

# Challenges for censuses in high emigration societies: a data user perspective for the case of Romania

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# Questions and answering approaches

1. KEY QUESTION: What are the key challenges for a modern census in a high emigration society?
  - a. In principle, b. For the case of Romania
  
2. SUGESTED ANSWERS in general:
  - a. It is not only **reducing costs and accuracy** of census measures that count .
  - b. Data consolidation by using multiple sources for modern censuses could be considered by not only by their costs and accuracy advantages but also by their **relevance context specific challenges**.
  
3. KEY CHALLENGES TO BE CONSIDERED FOR CENSUSES IN SOCIETIES LIKE THE ROMANIAN ONE.  
Capturing measures for specific topic in in high emigration and lower developed societies in the European context:
  - a. **How to validate stock and streams measures** of different migration abroad (NIS, OECD, UN, EUROSTAT etc.)
    - Comparing determinants of long and short term emigrations at locality level
    - Comigration census and international immigration data for stages of Romanian emigration by prevailing destination countries
  - b. **Finding census questions as relevant as possible to fundamental problems of the reference society:**
    - **Return and circular migration abroad** that is poorly measured but very important for the dynamic of society
    - **Subjective well-being especially in the health area** for a society with the highest infant mortality rate in EU (see the Irish example for self estimation of health from the census pilot survey 2021 for the Ireland Republic\* )

\*<https://censuspilot.cso.ie/en/abouttheforms/formsindetail/helpwithforma/>

## Main ideas and proposals of the paper (1)

1. Three types of challenges are facing censuses in Romanian type societies (=rather poor, in the European context, and with high emigration):
  - a. Severe underestimation of temporary emigration at origin.
  - b. Loosing the complexities of causal relations where migration abroad is involved as effect and cause.
  - c. Finding appropriate questions for the census or survey questionnaire as to reflect major problems of the society and to avoiding higher data collection costs.
2. The 2011 census in Romania estimated, by asking its accessible respondents, that long and short term emigrants abroad were around 1.1 millions.
3. This is a severe underestimation because some emigrants are no more present in the public awareness and, also, because some of the areas were not so exactly covered by enumerators. More than that, there are no obligation to record the leaving of the country for one year or so.
  - a. Biased (over)estimations of migrants are also , in different degrees , at destination countries because population registers are not all the time updated with those leaving the immigration country.
  - b. This is why origin and destination recorded of people from the same migration stream should be compared , making clear the definitions included into the metadata.
  - c. The much higher volume of the Romanian diaspora , as estimated by UN Division of Population for 2010, indicated a total of about 3.3 millions of Romanian. Their estimations are higher because of the effects of including old diasporas before 1990, and are also affected by the bias of destination over-recordings in some countries. **The difference between 1.1 millions emigrants at origin in the 2011 census and 3.3 as recorded at destinations could not be only a matter of definition of what is a migrant but, also, a question of accuracy of recording.**

## Main ideas and proposals of the paper (2)

4. The implication of the previous comments is the rule that the same stream of emigrants is better to be considered by multiple measures at origin and destination, using comparable definitions of migrants. Poor data could be relevant only by multiple measures.
5. Migration streams and stocks should be defined for the same regional or continental area (as EU, for example) by using the same or similar criteria for comparability. This epistemological requirement should not imply the omission of the complementary requirement to contextualise census or survey associated questions. (Census form should be designed as to be comparable for different countries but, also, to include specific questions for measuring highly specific problems of the reference country.)
6. The fact that Romania is, at the same time, a country of high emigration and of a very poor public health (see in the slides details on infant mortality) involves two recommendations:
  - Introducing into the 2021 Romanian census a question on *„How is your health in general?”*, as in the Ireland censuses since 2011 (see details in the last part of the presentation). Even if this is a subjective question, it captures, as in the Irish case, a consistent information on self-estimated well-being. Generally, it is indicated to avoid subjective questions in census forms. The requirement should not involve avoiding them when referring to very important topics and bring very rich information.
  - Introducing into the 2021 Romanian census a question of the type *“Please tell us about your intentions whether to migrate or return to home country in the next five years”* (Formulation from the survey questionnaire of H2020 YMOBILITY, five point scale of answer, see Sandu and Tufis 2018). This question could be introduced into survey associated to the census or, less likely, into the census questionnaire. This is a question not to be ignored when the share of young Romanians having structured plans to go abroad for significant periods of time was of about 47%. Structured intentions to migrate are relevant not only for potential emigration but also for the stock of life dissatisfaction in relation with the way the country is institutionally organised. The current demographic crisis of Romania is directly related to the potential and recorded exodus of the youth. Adopting such a question into the census/ census related surveys could contribute to better public policies in the area. Problems could not be solved by avoiding their measurement.
7. Validation of a census from the point of view of the migration abroad process, as it is done in this presentation, involves multiple approaches by considering migration: a) at individual, community and regional levels, b) as dependent and independent variable, c) by comparing measures at origin with measures at destination, d) the interpretability of the regression models for long versus short term migration streams etc.

## Validating the last census measures of the Romanian stock of migrants abroad

- ▶ The 2011 census in Romania collected data on 728 thou. long term and for about 386 thousand temporary emigrants. This means a total of about 1.1 million emigrants. The figure is much lower than 3.3 millions of the Romanian diaspora abroad, as estimated by the United Nations Division of the Population for 2010\*. **It is clear a severe underestimation of the number of Romanians abroad by the reference census.** How large is this underestimation. Hard to say exactly\*\*.
- ▶ This means that the 2001 measurement was more a survey than of a census one. How representative or how valid was this migration survey included into the census? This is the question I will answer shortly on the basis of some researches that were did in Romania in the meantime.
  - ▶ A first "criterion validation" (Babbie 2015) starts from comparing determinants of short and long term emigrations at locality level, as resulted from the NIS 2011 census . How interpretable are the significant predictors of long versus short term emigration rates as measured at locality level by 2011 census?
  - ▶ Secondly, I will compare stages of Romanian temporary emigration function of their prevailing destination starting from NIS census data 2011 with UN data on the same topic and analysed with the same tool.

\*UN Migration Stock by Origin and Destination, 2017

\*\* The UN document mentioned above indicated that the Romanian diaspora in 1990 was of about 813 thousand. people. Combining all these figures gives an underestimation that is higher than 2 millions.

## Comparing determinants of long and short term rates of emigration at locality level (1)

- ▶ The logic of this comparison is that the 2011 census measures were valid if
  - ▶ a) the determinants of their inter-localities variation are interpretable (according to the theories and existing knowledge in the area) and
  - ▶ b) the differences between the causal patterns of the two types of emigration are also interpretable (see next slide).
- ▶ High long term migration rates as recorded by the 2011 census are specific for localities (next slide):
  - ▶ that were well developed and with high rates of emigration in 2002 but were not so large in terms of resident population;
  - ▶ with high shares of people of pentecostal religion. The associated interpretation is that people minority ethnicity or religious groups tend to be richer in foreign network capital that is extremely valuable for the pioneers of temporary emigration. A different study proved that higher migration abroad experience is specific for localities with higher shares of Pentecostals, Adventists and Catholics (Sandu 2018b:30). Strong association between high shares of pentecostalism and migration experience abroad are specific for localities in Suceava, Bistrita-Năsăud, Cluj, Mureş and Buzău counties.
  - ▶ In counties of high degree of urbanization;
  - ▶ In the North Easter development region of the country.
- ▶ Short term emigration from localities has only two common causal traits with the long term one (higher emigration rates in 2002 and location in the North East development region. For the rest, one can records , as expected, a nonsignificat relation of short term emigration rates from development levels of localities and development regions, excepting the North-East. There is also a switch between the two types of emigration from urban to rural prevalence origin, and from higher to lower degrees of urbanization in the counties. Recent or short time emigration is less regionally and local development specific compared to the long term one.
- ▶ All these specificities and differences are in line with previous findings and theoretical orientation. This a prove that the "sampling in the census" for migration behaviours was a valid one.
- ▶ The theoretical expectation would be to having a prediction rate (R2 coefficient) for short , compared to the long term emigration that is reported by recalling. The two R2 coefficients are rather equal (see next slide) This fact could be an indication that measurement underestimation for the two types of migration were dependent not only on public memory gaps on migrants abroad but , also, on organizing patterns of the census.

\*UN Migration Stock by Origin and Destination, 2017

\*\* The UN document mentioned above indicated that the Romanian diaspora in 1990 was of about 813 thousand. people. Combining all these figures gives an underestimation that is higher than 1.5 -2 millions.

## Comparing determinants of long and short term rates of emigration at locality level (2)

	y=rate of long term temporary emigrants 2011		y=rate of short term temporary emigrants 2011	
	Coef.	P>t	Coef.	P>t
rate of temporary emigrants 2002*	0.344	0.000	0.382	0.000
local human development index	0.025	0.000	0.002	0.664
demographic size of locality (1 small....7 very large)	-0.176	0.000	0.042	0.196
%Pentecostal religion 2002*	0.100	0.020	0.056	0.118
locality close to european road **	0.151	0.025	-0.249	0.000
urban locality **	0.155	0.061	-0.343	0.001
degree of urbanization of the county, 2006	0.022	0.015	0.006	0.399
North East reg.**	0.607	0.044	0.516	0.020
South region**	-0.160	0.575	-0.063	0.791
South West region**	0.028	0.924	0.245	0.248
North West region**	-0.611	0.049	0.331	0.172
West region**	-0.896	0.001	0.196	0.308
Center region**	-1.162	0.002	0.094	0.702
constante	0.620	0.246	1.277	0.003
R2	0.222		0.233	
N (number of localities)	2832		2832	

Data sources: NIS data from 2011 national Census. OLS regressions, robust standard errors in STATA with the option "cluster" for localities in the same county. \*logarithmic transformations to smooth extreme values. \*\* dummy variables code - 1 for the presence of the attribute and 0 for its absence.

## How consistent are the 2011 census data with the migration abroad history for Romania?

Survey and historical data support the view that Romanian migration abroad changed by intensity, determinants and destinations by several periods: 1990-1995, 1996-2001, 2002-2006, 2007-2009, 2010-2011, 2012+ (Sandu 2010, 2018a).

Data from the next slide present the distribution of the temporary emigrants as recorded at the 2011 census by periods of leaving the country and the destination at the census moment. Predetermined periods and the time-space distribution of census data are rather consistent. The method to testing is a simple computation of association among column and row values in the referred table (by adjusted standardised residuals).

Census distributions from the next slide are also consistent with a more elaborated analysis (see slide "*Attraction waves of Romanian emigrants towards specific destinations*") of the Romanian migration stages if one considers immigrants from Romania to several country destinations for the period 1990-2016 (OECD migration data basis).

Time-space distribution of life-time migrants from 2011 census are, to a large degree, consistent with predetermined stages of Romanian migration and, also, with the table generated from OECD data on country-year distribution of Romanian immigration by several years and country destinations.

As expected origin distribution differ from destination ones in some cases.

## Destination country and leaving period for short and long term emigration, 2011

Migration field by destination countries	Leaving the country period					Total	
	1990-1995	1996-2001	2002-2006	2007-2009	2010-2011		
Italy	29	<b>44</b>	46	48	45	46	
Spain (+Grece, Cyprus rep.)	13	27	<b>34</b>	28	22	25	
Germany (+Austria)	<b>18</b>	5	3	5	9	7	
France (+Belgium, Portugal)	6	5	4	5	<b>8</b>	7	
UK (+Ireland, USA, Canada)	<b>17</b>	11	8	9	8	8	
Nordic countries (Sweden, Norway, Denmark, Netherlands)	<b>2</b>	1	1	1	<b>2</b>	1	
Hungary	<b>9</b>	3	1	1	3	2	
Other	<b>6</b>	3	2	2	3	3	
Total	%	100	100	100	100	100	
	N	6758	36831	129673	321755	613412	1108429

Data source: NIS, census 2011, own computations, DS. Bold figures indicate cells of significant statistical association between row and column values on the basis of (not shown here) adjusted standardised residuals. Initial figures in the table are life-time emigrants abroad at the 2011 census, function of their emigration period See for details Sandu 2018a.

## Attraction waves of Romanian emigrants towards specific destinations

Immigration year	Germany	Canada	USA	Hungary	Spain	Italy	UK	France	Belgium	Sweden	Norway	Switzerland	Denmark	Netherlands	Austria	Portugal	Other
Y1990	342	35	51							48							
Y1991	284	36	146							31							
Y1992	420	23	63							6							
Y1993	349	48	68														
Y1994	194	93	79							8							
Y1995	112	123	120	119				14		8							16
Y1996	56	130	166	104				13		7					16		45
Y1997	30	144	162	101				21		3	11				16		93
Y1998	14	82	118	122				25		3	11				3		178
Y1999		86	116	164				21			16				3		13
Y2000		79	99	133	4			15			9						2
Y2001		98	82	151	31			21			14					224	11
Y2002		82	31	119	177			14			2			13	60		4
Y2003		44		61	110	173											
Y2004		33		74	320	48											
Y2005		27	23	40	378												
Y2006		11	17	19	473												14
Y2007					322	441											
Y2008				6		379			3	18						36	17
Y2009						186			13	11	9			10	10	113	
Y2010						108			38	7	14	6	13	19	28	67	
Y2011						71			69	8	14	12	26	17	36	32	
Y2012	86					48			79	5	35	29	42	14	46	4	
Y2013	146							77	73	59	7	51	39	49	12	43	
Y2014	230							196	86	47		25	18	46	40	80	
Y2015	257							338	113	29		15	4	42	29	37	
Y2016	264							331	87	26		26	43	47	30		2

Figures indicate how significant are the immigrations from Romania in the reference countries, by years (Adjusted standardised residuals that are greater than 2. Figures under 2 are not presented here).

Example: The highest attraction of Romanian emigrants from Romania were noticed in the periods 1990-1994 and, after the global crisis 2013-2016.

A first form of this table was constructed and distributed through another presentation without values for 2016 and without the category of other countries.

Primary data source: Migration Data Basis, OECD.

# Are there census answers to challenges of the long lasting youth exodus from Romania?

## CHALLENGES

- ▶ The youth exodus is the main source (see next slide) of fostering the Romanian diaspora of the about 3.6 millions people.
- ▶ Even if measured by structured intentions to leave, the Romanian youth seems to be „on the move” (slide 14).
- ▶ Not only economic motivation play in determining this emigration but also some social ones (Sandu and Tufis 2018).

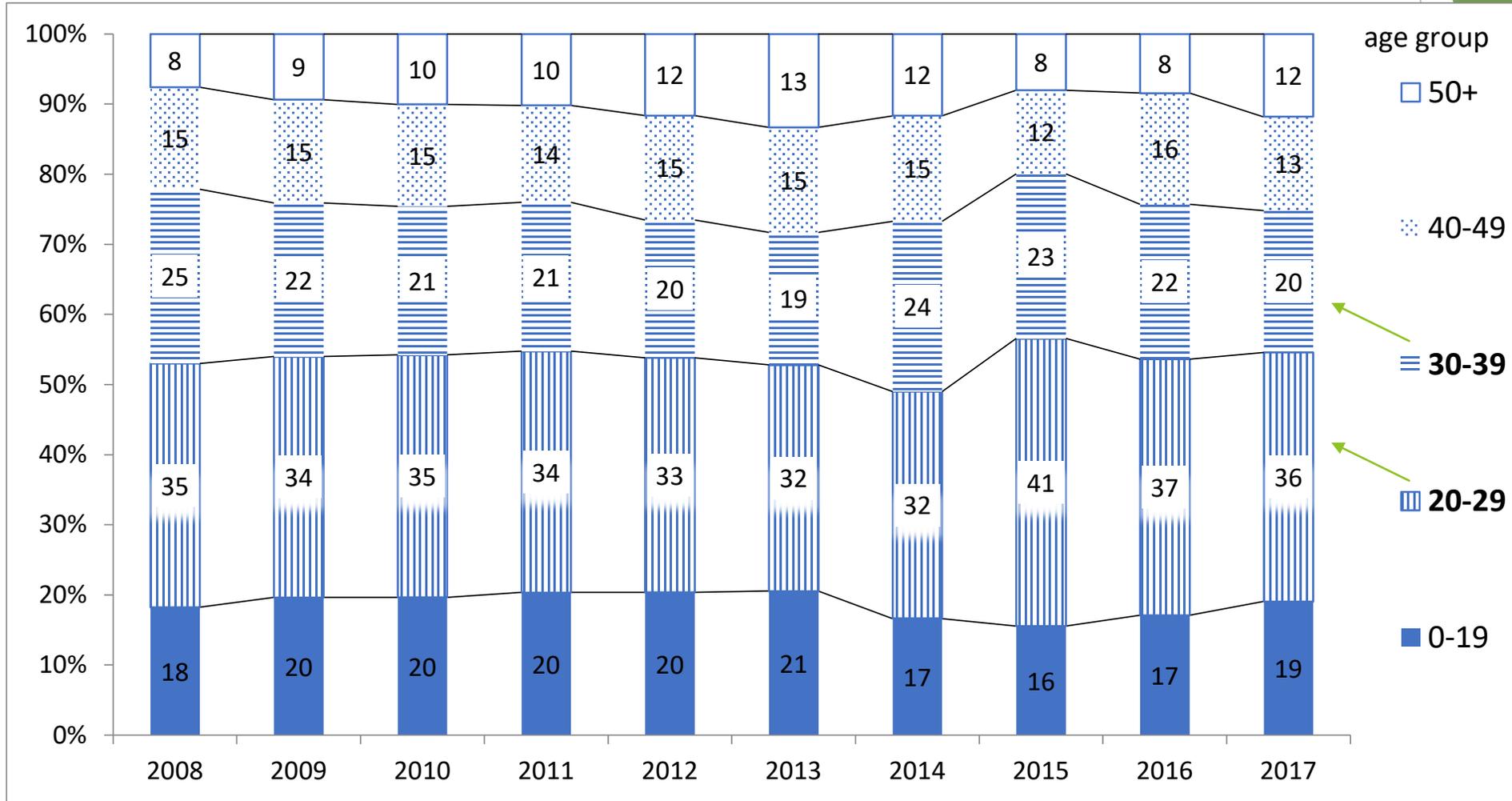
## IN SEARCH OF ANSWERS

Are there other possible census answers to the challenge of the long lasting youth exodus, excepting the standard ones of surveys, measuring migration streams by emigration rates at origin stocks /flows of immigration at destination?

- ▶ One possible answer could be formulated if one accepts that for severe problems subjective indicators are appropriate investments to be done by modern censuses.
- ▶ There are discussions on using questions on intentions to stay for immigrants for the 2021 Scottish census\* but not on testing intentions to leave the country.
- ▶ Several working scenarios could be considered: a) **including the migration intention question only into the electronic format of the census questionnaire;** b) **including a standard question on how structured is the intention to (temporarily) emigrate into a large survey of NIS, having several questions in common with the 2021 census.**

\*National Records of Scotland, 2019. Scotland's Census 2021 - Migration Topic Report (Available at [https://www.scotlandscensus.gov.uk/documents/census2021/Migration\\_Topic\\_Report.pdf](https://www.scotlandscensus.gov.uk/documents/census2021/Migration_Topic_Report.pdf), consulted April 4th, 2019). But the conclusion is that "Research and analysis does not support taking a question on this subject further at this stage" (p.8).

## About one third of the temporary emigrants from Romania are youth of 20 to 29 years old (%)



Data source:  
NIS

## Very high emigration probabilities for Romanian and Italian youth

Youth from:	Type of migration experience (%)						Total
	stayers	high probability potential migrants	returnees	circular migrants	returnees on the move	circular migrants on the move	
Italy	44	45	3	1	4	2	100
Romania	42	45	3	1	4	4	100
Ireland	37	30	13	5	8	6	100
UK	54	25	8	4	4	4	100
Spain	48	35	6	2	6	3	100
Sweden	47	31	9	3	5	5	100
Slovakia	53	30	5	4	5	3	100
Latvia	54	29	6	4	3	4	100
Germany	50	37	5	2	4	2	100
Total	49	35	6	3	5	3	100

Data source: Survey in the research project H2020 on YMOBILITY 2015 in nine EU countries, N=29679 . Shaded cells indicate significant associations between column and row values of the defining variables, for  $p=0.05$  (adjusted standardised residuals). Example: 45% out of the total youth (16-35 y.o) interviewed in Romania have structured plan to temporary emigration. "On the move" - having structured intentions to emigrate.

# Moving from migration to health through a census question

## CHALLENGES

- ▶ Romania has one of highest infant mortality rates in EU - 6.7 infant deaths per 1000 newly born children in 2017. Relevant comparisons for 2017 (data source:EUROSTAT): 3.6‰ the average for EU28, 6.7‰ for Malta, 6.4‰ for Bulgaria and .....3‰ for the Republic of Ireland.
- ▶ The YMOBILITY survey from the project H2020, indicates that potential youth emigrants from Romania are concerned, more than in other European countries, by their health (Sandu and Tufis 2018).
- ▶ Central Statistics Office from Ireland asks since 2011 census, the question (Q18) : *„How is your health in general?“* (<https://censuspilot.cso.ie/en/abouttheforms/formsindetail/helpwithforma/>). A short notice makes clear for the interviewee why the question: **„There are strong links between how people view their health and their actual health. The answers to this question can help to assess how health status is related to factors such as age, location and economic status. ”**).

## PROPOSAL

- ▶ Why not asking the same question, with the same reasons, in the 2021 Romanian census? It is a subjective questions but it offers a highly valuable information on the subjective well-being and this perception is the basis of several important decision in the everyday life.

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### Data sources

National Institute of Statistics, Romania , Census data 2011 and 2002

UN Migration Stock by Origin and Destination, 2017