

A Comparative Analysis of Income and Health in European Economies in Transition

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This paper's focus is on member states of Visegrád Group - Poland, Czech Republic, Slovakia and Hungary. Their performance since giving up of socialism in 1991 is compared to other ex-socialist countries in middle Europe where the latter is defined as the area between Germany and Russia and between the Baltic and Aegean seas. The ex-socialist countries in this area are divided in three groups: a) entities that have existed as separate countries since before 1991 (Albania, Bulgaria, Hungary, Poland, and Romania), b) entities that became separate countries in 1991/1993 with the break-up of i) the Soviet Union (Belarus, Estonia, Latvia, Lithuania, Moldova, and Ukraine) and ii) Czechoslovakia (Czech Republic and Slovakia), c) entities that came into being as separate countries in the 1990s and 2000s with the dissolution and civil-war in the former Yugoslavia (Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Slovenia).

Kant (2017a) defines a catch-up index that measures a country's convergence to the frontier, relative convergence as a decrease in richer-poorer country income ratio, absolute convergence as a decrease in richer-poorer country income gap, shows relative convergence is a necessary but not sufficient condition for absolute convergence while relative divergence is a sufficient but not a necessary condition for absolute divergence; and derives an equation for years for income equality to the frontier (full convergence). Further, since the catch-up is with respect to the same frontier country, the catch-up experience for a group of countries can be used to examine within-group convergence.

The first task of this paper is to apply and examine all of the above for ex-socialist countries of middle Europe. We use the next generation of PWT (see, Feenstra et al. (2015)) that permits real GDP comparisons over time also; and its most recent version 9.0. It uses PPPs from the international comparison project (ICP) 2011 that removes some of the distortions of ICP 2005 used in PWT 8.0/8.1 (e.g., inclusion in ICP 2005 of many products typical in the consumption baskets of high-income countries that are high-priced luxury items in low-income countries). See, World Bank (2013, 2014) and Inklaar and Rao (2017). This data is available for all middle Europe countries, except Kosovo. For most countries it is available since 1990 and for some (Albania, Bulgaria, Estonia, Hungary, Poland, and Romania) since 1970.

For countries for which it is available since 1970, PWT provides a natural experiment to analyze performance under two different regimes: socialism and market economy. For all ex-socialist European countries, it provides a natural experiment to study whether historical background (existing as a separate country or as a part of a larger country) makes for a different post-socialism experience due to separate state-hood for the first time. In either case, the experience of

Visegrád Group countries will be contrasted with other ex-socialist countries with similar antecedents. On the other hand, since Yugoslavia had a mixed economy rather than a strictly socialist, the experience of ex-Yugoslavia countries may also be different. The experience of such countries that have been independent since 1990 (Bosnia – since 1995, Croatia, Macedonia, and Slovenia), (see, CIA The World Factbook) will also be compared to other two group of countries, again to see whether historical background matters.

The second part of the paper will compare the changes in long-term health gaps between Visegrád Group countries and the frontier and contrast them to other ex-socialist countries in middle Europe. Late-fetal and early-child (newborn and infant) mortality are considered among the best indicators of health-status and future human capital of a country since they depend the least on environmental factors like pollution and public sanitation and life-style choices like smoking, and eating and exercise habits. See, Gonzalez and Gilleskie (2017) for a similar statement, and Bozoli et al. (2009) who find strong inverse relationship between early-child mortality rates and mean height of adults. Three inter-related health measures will be considered: stillbirths rate, neonatal mortality rate (mortality within 28 completed days of live birth) and life expectancy at birth. Stillbirths is a relatively new and evolving topic. Blencowe et al. (2016) standardize its definition and estimates the stillbirth rate as a proportion of total births. Kant (2017b) expresses it as a proportion of live births, and using it, derives life expectancy of total births, and total loss of life-years due to stillbirths for 194 countries. Globally, the incidence of stillbirths almost equals that of neonatal mortality which itself approximately equals 1-59-month child mortality. See, Shiffman (2016).

Blencowe et al. (2016) give stillbirth data for 2000 and 2015 and trend between the two years. Neonatal mortality and life expectancy data have been available since 1990, and 1960, respectively. See, World Development Indicators. Starting from the beginning years, we compare and contrast the experience of the ex-socialist countries of middle Europe in these health measures both within group and across groups. We also examine the relationship between various health measures: e.g., whether neonatal mortality and stillbirths both decrease, and if so, which one decreases faster; whether overall decrease is accompanied by its increased within-group dispersion; how much of life expectancy increase is “explained” by neonatal mortality decrease and whether the said percentage rises when we add stillbirths decrease to it. We also define catch-up indexes in the health measures, note that similar concepts and results about relative and absolute convergence apply and analyze them for European ex-socialist countries; in each case, comparing the experience of Visegrád Group countries to other ex-socialist countries in middle Europe. We also examine whether the health catch-up rates are strongly related to initial levels. There is considerable debate in the literature on the relationship between life expectancy and per capita income. Some find a positive effect (e.g., Ebenstein et al. (2015)), others a negative (e.g., Hansen and Lonstrup (2015)). We examine what light can the ex-socialist countries of Europe throw on this question and whether the experience of different groups of ex-socialist countries differs.

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