Cohort Research on Russian Youth Intraregional Migration

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The aim of the research

- to study the impact of youth migration on the demographic structure formation at subnational administrative level

Territory

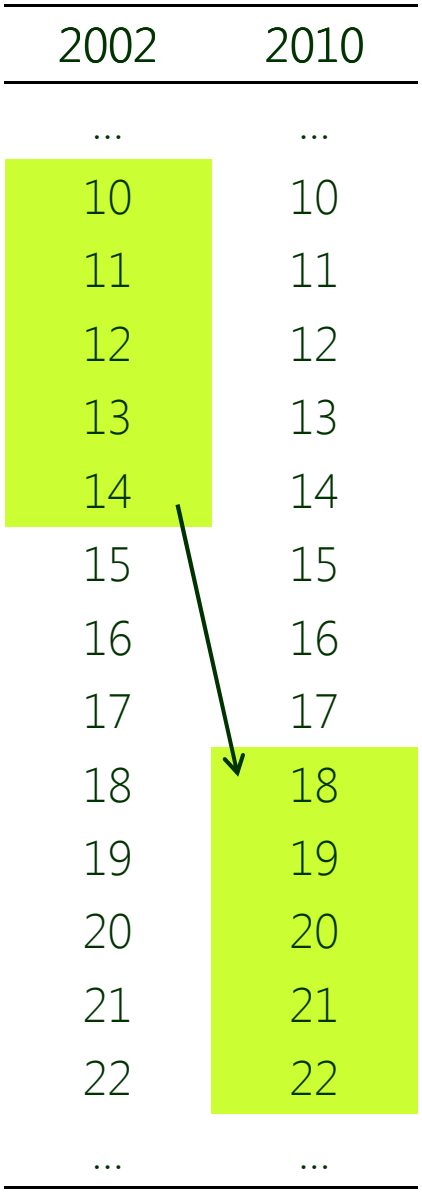
- Central Federal District of Russia

Research interval

- intercensus period 2003-2010

Method of shifting ages (survival method)

- The core idea: to compare the size of age groups matching the age of selected birth cohorts at the moments of adjacent Census
- In our case: we compare those people aged 10-14 in 2002 with aged 18-22 in 2010at the sub regional level of Central Federal District
- Mortality is responsible for less than 1% of the change in the size of youth cohorts

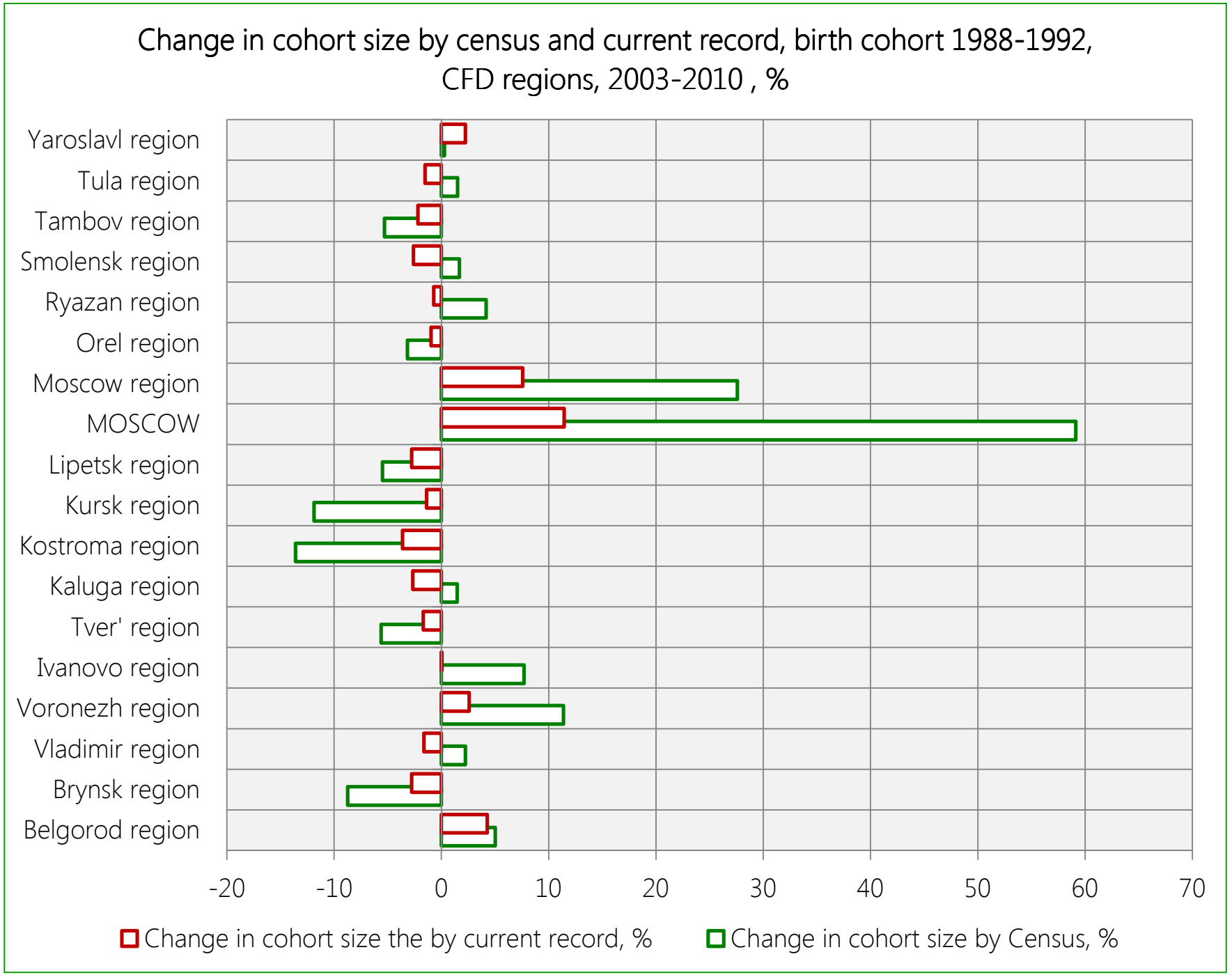


Why do we use Census data?

- Only Census data gives us the opportunity to "look inside" the regions to see "catch" intraregional movement patterns
- Census data seems much more convenient than the current migration record in dealing with "student ages" migration
- Current migration record appeared to systematically fail to take into consideration the biggest part of student migration due to registration limitations
- The situation changed only in 2011 which leaves the intercensus period internal migration to be verified

Birth cohort 1988-1992	Population in 2002, thd	Population in 2010, thd	Change by the Census, thd	Dead in 2003-2010, thd	Registered migration in 2003-2010, thd	Change by the current record, thd	Discrepancy, thd	Unexplained change	Change in cohort size by Census, %	Change in cohort size by the current record, %	Unaccounted cohort change, %
Belgorod region	106,8	112,1	5,4	0,7	5,2	4,6	0,8	0,15	5,0	4,3	0,8
Brynsk region	99,8	91,0	-8,7	0,7	-2,1	-2,8	-6,0	0,68	-8,7	-2,8	-6,0
Vladimir region	99,5	101,7	2,2	0,9	-0,7	-1,6	3,9	1,73	2,2	-1,6	3,9
Voronezh region	156,4	174,2	17,8	1,2	5,3	4,0	13,8	0,77	11,4	2,6	8,8
Ivanovo region	74,0	79,7	5,7	0,6	0,6	0,0	5,7	1,00	7,7	0,0	7,7
Tver' region	97,3	91,9	-5,5	0,9	-0,8	-1,7	-3,8	0,70	-5,6	-1,7	-3,9
Kaluga region	70,3	71,3	1,0	0,6	-1,3	-1,9	2,9	2,82	1,5	-2,7	4,1
Kostroma region	51,4	44,4	-7,0	0,4	-1,4	-1,9	-5,1	0,73	-13,6	-3,6	-10,0
Kursk region	84,4	74,4	-10,0	0,6	-0,6	-1,2	-8,8	0,88	-11,9	-1,4	-10,5
Lipetsk region	82,3	77,8	-4,5	0,6	-1,6	-2,3	-2,2	0,50	-5,5	-2,8	-2,7
MOSCOW	521,5	829,8	308,3	3,3	63,0	59,6	248,7	0,81	59,1	11,4	47,7
Moscow region	401,8	512,7	110,9	3,5	33,9	30,4	80,5	0,73	27,6	7,6	20,0
Orel region	58,0	56,1	-1,8	0,4	-0,2	-0,6	-1,3	0,69	-3,2	-1,0	-2,2
Ryazan region	79,3	82,6	3,3	0,7	0,2	-0,6	3,9	1,17	4,2	-0,7	4,9
Smolensk region	70,5	71,7	1,2	0,6	-1,2	-1,8	3,0	2,56	1,7	-2,6	4,3
Tambov region	80,0	75,8	-4,2	0,5	-1,2	-1,8	-2,5	0,59	-5,3	-2,2	-3,1
Tula region	100,6	102,1	1,5	0,8	-0,7	-1,5	3,1	2,00	1,5	-1,5	3,0
Yaroslavl region	86,4	86,7	0,2	0,6	2,5	1,9	-1,7	-7,02	0,3	2,2	-1,9
CFD	2320,3	2736,0	415,7	17,8	98,8	81,1	334,6	0,80	17,9	3,5	14,4

Source: Census 2002 and 2010, current migration and mortality statistical record (2003-2010)



Source: Census 2002 and 2010, current migration and mortality statistical record (2003-2010)

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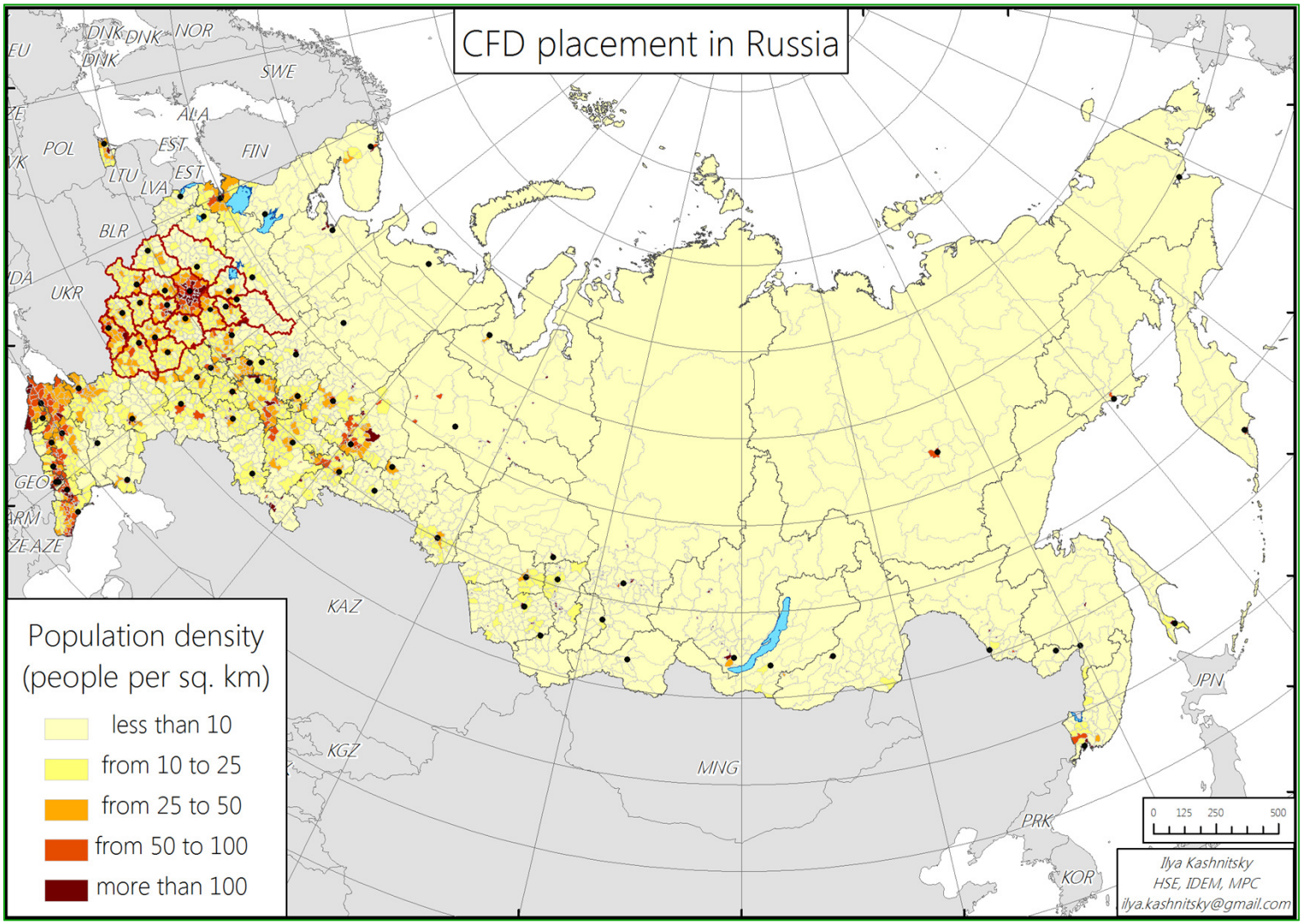
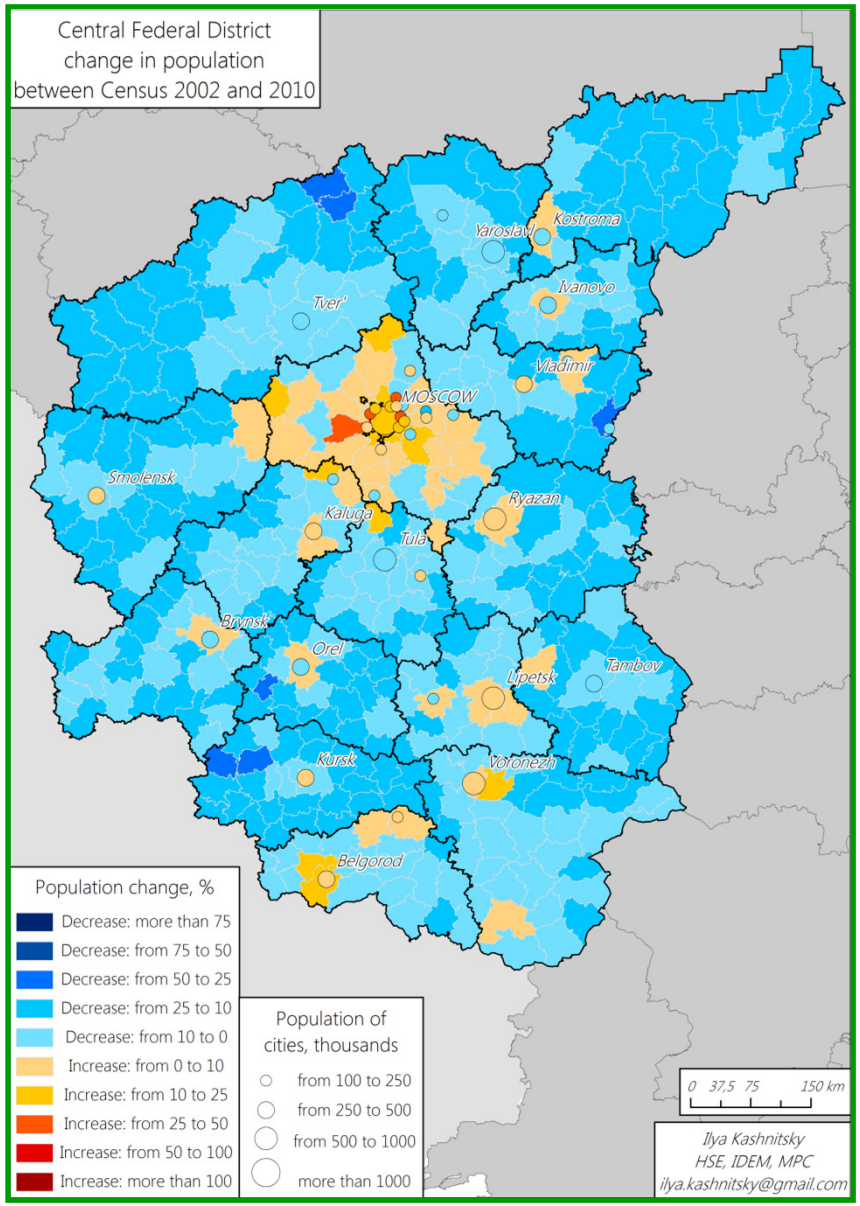
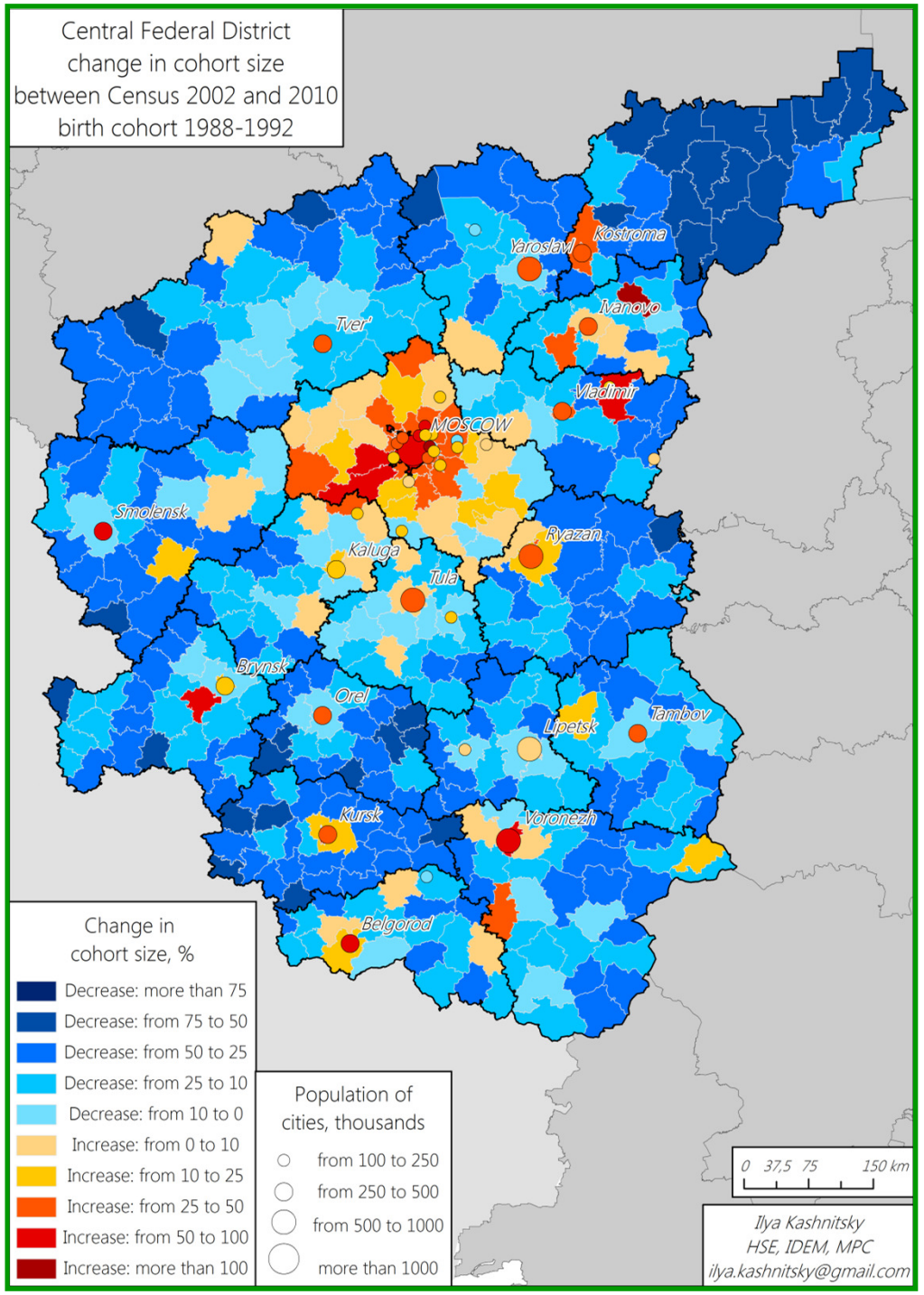
Birth cohort 1980-1984	Population in 2002, thd	Population in 2010, thd	Change by the Census, thd	Dead in 2003-2010, thd	Registered migration in 2003-2010, thd	Change by the current record, thd	Discrepancy, thd	Unexplained change	Change in cohort size by Census, %	Change in cohort size by the current record, %	Unaccounted cohort change, %
Belgorod region	115,2	121,1	6,0	1,6	7,4	5,7	0,3	0,04	5,2	5,0	0,2
Brynsk region	100,0	98,1	-1,9	2,2	-2,6	-4,8	2,9	-1,52	-1,9	-4,8	2,9
Vladimir region	118,9	112,1	-6,8	3,0	-0,7	-3,8	-3,0	0,44	-5,7	-3,2	2,5
Voronezh region	178,9	178,8	-0,1	3,6	-1,1	-4,7	4,6	-68,10	0,0	-2,6	2,6
Ivanovo region	90,1	80,9	-9,2	2,2	-1,1	-3,3	-5,9	0,64	-10,2	-3,7	6,6
Tver' region	104,6	103,5	-1,1	3,2	1,1	-2,1	1,1	-1,00	-1,0	-2,1	1,0
Kaluga region	79,4	80,5	1,1	1,7	0,6	-1,1	2,2	2,02	1,3	-1,4	2,7
Kostroma region	56,4	52,2	-4,2	1,3	-1,5	-2,8	-1,4	0,34	-7,5	-5,0	2,5
Kursk region	86,5	82,3	-4,2	1,7	-2,8	-4,5	0,2	-0,06	-4,9	-5,2	0,3
Lipetsk region	83,9	89,7	5,8	1,8	0,8	-1,0	6,8	1,18	6,9	-1,2	8,1
MOSCOW	852,7	1044,0	191,3	13,9	74,6	60,7	130,6	0,68	22,4	7,1	15,3
Moscow region	550,2	603,8	53,6	13,2	84,4	71,2	-17,6	-0,33	9,7	12,9	3,2
Orel region	63,2	57,7	-5,5	1,2	-1,7	-3,0	-2,6	0,47	-8,8	-4,7	4,1
Ryazan region	90,8	84,9	-6,0	2,3	-0,5	-2,9	-3,1	0,52	-6,5	-3,1	3,4
Smolensk region	80,8	78,2	-2,6	2,1	-2,3	-4,4	1,8	-0,69	-3,2	-5,4	2,2
Tambov region	79,8	77,2	-2,5	1,6	-4,9	-6,5	3,9	-1,55	-3,2	-8,1	4,9
Tula region	119,9	118,3	-1,6	3,3	0,2	-3,1	1,5	-0,90	-1,4	-2,6	1,2
Yaroslavl region	106,7	98,8	-7,9	2,1	2,8	0,7	-8,6	1,09	-7,4	0,7	8,1
CFD	2958,2	3162,2	204,0	62,0	152,5	90,5	113,6	0,56	6,9	3,1	3,8

Intraregional youth migration estimation in CFD using the method of shifting ages



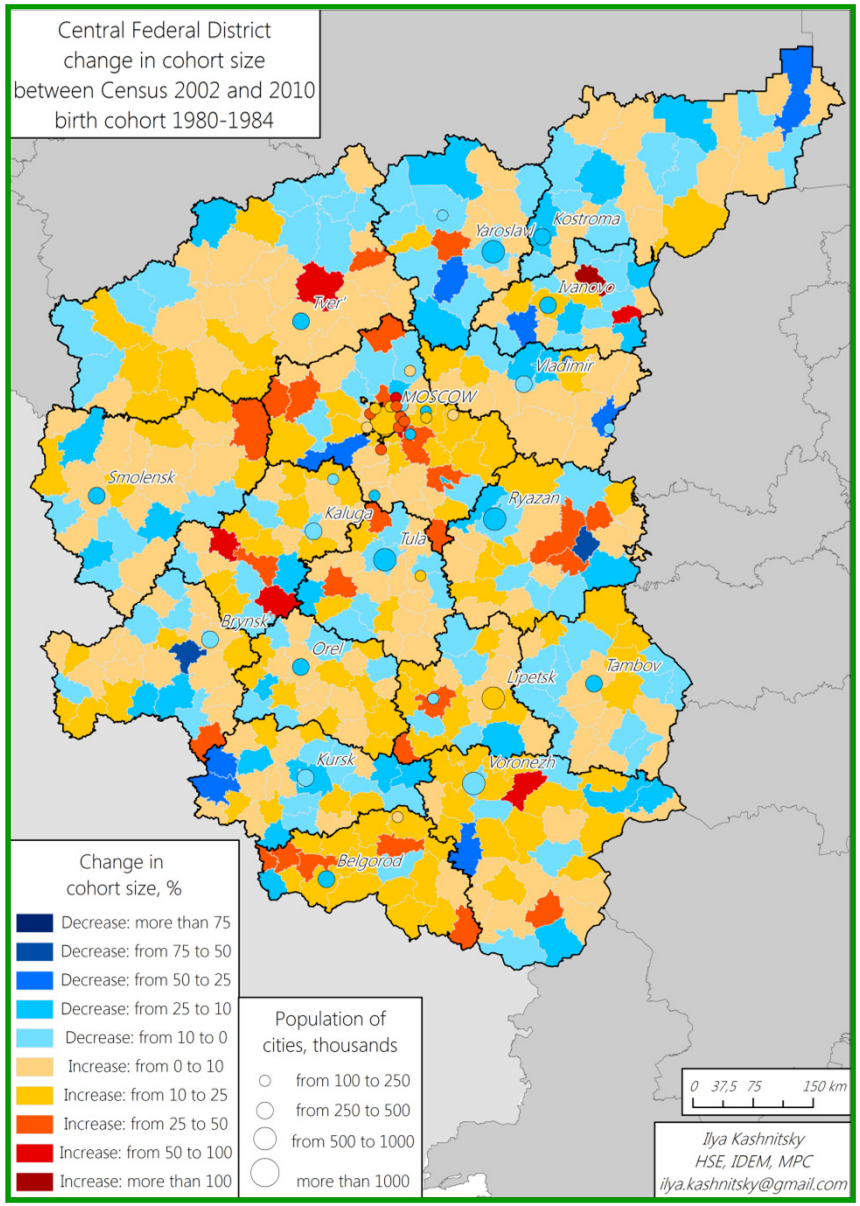


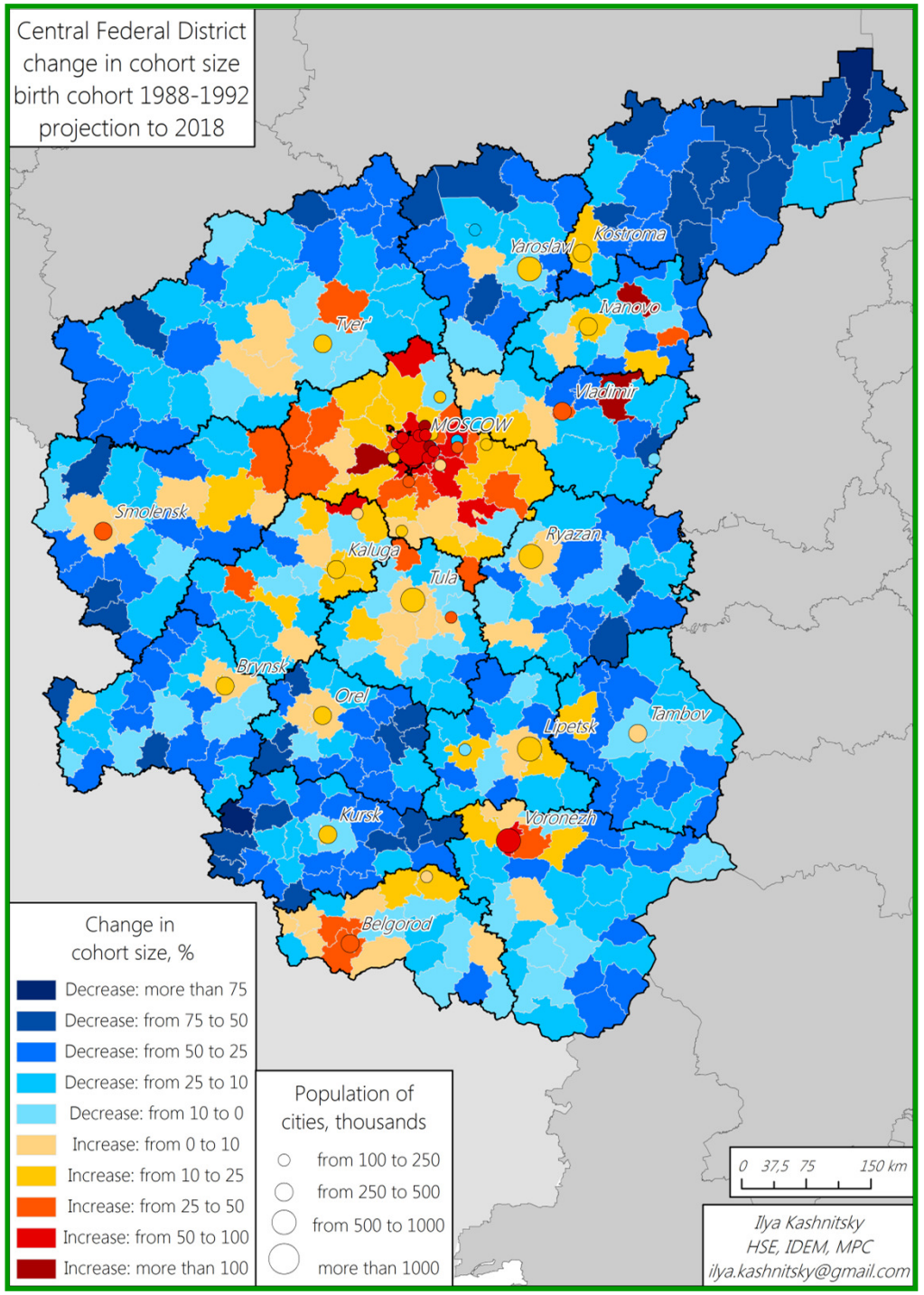


Source: Census 2002 and 2010

Do the “students” come back?

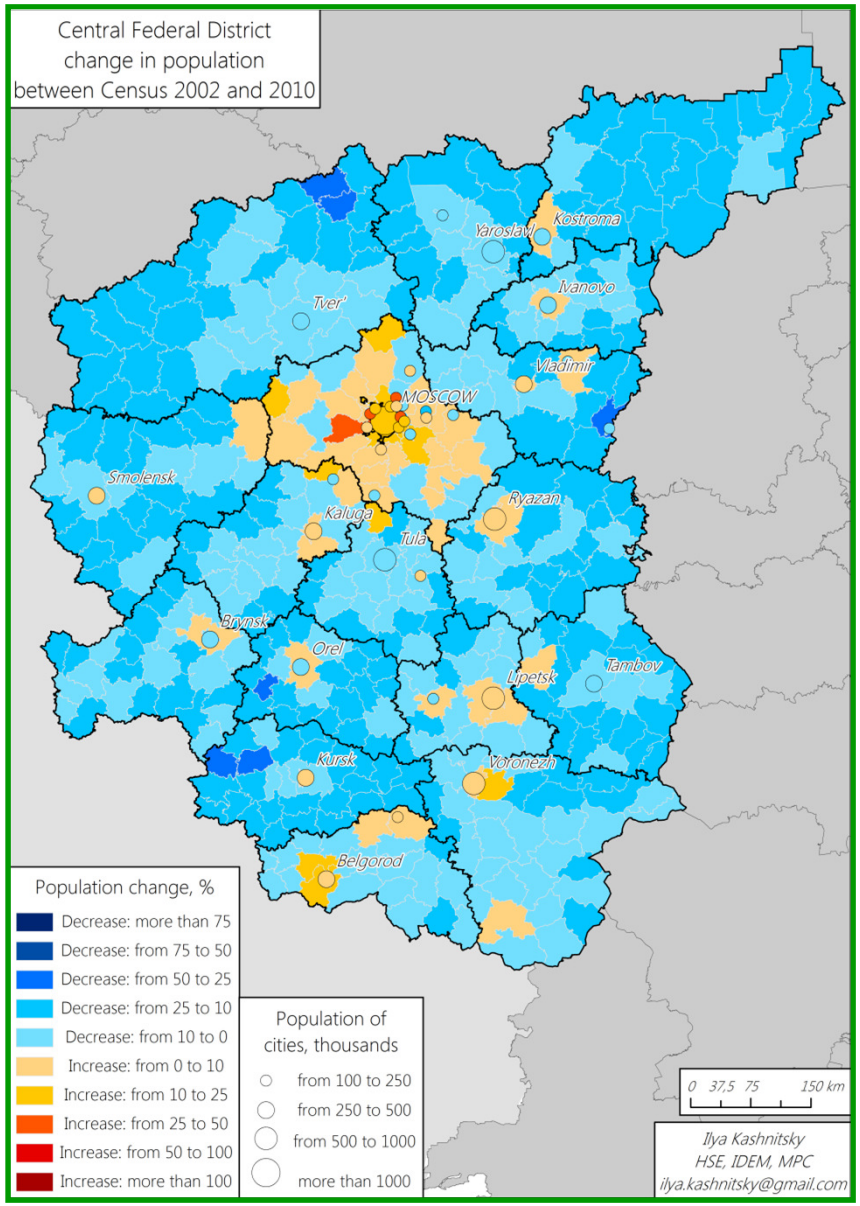
- If the youths only move for education there should be a mass return migration
- As we do not have long time series to trace the real cohorts we are forced to make some synthetic cohort assumptions
- Let’s see the intercensus population change in cohorts who were 18-22 in 2002 (1980-84 years of birth)
- Then we assume that the intensity of migration (and also mortality) for the 88-92 cohort in the nearest future would be the same as it was for 80-84 cohort in 2002-2010 intercensus period

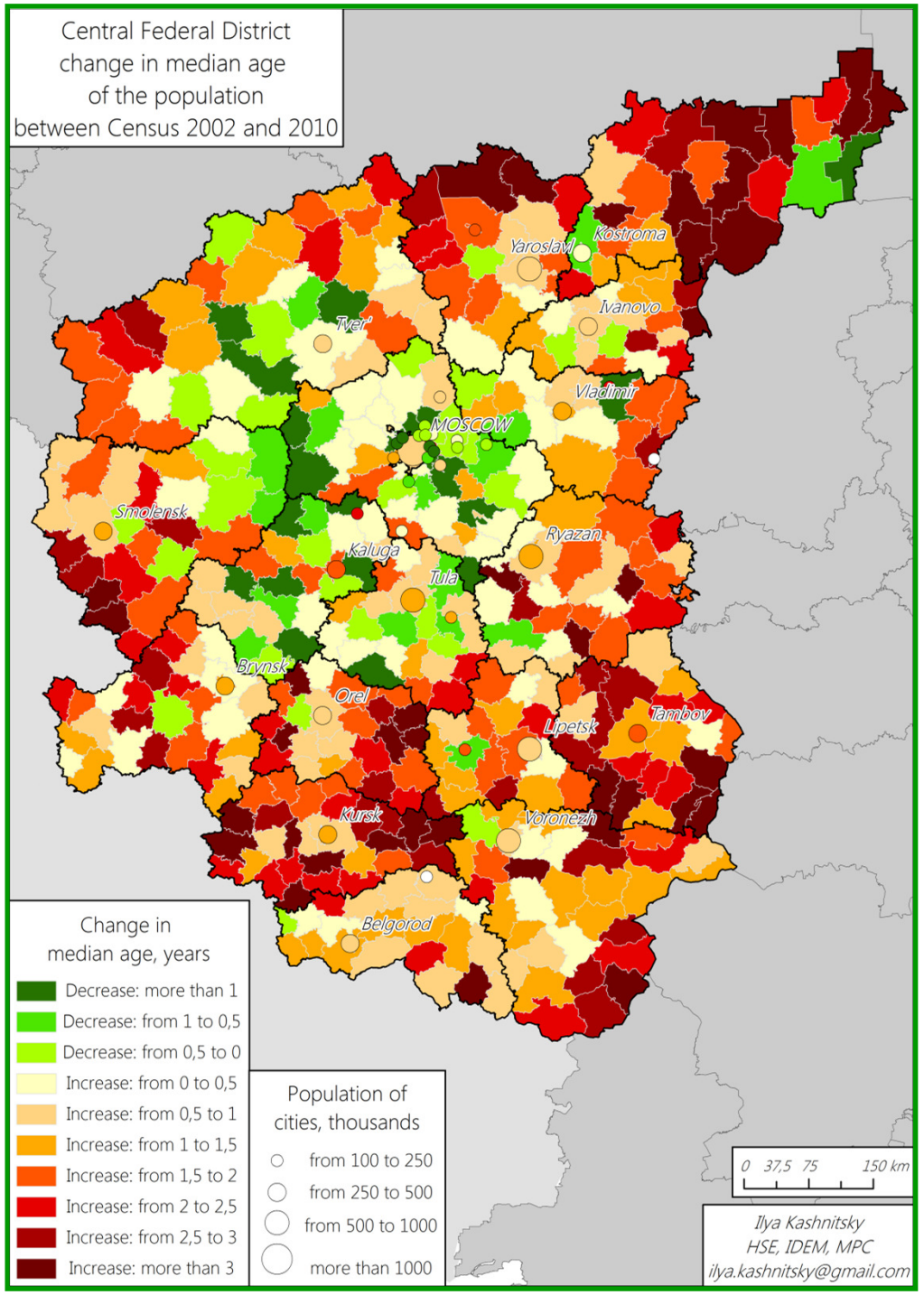




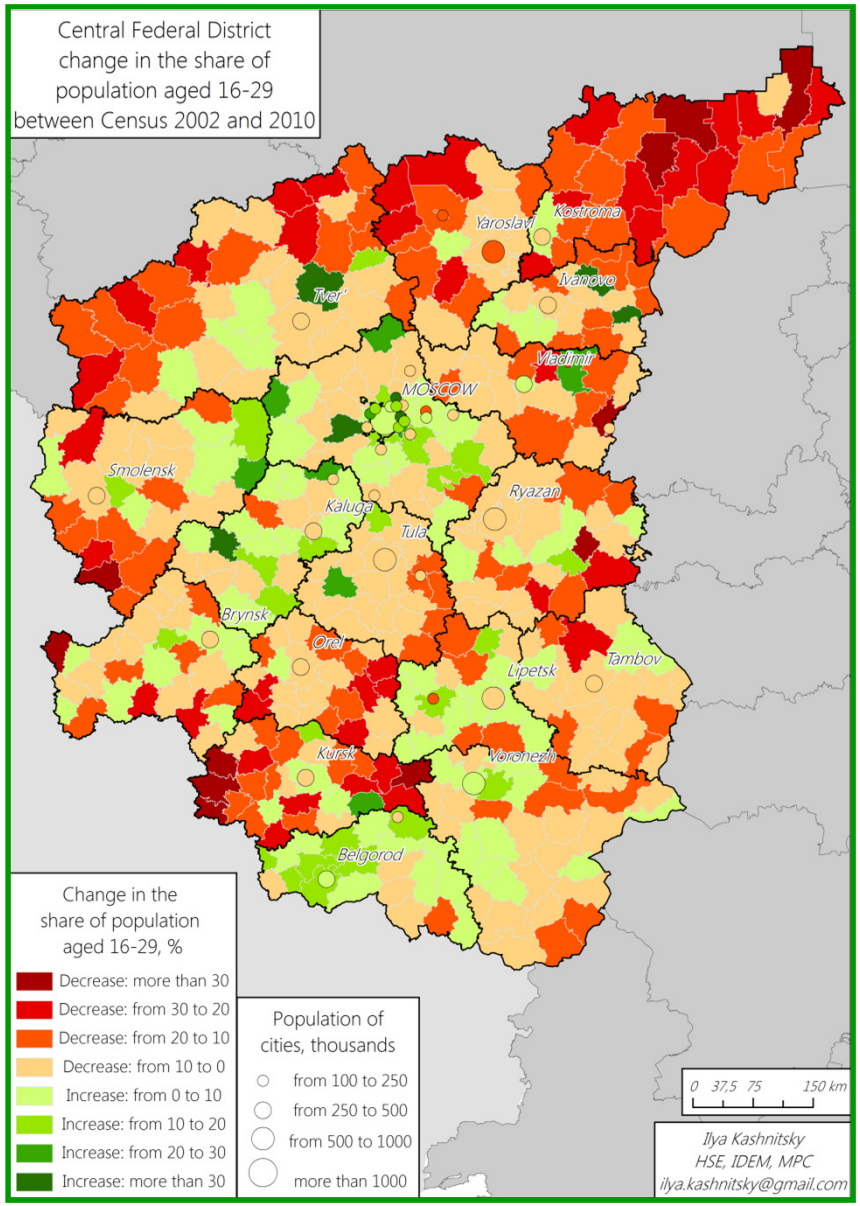
Source: Census 2002 and 2010

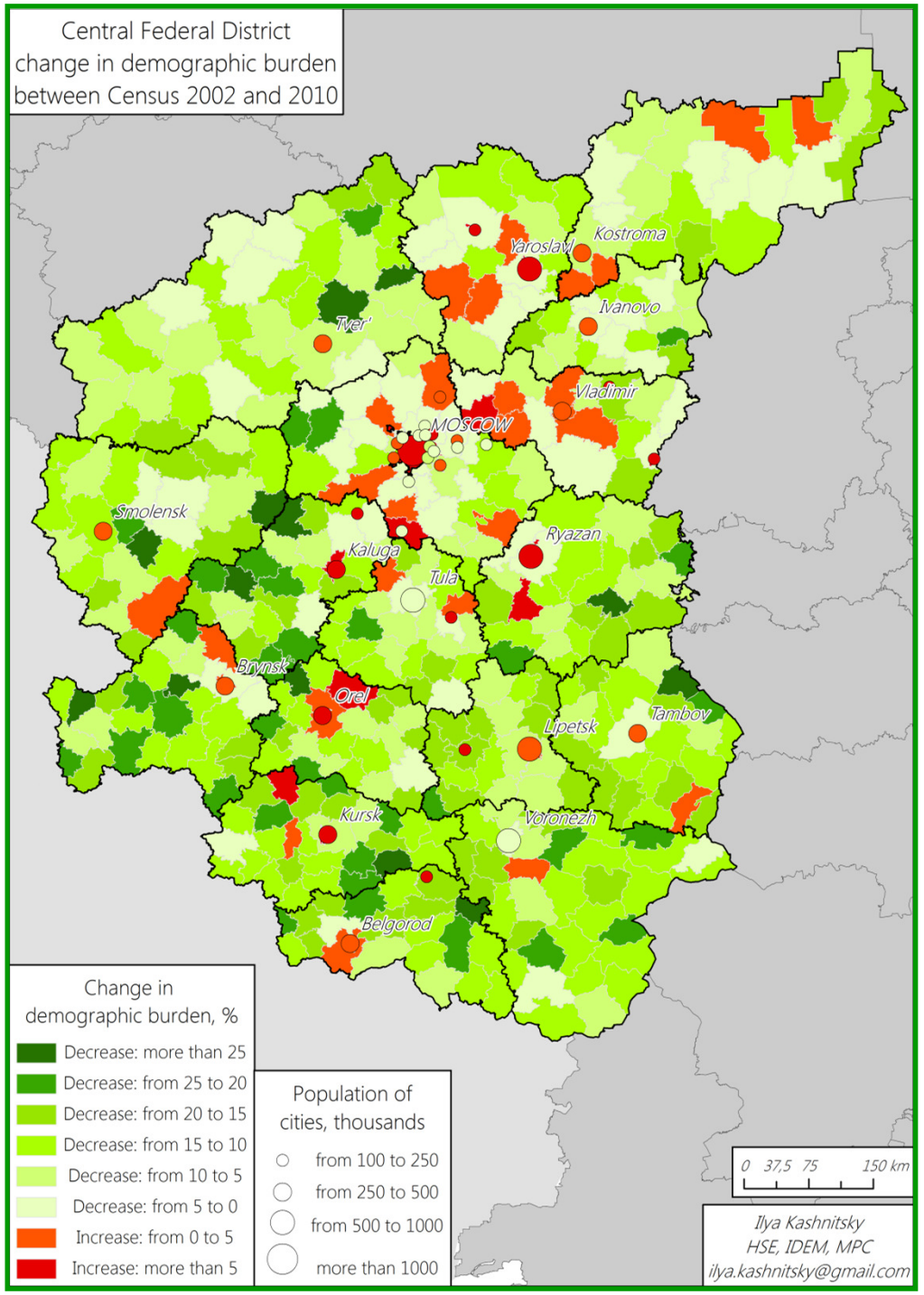
Changes in CFD municipalities' demographic structure characteristics during 2003-2010 intercensus period





13 Source: Census 2002 and 2010





Source: Census 2002 and 2010

Changes in the main demographic structure characteristics during 2003-2010 intercensus period, %

	Population size	Median age	Population aged 16-29	Demographic burden
	(1)	(2)	(3)	(4)
MOSCOW	10,8	1,3	6,7	7,9
Moscow region cities	9,6	-0,8	7,1	-0,9
All other cities in CFD	-0,9	3,4	-3,6	4,9
Municipalities	-3,1	3,0	-5,1	-11,0

Source: Census 2002 and 2010

Conclusions

- Census data provide more accurate information on youth migration during the intercensus period 2003-2010 than the current statistic record
- A stable pattern of internal centripetal youth migration is evident
- Up to 70% of school graduates leave the most depressive municipalities of the inner periphery
- The return rate of "students" from inner periphery is not significant or not present at all
- Regional centers face surplus of high school graduates
- The impact of migration is clearly reflected in the demographic structure. Characteristic depressive rings are formed around the biggest centers of migrants attraction
- Demographic burden is increasing in the cities of CFD and is decreasing in the inner periphery. This could be the a sing of the demographic transition incompleteness - the window of the demographic dividend has not yet closed in the periphery

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Link to the maps

https://drive.google.com/folderview?id=0B1Cid1hm5YLRNE91Y1F4UHVWU3M&usp=sharing