

The Lasting Consequences of Communist Indoctrination in School: Evidence from Poland

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The effect of Communist institutions

- Political regimes shape individual preferences and decisions with long-term economic effects.
- Exposure to socialist regimes -particularly during impressionable years- has a persistent effect on trust (Heineck and Sussmuth, 2013; Letki, 2004), social preferences (Alesina and Fuchs-Schundeln, 2007; Costa-Font and Nicinska, 2020), and labour market outcomes (Lichter et al., 2020; Fuchs-Schundeln and Masella, 2016).
- What are the instruments of socialist states to shape people's preferences and behaviour:
 - Mass surveillance (Lichter et al., 2020)
 - Mass media (Della Vigna and La Ferrara, 2015)
 - **Education** (Huang et al. 2020; Fuchs-Schundeln and Masella, 2016; Cantoni et al. 2017)
 - Previous evidence from Germany shows exposure to communist education has a negative effect on human capital investments and labour market outcomes (Masella and Fuchs-Schundeln, RESTAT 2016).

This paper

- Exploits Polish census data and date of birth induced variation in exposure to a reform that reduced the load of Marxist-Leninist indoctrination in school to:
 - Investigate the effect of Marxist-Leninist indoctrination on labour force participation and human capital outcomes.
 - We find that an additional year of exposure to an educational system with a reduced load of Marxist-Leninist indoctrination increases human capital investments and labour force participation nearly 50 years later.

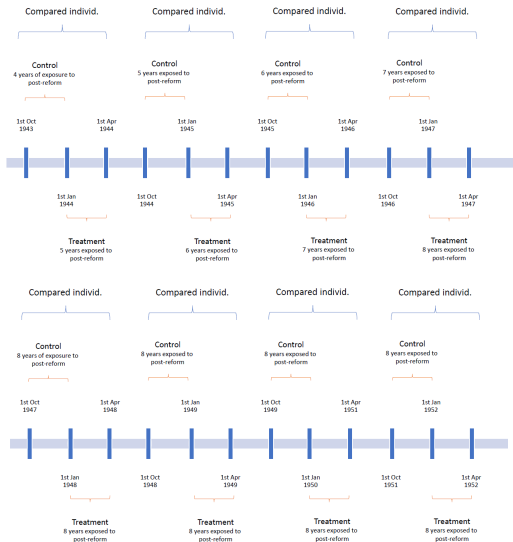
Institutional background

- Following the foundation of the Polish People's Republic in 1947, the Polish government introduced an education model based on free compulsory education in secular public co-educational schools tightly controlled by central authorities.
- Education curriculum pursues the development of “new Soviet men” and served as a mean of indoctrination instilling values of communitarianism, atheism and anti-capitalism (Jarosz, 1998).
- The 1954/55 reform:
 - Following the death of Stalin, the new Polish government reduced the load of Marxist-Leninist ideology from courses of Polish, Russian, history, constitution, mathematics, chemistry, biology, geography, astronomy, logics, and physical education in all schools.
 - As a result, the number of school hours dropped from 29 to 26, with no other major change in the content of the curriculum.
 - Examples of indoctrination activities: Performance assessment no longer rewards uncritical participation in ideological activities or Stalin-themed recitation competitions.

Data

- Polish Census 2002:
 - IPUMS project including information from 1% of the population on labour force participation and educational outcomes.
 - Only round of census with information on month and year of birth.
- Polish Household Budget (HBS) surveys:
 - Rounds 1998-2000 including information from labour force participation, income and educational outcomes.
 - Used in the robustness checks.

Identification strategy:



Identification strategy:

- Exposed individuals: Those individuals that during their compulsory years of education were exposed to at least one year of pre-reform education and at least one year of post-reform education.
- Unexposed individuals: Individuals that started school after the introduction of the reform.
- Within exposed individuals, those born just after January 1st started school one year later than those born just a few days before.
- Thus, exposed individuals born just after January 1st were exposed to one additional year of education under the reformed system relative to those born a few weeks before.

Identification strategy:

- We estimate the following model:

$$\begin{aligned} Outcome_{i,c} = & \delta_0 + \delta_1 Q1 \times Exposed_{i,c} + \delta_2 Q1_{i,c} \\ & + \delta_3 Age_{i,c} + \delta_c + u_{i,c,s} \end{aligned} \quad (1)$$

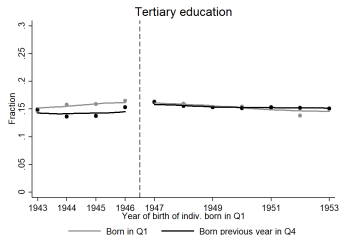
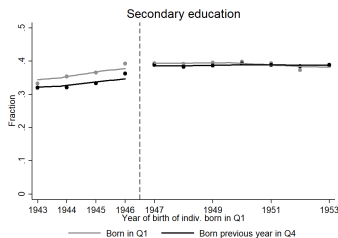
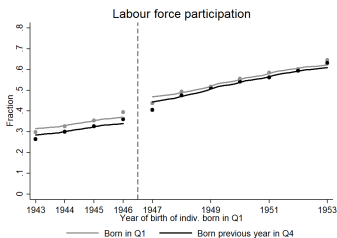
- δ_1 measures the effect of one additional year of exposure to the post-reform educational system (with a lower load of indoctrination).
- $Q1=1$ if individual is born in the first quarter of the year and 0 if born in the last quarter of the previous year.

Identification condition:

Table: Placebo effect: The effect of being old in cohort across different educational systems:

Educated only before 1954 reform vs only post-1954 reform				
VARIABLES	(1) Secondary educ.	(2) Tertiary educ.		
Q1 × Only pre-1954 individuals	0.00211 (0.0045)	0.00409 (0.0032)		
Q1	0.00683 (0.0030)	0.00132 (0.0022)		
Observations	187,030	187,030		
Cut-off of reference FE	YES	YES		
Educated only during communism				
VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Q1 × Only educated in communism	-0.00250 (0.0124)	0.00195 (0.0115)	0.0113 (0.0107)	-0.0110 (0.0167)
Q1	0.00492 (0.0107)	0.00146 (0.0104)	-0.00527 (0.00871)	0.0137 (0.0134)
Observations	26,674	26,674	26,728	26,427
Cut-off of reference	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES

Educational reform 1954-55 (removal of Marxist-Leninist indoctrination)



Educational reform 1954-55 (Census data)

Table: Effect of an additional year of post-Marxist-Leninist education

VARIABLES	(1) Work	(2) Secondary educ.	(3) Tertiary educ.
Q1 × Exposed	0.0147*** (0.00474)	0.0163*** (0.00468)	0.0113*** (0.00349)
Q1	0.0155*** (0.00308)	0.00683** (0.00300)	0.00132 (0.00222)
Observations	198,200	200,706	200,706
Cut-off of reference FE	YES	YES	YES
Age	YES	YES	YES
Sex	YES	YES	YES

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: Polish Census 2002

Robustness checks

- 1 Placebo date for the reform [Analysis](#)
- 2 Use of an alternative dataset (HBS) [Analysis](#)
- 3 Difference-in-discontinuity analysis [Analysis](#)
- 4 School reform following the fall of communist regime in 1989/90
[Analysis](#)
- 5 Effects by gender [Analysis](#)

Values

Table: Effect on values of the 1954/55 reform that removed ideology from educational curriculum

VARIABLES	(1) Freedom	(2) Dependence on authorities
Q1 × Exposed	-0.0207* (0.0107)	-0.0471* (0.0243)
Q1	0.0153** (0.00735)	0.0318** (0.0160)
Observations	2,169	2,144
R-squared	0.012	0.006
Cut-off of reference FE	YES	YES
Age	YES	YES
Sex	YES	YES

Conclusions

- Marxist-Leninist indoctrination in school exerts long-lasting negative consequences on labour force participation and human capital investments.
- Results suggest that values instilled in school play a crucial role in human capital accumulation and labour force participation.

Table: Placebo effects of an introduction of a placebo reform in 1962/63

VARIABLES	(1) Work	(2) Secondary educ.	(3) Tertiary educ.
Q1 × Exposed	0.00337 (0.00390)	-0.00652 (0.00403)	-0.00271 (0.00302)
Q1	0.00434 (0.00269)	0.00554* (0.00285)	0.00150 (0.00217)
Observations	257,632	261,729	261,729
Cut-off of reference FE	YES	YES	YES
Year of Survey FE	YES	YES	YES
Age	YES	YES	YES
Sex	YES	YES	YES

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *Source:* Polish Census 2002

Table: Effect of the additional year of post-Marxist education (HBS survey)

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Q1 × Exposed	0.0126 (0.0135)	0.0172* (0.00892)	0.0270** (0.0133)	0.0327** (0.0161)
Q1	-0.0140 (0.0094)	-0.0160*** (0.00604)	0.0034 (0.0089)	-0.0220** (0.0111)
Observations	22,203	22,203	22,284	22,091
Cut-off of reference FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES

Note: Data used is from the HBS 1998-2000. Robust standard errors in parentheses.***
 $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

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Table: Difference-in-discontinuity estimates of the effect of the 1954/55 reform

VARIABLES	(1) Work	(2) Secondary educ.	(3) Tertiary educ.
<i>Linear polynomial</i>			
Old in cohort × Affected cohort	0.0248*** (0.00598)	0.0199*** (0.00642)	0.0126*** (0.00388)
<i>Quadratic polynomial</i>			
Old in cohort × Affected cohort	0.0172*** (0.00613)	0.0265*** (0.00652)	0.0166*** (0.00487)
Observations	709,955	718,746	718,746

Note: Standard errors in parentheses clustered at the running variable level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *Source:* Polish Census 2002

Table: Effect of an additional year of post-communist education

	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Q1 × Exposed	0.0107 (0.0107)	0.0097 (0.0117)	0.0117 (0.00959)	-0.000907 (0.0152)
Q1	0.0172 (0.0094)	0.0063 (0.0105)	-0.00360 (0.00861)	0.0105 (0.0134)
Observations	40,347	40,347	40,455	40,100
Cut-off of reference FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: HBS 2011-2017.

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Table: Effect of the 1954-55 reform that removed ideology from educational curriculum (2002 Census): Only women

	(1) Work	(2) Secondary educ.	(3) Tertiary educ.
Q1 × Exposed	0.0106* (0.00630)	0.0225*** (0.00655)	0.0177*** (0.00496)
Q1	0.0156*** (0.00428)	0.0147*** (0.00424)	0.00359 (0.00321)
Observations	103,411	104,710	104,710
Cut-off of reference FE	YES	YES	YES
Age	YES	YES	YES

Note: Data used is from the 2002 Polish Census. Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1

Table: Effect of the 1954-55 reform that removed ideology from educational curriculum (2002 Census): Only men

	(1) Work	(2) Secondary educ.	(3) Tertiary educ.
Q1 × Exposed	0.0154 (0.00701)	0.00857 (0.00663)	0.00400 (0.00490)
Q1	0.0131 (0.00440)	0.00105 (0.00418)	-0.000299 (0.00303)
Observations	94,789	95,996	95,996
Cut-off of reference FE	YES	YES	YES
Age	YES	YES	YES

Note: Robust standard errors in parentheses. *Source:* Polish Census 2002