

## Horn Dániel

### Challenges and pitfalls of identifying the causal effect of institutions: a case study of the Hungarian “elite” tracks

Elite schools are institutions that provide training for students at the top of the ability distribution. Since ability correlates strongly with social status, most of these schools educate predominantly higher socio-economic status (SES) students. In general, very talented and high SES students enrol in exam schools in the US, grammar schools in the UK, or their counterparts in Germany, Sweden, Romania and many other countries.

Setting aside the concerns that such “elite tracking” might increase inequality (Terrin and Triventi 2022), causal evidence on their effectiveness is also mixed. Some find no effects (Abdulkadiroğlu et al. 2014; Dustmann, Puhani, and Schönberg 2017), while others find short run effects (Clark and Del Bono 2016; Guyon, Maurin, and McNally 2012; Oosterbeek, Ruijs, and de Wolf 2023; Pop-Eleches and Urquiola 2013).

In this presentation I will talk about the effectiveness of the Hungarian 6-years-long “elite” academic track and focus on the challenges and pitfalls of identifying the causal effect of these schools on later student outcomes.

In Hungary the National Assessment of Basic Competencies (NABC) annual standardized low-stakes testing allows for the detailed comparison of elite track students with their peers. First I will show how this rich database, along with other newly available administrative data and advanced econometric methods, is tempting us to estimate the effects of these elite tracks on students’ short and long run outcomes. Then take a step back and judge the assumptions behind these estimates.

I will argue that selection bias is important and the unconfoundedness (or “selection-on-observables”) assumption is very hard to met, which should bias our estimates towards zero, so that elite tracks are likely to have a small or no effects. Then I argue that the assumption that elite tracks do not have an ex-ante effect on the test score outcomes is also questionable. I show that the fact that students prepare for high-stakes entrance exams couple months before the low-stakes NABC testing influences their low-stakes test-scores as well. This eventually will bias the elite track effects away from zero, so that elite tracks are likely to have a larger than estimated effects.

All in all my aim is to highlight the significance of assumptions behind econometric analyses and the importance of understanding the mechanisms behind treatment effects.

#### References

Abdulkadiroğlu, Atila, Joshua Angrist, and Parag Pathak. 2014. ‘The Elite Illusion: Achievement Effects at Boston and New York Exam Schools’. *Econometrica* 82(1):137–96. doi: 10.3982/ECTA10266.

- Clark, Damon, and Emilia Del Bono. 2016. 'The Long-Run Effects of Attending an Elite School: Evidence from the United Kingdom'. *American Economic Journal: Applied Economics* 8(1):150–76. doi: 10.1257/app.20130505.
- Dustmann, Christian, Patrick A. Puhani, and Uta Schönberg. 2017. 'The Long-Term Effects of Early Track Choice'. *The Economic Journal* 127(603):1348–80. doi: 10.1111/eoj.12419.
- Guyon, Nina, Eric Maurin, and Sandra McNally. 2012. 'The Effect of Tracking Students by Ability into Different Schools A Natural Experiment'. *Journal of Human Resources* 47(3):684–721. doi: 10.3368/jhr.47.3.684.
- Oosterbeek, Hessel, Nienke Ruijs, and Inge de Wolf. 2023. 'Heterogeneous Effects of Comprehensive vs. Single-Track Academic Schools: Evidence from Admission Lotteries'. *Economics of Education Review* 93:102363. doi: 10.1016/j.econedurev.2023.102363.
- Pop-Eleches, Cristian, and Miguel Urquiola. 2013. 'Going to a Better School: Effects and Behavioral Responses'. *American Economic Review* 103(4):1289–1324. doi: 10.1257/aer.103.4.1289.
- Terrin, Éder, and Moris Triventi. 2022. 'The Effect of School Tracking on Student Achievement and Inequality: A Meta-Analysis'. *Review of Educational Research* 00346543221100850. doi: 10.3102/00346543221100850.