

Title: «Lifespan dispersion in times of life expectancy fluctuation: the case of Central and Eastern Europe»

This is an important paper focusing on lifespan variation in the Central and Eastern European countries with their abnormal changes in life expectancy in the second half of the 20th – beginning of the 21st centuries. It explores the age- and cause-specific changes in lifespan disparity at different periods of life expectancy change.

Hope that my further comments would be useful in improving the manuscript.

The introduction part is a little bit messy. The description of well-known trends in life expectancy in CEE is not structured enough. I would recommend referring to three groups of countries within CEE – Central Europe, Baltic States and Former USSR (something like this). Besides that, it seems strange to paste the key findings at the end of introductory part.

In the methodology part, the authors do explain the choice of e-dagger measure and provide the sensitivity analysis of other measures of lifespan inequality. However, it seems that for the reader it would be more useful to have the discrete formulae of e-dagger and its age-and cause-specific decomposition used in this paper.

I guess that the choice of the periods for analysis (stagnation, improvement, deterioration, divergence and convergence) should be discussed more and in the methodology section. I am not sure that the last period of convergence started in 2000. A little bit later?

Data from HMD for 12 countries and HCoD for 8 countries are used. Is it impossible to get the rest cause-specific data from the WHO mortality databases? I realize that it is much more convenient and reliable to get the data from the “scientific” databases where all the data are checked for their consistency. But I believe that the authors could obtain the data from the WHO mortality databases as well or at least to discuss why it is impossible to use those data for 4 countries that are not covered in HCoD.

The choice of the groups of causes of deaths is fully relied on the papers by Rehm et al. that is not convincing enough especially when second and third categories are identified. For examples, epidemiological studies by David Leon et al. and by David Zaridze et al. show relative risks associating alcohol consumption with cause-specific mortality in Russia. I believe that similar studies were also held in other CEE countries. The results of these studies could strengthen the cause of deaths classification used in this paper.

The authors state that they aim to identify the effect of mortality related to alcohol consumption on lifespan variation from 1994 to 2010. Why this particular period was chosen?

Minor comments:

1. Mortality increase in CEE countries started not in 1960 but since the mid-1960s
2. “larger mortality inequalities in this region compared with western countries in Europe”. I am not sure about that. Timonin et al showed that the disparities between western European countries are larger than the disparities between CEE.
3. I have not really understood why such cause of death as “birth conditions” is used in the figure 5.

Finally, are there any ideas why life disparity has been stagnating in Russia since 2010?