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Cohort Research on Russian Youth Intraregional Migration and Education

Abstract

Migration has huge influence on demographic structure formation both in donor and host areas. Internal migration's effect is the most significant. As long as migration involves mainly young people, their relocation to regional centers accelerates population ageing in peripheral areas and thus depopulation. Ageing is particularly fast in the Russian hinterland. There are areas with the median age of population reaching the edge of 50 years. The cohort research on youth's migration to the centers on the last two Russian census data shows that up to 70% of school graduates leave the regional periphery for good. At the end of the article a method of estimating the trend in regional center's migration attractiveness for the youths is proposed.

Keywords: *Youth migration; Periphery depopulation; Center-peripheral population dynamics; Cohort migration studies; Method of shifting ages; Education.*

1-Introduction

In face of depopulation, Russian reality of the last decades, migration becomes the key factor influencing the demographic structures. According to the idea of the Third Demographic Transition, migration's impact on the dynamics of the population is growing significantly in the most demographically developed countries (Coleman 2006). This tendency became clear on the international level only in the last several decades when, after the Second World War, the developed countries experienced a great inflow of international migrants (Fassmann, Münz 1992; Massey, Arango et. all 1993; Wilson, Sobotka, Williamson, Boyle 2013). On the internal level of migration research the significance of migration impact on population dynamics was noticed much earlier (Ravenstein 1885; Hicks 1932; Price 1948; Lee 1966; Greenwood 1975; Frey 1995). But the empirical verification of theoretical constructions came much later and firstly on the international level. In this research we are studying impact of migration on demographic structures on sub regional level of administrative territorial division using empirical census data. Migration is the lot of young. This thesis is very well known. The selectiveness of migration was noted even in Ravenstein's "Lows of migration" (Ravenstein 1885). The term of "differential mobility" was firstly introduced by Dorothy Thomas (Thomas 1938). Empirical support for this finding was provided later (Casrto 1983; Bailey 1993; Millington 2000). Naturally, impact of youth migration on the demographic structures is the greatest.

Our prime focus on youth migration is important for Russian migration study due to our county's specific history of migration data collection. Liberalization of rules of tabulation by place of residence in Russia after USSR disaggregation caused great problems in migration statistics (Chudinovskikh 2005). The most problematic group proved to be the youths, especially the so-called "student ages" (usually 17-19 years old). Hence, we are focusing our attention mainly on this particular age group.

Since current migration record cannot provide us with the precise information (apart from distorting the age-sex proportions of the migration flows) we are forced to use census data for migration study. The comparison of two main sources of migration statistics brings us new valuable information. But the main idea of using the data from the last two censuses is about analyzing spatial mobility of the population on intraregional level. Only census data allow us to operate on this scale. Intraregional movements change demographic structures most dramatically. The research for the previous period between two censuses in Russia (1989-2002) showed that up to 40 percent of school graduates leave regional periphery in the search of better opportunities (Mkrтчan 2012). Our research demonstrates that the migration situation in the Russian hinterland is becoming more and more negative.

2-Intraregional Youth's Migration Estimation

For our research on intraregional youth's spatial mobility we chose several contrasting regions. Our choice fell on five regions with available statistics: Altai Krai, Kostromskaya oblast', Kurskaya oblast', Rostovskaya oblast' and Bashkortostan Republic.

We took five 1-year cohorts: 1988-1992 years of birth. At the moment of Census 2010 they were 18-22 years old - "student ages". Each of these cohorts has

experienced the 18-years peak of migration activity during the period between the censuses 2002 and 2010. Naturally, at the moment of census 2002 they were 10-14 years old.

The idea of the method is quite simple. People can live, die or move, not vanish. Therefore we can evaluate the migration balance comparing the censuses data considering mortality (which is quite insignificant in the young ages – hardly exceeding 1 percent in our cohorts). This method is known as the method of “shifting ages”.

Table 1. The discrepancy in youth’s migration statistics (given in thousands). (Censuses 2002 and 2010, the current migration record.)

Cohort of 1988-1992 years of birth	Region				
	Altai Krai	Kostromskaya oblast'	Kurskaya oblast'	Rostovskaya oblast'	Bashkortostan Republic
Population in 2002	183.5	51.4	84.4	297.5	346.4
Population in 2010	172.5	44.4	74.4	335.3	324.3
Change by the Censuses	-11.0	-7.0	-10.0	37.8	-22.1
Deaths in 2003-2010	-1.6	-0.4	-0.6	-2.0	-3.0
Registered migration in 2003-2010	-5.9	-1.4	-0.6	1.4	-1.1
Discrepancy	-3.5	-5.1	-8.8	38.3	-18.1
<i>Unaccounted cohort change. %</i>	<i>-1.9</i>	<i>-9.9</i>	<i>-10.5</i>	<i>12.9</i>	<i>-5.2</i>

The discrepancy is striking. The two sources of migration statistics are incomparable. The decrease in cohort size unseen by the official record reached 10.5 percent of the original number in Kursk region. At the same time, in the Rostov region the current migration record missed the 12.9 percent increase in the size of chosen cohort. Though the number of registered migrants is less than the number of the dead during the period in Rostov region!

The scale of the research allows us to look at the inter-census (almost precisely migration) losses of regional periphery by every municipal district. And the picture is really horrible. Up to 70 percent of the youths (cohort 1988-1992) leave the periphery for good!

Figure 1. Change in cohort size during the period between Censuses 2002 and 2010 (Altai Krai)

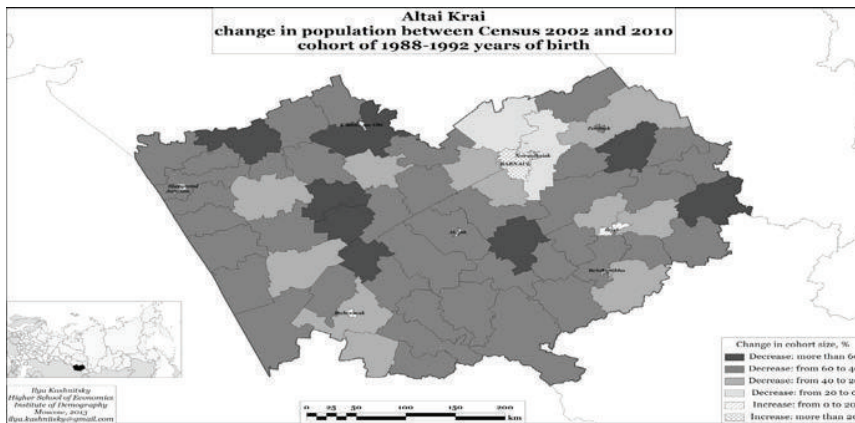
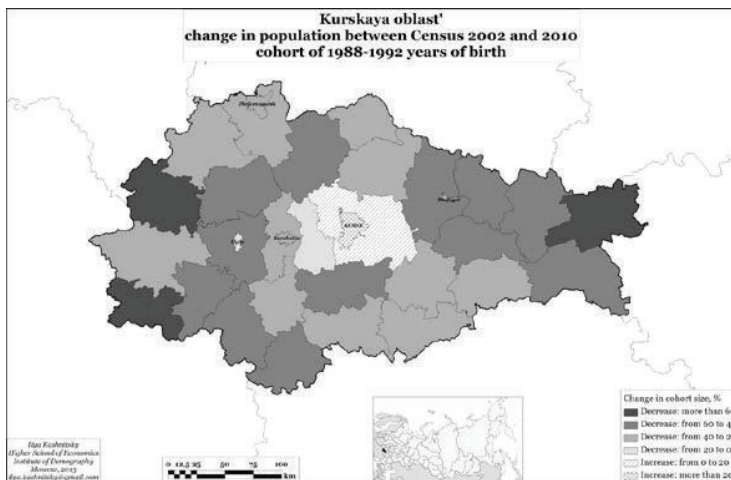


Figure 2. Change in cohort size during the period between Censuses 2002 and 2010. (Kurskaya Oblast)



The maps (Figures 1, 2 and attachments by the link) show that only the big cities can attract the youths. In the case of Kursk region only the regional center is attractive enough for the young.

The regional hinterland's state of depressiveness depends strongly on the level of migration depletion. There are some regions like Altai krai and Bashkortostan

republic where rural population is still quite large. In such regions even huge outmigration of youths has not yet resulted in fatal deformation of demographic structure. And even small towns here are attractive enough for the youth from local hinterland.

Unfortunately, our research shows the demographic fatality of Russian hinterland. We can only imagine the future of the population where just 30 percent of the youths are willing to stay.

3-Cohort intensity of intraregional migration

We found highly interesting to compare the cohort intensity of intraregional migration by several adjacent one-year cohorts (from 1988 to 1992 in our case). Using the data of current record we calculate the intensity of migration for every age of every cohort in every possible calendar year. The size of the cohorts was calculated from the Census 2002 data. We considered mortality and the balance of the external for the region migration. Then by comparing these intensities we can make some conclusions about the dynamics of intraregional youth's migration in the region.

Figure 3. The intensity of the intraregional migration in Kostromskaya oblast'.

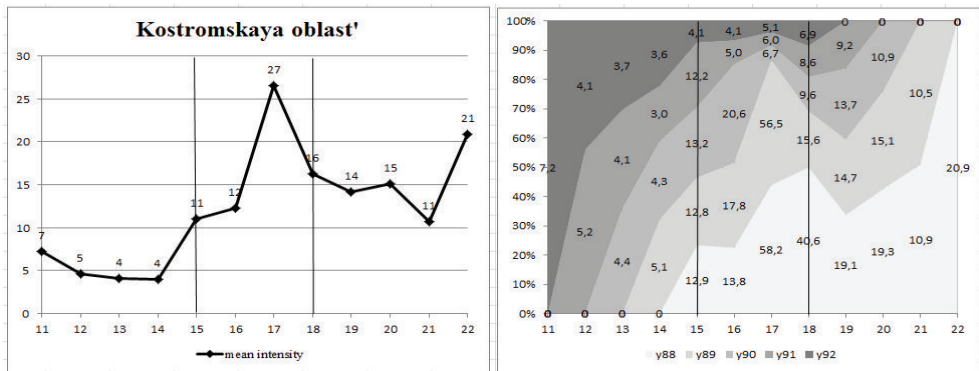
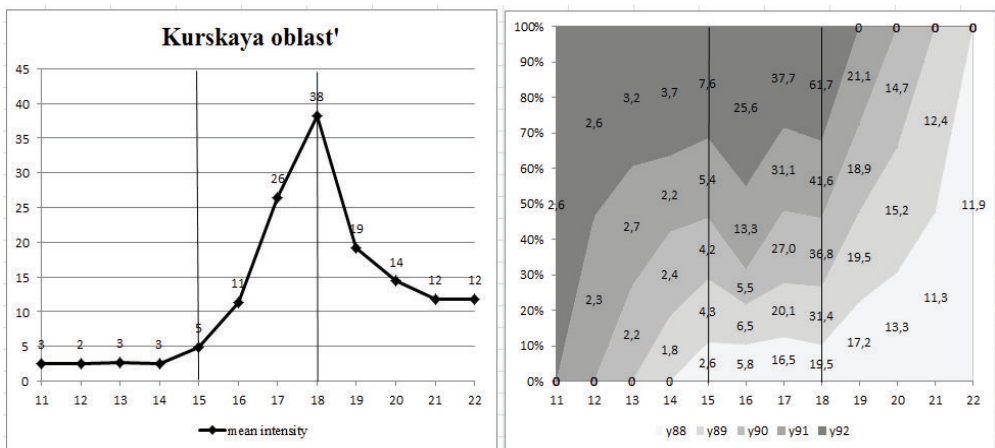


Figure 4. The intensity* of the intraregional migration in Kurskaya oblast'.



* Left: the mean value of migration intensity for 5 cohorts at the same age. Right: the shade of grey shows the relative value; the absolute value of intensity is inscribed over the diagram.

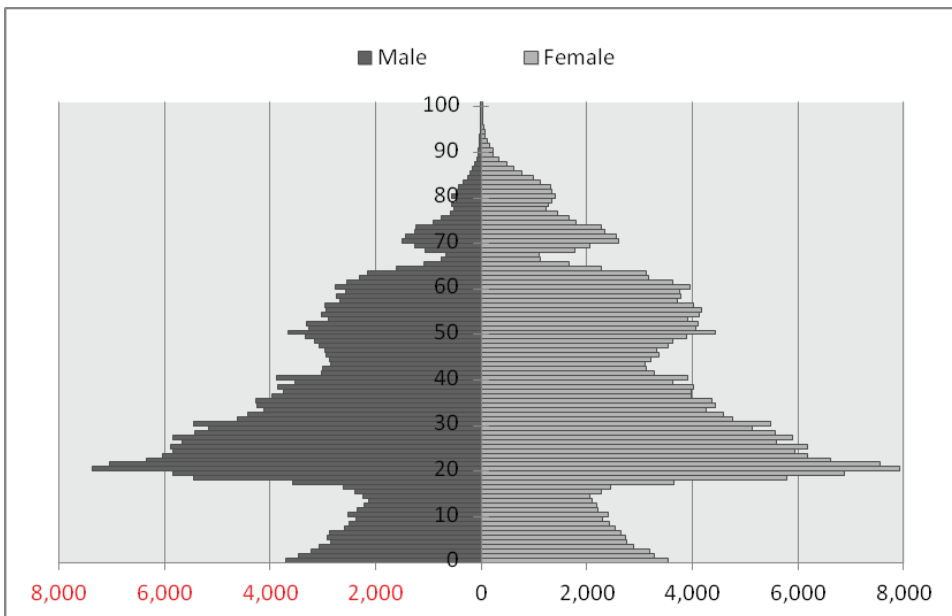
The given graphics (Figures 3, 4) point out the decrease in migration intensity in Kosrtoma region and the increase in migration intensity in Kursk region. We compare only migration intensity of the adjacent one-year cohorts at the same age. Thus we can only make the full matching for the ages 15-18, because every single cohort from our choice (1988-1992) lived in these ages during the period 2003-2010.

The author’s hypothesis states that by the means of this analysis we can roughly judge the dynamics of regional center (centers) migration attractiveness.

4-Impact on education

As migration involves mainly young people, there is a strong relationship between attractiveness of core area as an educational center and migration influence on demographic structure composition. Rich educational opportunities in regional centers come as a significant pull factor for those willing to move from periphery. For rproof of this thesis let us look at the demographic structure of Tomsk, well-known Russian educational center in Siberia (Figure 5). The “skirt” in ages 18-23 is the clerly visible effect of huge student in-migration to Tomsk.

Figure 5. The demographic structure of Tomsk, Tomskaya oblast’, Census 2010.



Educational attainment of Russian cohorts born in 1990-s is increasing. This is the usual change of generation's behavior connected to demographic waves (Stapleton, Young 1988). When a relatively small cohort replaces a bigger one educational attainment tends to increase. And this is exactly the case of modern Russia. Now the small generation born during the fertility crisis of 1990-s is reaching student ages. Thus they experience much better educational opportunities than their precursors from relatively big cohorts born in 1980-s. And these improved educational opportunities in regional centers are likely to increase the outflow of the young from regional periphery.

There could be another possible impact of intraregional migration on education through shifts in age-sex composition. As was shown in Cynthia Miller's research (Miller 1996), spending for public education depends strongly on the proportion of age groups. In general, the bigger the share of elderly population is, the less money would be spent on public education. And this interrelation is much clearer at local area administrative level. Potentially, rapid population ageing in periphery caused by relocation of young to regional centers may have negative influence on public education in province. In Russia this concern is not of great importance because local budgets are not properly self-governed.

6-Conclusion

This research focuses on the way the demographic structures form under the influence of migration. In this paper we consider mainly the internal migration (more intraregional, less interregional) as the key factor. The research is held on the level of municipal districts, which allow us to analyze the intraregional migration dynamics.

We note the increase in the intensity of the centripetal movement in the regions. The pace of depopulation and ageing in the hinterland is accelerating. The most depressive districts have lost more than 60 percent of school graduates during the last inter-census period. Migration proves to be the main factor of changes in the demographic structures.

The remoteness of the peripheral district determines the level of its depressiveness as well as the attractive power of the center. Every big center of migration attraction forms a depressive ring around itself. This is the result of "migration exhaustion". We propose that study on cohort intensity of intraregional migration can give some information on the trend of regional center's attractiveness for youth relocation.

As long as migration involves mainly young people, it has significant impact on demographic structure composition. The young move to the regional centers, periphery is rapidly ageing. Such big intraregional disproportions may have noticeable influence on public education

REFERENCES

Bailey, A.J., 1993. Migration history, migration behavior and selectivity. *The Annals of Regional Science* 27, 315–326.

Castro, L.J., Rogers, A., 1983. What the age composition of migrants can tell us. *Popul Bull UN* 63–79.

Chudinovskikh, O., 2005. Migration Statistics in the Russian Federation: basic problems and possible solutions. Report on UNECE/UNFPA/NIDI Workshop on Migration Statistics, 24-28 January.

Coleman, D., 2006. Immigration and Ethnic Change in Low-Fertility Countries: A Third Demographic Transition. *Population & Development Review* 32, 401–446.

Fassmann, H., Munz, R., 1992. Patterns and Trends of International Migration in Western Europe. *Population and Development Review* 18, 457.

Frey, W.H., 1995. Immigration and internal migration “flight”: A California case study. *Population and Environment* 16, 353–375.

Hicks, J., 1932. *The theory of wages*, by J.R. Hicks. London, Macmillan, 1932.

Lee, E.S., 1966. A theory of migration. *Demography* 3, 47–57.

Massey, D.S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., Taylor, J.E., 1993. *Theories of*

International Migration: A Review and Appraisal. *Population & Development Review* 19, 431–466.

Miller, C., 1996. Demographics and spending for public education: a test of interest group influence. *Economics of Education Review* 15, 175–185.

Millington, J., 2000. Migration and Age: The Effect of Age on Sensitivity to Migration Stimuli. *Regional Studies* 34, 521–533.

Mkrtchan, N., 2012. Vliyanie Migracii na Vozrastnoi Sostav Naseleniya Gorodov i Regionov Rossii: Ocenka na Osnove Dannikh Perepisei Naseleniya 1989 i 2002 gg. (The Impact of Migration on Age Structures of Towns and Regions: an Estimate on Census 1989 and 2002 Data). *Regional’nie Issligovania (Regional Researches)* 2(36), 66-76.

Ravenstein, E.G., 1885. The Laws of Migration. *Journal of the Statistical Society of London* 167.

Stapleton, D.C., Young, D.J., 1988. Educational attainment and cohort size. *J Labor Econ* 6, 330–361.

Thomas, D.S., 1938. Research memorandum on migration differentials : With contrib. by Rudolf

Heberle . A report of the Committee on Migration Differentials, Social Science Research Council: Bulletin 43.

Treyz, G.I., Rickman, D.S., Hunt, G.L., Greenwood, M.J., 1993. The Dynamics of U.S. Internal Migration. *The Review of Economics and Statistics* 75, 209.

Wilson, C., Sobotka, T., Williamson, L., Boyle, P., 2013. Migration and intergenerational replacement in Europe. *Population and Development Review* 39, 131–157.

Appendix (links to maps)

The whole gallery of maps (18) can be viewed and downloaded here: <https://drive.google.com/folderview?id=0B1Cid1hm5YLRRk5oQ09Zd3FJX00&usp=sharing>