

When disadvantaged cohorts impact a period's mortality deterioration: the Czech Republic versus France

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Since the beginning of the 20th century, mortality patterns in developed countries showed a long-term, continuous decrease. However, mortality in former Eastern Europe, including the population of the current Czech Republic, began to deviate from the overall downward trend as of the mid 1960's. Men's life expectancy at birth shortened and women's life expectancy stopped progressing. This trend resulted in a deepening of the gap in life expectancy between Eastern and Western Europe, in this case represented by the Czech Republic and France. The reversal trend, a renewal of a mortality decline (with different timing and speed), has started again in Central and Eastern Europe in the 1990's.

The deterioration of mortality patterns in post-communist countries, observed between 1965 and 1990, is usually ascribed to worsened sanitary conditions, poor dietary habits, social and economic stress factors, poor environmental conditions, and particularly by the lack of attention paid to one's personal health. On the other side, a massive decline of mortality from cardiovascular diseases (termed cardiovascular revolution) has been observed in the Western Europe since the early 1970's and thus has contributed to substantial advances in life expectancy there. In the context of the above outlined different trends, the following questions can be raised:

- Can a period's mortality trend be solely explained by changes in cross-sectional conditions?
- How does the vulnerability of an individual depend on his past? More precisely, how did low and high mortality cohorts contribute to the currently observed mortality patterns?
- Is the mortality deterioration, reported between 1965 and 1990 in the Czech Republic, enhanced by the participation of high mortality cohorts?
- Has the impact of cardiovascular revolution in France been so strong that it has significantly improved adult and elderly life of males (unlike in the Czech Republic) who took part and survived the World War I?
- What are the cohort effects of the two World Wars when the Czech Republic is compared to France?

The contribution addresses long-term mortality trends (1920-2014) in the Czech Republic (within the same historical territory) and France, for males who are analysed as representatives of a former socialist country and of a capitalist low mortality country. First will be shown, mortality trends for 30-94 completed ages from a period view (1920-2014) and a cohort perspective (1830-1980). Next, using loglinear modelling, the AP (age-period) and AC (age-cohort) trends will be summarized (adjusted for age). Finally, the APC models (taking in account the identification problem) will show net cohort and period effects (controlled for age). Data include deaths and midyear population by units of age (30-94 completed years) for the period 1920-2014 in the Czech Republic and 1920-2013 for France. Regarding the Czech Republic, this is the first contribution of this type evaluating such an extensive period of time.