The gendered effects of foreign investment and prolonged state ownership on mortality in Hungary: an indirect demographic, retrospective cohort study

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Summary

Background Research on the health outcomes of globalisation and economic transition has yielded conflicting results, partly due to methodological and data limitations. Specifically, the outcomes of changes in foreign investment and state ownership need to be examined using multilevel data, linking macro-effects and micro-effects. We exploited the natural experiment offered by the Hungarian economic transition by means of a multilevel study designed to address these gaps in the scientific literature.

Methods For this indirect demographic, retrospective cohort study, we collected multilevel data related to Hungary between 1995 and 2004 from the PrivMort database and other sources at the town, company, and individual level to assess the relation between the dominant company ownership of a town and mortality. We grouped towns into three ownership categories: dominant state, domestic private, and foreign ownership. We did population surveys in these towns to collect data on vital status and other characteristics of survey respondents’ relatives. We assessed the relation between dominant ownership and mortality at the individual level. We used discrete-time survival modelling, adjusting for town-level and individual-level confounders, with clustered SEs.

Findings Of 83 eligible towns identified, we randomly selected 52 for inclusion in the analysis and analysed ownership data from 262 companies within these towns. Additionally, between June 16, 2014, and Dec 22, 2014, we collected data on 78 622 individuals from the 52 towns, of whom 27 694 were considered eligible. After multivariable adjustment, we found that women living in towns with prolonged state ownership had significantly lower odds of dying than women living in towns dominated by domestic private ownership (odds ratio [OR] 0·74, 95% CI 0·61–0·90) or by foreign investment (OR 0·80, 0·69–0·92).

Interpretation Prolonged state ownership was associated with protection of life chances during the post-socialist transformation for women. The indirect economic benefits of foreign investment do not translate automatically into better health without appropriate industrial and social policies.

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In a controversial article, Stuckler and colleagues argued that rapid mass privatisation increased mortality by increasing unemployment and the stress associated with large-scale organisational change. They suggested that a more gradual approach to privatisation and foreign direct investment might protect against these effects because they promote the emergence of strategic investors facilitating successful firm restructuring. A 2017 article using company-level, town-level, and individual-level data in Russia also reports results showing that rapid mass privatisation was associated with increased mortality. However, the role of foreign investment and prolonged state ownership remains unexamined.

As one of the first former Soviet-style economies to open to global competition, Hungary has attracted substantial foreign investment from the early 1990s on. Hungarian policy makers were committed to building the institutions of a market economy but they also kept state ownership in several sectors of the economy to cushion the effect of rapid economic change. However, while some other central and eastern European countries saw a steady improvement in life expectancy during the 1990s, mortality in Hungary increased until 1993. The early and large flows of foreign direct investment into Hungary and the parallel fluctuations in the level of mortality allow us to test the long-term health effect of varying privatisation strategies.

A large body of scientific literature exists on the proximate, biomedical, and behavioural causes of mortality, and research on the social determinants of mortality in the region is growing. The factors that lead to the level and distribution of the main social determinants are not well understood. To our knowledge, no research has been done analysing the association between mortality, gradual privatisation, and foreign investment using multilevel data (individual-level, company-level, and town-level data) simultaneously.

Evidence before this study

We reviewed the existing evidence published in Hungarian and English in social sciences, public health, and epidemiology journals available through PubMed, Science Direct, Scopus, Sociological Abstracts, Web of Science, and Google Scholar. We used the following search terms: "post-communist mortality", "post-socialist mortality", "Eastern-Europe mortality", "social determinants of mortality", "foreign investment mortality", "privatisation and mortality", "globalisation and mortality".

The search process happened through several iterative phases, starting on Nov 2, 2015, and was finally closed on Oct 18, 2016, and included articles published after Jan 1, 1990. Research by epidemiologists on the subject mostly focuses on the proximate causes of mortality and the most common social determinants. However, the factors that lead to the level and distribution of the main social determinants are much less well understood. Sociologists and political economists have investigated the effect on mortality of foreign investment but this strand of research was implicated in several methodological problems. Most of the related research is done on the cross-country level. To our knowledge, no research has been done analysing the association between mortality, gradual privatisation, and foreign investment using multilevel data (individual-level, company-level, and town-level data) simultaneously.

Added value of this study

The most important strength of our study is the scope of company ownership, individual health, and town-level data. This range of data allowed us to analyse the mortality effect of foreign investment and prolonged state ownership using data from multiple levels for the first time. We were able to eliminate the most important individual-level and ecological-level confounders. Our approach has the potential to be replicated in other countries experiencing rapid integration into the global capitalist economy and has a direct potential to improve evidence-based policies to secure human development and health for all.

Implications of all the available evidence

Countries embarking on privatisation in the future should opt for a carefully planned privatisation strategy. Prolonged state ownership not only allows time to effectively restructure state-owned enterprises but also helps to preserve health. Foreign investment should not be treated as a substitute for well designed institutions, social policies to develop human capital, and industrial policies to support domestic enterprises and reduce uneven development.

Methods

Study design

For this indirect demographic, retrospective cohort study, we collected multilevel data at the town, company, and individual level from the Hungarian arm of the PrivMort database for the time period between 1995 and 2004. PrivMort is a multidisciplinary project investigating the post-communist mortality crisis using multilevel data, including individual surveys conducted in Russia, Belarus, and Hungary, in addition to annual company ownership, socioeconomic, and demographic indicators from the surveyed settlements.
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