

# Height increases in the Czech Republic and Slovakia illustrate the effect of self-determination on citizens' well-being

 [blogs.lse.ac.uk/europpblog/2015/07/10/height-increases-in-the-czech-republic-and-slovakia-illustrate-the-effect-of-self-determinatio](https://blogs.lse.ac.uk/europpblog/2015/07/10/height-increases-in-the-czech-republic-and-slovakia-illustrate-the-effect-of-self-determinatio)

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*What does a nation's height tell us about the well-being of its citizens? As [Joan Costa Font](#) and [Lucia Kossarova](#) write, an increase in the average height of a population is regarded as an indicator of an improvement in well-being, with this effect being linked to changes in social conditions. Based on a case study of Czechoslovakia, they argue that improvements in the capacity for self-determination in the country, linked both to the transition to a liberal democracy and the state's separation into the Czech Republic and Slovakia, led to an improvement in citizens' well-being, as indicated by an improvement in the average height of the population.*



Physical stature is [regarded](#) as a retrospective indicator of “how well the human organism fares during childhood and adolescence in its socio-economic and epidemiological environment”. The OECD already [employs](#) height as a measure of economic wellbeing. The link in this sense is fairly straightforward as a child's exposure to conditions that are less than optimal might impact on their capacity to realise their 'height potential'.

Some studies estimate that approximately 20 per cent of variation in human height is due to beneficial environmental factors. More specifically, following the “[fit through democracy](#)” hypothesis, democracy may lead to the inception of institutions that make children and adolescents' existence safer and healthier. We would therefore expect that these developments will be positively associated with an increase in the average height of a population.

Socio-political and economic shocks such as the meltdown of the Soviet bloc affected both the barriers to access to nutrition and, more deeply, the institutional setting constraining individuals' lives. In the case of German reunification, for instance, West Germans were [found](#) to be taller than East Germans by approximately one centimetre, and, importantly, this gap appears to have widened only after the Berlin Wall was built. Since unification there has been convergence in heights between East and West German males but, paradoxically, not among females. Other studies [have found](#) that democratisation and the liberalisation of the economy in Spain also encompassed an expansion in the height of the population.

## Czechoslovakia as a case study

Czechoslovakia presents a unique case study in this context as the combination of economic and political liberalisation that occurred in the country, together with the separation of the state into the Czech Republic and Slovakia, constitutes a 'double bang': namely a rare case in history where two large liberalisation events coincided. The effect of the breakup is even more complex insofar as both Slovakia and the Czech Republic lost some scale while gaining some homogeneity to overcome the [complexities](#) of public decision-making in a multinational environment. However given that the transition implied an institutional build-up, the costs of the break up at that transition point might have been mitigated.

After the Second World War, Czechoslovakia fell under Soviet influence. This entailed restrictions on civil and political liberties alongside media censorship and *economic dirigisme* with the implementation of production plans and quotas. The penalties used to enforce this system included forced labour camps and, in extreme cases, executions. The regime lasted forty years until 1989, with only a small spell during the Prague Spring in 1968 presenting a serious challenge to the ruling order. Although the initial steps taken after the fall of the regime were similar in both parts of the country, a peaceful secession process occurred in 1993. Some authors have even [suggested](#) that there were three key transitions: democratisation, marketization and a national transformation.

Following the creation of the two new states of the Czech Republic and Slovakia, the form and speed of democratisation and liberalisation reforms gradually began to differ. Slovakia was severely disadvantaged throughout the 1990s in terms of policy leadership and social expertise. Nevertheless, by 1998 the rapid progress initially made in the Czech Republic had slowed down, while the opposite occurred in Slovakia. It appeared at this point that the Czech Republic was ready to join the EU, with Slovakia's chances seemingly meagre in comparison; however both states eventually joined in the 2004 enlargement.

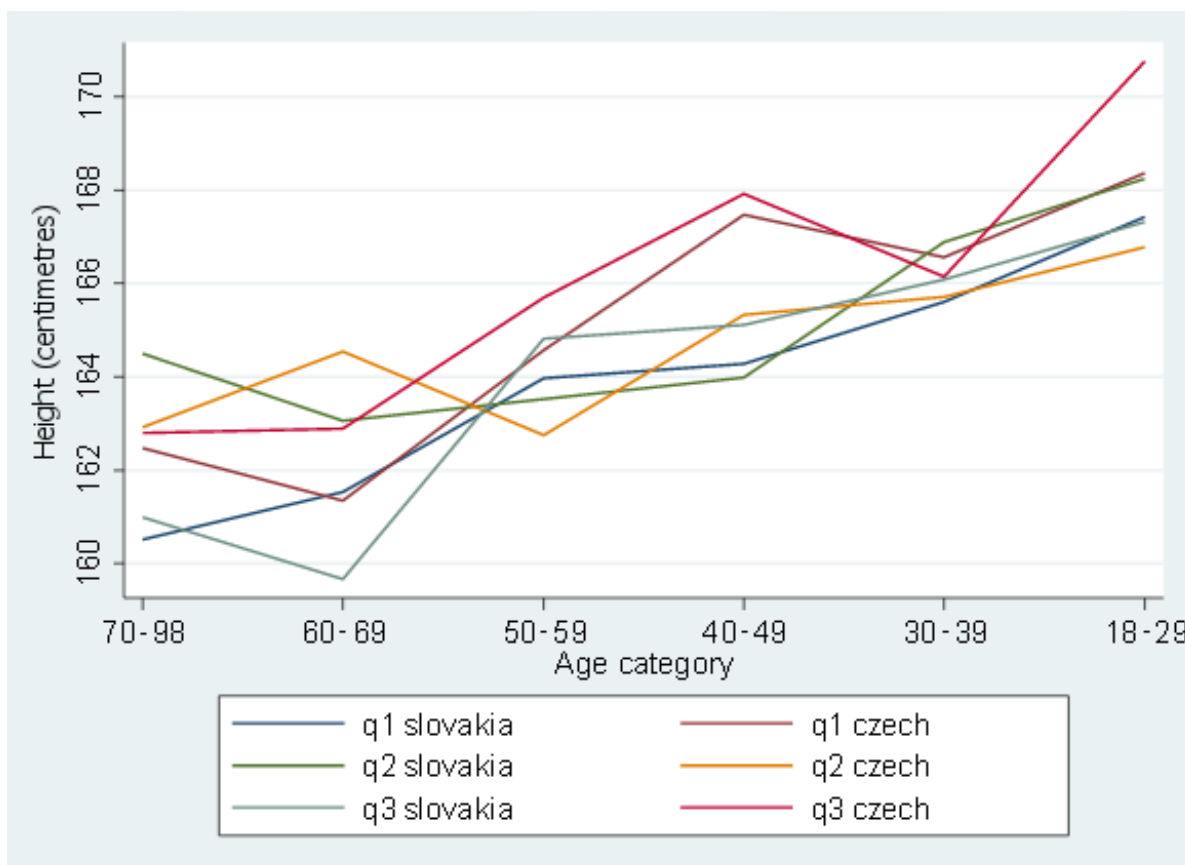
## Height patterns

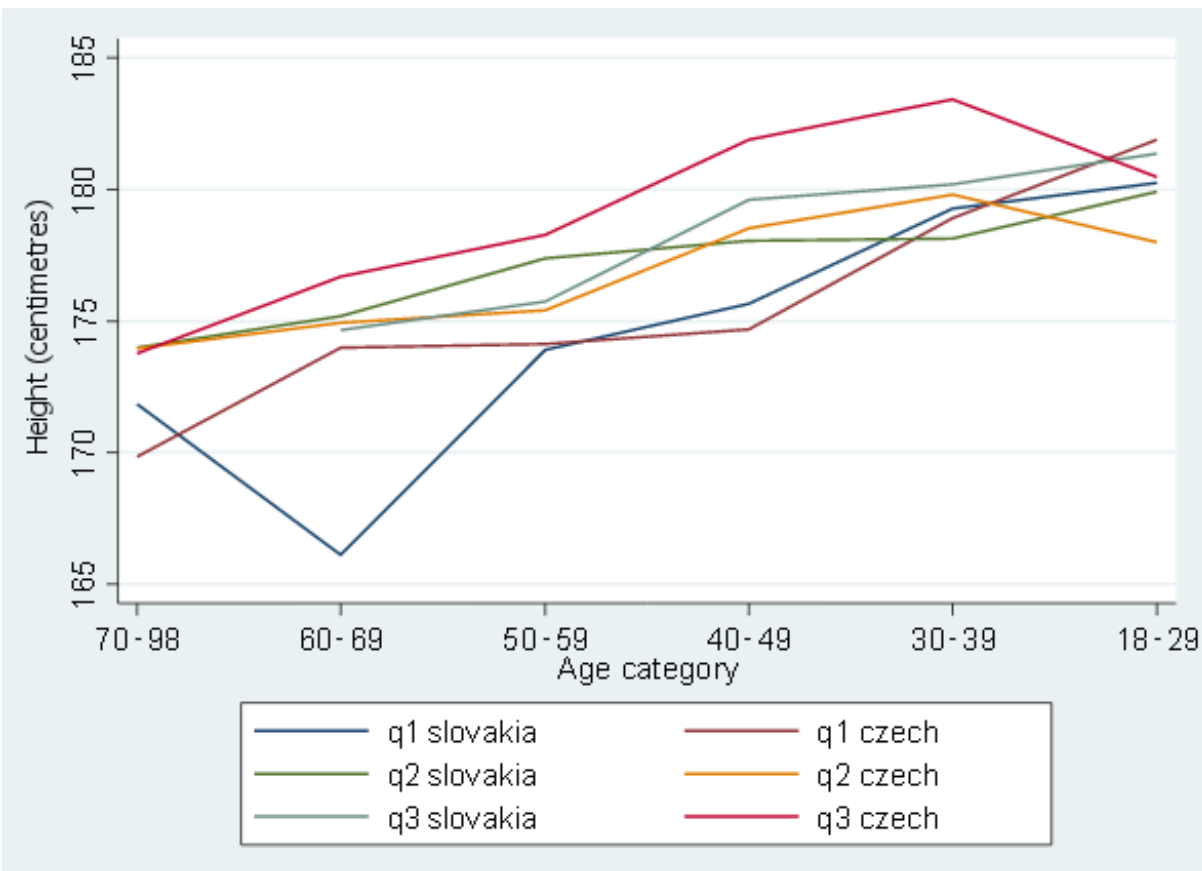
In a [recent study](#), we use data from two surveys containing information on heights in the Czech Republic, ordered by age and gender, alongside a long list of rich controls such as socio-economic status. For both countries we observe an increasing height trend across the age cohorts, where older generations are shorter than the younger ones. We find that the range for Slovak males between the oldest and the youngest age groups is as much as 8.79cm, followed by Czech males (8.41cm), Slovak females (6.99cm) and Czech females (5.97cm).

However, more importantly, the average height also differs across the income terciles within and across countries. The figure below plots the height difference across terciles by age cohorts where it can be seen that regardless of the income tercile, height increases from the oldest to the youngest generations. The figure also suggests some variation in the mean height for males and females across the age cohorts and income terciles, with the richest Czechs being the tallest across cohorts.

**Figure: Height by age and income group in Slovakia and the Czech Republic**

- [Female height](#)
- [Male height](#)





**Note: Individuals are placed into one of three income groups: q1 (the poorest citizens), q2 (middle group) and q3 (the richest citizens). For full calculations see the authors' accompanying [paper](#).**

The effect of democracy on height is examined using regression analysis and shows that for Slovaks, height for those who were raised under democracy as opposed to communism is 1.504cm more; for Czechs, on the other hand, the height of those raised under democracy is 0.4cm less than that for those raised under communism. When democracy is measured as a continuous variable we find that for every additional year spent under democracy while growing up height increases by 0.286cm for Slovaks and 0.148cm for Czechs.

### The effect of secession

Overall the secession effect suggests that the interaction term between years under independence and country is significant, suggesting that for Slovaks, height for those who were raised in independent Slovakia as opposed to Czechoslovakia is 0.8cm more; for Czechs, on the contrary, the height of those raised in independent Czech Republic is 1cm less than for those raised in Czechoslovakia. Another way of interpreting this interaction is to say that when being raised in Czechoslovakia, the height of Czechs was 1.23cm more than the height of Slovaks; for those who grew up in independent countries, the height of the Czechs was 0.5cm less than the height of Slovaks.

So again, as with democracy, the Czechs seem to have lost out more from independence than Slovaks. Nonetheless, when the effect is examined by gender and income groups we find that for males, independence is associated with a height increase. In contrast, for women, the years spent under independence are not significantly associated with a height increase. When comparing across countries by income distribution, the Slovaks benefited more than the Czechs in the bottom and mid tercile with no difference in the top group. Furthermore, with increasing

numbers of years under democracy the poorest in Slovakia benefited more in height than both the mid and top tercile.

## Conclusion

Democracy appears to increase height even when cohort effects are controlled for, and this is even more the case when democracy provides a solution to enduring territorial conflicts. When comparing across countries by income distribution, Slovaks benefited more than Czechs in the bottom and mid tercile with no difference in the top group. Furthermore, with increasing numbers of years under democracy the poorest in Slovakia benefited more in height than both the mid and top tercile.

In the Czech Republic, the bottom tercile benefited more than the middle, and the middle less than the top tercile. As noted above, evidence of inequalities and poverty since transition has been documented. The transition brought significant social changes where particular groups benefited – especially those who were benefiting under the previous regime – while others such as pensioners, workers, ethnic groups or women were able to benefit much less; the cost of transition weighed most heavily on ordinary citizens who felt that they had too little influence on the political decisions that affected them. While the transition years may have impacted negatively on the most disadvantaged, they were still able to benefit in terms of height, and more so than the richer groups.

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