

## Tracking in Context: Variation in the Effects of Reforms in the Age at Tracking on Educational Mobility

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Educational systems are argued to have strong effects on the intergenerational transmission of education. In particular, previous research has identified between-school tracking as a factor increasing social inequalities (e.g., Brunello and Checchi 2007; Canaan 2020; Hanushek and Wößmann 2006). The most convincing empirical evidence revealing causal effects of tracking age on intergenerational educational mobility comes from research analyzing the effects of educational reforms in the age at tracking (e.g., van de Werfhorst 2018, 2019). This literature has assumed that the effects of such reforms are constant across contexts. This is a strong assumption and there are theoretical reasons to expect heterogeneity in the effects of reforms in the age at tracking on educational inequalities by context.

We develop two expectations of such variation in the effects of reforms in the age at tracking. First, the effects of the reforms may vary with the size of the change in the age at tracking. There may be reforms in the age at tracking, which are too incremental, to increase educational mobility. Second, the effects of reforms in the age at tracking on educational mobility may be stronger in countries with stronger egalitarian values (van de Werfhorst 2018:32). We also analyze gender differences. While some studies suggest that socioeconomically disadvantaged girls benefit more from postponements in the age at tracking than socioeconomically disadvantaged boys (Scheeren, Bol, and van de Werfhorst 2018; Scheeren 2022), others do not confirm this (e.g., Canaan 2020).

We analyze reforms in five Western European countries that have increased the age at tracking (see Table 1). We analyze data from the Survey of Health, Ageing and Retirement in Europe (SHARE) and the European Social Survey (ESS). We use three variables to measure final *educational attainment*. First, we use years of education. Second, we use a binary variable indicating the completion of upper secondary education. Third, we measure post-secondary education via a binary variable indicating if a respondent has obtained a university degree. We measure *parental education* using the highest educational degree of any parent. We distinguish between the same three levels of parental education: (1) low, (2) middle, and (3) high, based on ISCED categories. We control for year of birth as a linear time trend. This variable takes up general time trends, which may otherwise confound the causal effect of the reforms. This means we analyze the effects of reforms in age at tracking on educational mobility using a regression discontinuity design (RDD). We also control an interaction between parental education and the time trend to ensure that increasing educational equality across cohorts does not confound our estimates.

Figures 1 to 5 reports the results with years of education as an outcome. In Belgium (Figure 1), the tracking age reform increased educational equality by reducing the gap in educational attainment between children with low and children with highly educated parents from 1.89 years of education to  $1.89 - 0.71 = 1.18$  years of education. In Denmark (Figure 2), the same effects are observed as in Belgium. Educational mobility has increased as the gap in the educational attainment between the children with low and the children with medium educated parents was reduced from 1.38 years to  $1.38 - 0.53 = 0.85$  years. In Finland (Figure 3), the reform did increase educational mobility by improving educational attainment for children with low educated parents more than for children with medium educated parents. In France (Figure 4), the reform did increase educational mobility by shrinking the gap in educational attainment between children with low and children with medium educated parents from 1.57 to  $1.57 - 0.51 = 1.06$  years of education. In Italy (Figure 5), the reform did considerably improve educational mobility but only for women (Model 4) and not for men.

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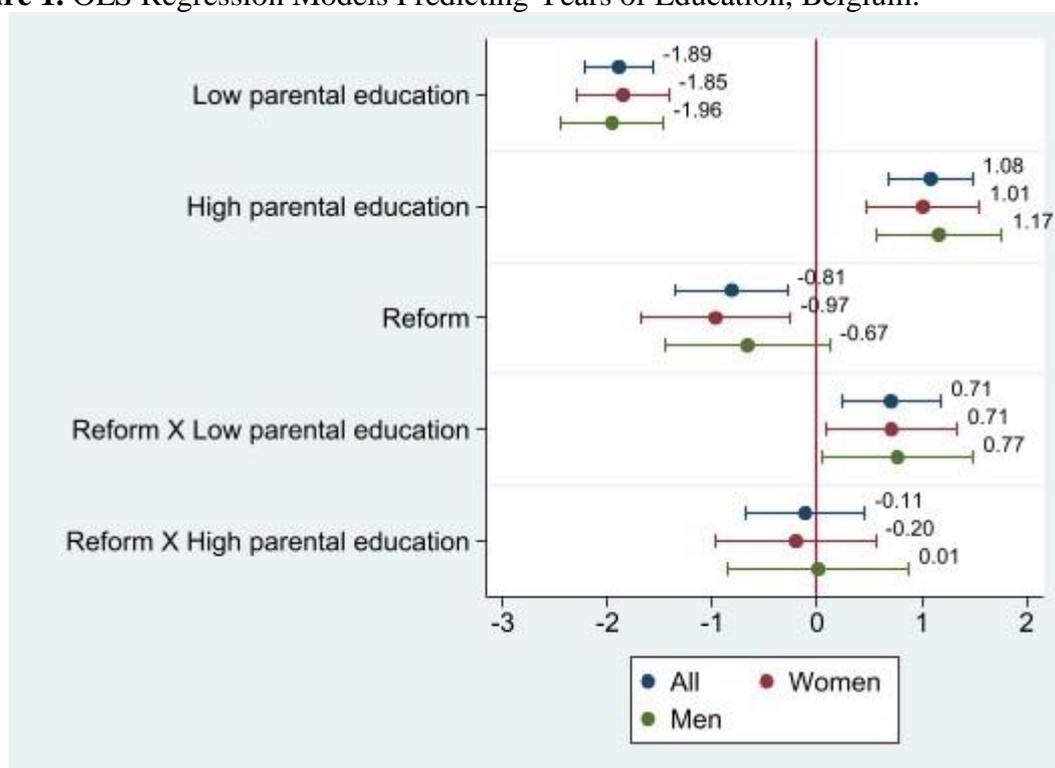
## TABLES AND FIGURES

**Table 1.** Overview of the Reforms in Tracking Age and the Definition of Cohorts.

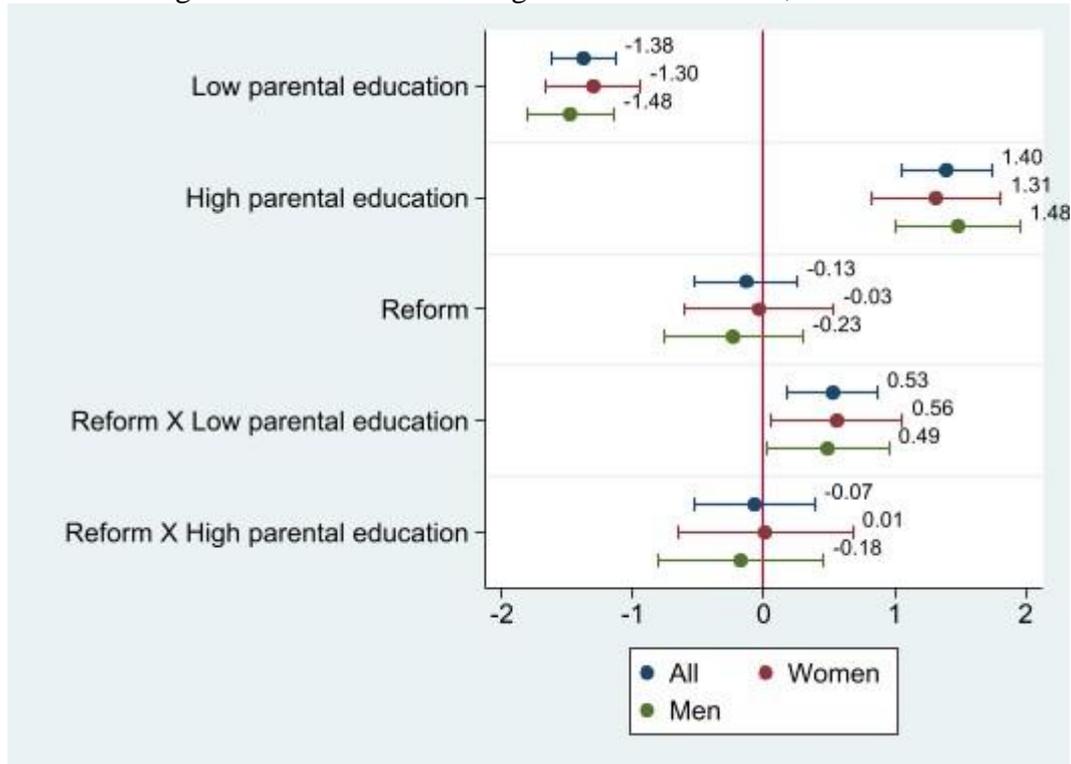
| Country (Year of Reform)    | First Birth Year Affected by the Reform (Actual Implementation) | Increase in Age at Tracking | Before-Reform Cohort | After-Reform Cohort | “Everyone in the country has a fair chance to achieve the level of education they seek” |
|-----------------------------|---|-----------------------------|----------------------|---------------------|---|
| Belgium (1971)              | 1960  | 10 → 12                     | 1953–1959            | 1961–1967           | 5.95  |
| Denmark (1958)              | 1948  | 11 → 14                     | 1941–1947            | 1949–1955           | 7.50  |
| Finland (1972) <sup>1</sup> | 1961  | 11 → 16                     | 1954–1960            | 1962–1968           | 6.82  |
| France (1977)               | 1966  | 11 → 13                     | 1959–1965            | 1967–1973           | 4.71  |
| Italy (1963)                | 1950  | 11 → 14                     | 1943–1949            | 1951–1957           | 5.32  |

Notes: <sup>1</sup> In these countries the reforms were implemented in different regions at different time points, which is reflected in the analysis (see Table S1 in the *Online Supplement*).

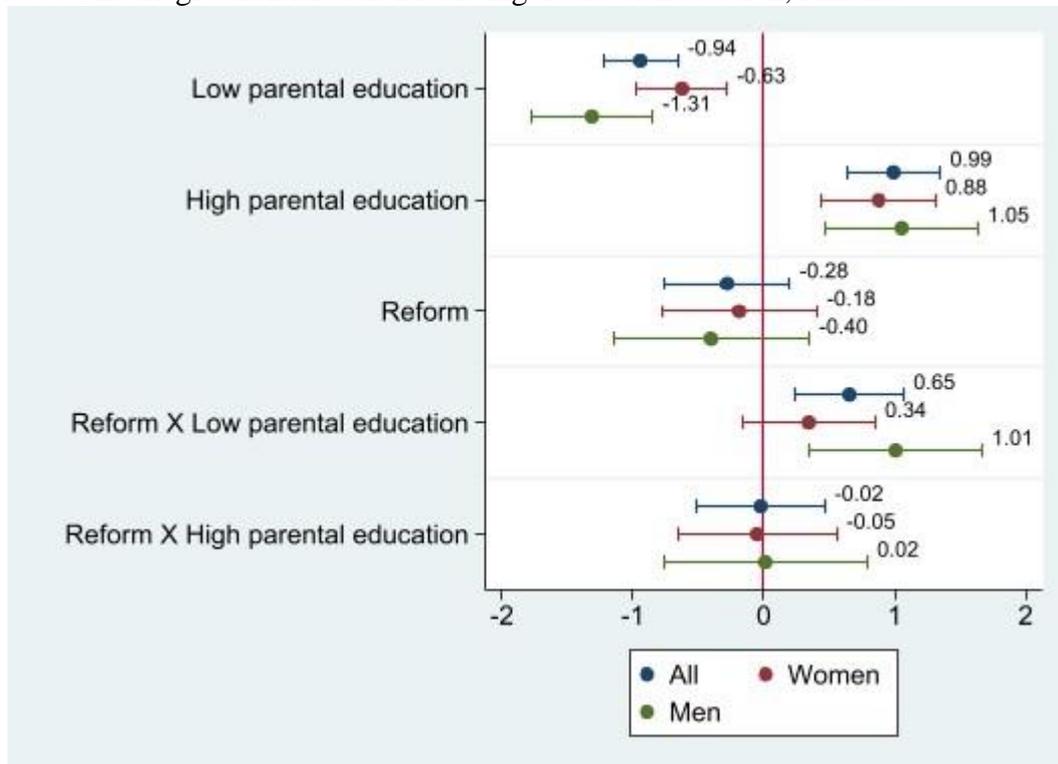
**Figure 1.** OLS Regression Models Predicting Years of Education, Belgium.



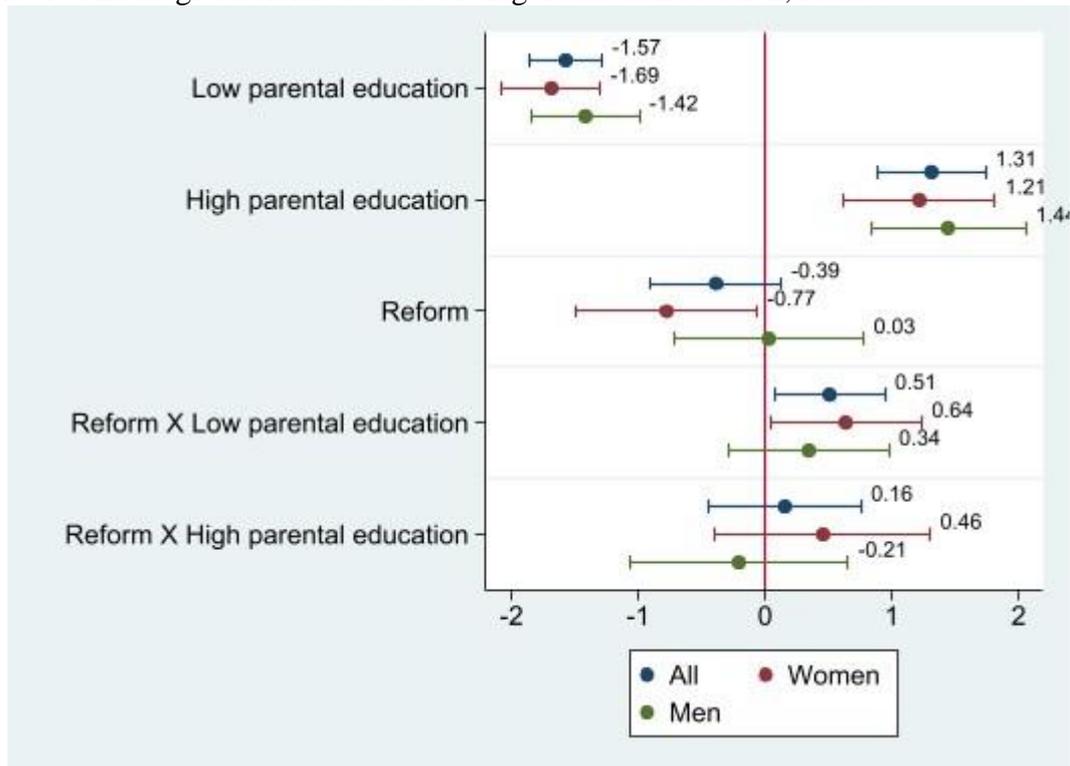
**Figure 2.** OLS Regression Models Predicting Years of Education, Denmark.



**Figure 3.** OLS Regression Models Predicting Years of Education, Finland.



**Figure 4.** OLS Regression Models Predicting Years of Education, France.



**Figure 5.** OLS Regression Models Predicting Years of Education, Italy.

