roughly 15-40 years) are considerably overrepresented in the matched dataset. This entails overrepresentation of other groups among which young people are proportionally more numerous (singles, students) – see section Sample characteristics and sociodemographic profile.
42. The code lists each source uses to classify immigration reasons did not correspond to each other (see Table 1). In order to aggregate both code lists into four main immigration reasons, we had to make a series of assumptions. Yet, only few categories were difficult to attribute to one of the four main reasons.

⁶ Federal Act of 16 December 2005 on Foreign Nationals (FNA), Ch. 7.

⁷ Also see the results of the Migration Mobility Survey: <https://nccr-onthemove.ch/indicators/for-what-reasons-do-people-migrate-to-switzerland/>

VI. Conclusions

43. Building on the results of this analysis, the research questions can be answered as follows:
44. *Which data sources on immigration reasons are adequate for what purpose?*
For the case of Switzerland, immigration reasons measured via data from the migration register respectively via survey data corresponds – on the level of the same individual – in two thirds of the cases. Thus, in over 30% of the cases the register does not reflect the subjective main reason having motivated the immigration to Switzerland according to the person’s own perception. Rather than subjective immigration reasons, the register data seems to measure another concept, which probably is legal grounds for the deliverance of a residence permit. In conclusion, both sources provide relevant information on immigration reasons, yet from different perspectives.
45. *How do migration reasons differ along the used data source? Which independent variables may explain the observed discrepancies?*
In one third of the individual cases, reasons indicated in both sources differ from each other. This significant share of divergent cases on the one hand reflects the fact (well documented in scientific literature) that immigration reasons tend to be multiple and not unique. On the other hand, it shows how the interpretation of one’s own immigration to Switzerland may vary accordingly to the context in which the question is asked. Indeed, legal and strategic elements probably intervene when facing the migration authorities, whereas the personal, biographical perspective may prevail when responding to a survey. In legally clear-cut situations with single reasons, the coherence between the two data sources tends to be higher.
46. The results also suggest that family appears to be a “derived” reason, since family migration indeed is a sort of chain migration preceded by a migration of a family member that probably moved for another reason. This could explain why coherence is higher among persons eligible for family reunification (minors and married persons) and lower among unmarried adults. Even though maybe following a consensual partner, the latter need a work contract for obtaining a residence permit in Switzerland.
47. The analysis shows that reasons indicated in the register differ from those indicated in a survey in a significant number of cases. This result does not only underline that immigration reasons can be multiple (several reasons being equally important). It also witnesses the fact that, regarding immigration reasons, register and survey seem to measure two different concepts. As a conclusion, the analysis at hand invites Swiss official statistics to engage a reflection on the labelling of information on immigration reasons in order to ensure correct interpretation of the correspondent results.
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