

School entry and leaving laws and earnings over the life cycle

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Abstract

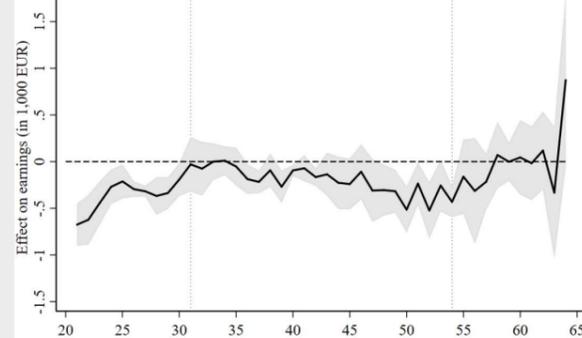
Purpose: Study the lifetime effects of school entry and leaving laws on labor market outcomes.

Method: Exploit geographical and temporal variation from independent changes in cutoff rules for school enrollment and compulsory schooling requirements in Germany after WWII.

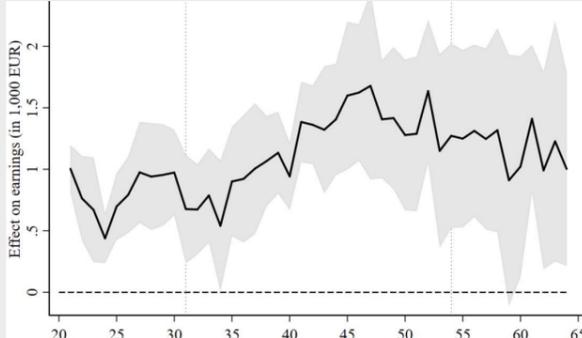
Results: Returns to compulsory schooling differ by the statutory age at school entry; younger school starters benefit relatively more from extended schooling compared to older entrants.

Results

Age-specific effects of age at school entry



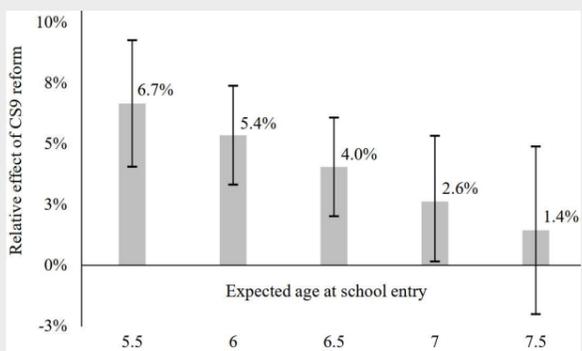
Age-spec. effects of compulsory schooling



Lifetime effects on earnings

	(1)	(2)	(3)
Earnings (in 1,000 EUR as of 2015)			
ASE	-5.009 ** (2.361)	-3.969 (2.456)	-2.487 (2.395)
[Rel. to Y-mean]	[-0.6%]	[-0.4%]	[-0.3%]
CS9	34.637 *** (8.476)	39.291 *** (8.823)	41.552 *** (9.293)
[Rel. to Y-mean]	[3.9%]	[4.4%]	[4.7%]
Obs.	278,788		
Policy controls	no	yes	yes
Quality controls	no	no	yes

Interaction effects



Motivation & Research Questions

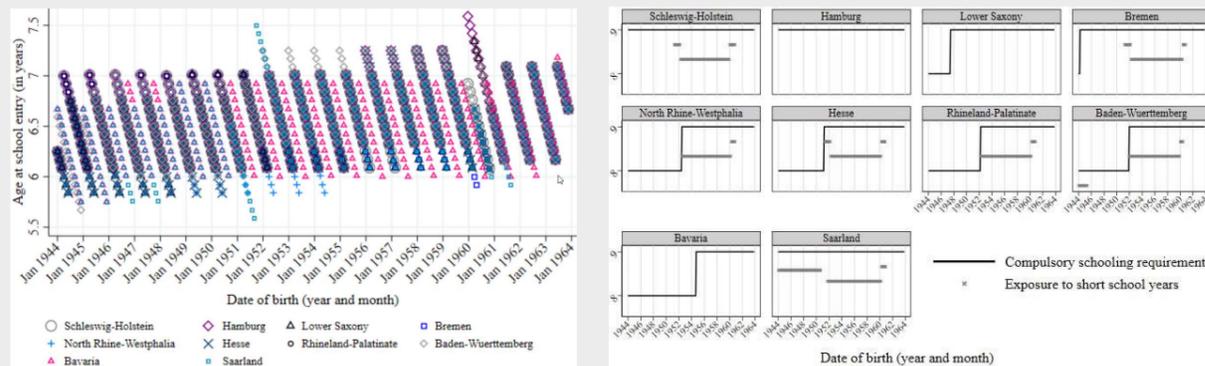
School entry and leaving laws typically coexist. Both might affect outcomes in the long run but are usually studied in isolation, which might mask potential interaction effects.

- Are there important interaction effects between these policies?
- To what extent can later policies reinforce or compensate for initial disparities due to school entry rules?

Relevant School Regulations in Germany after World War II

School enrollment typically after the 6th birthday but the exact cut-off dates are state-specific. The expected age at school entry depends on birth date, state of school enrollment, and the starting date of the school year.

Compulsory schooling is grade-based (not age-based). Extension from 8 to 9 years after WWII. In some states, a simultaneous shift of the starting date of the school year yielded two shortened school years. Exposure to the reforms depended on birth date and state.



Age at school entry and compulsory schooling duration are independent.

Data & Method

NEPS Starting Cohort 6 - Adults

- Survey collected annually since 2007/8.
- Detailed information on educational trajectories, date and place of birth

SIAB 1975 - 2017

- 2 % sample from social security records
- Daily data on labor market biographies
- Limited information on educational attainment, place of schooling unknown
- Focus on individuals born 1944 - 1963

Empirical Strategy – Diff-in-Diff

(1) Compliance (using NEPS)

$$Educ_{istm} = \alpha_1 ASE_{stm} + \beta_1 CS9_{stm} + \theta_s + \theta_t + \theta_m + X'_{istm} \gamma_1 + Z'_{stm} \delta_1 + \varepsilon_{istm}$$

(2) Reduced form (using SIAB)

$$y_{istm} = \alpha_2 ASE_{stm} + \beta_2 CS9_{stm} + \chi_s + \chi_t + \chi_m + X'_{istm} \gamma_2 + Z'_{stm} \delta_2 + v_{istm}$$

$Educ_{istm}$: actual age at school entry, years of schooling

y_{istm} : earnings (sum over ages 20 – 64, age-specific annual sums)

ASE_{stm} : expected age at school entry according to the cut-offs

$CS9_{stm}$: compulsory schooling requirement (=1 if 9 yrs, =0 if 8 yrs)

state (θ_s, χ_s), year-of-birth (θ_t, χ_t), month-of-birth (θ_m, χ_m) FE

X_{istm} : individual controls (gender, survey year, parental background)

Z_{stm} : policy controls (short school yrs, cohort size, enrollment in fall)