



Using administrative and statistical data sources for estimating international migration trends for Serbia

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Population projections for the Republic of Serbia

- The Statistical Office of the Republic of Serbia has been producing population projections since the year 1981, based on an estimated population number consistent with the most recent decennial census.
- These are medium-term projections, produced using the cohort-component method, covering a thirty-year period and showing the projected number of population by five-year age groups and sex.

National source of migration data

Bearing in mind the availability of vital events data and different demographic indicators for many decades, it may be considered that the hypotheses of future trends in fertility and mortality are based on good practice.

But, an issue comes with making hypothesis on migration trends

The Ministry of Interior of the Republic of Serbia is the main relevant administrative source of data on migration statistics.

Database on foreigners (residence permits)

Database on registration of residence (persons, with Serbian citizenship who the first time apply for residence in the referent year and citizens that reported temporary residence abroad for more than 90 days)

National source of migration data

The main issues related to databases on migration

- Undercoverage of data collection
- Persons leaving Serbia do not register their stay abroad for more than 90 days, although this is legally prescribed as an obligation
- There is no information on previous residence, reasons nor intended duration of staying in the country when person first time apply for residence in Serbia

What we did in this circumstances...

Assumptions on migration



- Traditionally, the scope of migration movements was estimated using the method of two consecutive population censuses including data on natural population movements in the inter-census period
- The lack of data on external migration also presents a problem when calculating the estimated population in the after census period. This makes us aware of the fact that the current population estimate does not correspond to the real situation.
- Going towards the new population census 2021, we tried, for the time being, to estimate the extent of migration trends from the year 2011 to the present, using the administrative and statistical data sources

Assumptions on migration

- It is important to say that this idea was also supported by United Nations Population Fund (UNFPA) who provided a financial assistance for the ad-hoc project entitled "*International migration estimation and correction of the population estimates production*"
- One of the objectives of this six-month project was to examine all relevant data sources on international immigration and emigration
- *The key theme of this presentation is actually to offer an informative review of the activities we have undertaken within this project (without showing the final results, since the project officially ends on November 30).*

Mapping data

- ***First step - gathering information***

INTERNATIONAL

- Eurostat databases
- OECD
- National statistics
- Other relevant sources/information

NATIONAL

- Ministry of Interior
- Population census
- School enrollment and foreign students
- Live births born abroad
- Central Register of Social Contributions Payers
- Commissariat for Refugees and Migration

Migration data request

- ***Next step – request submitted and addressed to the countries recognized as top destination countries according to the statements in population census***

1 Migrants moving to/from the country, to whom Serbia is the country of previous/next usual residence, disaggregated by age and sex

2 Residence permits issued to persons whose previous country of usual residence was Serbia, disaggregated by age and sex

3 The alternative information: number of migrants with Serbian citizenship and Serbia as country of birth, disaggregated by age and sex

...definitions of place of usual residence and international migration, taken from the EU Regulation 862/2007, as regards migration statistics...

Country (order by name)	Sent data on request	Summary	Sent info or link	Comment
Australia	✓	All tables completed, lack of emigrants 2016-2018		
Austria	✓	All tables completed, lack of data for 2018		
Belarus	✓	All tables completed, lack of emigrants 2011-2013		
Bosnia and Herzegovina				No information/data available from the country
Canada			✓	Several data from different Canadian sources were obtained; residence permits taken into consideration
China				No information/data available from the country
Cyprus	✓	Obtained data on residence permits		
Czech Republic				No information/data available from the country
France	✓	Obtained data on immigrants	✓	
Germany				No information/data available from the country
Greece				No information/data available from the country
Hungary	✓	Complete response to the request		
Ireland			✓	Migration data gained from LFS; there is no migration estimates at the individual country level
Israel				No information/data available from the country
Luxemburg	✓			

Country (order by name)	Sent data on request	Summary	Sent info or link	Comment
Malta	✓	First and all valid residence permits		
Montenegro			✓	A few information gained from the Population census later on
New Zealand			✓	We received the answer that the latest data on migration from the Census 2018 will be available in late 2019
North Macedonia	✓	Complete response to the request		
Poland	✓	All tables completed	✓	Data on international migration for permanent residence - administrative data only
Portugal	✓	Serbian nationals with resident status		Source: Portuguese Immigration and Borders Service - SEF
Romania	✓	Tables 1 and 3 completed, lack of data for 2018	✓	Change in emigration methodology applied for the data in 2017
Russia	✓	No data on residence permits		
Slovenia	✓	All tables completed, lack of data for 2018	✓	
South African Republic			✓	Request was forwarded to another address; no response
Spain	✓	Complete response on request		
Turkey	✓	Migrants with Serbian citizenship born in Serbia	✓	Data available only for years 2016 and 2017; response contains the explanation related to data methodology
UAE			✓	Requested data are not available at FCSA
UK			✓	The links to the most detailed data on requested flows were gained
USA			✓	Migration data are limited to estimates of net international migration; they do not feature any country-specific detail

Result of data mapping - data matrix



COUNTRY	YEAR	DATA ON REQUEST		PREVIOUS AND NEXT RESIDENCE (EUROSTAT)		RESIDENCE PERMITS (EUROSTAT)				OECD		MINISTRY OF INTERIOR			FOREIGN STUDENTS	POPULATION CENSUS 2011		NMB OF SERBIAN IMMIGRANTS	NMB OF SERBIAN EMIGRANTS	MIGRATION BALANCE	METHOD OLOGY DESCRIPTION		
		IMI	EMI	IMI	EMI	TOTAL	3-5M	6-11M	12+M	INFLOW	OUTFLOW	ABSENCE OF MORE THAN 90 DAYS	FOREIGNERS	FIRST APPLY OF RESIDENCE IN CALENDAR YEAR		INCLUDE IN POPULATIN IN THE YEAR 2011	EXCLUDE FROM POPULATIO N IN THE YEAR 2011						
INPUT FOR SERBIA		EMI	IMI	EMI	IMI	EMI	EMI	EMI	EMI	EMI	IMI	EMI	IMI	IMI	IMI	IMI	EMI	EMI	IMI	=IMI-EMI			
Name of the country	2011																						
	2012																						
	2013																						
	2014																						
	2015																						
	2016																						
	2017																						
	2018																						

Assumptions on migration

- ***Next step – implementation of defined criteria for estimating migration trends in relation to certain country and analysis of all data by individual countries, for the period 2011-2018***

Assumptions on migration

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- The main criteria:

Assumptions on migration

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- **The main criteria:**
 1. If data were obtained on the request and relate to migrants whose previous/next residence is Serbia - these data are accepted as components of the migration balance relative to the sending country

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 1. If data were obtained on the request and relate to migrants whose previous/next residence is Serbia - these data are accepted as components of the migration balance relative to the sending country
 2. If the received data do not contain the specified migrant category as it was described in criteria 1, the Eurostat database was consulted – net migration is based on data on migrants by previous/next residence
(Tables: MIGR_IMM5PRV, MIGR_EMI3NXT)

Assumptions on migration

3. If only residence permits data were obtained on request (generally identical to the data available in the Eurostat database) and there is no information in Eurostat data compilation (Tables mentioned in criteria 2) for those countries, the decision is to take over the residence permits with length of 12+ months for the emigration from Serbia; and as number of immigrants – the data of the Ministry of Interior from the database of foreigners

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4. If there is no answer to request but the data on residence permits are available in Eurostat database (first permits by reason, defined validity and citizenship - Table MIGR_RESFIRST, where Serbian citizenship is considered), as in criteria 3, the permits with length of 12+ months were taken as number of emigrants and foreigners in Serbia for immigration part

Assumptions on migration

Important note for cases 3 and 4: when the figures show a significant increase of the number of residence permits with duration of 12+ months, the decision is to reduce the total number of permits to be taken into account and to submit only those with reason of stay such as family formation, education and work. This is justified by fact that there is a huge undercoverage of persons who is coming back to Serbia, which reflects a large irregularity in the volume of negative migration balance

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5. If data obtained on request are incomplete or only informative, and if there is no data in the Eurostat database, the migration balance is the result of an analysis of other data sources depending on whether a certain country belongs to the group of destination countries of Serbian emigrants or to the group of countries from which migrants mostly come to Serbia

Assumptions on migration

States that were considered under criterion 5

United Kingdom

- **UK Source:** International Passenger Survey estimates of long-term international migration, citizenship group by sex, age, country of last or next residence (estimates and CI were given in thousands - rounded to the nearest hundred)
- **Serbia:** Population census 2011 and Ministry of Interior RS
- **Eurostat:** UK First permits by reason (Family, Education, Work), length of validity (12+ months) and citizenship (RS)

Net migration from UK Source

≈
Census 2011 (arrivals - departures in 2010 and 2011)

≈
Foreigners with temporary residence in Serbia (MI) – Number of First residence permits (Eurostat)

Canada

- **CA Source:** IRCC, Permanent Residents May 31
 - Work and Study Permits (excluding Extensions) Issued for Applicants with Country of Residence Serbia
 - Permanent Resident Applications Approved for Applicants with Country of Residence Serbia ;
 - Admissions of Permanent Residents from Serbia as Country of Citizenship and Country of Birth, by Age Group and Gender, 2011-2018
- **Serbia:** Population census 2011 and Ministry of Interior RS

Foreigners with temporary residence in Serbia (MI) – Number Work and Study permits (IRCC)

Assumptions on migration

States that were considered under criterion 5 (continuation)

United States

- **US Source:** U.S. Department of Homeland Security, Persons Obtaining Lawful Permanent Resident Status During Fiscal Year, by Region/Country of Birth and Selected Characteristics
The [Yearbook of Immigration Statistics](#) is a compendium of tables that provide data on foreign nationals who are granted lawful permanent residence (i.e., immigrants who receive a “green card”)
- **Serbia:** Population census 2011 and Ministry of interior RS

Census 2011 (arrivals of person ever living abroad for more than a year - departures in 2010)
≈

Foreigners with temporary residence in Serbia (MI) – {New arrivals + half Number of adjustment of status} (US)

New Zealand

- **NZ answer to request:** Data from the 2018 Census will not be available until later this year and that we should contact NZ Immigration for data on residence permits
- **OECD source:** New Zealand Immigration Service and New Zealand Statistics, Flow data based on residence permits or other sources;
Inflows: Residence approvals;
Outflows: Permanent and long term departures (foreign-born persons departing permanently or intending to be away for a period of 12 months or more).

Outflows - Inflows (country of birth/nationality: Serbia, OECD)

Assumptions on migration

States that were considered under criterion 5 (continuation)

Turkey

- **On request:** Data for 2016 and 2017 - Immigrants with Serbian citizenship born in Serbia and explanation in addition
- **Source:** TurkStat, Address Based Population Registration System (ABPRS, 2013-2018) "Foreign Population by Sex, Country of Citizenship and the First Year of Residence in Turkey, 2018 "
- **Source:** TurkStat, International Migration Statistics, 2016-2018 - Immigrants and Emigrants by Country of Citizenship, 2016-2018
- **OECD,** Population [Census 2011](#) (Serbia)
- **Ministry of Interior:** the registration of residence has persons of all ages so that we assumed the families immigrate to Serbia and this corresponds to the volume of emigration of person with Serbian citizenship from Turkey

According to these sources, Serbia mostly has positive migration balance in relation to Turkey on annual bases

YEAR	EMIGRATION	IMMIGRATION
2011	Foreigners (average 2014-2017) ABPRS, Turkey	First residence in Serbia, MI RS
2012	Foreigners (average 2014-2017) ABPRS, Turkey	First residence in Serbia, MI RS
2013	Foreigners (average 2014-2017) ABPRS, Turkey	First residence in Serbia, MI RS
2014	Foreigners ABPRS, Turkey	First residence in Serbia, MI RS
2015	Foreigners ABPRS, Turkey	First residence in Serbia, MI RS
2016	request	request
2017	request	request
2018	Foreigners ABPRS, Turkey	First residence in Serbia, MI RS

Assumptions on migration

- States that were considered under criterion 5 (continuation)

Bosnia and Herzegovina and Montenegro

- **RS Source:** Number of students in referent year
- **Ministry of Interior RS:** Number of first residence of persons with Serbian citizenship born in Bosnia and Herzegovina/Montenegro
- **Ministry of Interior RS:** Number of foreigners whose previous residence was Bosnia and Herzegovina/Montenegro
- **Population Census 2011 (Serbia)**

Bosnia and Herzegovina and Montenegro are the Western Balkan countries that can be considered as the countries with the highest real number of emigrants and potential migrants towards Serbia. Mostly, these are persons who come for study, which is confirmed by the register of enrolled students by academic years. Also, the number of first registrations of residence of persons born in BA/ME, aged 15-39, is almost half of the total number of reported persons. In the case of BA, many students may also be considered as commuters and are not part of the Serbian usual resident population because of the actual time of the year they spend in Serbia. According to the population census 2011, the numbers of arrivals from those countries are comparable with immigrants previously described.

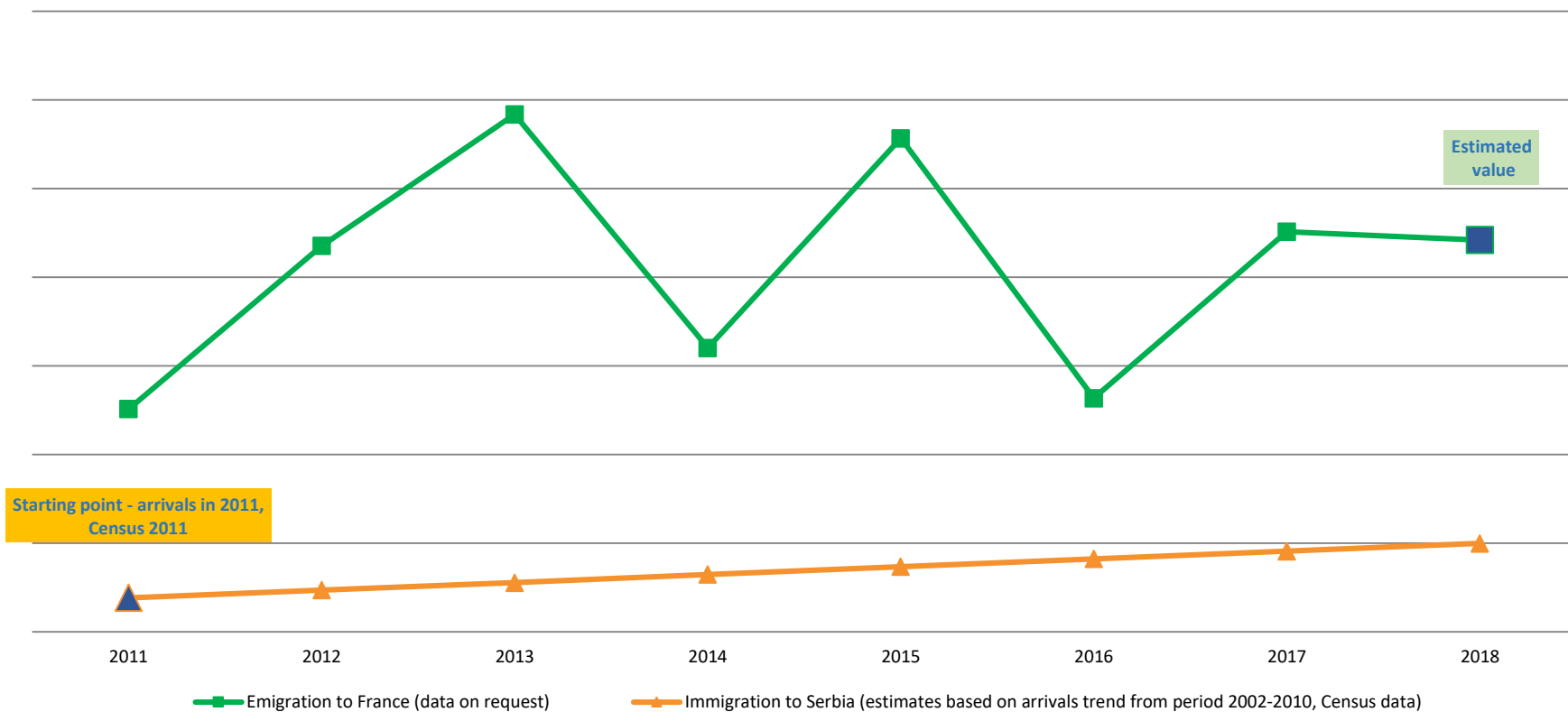
First residence of persons born in BA/ME + Foreigners from BA/ME – absence from Serbia for more than 3 months

Assumptions on migration

- States that were considered under criterion 5 (continuation)

France

Components of net migration - Serbia related to France



Assumptions on migration

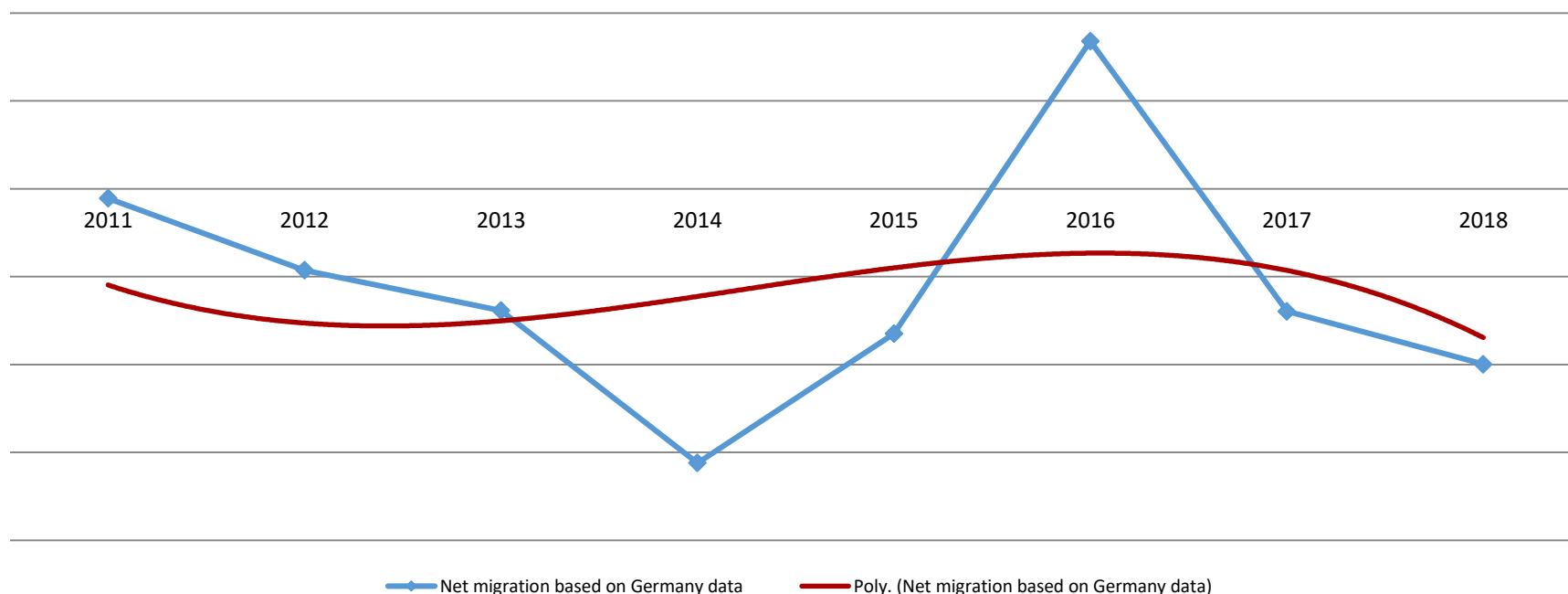
- States that were considered under criterion 5 (continuation)

Germany

Source: Federal Statistical Office, Wiesbaden

Migration between Germany and foreign countries: Germany, years, countries of origin / destination, nationality

Net migration - Serbia relate to Germany



Assumptions on migration

6. If only data from the MI databases were available, several countries were selected, recognized with a slightly more significant number of foreigners with temporary residence in Serbia and the number of persons who had reported their absence from Serbia for more than 3 months

General remark on MI databases on residence: the challenge and assignment for future work is to improve the quality and completeness of information and data concerning first residence in Serbia, since the quantity of registered cases represents the great potential as regards number of immigrants who can be included in migration estimates.

Methodology scheme for migration estimates

1 Migration flows
(request)

- AU, AT, BY, HU, RO, SI, ES, CH
- Exception MK

2 Migration flows
(Eurostat)

- BE, BG, HR, DK, EE, FI, IS, IT, LI, LT, NL, NO, SE, CH
- Exception SK

3 Residence permits
(request) + MI data

- CY, LU, MT, PL, PT

4 Residence permits
(Eurostat) + MI data

- CZ, IE
- Exception EL

5 Information/data (requests)
+ Different sources

- UK, CA, US, NZ
- BA, ME
- FR, DE
- TR

6 Ministry of Interior RS

- AL, CN, LY, SY, UA, AE

Assumptions on migration

Dealing with gaps and extreme values *Exceptions in methodology applied*

Given the time when the request was sent to statistical institutes (July 2019), the values for 2018 were mostly unavailable

Common facts about emigration:

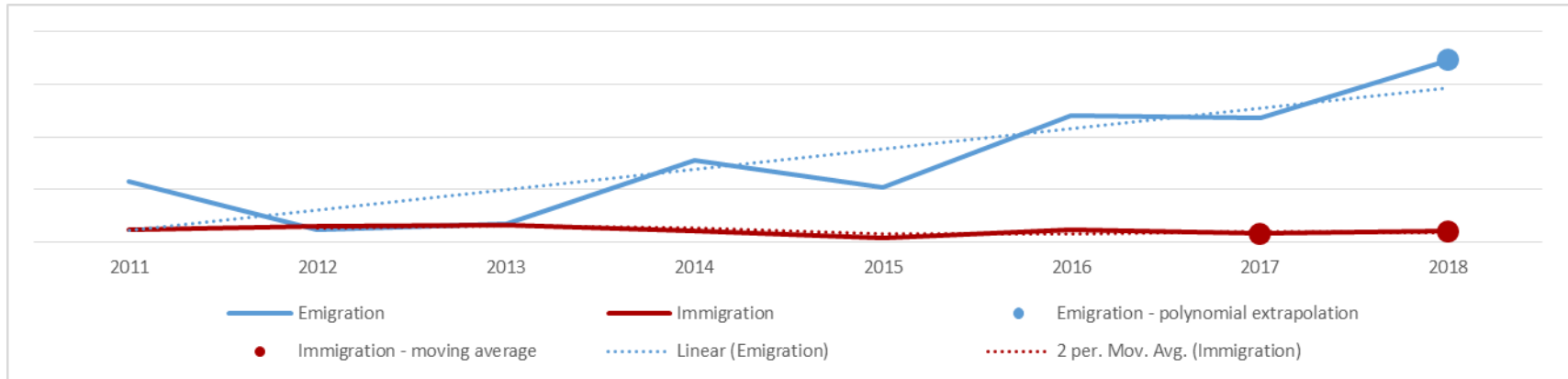
- (1) data series on emigration have linear trend \Rightarrow linear regression was applied*
- (2) data series on emigration have nonlinear trend \Rightarrow polynomial regression was applied (order 2)*

Common facts about immigration:

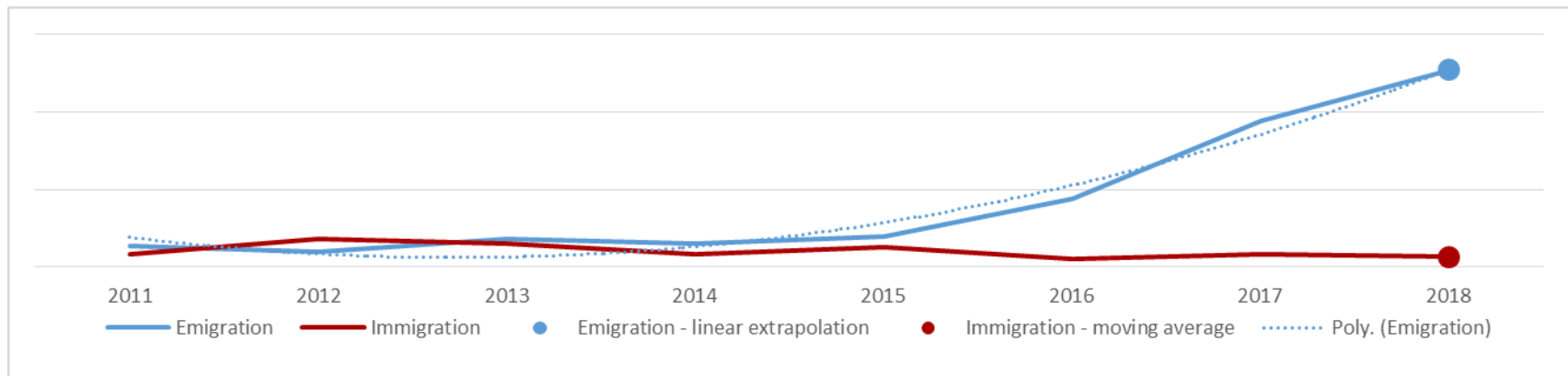
- (3) data series on immigration have no trend \Rightarrow moving averages are taken*

Dealing with gaps and extreme values

Example 1 Romania



Example 2 Iceland



Exceptions in methodology applied

Exception when applied methodology criteria 1

ex. North Macedonia

Based on the available national sources: Ministry of Interior, the number of students with Macedonian citizenship and the number of arrivals from North Macedonia to Serbia, recorded in the period 2002-2011, according to the statements in the 2011 Census, we consider that the obtained data on emigration to Serbia are incomplete, so we have joined them with data on Macedonians who are staying in Serbia, registered in the database of foreigners and students, taking into account the age-gender structure in all sources in order to avoid double counting.

Exceptions in methodology applied

Exception when applied methodology criteria 2

ex. Slovakia

Comparing data in Eurostat databases: migration flows and residence permits, there is a large difference in the number of persons who go from Serbia to Slovakia and the number of residence permits issued to persons with Serbian citizenship. Also, given the real situation that many Slovaks from Vojvodina emigrate to Slovakia for the reasons of work and education, the number of emigrants was modeled according to the ratio of migration flow data to residence permits data. The foreigners that came from Slovakia and registered in the Ministry of Interior represent our immigration.

Exceptions in methodology applied

Exception when applied methodology criteria 4

ex. Greece

According to information from the 2011 Census, 214 people left Serbia in 2011, which is roughly the total number of residence permits in 2011. Also, annually, about 50 people were coming to Serbia in the period 2002-2010, which is comparable with the annual number of students of Greek citizenship in Serbia. The proposal is that Serbian emigration is represented by the number of permits and immigration by the number of students.

Conclusions

What makes all this very important?

1 The inclusion of the external migration component ensures a more realistic value of the current estimated population.

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- 2 These results will facilitate predicting the future migration trends, after the population Census 2021, but at the same time, the Census will be an assessment of the success of the adopted methodology on external migration.*

Conclusions

What makes all this very important?

- 1 The inclusion of the external migration component ensures a more realistic value of the current estimated population.*
- 2 These results will facilitate predicting the future migration trends, after the population Census 2021, but at the same time, the Census will be an assessment of the success of the adopted methodology on external migration.*
- 3 This project can contribute to the official establishment of the survey on international migration at our Statistical Office or, at least, analytical work and collected data can create a good basis for further work and present an example of good practice.*

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Thank you!