

Regime Changes and Economic Preferences: Global Evidence

Milestone 3: Econometric Approach

Andrea Češková and Elvin Mammadov

Table of contents

| | |
|---|----------|
| 1 Economic model | 1 |
| 2 Setting | 2 |
| 3 Mechanism | 2 |
| 4 Source of Bias and Identification | 3 |
| 4.0.1 Potential Biases and Mitigation | 3 |
| 5 Formulas | 3 |
| 6 Identified Types of Effects | 4 |
| 6.0.1 Identification Assumptions | 4 |
| 7 Questions for meeting on 12.3. | 4 |
| References | 5 |

1 Economic model

As Detlefsen et al. (2024) points out, the formation of economic preferences in **childhood** and **adolescence** has a long-term consequences for life outcomes. To provide an example, patience can impact one's school performance, which can later translate to education attainment and labor market outcomes. The same way can risk preference impact one's financial decisions (Detlefsen et al. 2024).

According to the National Library of Medicine, childhood is defined as a stage from **3-11 years** and adolescence as a stage from **12-18 years**([balasundaram2025?](#)). But what factors can have an impact on economic preferences?

2 Setting

Treatment definition was one of our main tasks until now. Our goal was to capture both **sudden** and **gradual regime changes** and direction of change (democratization/autocratization) according to changes in **LDI** (Liberal Democracy Index).

We followed similar methodology as described in ([Lührmann et al. 2020](#)), which is based on the evaluating differences of the LDI at time t and time $t-10$. Afterwards, following steps are executed:

- Computation of standard errors and **confidence intervals** of the respective changes.If the **confidence intervals don't overlap** and the **absolute value of the change in LDI is higher than 0.05**, the change in LDI is recognized as significant and identified as regime change.
- If regime change in a country at time t is identified, we take a look into the gps dataset and **assign the treatment to individuals, who are between 3-18 years at the time of regime change in their country**.

3 Mechanism

Our core hypothesis is that political regime changes during formative years (ages 3–18) have lasting impacts on non-cognitive preferences. This aligns with psychosocial development theory ([Balasundaram and Avulakunta 2025](#); [Detlefsen et al. 2024](#)).

We cannot test the mechanism directly, but we test its implications through a Difference-in-Differences (DiD) approach:

- Individuals are assigned to treatment if they experienced a regime change during their formative years.
- All individuals are surveyed in the same period (2012–2013), minimizing confounding from external shocks.

This setup controls for country-specific time-invariant factors and period shocks. Our methodology is similar to cohort-based DiD approaches used by ([Friehe and Pannenberg 2020](#)) and ([Fuchs-Schündeln and Schündeln 2015](#)).

We additionally test the intensity of treatment by examining whether the number of years spent under the new regime correlates with preference scores.

Possible estimators: (Callaway, Goodman-Bacon, and Sant’Anna 2024), (Borusyak, Jaravel, and Spiess 2024), (Chaisemartin and D’Haultfœuille 2020). In our current setting, the treatment assignment happens just once.

4 Source of Bias and Identification

Our identification strategy leverages a DiD design comparing cohorts within countries based on exposure to regime change during formative years. We estimate the **Average Treatment Effect on the Treated (ATT)**, assuming parallel trends.

4.0.1 Potential Biases and Mitigation

- **Endogeneity of regime change exposure:**
Exposure is not random, but we exploit birth year variation within countries. Similar to the quasi-experimental setup in (Fuchs-Schündeln and Schündeln 2015).
- **Time-invariant country-level confounding:**
Fixed effects absorb differences in culture, geography, or historical institutions.
- **Measurement of regime change:**
Defined as statistically significant changes in LDI over a 10-year span, (Lührmann et al. 2020).
- **Residual selection bias:**
Countries with frequent regime changes may differ systematically (e.g., lower GDP), leading to downward bias in preference measures.

5 Formulas

Following (Fuchs-Schündeln and Schündeln 2015) and (Friehe and Pannenberg 2020), we estimate the following model:

$$Y_{ict} = \alpha + \beta \cdot \text{FormativeRegimeChange}_{ic} + \gamma_c + \delta_t + X'_{ict}\theta + \varepsilon_{ict}$$

Where:

- (Y_{ict}): Preference outcome (trust, patience, etc.) for individual (i), country (c), birth cohort (t)
- ($\text{FormativeRegimeChange}_{ic}$): Treatment indicator (1 if experienced regime change between ages 3–18)
- (γ_c): Country fixed effects

- (δ_t): Birth cohort fixed effects
- (X_{ict}): Controls (e.g., age, GDP per capita, subjective math skills)
- (β): Causal effect of interest

6 Identified Types of Effects

We use DiD to estimate the **ATT**: the effect of regime change exposure on those who actually experienced it.

6.0.1 Identification Assumptions

- **Parallel Trends:**
Absent treatment, treated and control groups would evolve similarly over time.
- **No Spillovers:**
Regime changes in one country do not affect individuals in another.
- **Common Shocks:**
Global events impact both groups equally. Year-fixed effects help address this.

7 Questions for meeting on 12.3.

- After running the basic regression -> effect of formative_regime_change significant but low R2
- Regarding the methodology as described in “Setting”: We are capturing democratization/autocratization as a regime change. But maybe not all democratization/autocratization process must necessarily mean the regime has changed? Should we consider another criterion which at the end evaluates if the value of LDI is: above 0.5 -> liberal democracy, below 0.5 -> autocracy?
- Treatment assignment: With the current approach, there is a lot of observations who, according to our function, experience regime change at age 0. It is because the function evaluates just the first democratization/autocratization occurrence. But I keep thinking there could be more such episodes? Should we aim to capture also other episodes OR change the confidence intervals threshold? This problem also connects to the next question:
- How do we calculate the years that have passed since the new regime change? For example, maybe a person changed regimes twice in his formative years? How do we calculate this? Or just we count from the first change?

- Adding interaction term $TimeToTreatment_{c,t,k}$ as an indicator for being k **periods away from the treatment** (regime change) in country c at time t ?

References

- Balasundaram, Palanikumar, and Indirapriya Darshini Avulakunta. 2025. “Human Growth and Development.” In *StatPearls*. Treasure Island (FL): StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK567767/>.
- Borusyak, Kirill, Xavier Jaravel, and Jann Spiess. 2024. “Revisiting Event Study Designs: Robust and Efficient Estimation.” arXiv. <https://doi.org/10.48550/arXiv.2108.12419>.
- Callaway, Brantly, Andrew Goodman-Bacon, and Pedro H. C. Sant’Anna. 2024. “Difference-in-Differences with a Continuous Treatment.” arXiv. <https://doi.org/10.48550/arXiv.2107.02637>.
- Chaisemartin, Clément de, and Xavier D’Haultfoeulle. 2020. “Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects.” *American Economic Review* 110 (9): 2964–96. <https://doi.org/10.1257/aer.20181169>.
- Detlefsen, Lena, Andreas Friedl, Katharina Lima de Miranda, Ulrich Schmidt, and Matthias Sutter. 2024. “Are Economic Preferences Shaped by the Family Context? The Relation of Birth Order and Siblings’ Gender Composition to Economic Preferences.” *Journal of Risk and Uncertainty* 69 (1): 1–31. <https://doi.org/10.1007/s11166-024-09433-7>.
- Friehe, Tim, and Markus Pannenberg. 2020. “Time Preferences and Political Regimes: Evidence from Reunified Germany.” *Journal of Population Economics* 33 (1): 349–87. <https://doi.org/10.1007/s00148-019-00728-7>.
- Fuchs-Schündeln, Nicola, and Matthias Schündeln. 2015. “On the Endogeneity of Political Preferences: Evidence from Individual Experience with Democracy.” *Science* 347 (6226): 1145–48. <https://doi.org/10.1126/science.aaa0880>.
- Lührmann, Anna, Seraphine F. Maerz, Sandra Grahn, Nazifa Alizada, Liza Gastaldi, Sebastian Hellmeier, Gary Hindle, and Staffan I. Lindberg. 2020. “Autocratization Surges – Resistance Grows. Democracy Report 2020.” Varieties of Democracy Institute (V-Dem). https://v-dem.net/documents/14/dr_2020_dqumD5e.pdf.