Mortality differentials in Russian biggest cities and their surrounding territories

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Spatial patterns of mortality and longevity in Russia: what is known so far

Alongside low life expectancy, Russia is characterized by a high degree of spatial heterogeneity in mortality

- ✓ ”South-west to north-east” mortality gradient across Russian regions first identified by Andreev (1979) and Shkolnikov (1987) remains.
- ✓ This gradient is usually explained via geographical differences in socio economic development, natural conditions and alcohol consumption

Recent (since mid-2000-s) improvements in Russia did not lead to significant reductions of interregional mortality differentials

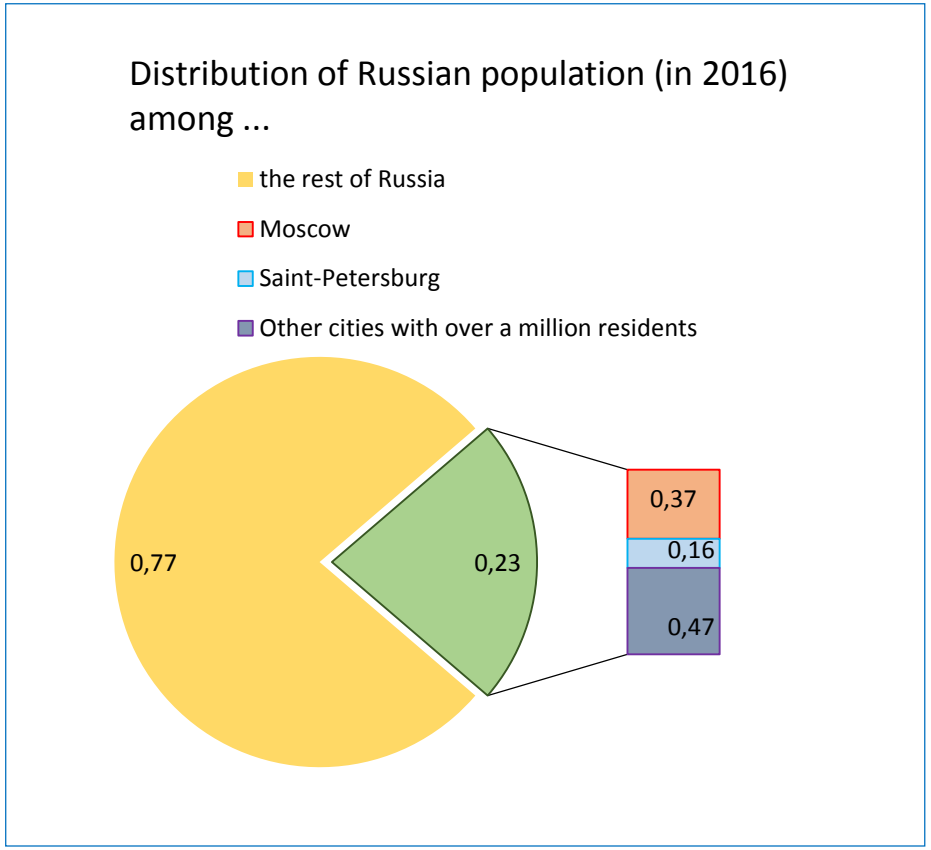
- ✓ As mortality levels across Russian regions converged at middle age, disparities at older age widened, the latter was fueled by fast mortality reductions at old ages in Moscow and Saint-Petersburg [Timonin et al. 2016]
- ✓ Moscow and Saint-Petersburg two biggest Russian cities concentrating almost 15% of total Russian population has enjoyed since the 2000-s considerably lower mortality than national average

Like in most other Eastern European countries, urban areas in Russia experience lower mortality than the countryside

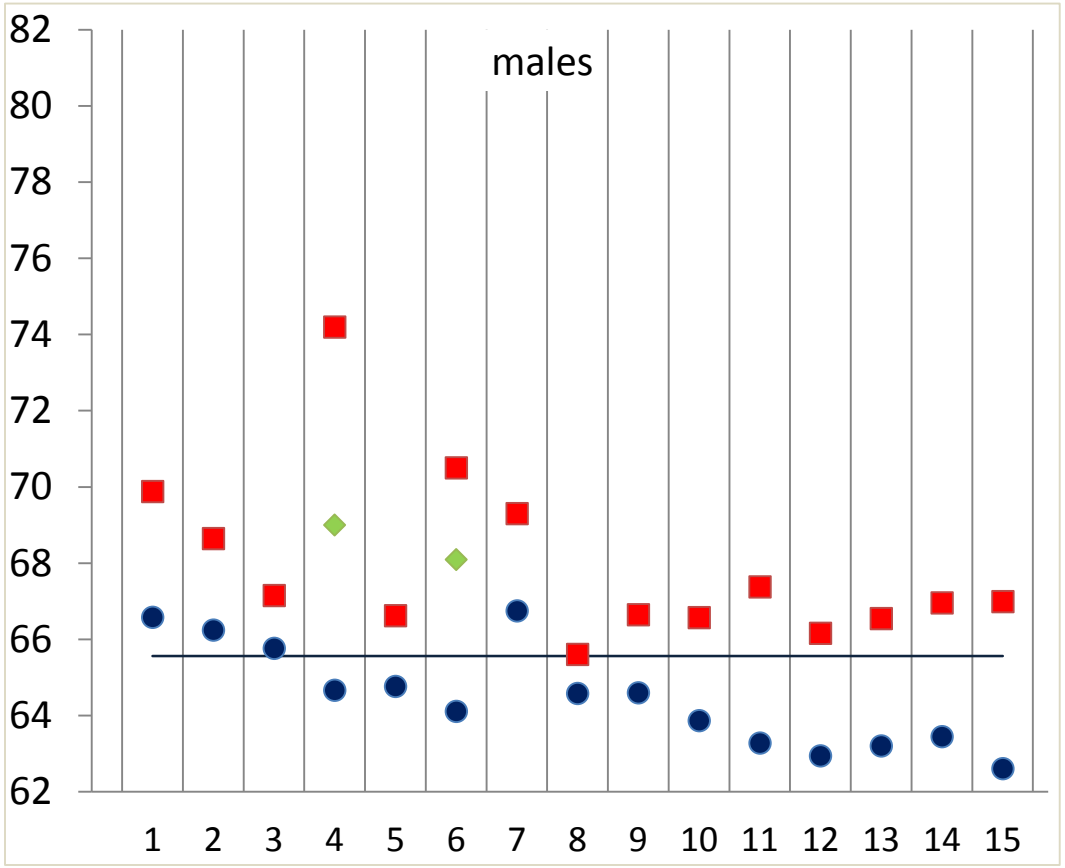
- ✓ Yet, except for Moscow and saint-Petersburg we do not know much about mortality in other Russian biggest cities with at least a million residents, and whether they are in avanguard of mortality reductions in their regions

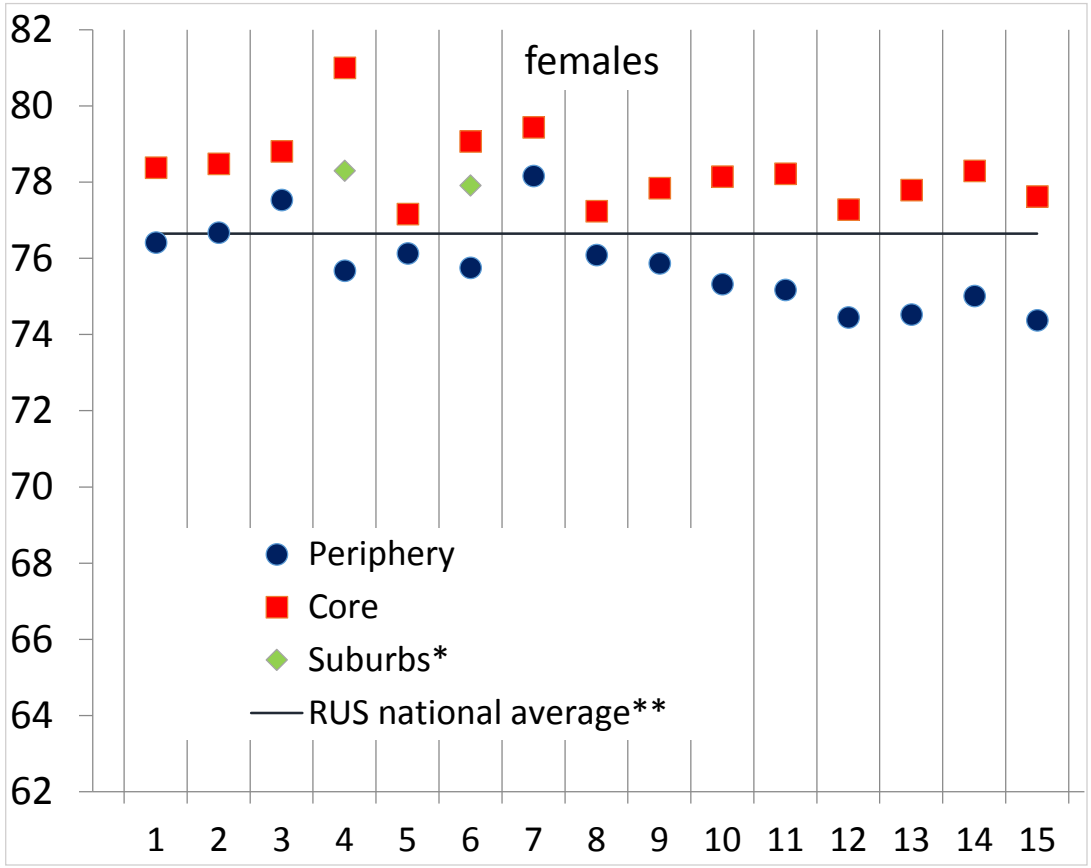
Introduction to Russian biggest cities

- There are 15 cities in Russia with a population of over a million people (within administrative borders)
- They are quite evenly distributed across the inhabited part of the country
- They concentrate 23% of total Russian population, and this share is growing fast
- All these cities are “capital cities”, or administrative centers, of their respective regions



Life expectancy at birth (in 2015-2017) in Russian biggest cities and their surrounding territories, by region



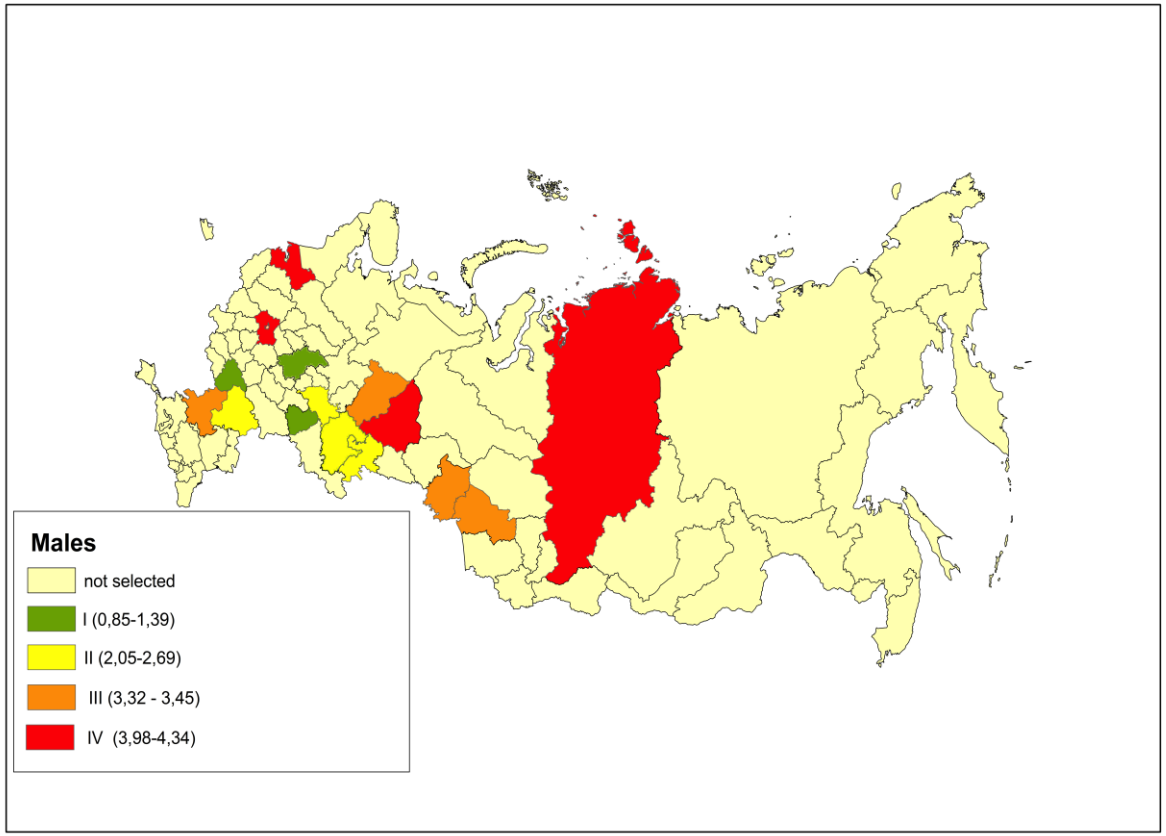


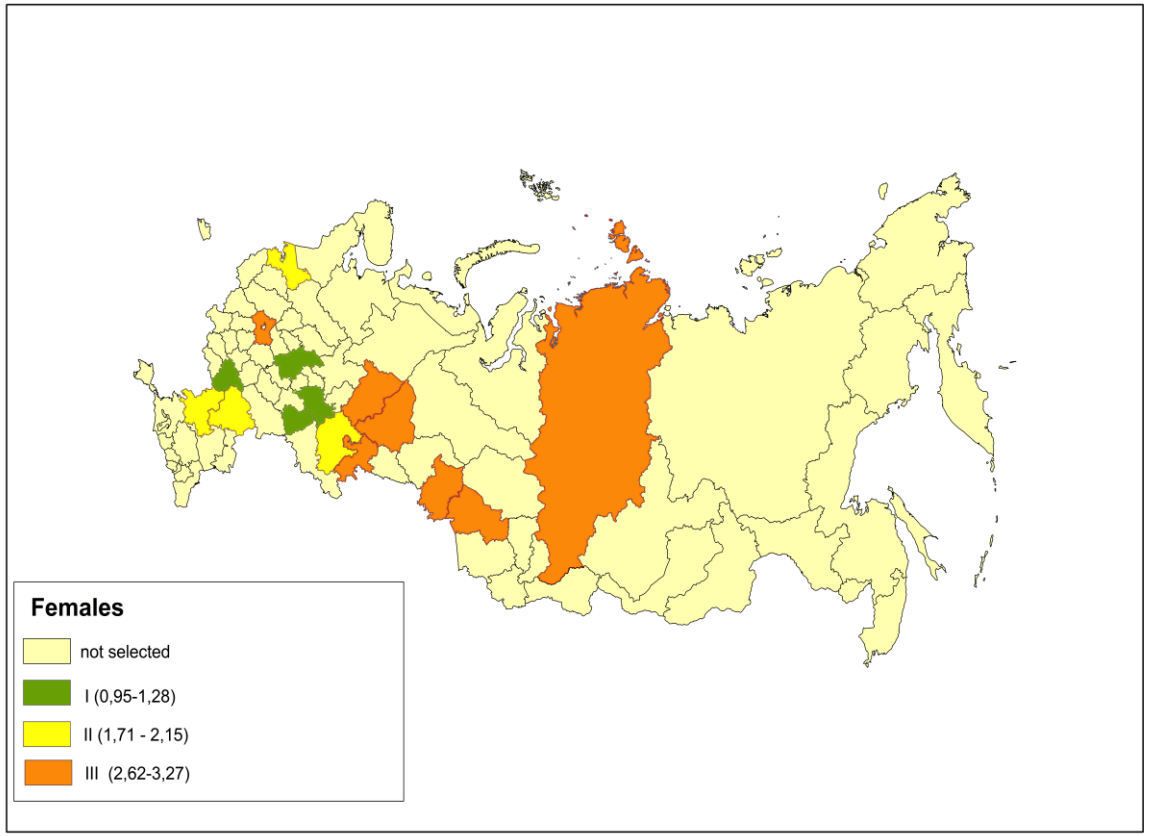
1. Rostov region
2. Volgograd region
3. Voronezh region
4. Moscow region
5. Samara region
6. Saint-Petersburg
7. Tatarstan
8. Nijnij Novgorod region
9. Bashkiria
10. Chelyabinsk region
11. Sverdlovsk region
12. Perm krai
13. Omsk region
14. Novosibirsk region
15. Krasnoyarsk region

* only for Moscow and Saint-Petersburg regions

** excl. Moscow, Saint-Petersburg and North Caucaus

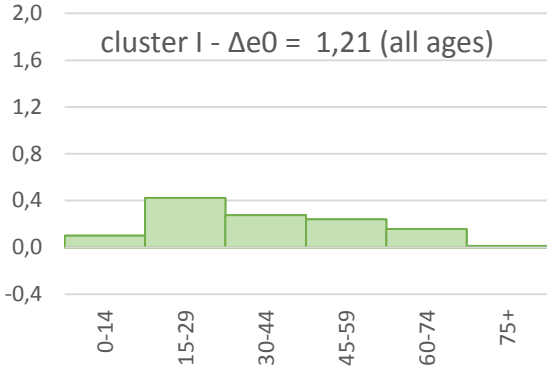
Clusters of regions by magnitude of a gap in life expectancy between the “centers” and the “periphery”, from a minimum value to the maximum

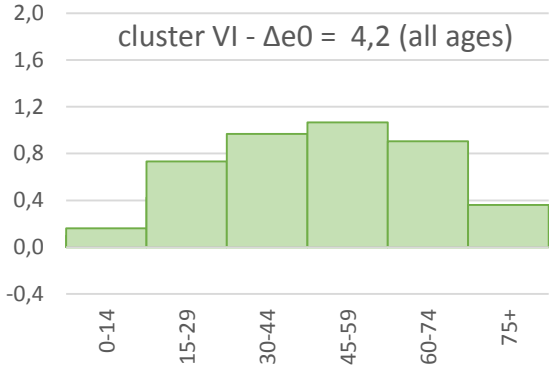


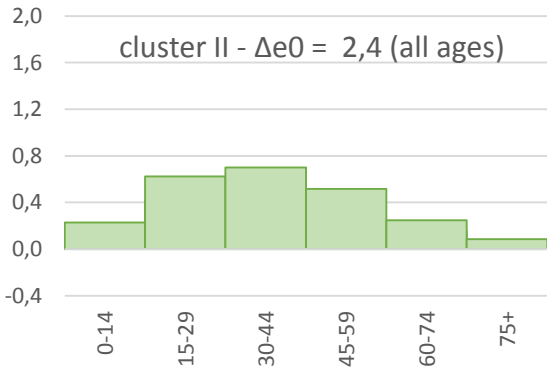


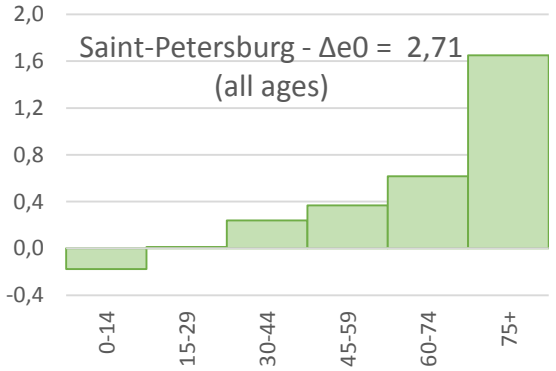
Decomposition of difference in life expectancy at birth by age between the “center” and the “periphery”, by cluster-regions

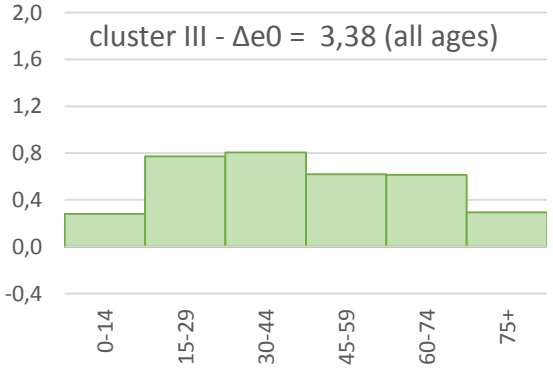
Males

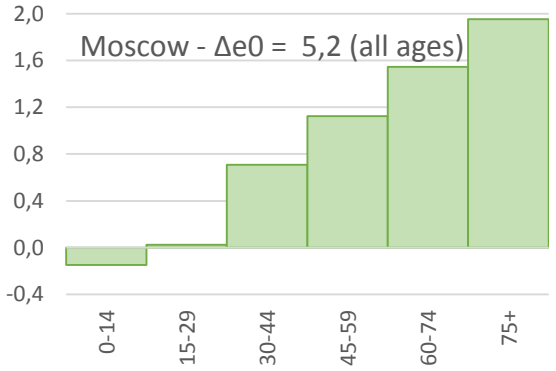




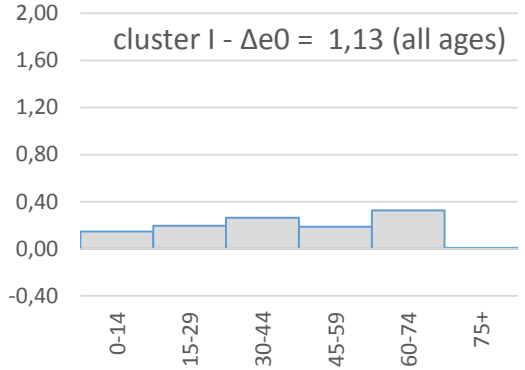


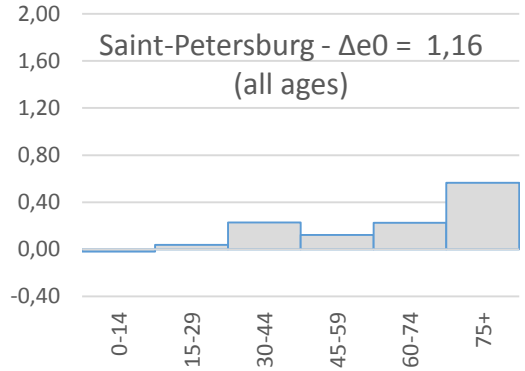


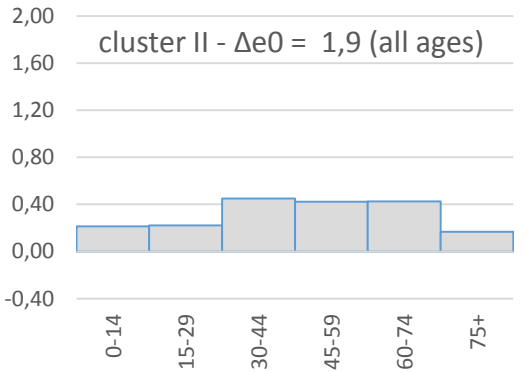


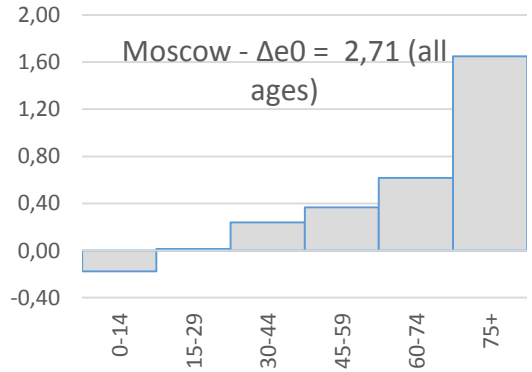


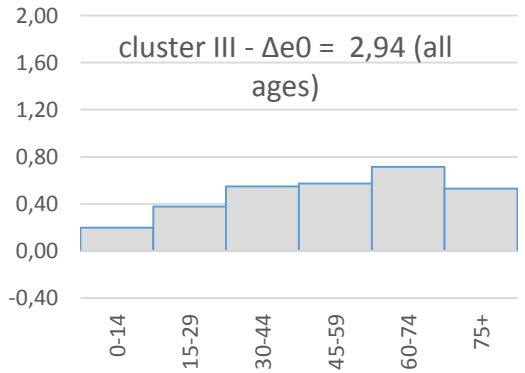
Females



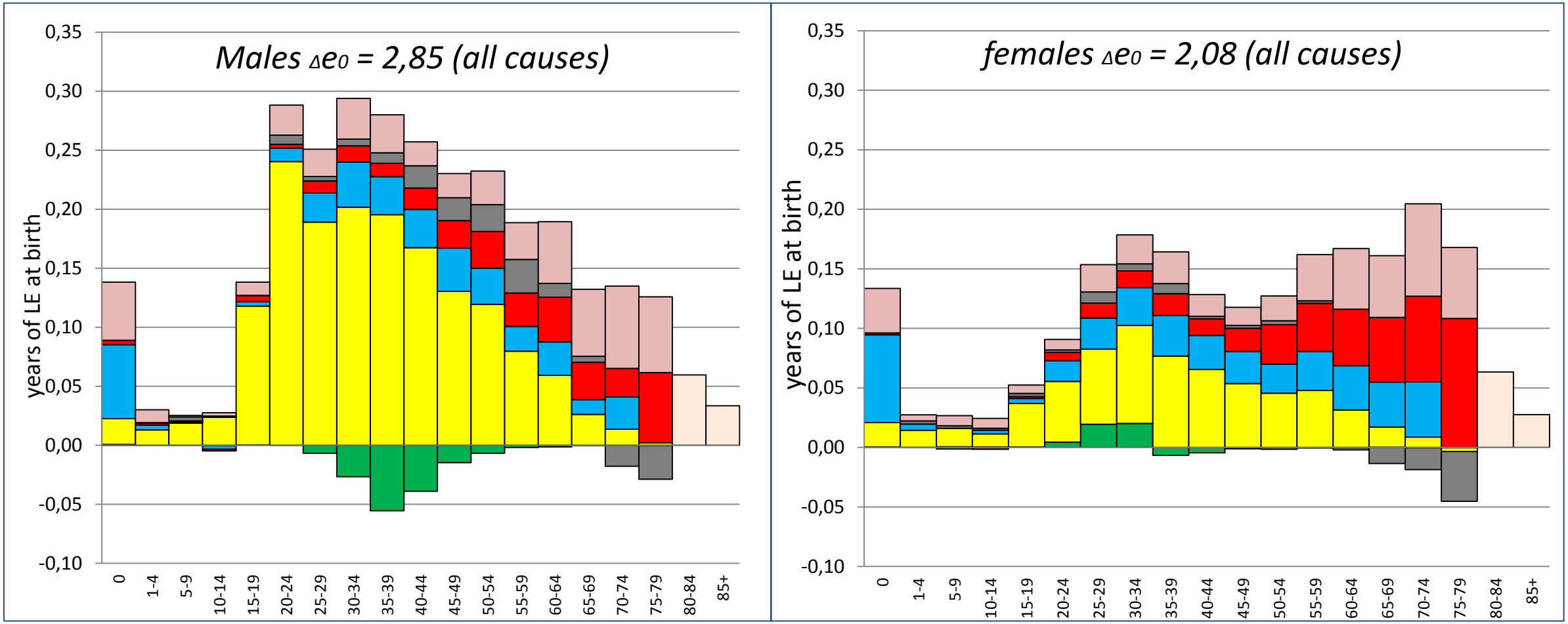




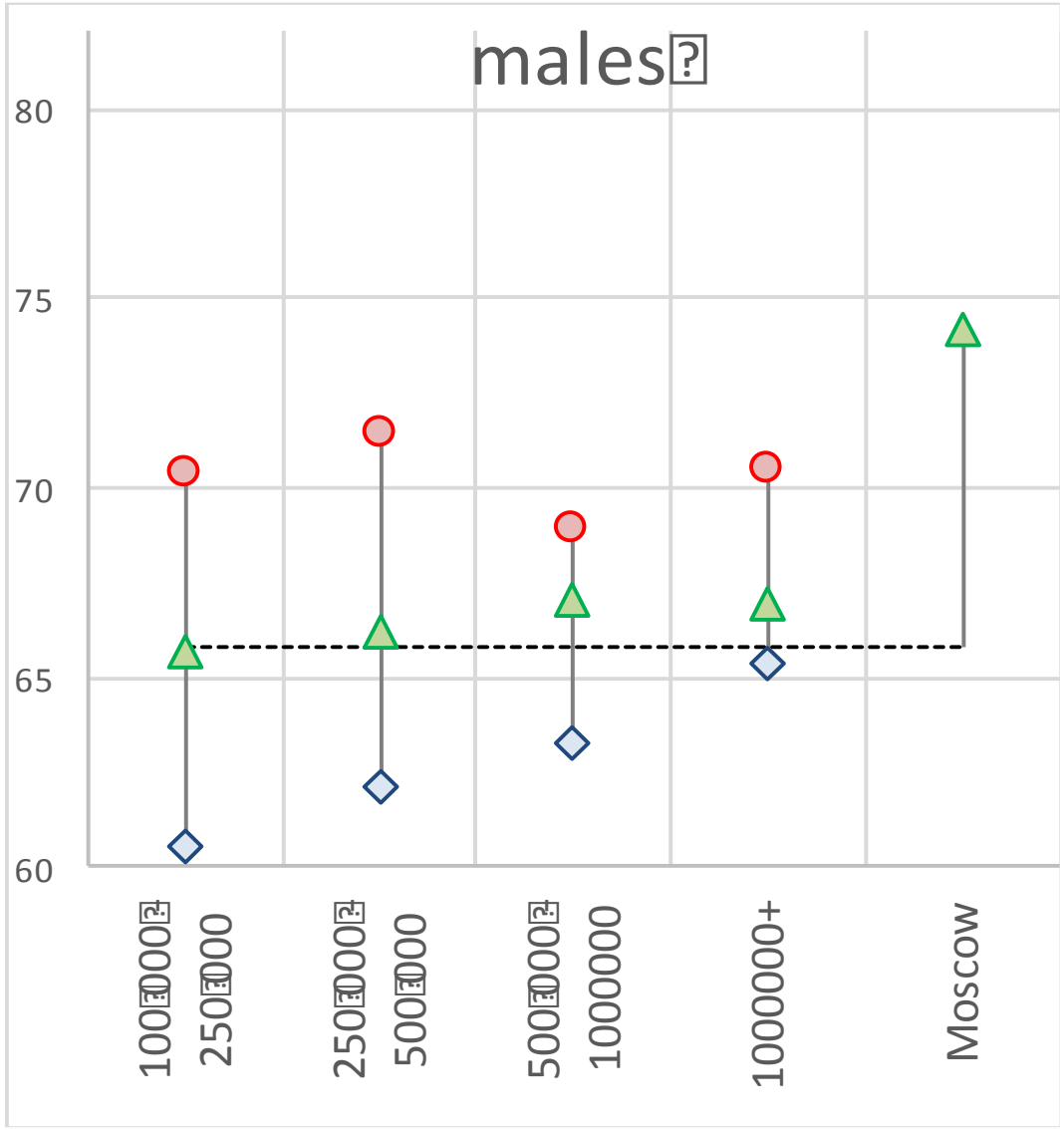


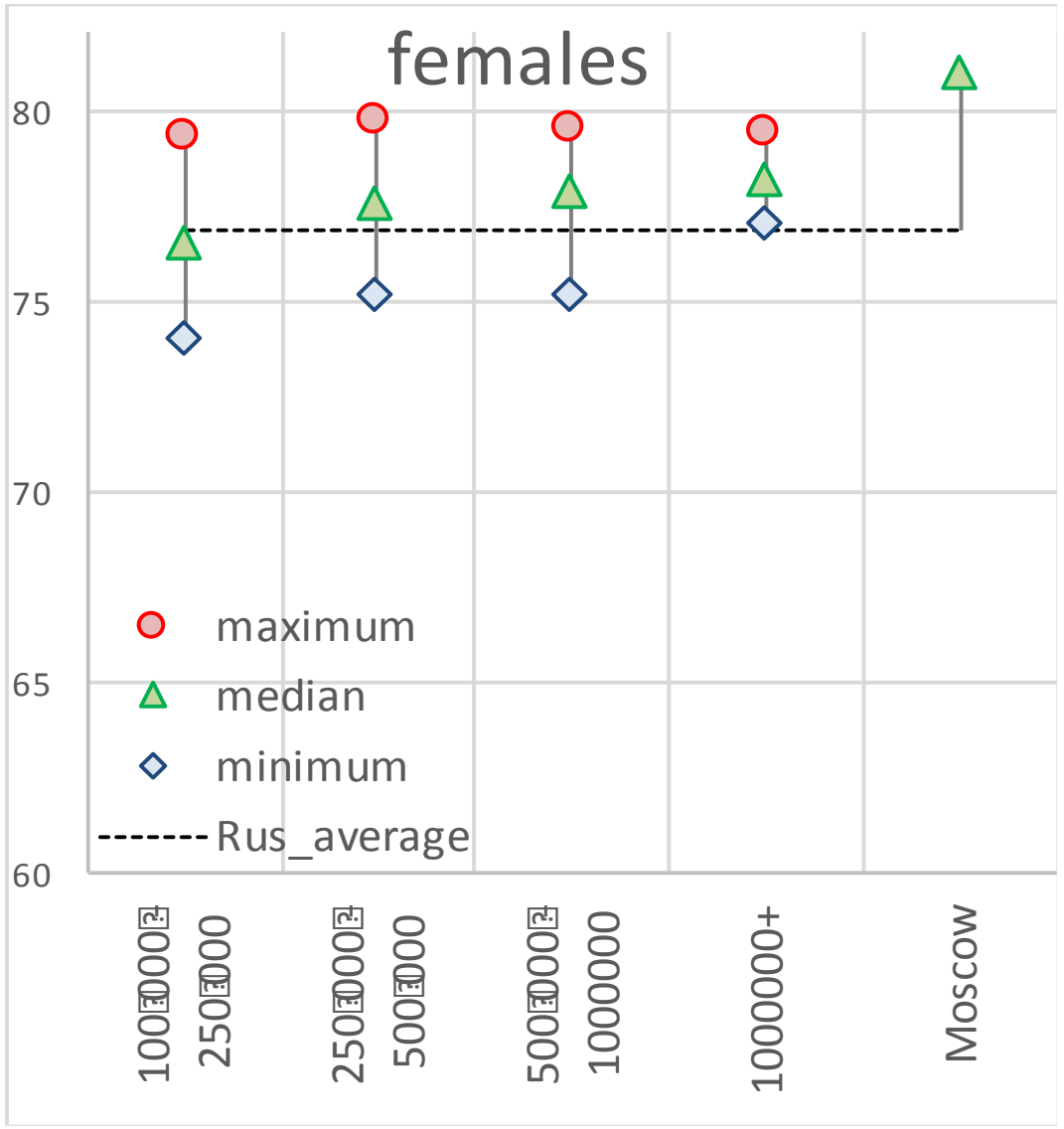


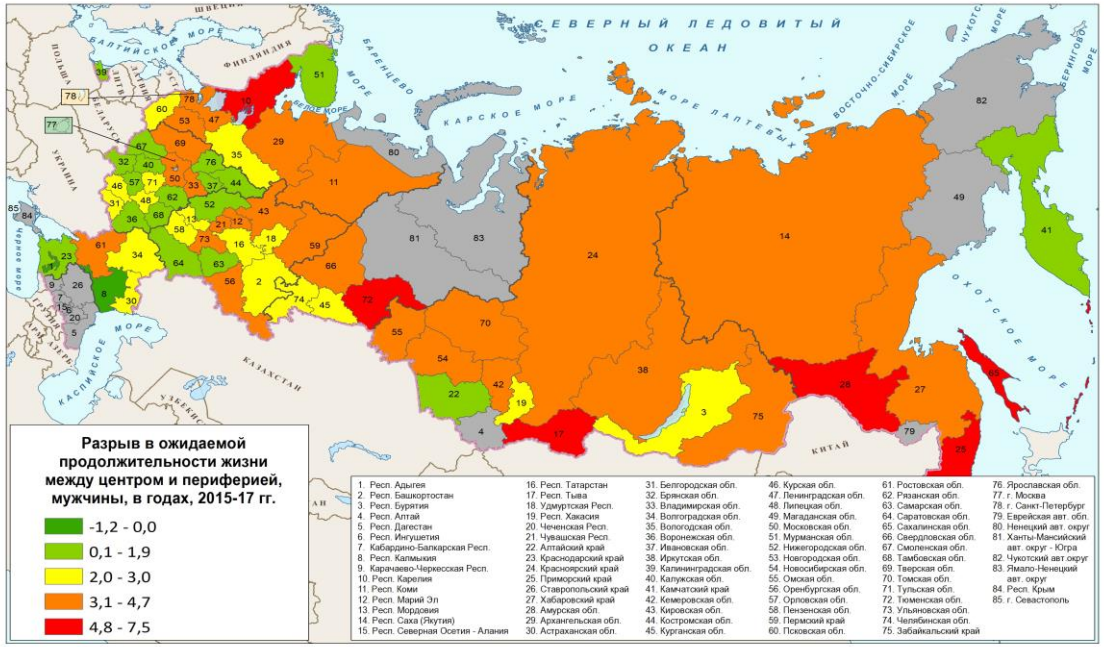
Decomposition of difference in life expectancy at birth by causes of death between the core and the periphery, population-weighted average across 13 regions (excl. Moscow and Saint-Petersburg areas)

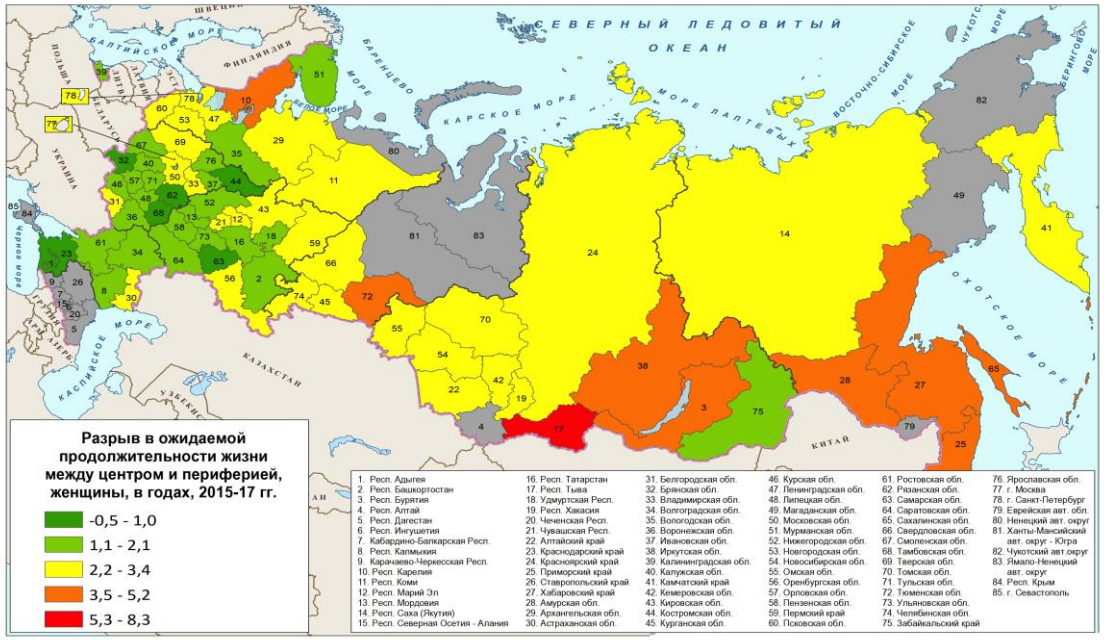


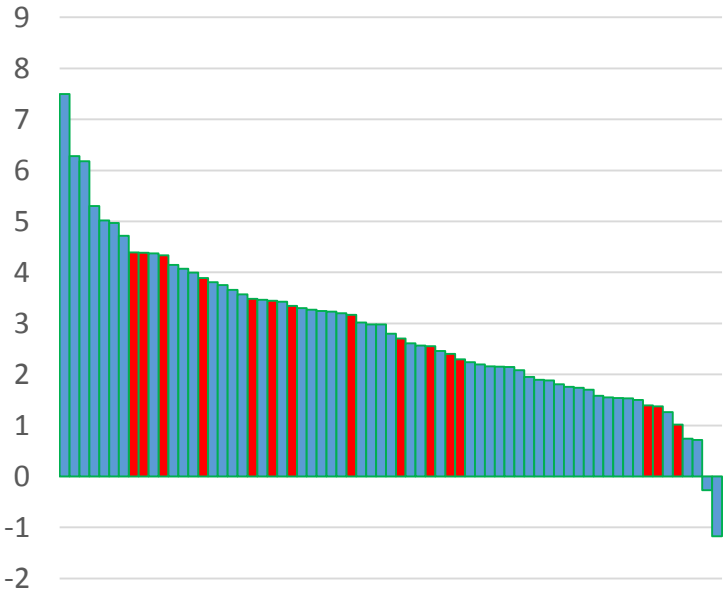
Life expectancy at birth (in 2015-2017) by a city size

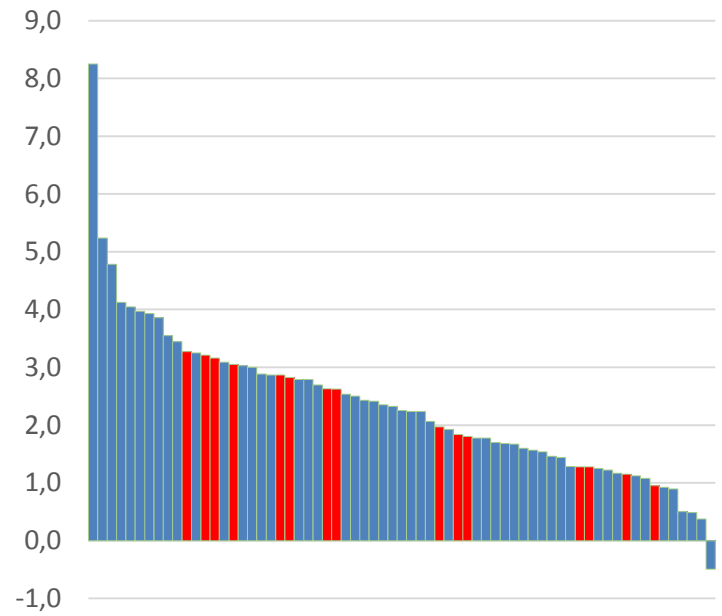












Gaps in life expectancy at birth between administrative centers and their respective regions (excl. cities with a population of over 100 000 residents)

Factors

- Education structure
- Selective migration
- Population change
- Housing amenities (sewage, water supply and hot water supply)
- Population size (for cities)
- Urbanity (for peripheries)
- Density (for peripheries)