

The effects of communist indoctrination: Evidence from two educational reforms in Poland

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The effect of communist regimes:

- Political regimes shape people's preferences and decisions with long-term consequences on socioeconomic outcomes.
- Exposure to socialist regimes 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 instruments have been used by communist regimes to shape people's preferences and behaviour:
 - Mass surveillance (e.g. STASI) (Lichter et al., 2020)
 - Mass media
 - **Education** (Huang et al. 2020; Fuchs-Schundeln and Masella, 2016)



Communist education in Eastern Europe:

- Following the end of World War II, communist regimes in Eastern Europe expanded free education throughout their populations.
- Education was used in these countries to expand communist values among the new generations (e.g. The New Man):
 - Communitarianism (e.g. "potty" break in East Germany)
 - Anti-capitalism
 - Promote labour force participation among females
 - Atheism
- Fuchs-Schündeln and Masella (2016) documents that exposure to East Germany education system has negative long-term effects on human capital investments and labour market outcomes.
- To what extent are these negative effects caused by communist indoctrination in school?

This paper

- Exploits cutoff birth dates for school enrollment that lead to variation in the degree of exposure to two educational reforms in Poland that changed the load of communist indoctrination in the school curriculum.
 - School reform that in 1954-55 reduced Marxist-Leninist ideology from school curricula after Stalin's death.
 - School reform that followed the fall of the communist regime in Poland and came into force in 1989-90.

Outline

- 1. Motivation
- 2. Research question
- 3. Preview of results
- **4. Outline**
- 5. Education in Poland
- 6. Data
- 7. Empirical strategy
- 8. Results
- 9. Conclusions
- 10. Next steps

Communist education in Poland

- Most of the schools in Poland were suspended after German invasion in 1939 and only resumed in 1944-45.
- Polish People's Republic developed an education system based on the Soviet education system.
- The new education system provides compulsory education (7 years raised to 8 in 1962 bill) with secular and public schools.
- One of the goals of the new system was expanding Marxist-Leninist values.

School reform 1954-55

- Following the death of Stalin, many Eastern European countries initiated economic and social reforms.
- The government of Zawadzki in Poland passed a radical reform of the school system:
 - Came into force the school year 1954-55.
 - Reform changed the content of courses to reduce Marxist-Leninist values from school curriculum, which resulted in a drop in the number of instruction hours.
 - Compulsory indoctrination courses for school teachers were removed.
 - Name of Stalin was entirely removed from history handbooks.

School reform 1989-90

- Following the national elections held in June 1989 and the collapse of the communist regime, the government initiated a wide set of political, economic and social reforms.
- During the school years 1989-90 and 1990-91, the government of Poland introduced different reforms in the education system:
 - Decentralization of schooling.
 - Teaching of foreign languages, religion and reform of the civic education subject.
 - Teaching of religion in public schools.
 - Expansion of religious and private schools.
 - However, the late 1980s were relatively free of communist ideological activity in Polish education (Janowski, 1999).



Data

- Polish Census 2002:
 - Used in the analysis of the 1954-55 educational reform.
 - IPUMS project.
 - 1999 is the only census with information on month of birth.
- Polish Household Budget (BBGD) surveys:
 - 1989-90 educational reform (BBGD rounds 2011-2017).
 - 1954-55 educational reform (BBGD rounds 1998-2000).
- We plan to use The Survey of Health, Ageing and Retirement in Europe (SHARE).

Summary statistics:

Table: Descriptive statistics: Analytical sample for the 1954-55 reform (Census and BGDD data)

	Mean	Standard deviation	Min	Max
<i>Census data</i>				
Female	0.52	0.50	0	1
Age	53.91	2.48	50	59
Birth year	1948	2.48	1943	1952
Secondary educ.	0.38	0.49	0	1
Tertiary educ.	0.15	0.36	0	1
Vocational educ.	0.16	0.37	0	1
Work	0.47	0.50	0	1
<i>BGDD data</i>				
Female	0.53	0.50	0	1
Age	51.30	3.19	45	59
Birth year	1948	3.06	1943	1952
Secondary educ.	0.29	0.45	0	1
Tertiary educ.	0.12	0.32	0	1
Income p/c	670.08	467.97	0	14102.5

Summary statistics:

Table: Descriptive statistics: Analytical sample for the post-communist reform (BGDD data)

	Mean	Standard deviation	Min	Max
Female	0.51	0.50	0	1
Age	34.21	2.90	30	42
Birth year	1980	2.87	1976	1988
Secondary educ.	0.56	0.50	0	1
Tertiary educ.	0.35	0.48	0	1
Work	0.80	0.40	0	1
Income p/c	1453.40	1103.79	0	25000

Identification strategy:

- Affected cohorts: 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.
- Unaffected cohorts: Individuals exposed only to either pre-reform or post-reform education.
- Within affected cohorts, individuals born just before January 1st start school one year earlier than those born just after January 1st.
- Thus, when the reform was implemented, individuals from affected cohorts born just before January 1st were exposed to one additional year of education in the pre-reform education system.

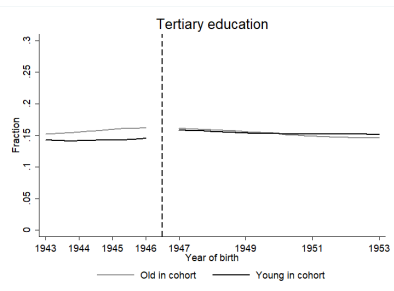
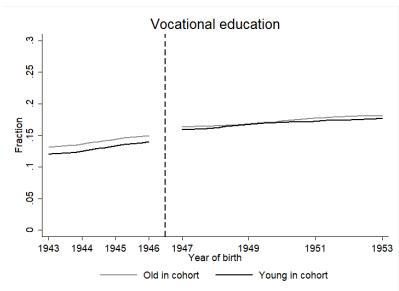
Identification strategy:

- We estimate the following model:

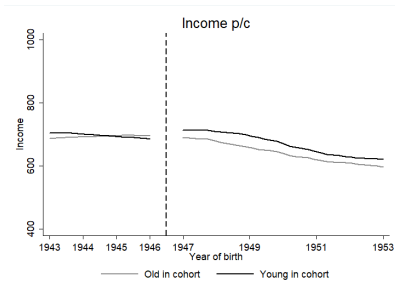
$$\begin{aligned}
 \ln \text{Income}_{i,c,s} = & \delta_0 + \delta_1 \text{Old in Cohort} \times \text{Affected Cohort}_{i,c,s} \\
 & + \delta_2 \text{Old in Cohort}_{i,c,s} + \delta_3 \text{Age}_{i,c,s} + \delta_4 \text{Cohort FE}_{c,s} \\
 & + u_{i,c,s}
 \end{aligned}
 \tag{1}$$

- δ_1 measures the effect of one additional year of exposure to the post-reform educational system.
- $\text{Old in Cohort}=1$ if individual is born in the first quarter of the year and 0 if born in the last quarter.

Educational reform 1954-55 (removal of Marxist indoctrination)



Educational reform 1954-55:



Educational reform 1954-55 (Census data)

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

VARIABLES	(1) Work	(2) Primary educ.	(3) Secondary educ.	(4) Tertiary educ.	(5) Vocational educ.
Old in cohort × Affected cohort	0.0147*** (0.00474)	0.000933 (0.000869)	0.0163*** (0.00468)	0.0113*** (0.00349)	0.00723** (0.00350)
Old in cohort	0.0155*** (0.00308)	-0.000249 (0.000497)	0.00683** (0.00300)	0.00132 (0.00222)	0.00211 (0.00231)
Affected cohort	-0.331*** (0.00858)	-0.00678*** (0.00175)	-0.0819*** (0.00864)	-0.0224*** (0.00644)	-0.0592*** (0.00627)
Observations	198,200	200,706	200,706	200,706	200,706
R-squared	0.036	0.000	0.002	0.000	0.002
Cohort FE	YES	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES	YES
Age	YES	YES	YES	YES	YES
Sex	YES	YES	YES	YES	YES
Mean	0.437	0.821	0.295	0.111	0.122

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

Educational reform 1954-55 (Census data)

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

VARIABLES	(1) Work	(2) Primary educ.	(3) Secondary educ.	(4) Tertiary educ.	(5) Vocational educ.
Old in cohort × Affected cohort	0.0106* (0.00630)	0.00111 (0.00123)	0.0225*** (0.00655)	0.0177*** (0.00496)	0.00750 (0.00477)
Old in cohort	0.0156*** (0.00428)	-0.000212 (0.000655)	0.0147*** (0.00424)	0.00359 (0.00321)	0.00359 (0.00323)
Affected cohort	-0.371*** (0.0110)	-0.00878*** (0.00262)	-0.147*** (0.0120)	-0.0530*** (0.00901)	-0.0835*** (0.00837)
Observations	103,411	104,710	104,710	104,710	104,710
R-squared	0.054	0.001	0.005	0.001	0.003
Cohort FE	YES	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES	YES
Age	YES	YES	YES	YES	YES
Sex	YES	YES	YES	YES	YES

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

Educational reform 1954-55 (Census data)

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

VARIABLES	(1) Work	(2) Primary educ.	(3) Secondary educ.	(4) Tertiary educ.	(5) Vocational educ.
Old in cohort × Affected cohort	0.0154** (0.00701)	0.000604 (0.00122)	0.00857 (0.00663)	0.00400 (0.00490)	0.00606 (0.00514)
Old in cohort	0.0131*** (0.00440)	-0.000260 (0.000754)	0.00105 (0.00418)	-0.000299 (0.00303)	0.000641 (0.00330)
Affected cohort	-0.273*** (0.0130)	-0.00429* (0.00224)	-0.0148 (0.0124)	0.00983 (0.00919)	-0.0311*** (0.00945)
Observations	94,789	95,996	95,996	95,996	95,996
R-squared	0.020	0.000	0.001	0.000	0.001
Cohort FE	YES	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES	YES
Age	YES	YES	YES	YES	YES
Sex	YES	YES	YES	YES	YES

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

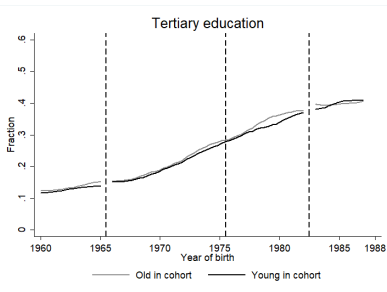
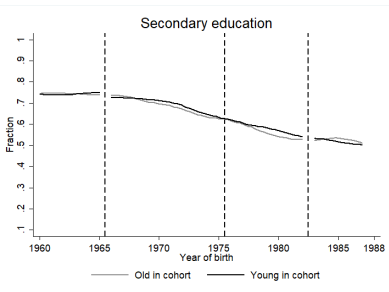
Educational reform 1954-55 (BGDD data)

Table: Effect of the 1954-55 reform that removed ideology from educational curriculum (BGDD 1998-2000)

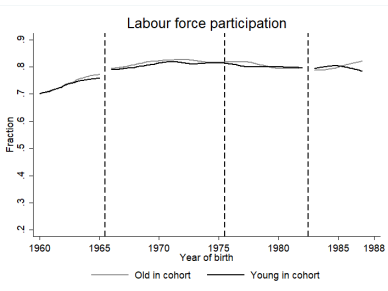
VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Affected cohort	-0.00453 (0.0124)	0.0172* (0.00892)	-0.00264 (0.00859)	0.0327** (0.0161)
Old in cohort	0.00191 (0.00875)	-0.0160*** (0.00604)	-0.00623 (0.00527)	-0.0220** (0.0111)
Affected cohort	-0.0904 (0.0936)	0.219*** (0.0682)	0.132** (0.0644)	-0.857*** (0.120)
Observations	22,203	22,203	14,034	22,091
R-squared	0.006	0.002	0.001	0.021
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES
Mean	0.287	0.0953	0.943	6.101

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

Educational reform 1989-90



Educational reform 1989-90



Educational reform 1988-89

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

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Affected cohort	-0.0159 (0.0119)	0.00602 (0.0116)	0.0117 (0.00959)	-0.000907 (0.0152)
Old in cohort	-0.00154 (0.0107)	0.00842 (0.0104)	-0.00360 (0.00861)	0.0105 (0.0134)
Affected cohort	0.288** (0.125)	-0.236* (0.122)	-0.0297 (0.0989)	-0.716*** (0.155)
Observations	40,347	40,347	40,455	40,100
R-squared	0.005	0.007	0.001	0.023
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES
Mean	0.482	0.302	0.504	7.051

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

Educational reform 1988-89

Table: Effect of an additional year of exposure to post-communist education (only females)

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Affected cohort	-0.000708 (0.0167)	-0.0118 (0.0167)	0.0145 (0.0152)	0.000173 (0.0210)
Old in cohort	-0.0135 (0.0150)	0.0202 (0.0150)	-0.00773 (0.0137)	0.00940 (0.0187)
Affected cohort	0.209 (0.167)	-0.0981 (0.166)	0.0375 (0.147)	-0.494*** (0.190)
Observations	20,682	20,682	20,726	20,544
R-squared	0.009	0.011	0.002	0.025
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES

Note: Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1

Educational reform 1988-89

Table: Effect of an additional year of exposure to post-communist education (only males)

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Affected cohort	-0.0257 (0.0165)	0.0186 (0.0155)	0.0153 (0.0108)	-0.00176 (0.0221)
Old in cohort	0.00793 (0.0148)	-0.000660 (0.0139)	-0.00222 (0.00975)	0.0114 (0.0192)
Affected cohort	0.340* (0.191)	-0.304* (0.173)	-0.157 (0.117)	-0.971*** (0.263)
Observations	19,665	19,665	19,729	19,556
R-squared	0.004	0.005	0.002	0.023
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES

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

Educational reform 1988-89

Table: Effect of an additional year of exposure to post-communist education (secondary school).

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Affected cohorts	-0.0125 (0.00980)	0.00443 (0.00839)	-0.00475 (0.00878)	0.0153 (0.0141)
Old in cohort	-0.000613 (0.00688)	0.00765 (0.00545)	0.00776 (0.00674)	0.00670 (0.0104)
Affected cohorts	-0.0610 (0.0977)	0.135 (0.0837)	0.0623 (0.0893)	0.993*** (0.144)
Observations	35,082	35,082	35,146	34,689
R-squared	0.012	0.023	0.008	0.034
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES
Mean	0.482	0.302	0.504	7.051

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Educational reform 1988-89

Table: Placebo: Effect of young in cohort in communist education vs in post-communist education.

VARIABLES	(1) Secondary educ.	(2) Tertiary educ.	(3) Work	(4) Ln income p/c
Old in cohort × Only communist cohorts	-0.00250 (0.0124)	0.00195 (0.0115)	0.0113 (0.0107)	-0.0110 (0.0167)
Old in cohort	0.00492 (0.0107)	0.00146 (0.0104)	-0.00527 (0.00871)	0.0137 (0.0134)
Only communist cohorts	-0.0852 (0.236)	0.156 (0.210)	0.114 (0.214)	-1.775*** (0.353)
Observations	26,674	26,674	26,728	26,427
R-squared	0.049	0.085	0.005	0.032
Cohort FE	YES	YES	YES	YES
Year of Survey FE	YES	YES	YES	YES
Age	YES	YES	YES	YES
Sex	YES	YES	YES	YES
Mean	0.482	0.302	0.504	7.051

Note: Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1

Conclusions

- The removal of Marxist-Leninist indoctrination in school has a negative effect on human capital investments and labour market outcomes.
- Effects on labour market outcomes are larger for males while effects on human capital investments are larger for females.
- Other elements of the communist education system in Poland seem to have limited effects on human capital investments and labour market outcomes.

Next steps

- Explore effect of the educational reforms on changes in attitudes and preferences using SHARE data.
- Additional robustness checks: alternative definitions of treatment and control groups, etc.