Decomposing the Rise of the Populist Radical Right

Oren Danieli, Noam Gidron, Shinnosuke Kikuchi, Ro’ee Levy

NBER Fall Meeting
October 2022
Background

- Dramatic increase in support for **Populist Radical Right Parties** (PRRP) in Europe

- Widespread implications
  - Joining/leading governments
    (Akkerman et al., 2016; De Lange, 2012; Funke et al., 2020)
  - Affect policy
    (Rathgeb and Busemeyer, 2021)
  - Erode democratic norms
    (McCoy and Somer, 2019)

Source: CMP data for 22 European countries
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  - Affect policy
    (Rathgeb and Busemeyer, 2021)
  - Erode democratic norms
    (McCoy and Somer, 2019)

- Despite rich literature on rise of populism, no consensus on main explanation
  (Guriev and Papioannou, 2020)
Research Question

How has the support for PRRP increased?

1. Supply: Have party positions changed?
   - Example: mainstream parties have shifted too much to the left on cultural issues (Abou-Chadi and Wagner, 2020)

2. Demand I: Have voters changed?
   - Example: growing hostility towards immigrants (Hangartner et al., 2019; Rudolph and Wagner, 2021; Nordø and Ivarsflaten, 2021)

3. Demand II: Have priorities at the ballot changed?
   - Example: voters prioritize cultural issues (Bonomi et al., 2021; Grossman and Helpman, 2021; Enke et al., 2022)

Demand channels reflect ongoing debate in political science:
- “wave” of nativism vs. “reservoir” of voters now “activated” (Bartels, 2017; Bonikowski, 2017)
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- Party positions
- Voter characteristics (demographics and opinions)
- Voter priorities
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- Merge wide datasets on party positions and voters characteristics

Result: voter priorities drive most of the increase in PRRP support

- Voters put relatively less weight on economic issues
- Voters prioritize conservative cultural issues
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- **Document** key trends in each component

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  - Share of the trend explained holding other components constant

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Contribution to the Literature

Decomposition is a descriptive method

- Common practice in Labor Economics, especially for the rise of inequality
  (Juhn et al., 1993; DiNardo et al., 1996; Fortin et al., 2011)

Knowing the What/How is important for knowing the Why

- Test if theories that are consistent with facts
  - Supply (Akkerman, 2015; Berman, 2021; Berman and Kundnani, 2021; Zeira, 2022)
  - Demand I: Voter characteristics (Hangartner et al., 2019)
  - Demand II: Voter priorities (Bartels, 2017; Sides et al., 2019; Magistro and Wittstock, 2021)
- Provide mechanism for reduced form analysis
  - Technological change (Anelli et al., 2019); financial crises (Funke et al., 2020); trade (Colantone and Stanig, 2018; Autor et al., 2020; Dippel et al., 2020; Frieden, 2022); new media technology (Guriev et al., 2021; Manacorda et al., 2022)
- Focus attention on the right outcome variable
  - Importance of cultural issues
  - Theory (Enke, 2020; Bonomi et al., 2020, 2021)
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Parties: Comparative Manifesto Project

- Share of sentences in manifesto (party platform) discussing topics
- For many issues positive and negative mention counted separately
- Captures change in positions (Adams, 2012)
- Use all 56 party positions
Voters: Integrated Values Survey

- Combination of the World Values Survey (WVS) and the European Values Survey (EVS)
- 22 countries that appeared in both first and last wave
- Use over 100 variables that exist for vast majority of country-waves
- Includes questions on
  - Demographics
  - Opinions
  - Supported party

Summary Stats  PRRP Support Map
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Design
  Data
  Model
  Decomposition

Results
Voting Model

- The utility of voter $i$ from party $j$ is a function of

$$U_{ij} = z_j'w_i(x_i) + \zeta_j + \varepsilon_{ij}$$

- Party $j$’s positions $z_j = \{z_j^1, ..., z_j^L\}$
Voting Model

- The utility of voter $i$ from party $j$ is a function of
  \[ U_{ij} = z_j' w_i(x_i) + \zeta_j + \varepsilon_{ij} \]

- Party $j$’s positions $z_j = \{z_j^1, ..., z_j^L\}$

- The weights $w_i(x_i) = \{w_i^1, ..., w_i^L\}$ voter $i$ places on each position
  - Weights determine the issues individuals take into account when voting
  - \( \text{sign}(w_i^m) \) determines whether voter $i$ supports or opposes position $z^m$
  - \( 0 < |w_i^n| < |w_i^m| \): voter $i$ cares more about position $m$ compared to position $n$
  - Represent importance, salience, legitimacy
Voting Model

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  - $0 < |w^n_i| < |w^m_i|$: voter $i$ cares more about position $m$ compared to position $n$
    - Represent importance, salience, legitimacy
- The party’s valence $\zeta_j$ (candidate competence, party brand, etc.) + misspecification
- An error term $\varepsilon_{ij}$
- Similar to a bliss point model [Details]
Demand: Voting Weights

Demand is set by voting weights

\[ w_i(x_i) = x_i \Phi + \beta \]

- Weights are a linear function of voter characteristics \( x_i \) with priority parameters \( \Phi, \beta \)
- Voter characteristics \( x_i \) includes opinions and demographics
  - Directly observed from IVS
- The priority parameters \( \Phi, \beta \) determine how characteristics map to weights
  - Estimated
  - Can depend on importance, salience, legitimacy of specific positions
Table of Contents

Design
  Data
  Model
  Decomposition

Results
Decomposition

- $S_t$ PRRP vote share at time $t$

\[ S_t = \int P(\Pi|x_i; \theta_t, Z_t, \zeta_t) f_t(x_i) dx_i \]

- $P(\Pi|x_i)$ - the probability of voting for PRRP
  - $Z_t = \{z_{j,t}\}_{j \in J(c,t)}$ is the matrix of party positions $z_j$ at time $t$
  - $f_t(x_i)$ is the density of voter characteristics at time $t$
  - $\theta_t = (\Phi_t, \beta_t)$, is the set of priority parameters
  - $\zeta_t = \{\zeta_{j,t}\}_{j \in J(c,t)}$ is the vector of residuals

We include entry/exit as a residual (non-participation equivalent to $\zeta_t = -\infty$)

Change in PRRP support

\[ \Delta t + 1 S_t = \int P(\Pi|x_i; \theta_t + 1, Z_t + 1, \zeta_t + 1) f_{t + 1}(x_i) dx_i - \int P(\Pi|x_i; \theta_t, Z_t, \zeta_t) f_t(x_i) dx_i \]
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- Change in PRRP support

$$\Delta_{t+1}^{t+1} S = \int P(\Pi|\pi; \theta_{t+1}, Z_{t+1}, \zeta_{t+1}) f_{t+1}(x_i) dx_i - \int P(\Pi|\pi; \theta_t, Z_t, \zeta_t) f_t(x_i) dx_i$$
Decomposition (2)

\[ \Delta_{t+1}^t S_P = \int P(\Pi|x_i; \theta_t, Z_t, \zeta_{t+1}) f_t(x_i) \, dx_i - \int P(\Pi|x_i; \theta_t, Z_t, \zeta_t) f_t(x_i) \, dx_i \]

\[ \text{Residual} \]

\[ + \int P(\Pi|x_i; \theta_t, Z_{t+1}, \zeta_{t+1}) f_t(x_i) \, dx_i - \int P(\Pi|x_i; \theta_t, Z_t, \zeta_{t+1}) f_t(x_i) \, dx_i \]

\[ \text{Party Positions} \]

\[ + \int P(\Pi|x_i; \theta_t, Z_{t+1}, \zeta_{t+1}) f_{t+1}(x_i) \, dx_i - \int P(\Pi|x_i; \theta_t, Z_{t+1}, \zeta_{t+1}) f_t(x_i) \, dx_i \]

\[ \text{Voter Characteristics} \]

\[ + \int P(\Pi|x_i; \theta_{t+1}, Z_{t+1}, \zeta_{t+1}) f_{t+1}(x_i) \, dx_i - \int P(\Pi|x_i; \theta_t, Z_{t+1}, \zeta_{t+1}) f_{t+1}(x_i) \, dx_i \]

\[ \text{Voter Priorities} \]
Clarifications and Caveats

1. Descriptive analysis
   - Parameters are not causally identified
   - Components could affect each other

2. No strategic considerations
   - E.g. coordination efforts, barriers to entry
   - Attribute to the residual

3. No turnout (Guiso et al., 2017)
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Design

Results

Decomposition Results
Voter Characteristics
  Side Note: Geographical Decomposition
Voter Priorities
Decomposition Results

- 2005–2009: 0%
- 2011–2013: 25%
- 2017–2020: 100%
Decomposition Results By Country

Residual Party positions Voter characteristics Voting priorities Total

+23% +0% +10% +16% +23% 0% −7% +35%
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Voters Cultural Views Are Stable

- Jobs should prioritize natives
- Lack of confidence in EU
- Respect for authority
- Don’t want different race neighbors
- Don’t want immigrant neighbors
- Homosexuality not justifiable

- Similar results for other cultural variables
- Similar results for extremists

Opinions that changed the most
Change for extremists
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Counterfactual support for National Front if voter had characteristics as in other countries
Geographical Decomposition, 2017-2020

Voter characteristics explain geographical variation

Predicted Vote Share

0 5 10 15 20 25

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Aut: 15.8%, Che 12.2%, Din 8.8%, Den 12.8%, Est 18.4%, Fin 12.1%

---

Fra 11.3%, Gre 20%, Ita 29.1%, Pol 21.8%, Sp 16.6%

---

Bel 20.1%, Bgr 15.3%, Cze 25%, Est 18.4%, Est 15.8%

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Emb 8.8%, Fin 12.1%, Aut: 15.8%, Che 12.2%, Din: 8.8%

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Size of the reservoir in different countries
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Voter Priorities Drive Support in the Last Decade

- 2005-2009: +23%
- 2011-2013: +0%
- 2017-2020: +35%
Voting Weights

Voters have a weight for each party position

\[ U_{ij} = z_j \cdot w_i(x_i) + \zeta_j + \varepsilon_{ij} \]
Voting Weights

Voters have a weight for each party position

\[ U_{ij} = z'_j w_i(x_i) + \zeta_j + \varepsilon_{ij} \]

Hold characteristics \( x_i \) constant at 2017-2020 level

\[ w_i(x_i) = x_i^{2020} \Phi_t + \beta_t \]
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Hold characteristics \( x_i \) constant at 2017-2020 level

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Aggregate weights into two established indexes

- Economic Index
- Culture Index

- Units: Utility impact if party shifts 1\( \sigma \) to the right
Changes in Voting Weights, Fixed Voter Characteristics

- Weights on economic and cultural positions used to be similar

### Economic Index Weights

<table>
<thead>
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<th>Weight</th>
<th>Density</th>
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<td>0.75</td>
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<tr>
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### Cultural Index Weights

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</tbody>
</table>

**Wave 2005–2009 Wave**
Changes in Voting Weights, Fixed Voter Characteristics

- Weights on economic positions more concentrated around 0

**Economic Index Weights**

-2 −1 0

**Cultural Index Weights**

-2 −1 0

**Wave**

- Orange: 2017–2020 Wave
Changes in Voting Weights, Fixed Voter Characteristics

- Weights on cultural positions shifted to the right

![Economic Index Weights and Cultural Index Weights](image-url)
Polarization in Cultural Priorities

[Diagram showing box plots for different categories such as College vs. No College, Male vs. Female, Culturally Conservative vs. Culturally Liberal, Union Member vs. Not a Union Member, Urban vs. Rural, and two periods 2005-2009 vs. 2017-2020.]
Conclusions

How has the support for PRRP increased?

▶ Changes in voter priorities drive recent PRRP support
  ▶ Empirical evidence that voters prioritize cultural positions
  ▶ Reservoir of populist voters was activated (Bartels, 2017)
▶ Inconsistent with theories arguing
  ▶ Party positions changed
  ▶ Wave in public opinion
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  - Reservoir of populist voters was activated (Bartels, 2017)
- Inconsistent with theories arguing
  - Party positions changed
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- Future research
  - Why do priorities change?
  - Can use the same methodology to decompose additional political trends
Thank You!


To sum up, various attempts to classify populists and to quantify their rise deliver a strikingly similar message: in the 21st century, there has been a recent rise in populists vote share of 10-15 percentage points ... This rise mostly took place in advanced economies, and mostly due to right-wing and authoritarian populist parties (Guriev and Papioannou, 2020)
## Manifesto Summary Stats

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<th></th>
<th>2017-2020</th>
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<tr>
<td></td>
<td>PRRP</td>
<td>Other</td>
<td>PRRP</td>
<td>Other</td>
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<tr>
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</tbody>
</table>

**Top 5 Distinctive Variables**

- **European Community/Union: Negative**
  - 2005-2009: 2.8
  - 2017-2020: 3.4
- **National Way of Life: Positive**
  - 2005-2009: 6.1
  - 2017-2020: 10.8
- **Internationalism: Negative**
  - 2005-2009: 1.2
  - 2017-2020: 1.2
- **Multiculturalism: Negative**
  - 2005-2009: 3.2
  - 2017-2020: 2.6
- **Law and Order: Positive**
  - 2005-2009: 7.0
  - 2017-2020: 6.9


## IVS Summary Stats

### Demographics

<table>
<thead>
<tr>
<th></th>
<th>2005-2009</th>
<th></th>
<th>2017-2020</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRRP</td>
<td>Other Parties</td>
<td>PRRP</td>
<td>Other Parties</td>
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<tr>
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<tr>
<td>Age</td>
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<tr>
<td>Male</td>
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<td>0.47</td>
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<tr>
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<td>0.66</td>
<td>0.41</td>
<td>0.74</td>
<td>0.42</td>
</tr>
<tr>
<td>Urban</td>
<td>0.21</td>
<td>0.27</td>
<td>0.18</td>
<td>0.24</td>
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</table>

### Most Distinctive Opinions

<table>
<thead>
<tr>
<th></th>
<th>2005-2009</th>
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<th>2017-2020</th>
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<tbody>
<tr>
<td></td>
<td>PRRP</td>
<td>Other Parties</td>
<td>PRRP</td>
<td>Other Parties</td>
</tr>
<tr>
<td>Confidence in EU</td>
<td>-0.13</td>
<td>0.07</td>
<td>-0.53</td>
<td>0.04</td>
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<tr>
<td>Jobs should prioritize natives</td>
<td>0.46</td>
<td>-0.03</td>
<td>0.55</td>
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<tr>
<td>Don’t want immigrant neighbors</td>
<td>0.14</td>
<td>-0.08</td>
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<td>-0.04</td>
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<tr>
<td>Confidence in press</td>
<td>-0.11</td>
<td>0.05</td>
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<tr>
<td>Confidence in UN</td>
<td>-0.14</td>
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<td>-0.42</td>
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</tr>
<tr>
<td>Country</td>
<td>Populist Support</td>
<td></td>
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<tr>
<td>---------</td>
<td>-----------------</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>AUT</td>
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<td>CHE</td>
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<tr>
<td>DNK</td>
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<tr>
<td>EST</td>
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<tr>
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<tr>
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<tr>
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<td>NLD</td>
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<tr>
<td>SVK</td>
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<tr>
<td>SVN</td>
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<tr>
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<td>25.1%</td>
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<tr>
<td>SWE</td>
<td>7.7%</td>
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<tr>
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<td>25.1%</td>
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<tr>
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</tr>
<tr>
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<td>21%</td>
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<tr>
<td>POL</td>
<td>67.7%</td>
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Data Summary
## Data Summary

**Table: IVS Data Analyzed**

<table>
<thead>
<tr>
<th>Wave</th>
<th>Countries</th>
<th>Parties</th>
<th>Radical Right Parties</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005–2009</td>
<td>22</td>
<td>151</td>
<td>19</td>
<td>26,153</td>
</tr>
<tr>
<td>2017–2020</td>
<td>22</td>
<td>173</td>
<td>28</td>
<td>27,105</td>
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</tbody>
</table>

Data Merged
### Data Summary

**Table: IVS Data Analyzed**

<table>
<thead>
<tr>
<th>Wave</th>
<th>Countries</th>
<th>Parties</th>
<th>Radical Right Parties</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005–2009</td>
<td>22</td>
<td>151</td>
<td>19</td>
<td>26,153</td>
</tr>
<tr>
<td><strong>2011–2013</strong></td>
<td><strong>7</strong></td>
<td><strong>53</strong></td>
<td><strong>6</strong></td>
<td><strong>6,377</strong></td>
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<tr>
<td>2017–2020</td>
<td>22</td>
<td>173</td>
<td>28</td>
<td>27,105</td>
</tr>
</tbody>
</table>
Determine if parties are Populist Radical Right Parties (PRRP) using PopuList
  - Recently updated and used often
  - Similar to other definitions (Guriev and Papioannou, 2020)

Determine other party families using Manifesto
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Market Economy (per401)</td>
<td>Favourable mentions of the free market and free market capitalism as an economic model</td>
<td>+</td>
</tr>
<tr>
<td>Incentives: Positive (per402)</td>
<td>Favourable mentions of supply side oriented economic policies</td>
<td>+</td>
</tr>
<tr>
<td>Market Regulation (per403)</td>
<td>Support for policies designed to create a fair and open economic market</td>
<td>-</td>
</tr>
<tr>
<td>Economic Planning (per404)</td>
<td>Favourable mentions of long-standing economic planning by the government</td>
<td>-</td>
</tr>
<tr>
<td>Corporatism/Mixed Economy (per405)</td>
<td>Favourable mentions of cooperation of government, employers, and trade unions simultaneously</td>
<td>-</td>
</tr>
<tr>
<td>Protectionism: Positive (per406)</td>
<td>Favourable mentions of extending or maintaining the protection of internal markets</td>
<td>-</td>
</tr>
<tr>
<td>Protectionism: Negative (per407)</td>
<td>Support for the concept of free trade and open markets</td>
<td>+</td>
</tr>
<tr>
<td>Keynesian Demand Management (per409)</td>
<td>Favourable mentions of demand side oriented economic policies</td>
<td>-</td>
</tr>
<tr>
<td>Controlled Economy (per412)</td>
<td>Support for direct government control of economy</td>
<td>-</td>
</tr>
<tr>
<td>Nationalisation (per413)</td>
<td>Favourable mentions of government ownership of industries, either partial or complete; calls for keeping nationalised industries in state hand or nationalising currently private industries</td>
<td>-</td>
</tr>
<tr>
<td>Marxist Analysis (per415)</td>
<td>Positive references to Marxist-Leninist ideology and specific use of Marxist-Leninist terminology by the manifesto party</td>
<td>-</td>
</tr>
<tr>
<td>Anti-Growth Economy: Positive (per416)</td>
<td>Favourable mentions of anti-growth politics</td>
<td>-</td>
</tr>
<tr>
<td>Welfare State Expansion (per504)</td>
<td>Favourable mentions of need to introduce, maintain or expand any public social service or social security scheme</td>
<td>-</td>
</tr>
<tr>
<td>Welfare State Limitation (per505)</td>
<td>Limiting state expenditures on social services or social security</td>
<td>+</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
<td>Sign</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Military: Positive (per104)</td>
<td>The importance of external security and defence</td>
<td>+</td>
</tr>
<tr>
<td>Military: Negative (per105)</td>
<td>Negative references to the military or use of military power to solve conflicts</td>
<td>-</td>
</tr>
<tr>
<td>Peace (per106)</td>
<td>Any declaration of belief in peace and peaceful means of solving crises absent reference to the military</td>
<td>-</td>
</tr>
<tr>
<td>Internationalism: Positive (per107)</td>
<td>Need for international co-operation, including co-operation with specific countries other than those coded in Foreign Special Relationships</td>
<td>-</td>
</tr>
<tr>
<td>Internationalism: Negative (per109)</td>
<td>Negative references to international co-operation</td>
<td>+</td>
</tr>
<tr>
<td>Environmental Protection (per501)</td>
<td>General policies in favour of protecting the environment, fighting climate change, and other green policies</td>
<td>-</td>
</tr>
<tr>
<td>Equality: Positive (per503)</td>
<td>Concept of social justice and the need for fair treatment of all people</td>
<td>-</td>
</tr>
<tr>
<td>National Way of Life: Positive (per601)</td>
<td>Favourable mentions of the manifesto country's nation, history, and general appeals</td>
<td>+</td>
</tr>
<tr>
<td>National Way of Life: Negative (per602)</td>
<td>Unfavourable mentions of the manifesto country's nation and history</td>
<td>-</td>
</tr>
<tr>
<td>Traditional Morality: Positive (per603)</td>
<td>Favourable mentions of traditional and/or religious moral values</td>
<td>+</td>
</tr>
<tr>
<td>Traditional Morality: Negative (per604)</td>
<td>Opposition to traditional and/or religious moral values</td>
<td>-</td>
</tr>
<tr>
<td>Law and Order: Positive (per605)</td>
<td>Favourable mentions of strict law enforcement, and tougher actions against domestic crime</td>
<td>+</td>
</tr>
<tr>
<td>Multiculturalism: Positive (per607)</td>
<td>Favourable mentions of cultural diversity and cultural plurality within domestic societies</td>
<td>-</td>
</tr>
<tr>
<td>Multiculturalism: Negative (per608)</td>
<td>The enforcement or encouragement of cultural integration</td>
<td>+</td>
</tr>
<tr>
<td>Underprivileged Minority Groups (per705)</td>
<td>Very general favourable references to underprivileged minorities who are defined neither in economic nor in demographic terms</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Unique Parties</td>
<td>Unique Radical Right Parties</td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>1) All data</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>2) Respondents supporting a party</td>
<td>354</td>
<td>.</td>
</tr>
<tr>
<td>3) Respondents matched with CMP</td>
<td>210</td>
<td>32</td>
</tr>
</tbody>
</table>
how does linearity affect our model

\[ U_{ij} = \sum_k \left[ -(z_{ik}^* - z_{jk})^2 \right] + \zeta_j + \varepsilon_{ij} \]

- Assume \( z_{ik}^* = \kappa_k x_i + \gamma_k \)

\[ U_{ij} = \sum_k \left[ -(\kappa_k x_i + \gamma_k - z_{jk})^2 \right] + \zeta_j + \varepsilon_{ij} \]

Can rewrite as

\[ U_{ij} = x_i' \Phi z_j + \delta (x_i) + \beta_1' \sum_j z_j + \beta_2' \sum_j z_j^2 + \zeta_j + \varepsilon_{ij} \]

Ignore constant added to all parties:

\[ U_{ij} = x_i' \Phi z_j + \beta_1' \sum_j z_j + \beta_2' \sum_j z_j^2 + \zeta_j + \varepsilon_{ij} \]

Only difference: \( z^2 \) in addition to \( z \) ⇒

- Will affect \( \beta \) and \( \zeta \), not \( \Phi \)
Estimation: Two-Step Procedure

Define \( \delta_j \) as the utility gain from party \( j \) that is common across voters

\[
U_{ij} = x_i' \Phi z_j + \beta' z_j + \zeta_j + \varepsilon_{ij}
\]

Assume \( \varepsilon_{ij} \) has a Gumbel (logit) distribution, the probability to vote for party \( j \) is

\[
P(z_j|x_i) = \frac{\exp(x_i \Phi z_j + \delta_j)}{\sum_k \exp(x_i \Phi z_k + \delta_k)}
\]
Estimation: Two-Step Procedure

Define $\delta_j$ as the utility gain from party $j$ that is common across voters

$$U_{ij} = x_i \Phi z_j + \beta' z_j + \zeta_j + \epsilon_{ij}$$

Assume $\epsilon_{ij}$ has a Gumbel (logit) distribution, the probability to vote for party $j$ is

$$P(z_j|x_i) = \frac{\exp(x_i \Phi z_j + \delta_j)}{\sum_k \exp(x_i \Phi z_k + \delta_k)}$$

▶ Step 1: estimate $\hat{\Phi}_t$ and all $\hat{\delta}_{j,t}$ separately for each wave $t$ using penalized-MLE
Estimation: Two-Step Procedure

Define $\delta_j$ as the utility gain from party $j$ that is common across voters

$$U_{ij} = x_i' \Phi z_j + \beta' z_j + \zeta_j + \varepsilon_{ij}$$

Assume $\varepsilon_{ij}$ has a Gumbel (logit) distribution, the probability to vote for party $j$ is

$$P(z_j|x_i) = \frac{\exp(x_i' \Phi z_j + \delta_j)}{\sum_k \exp(x_i' \Phi z_k + \delta_k)}$$

- **Step 1**: estimate $\widehat{\Phi}_t$ and all $\widehat{\delta}_{j,t}$ separately for each wave $t$ using penalized-MLE

- **Step 2**: estimate $\widehat{\beta}_t$ using estimates $\widehat{\delta}_{j,t}$ from all waves
Stage 1: Penalized MLE

- **Challenge:** $\Phi$ has a large dimension (~5000)

- **Solution:** penalize $||\Phi||$ with nuclear norm

\[
\max_{\Phi, \delta} L(\Phi, \delta) - \lambda ||\Phi|| = \max_{\Phi, \delta} \sum_i \log \frac{\exp[x_i \Phi z_j(i) + \delta_j(i)]}{\sum_k \exp[x_i \Phi z_k + \delta_k]} - \lambda ||\Phi||
\]

- **Nuclear norm**
  - Generates low-rank solutions, individuals expected to vote based on a few dimensions (Kriesi et al., 2008; Abou-Chadi and Hix, 2021)
  - Computationally easier to solve (convex optimization problem)
  - Used in other econometric settings (Athey et al., 2021)

- Solve using proximal gradient descent (Hastie et al., 2019)

- Choose penalty $\lambda$ using cross validation
Stage 2: Beta and Zeta

- We want to decompose changes in mean utility $\delta_j = \beta' z_j + \zeta_j$
  - Could be due to party positions, weights, residual
- Estimate the following linear model for all waves jointly
  \[
  \hat{\delta}_{j,t} = \beta_t z_{j,t} + \eta_j + \nu_{jt}
  \]
  - Control for party fixed-effect $\eta_j$
  - Add additional waves for more power
We want to decompose changes in mean utility $\delta_j = \beta' z_j + \zeta_j$

- Could be due to party positions, weights, residual

Estimate the following linear model for all waves jointly

$$\hat{\delta}_{j,t} = \beta_t z_{j,t} + \eta_j + \nu_{jt} \underbrace{\zeta_{j,t}}$$

- Control for party fixed-effect $\eta_j$
- Add additional waves for more power

$\hat{\eta}_j + \nu_{jt} = \hat{\zeta}_{jt}$ the party valence
We want to decompose changes in mean utility $\delta_j = \beta' z_j + \zeta_j$

- Could be due to party positions, weights, residual

- Estimate the following linear model for all waves jointly

$$\hat{\delta}_{j,t} = \beta_t z_{j,t} + \eta_j + \nu_{jt}$$

- Control for party fixed-effect $\eta_j$
- Add additional waves for more power

- $\hat{\eta}_j + \hat{\nu}_{jt} = \hat{\zeta}_{jt}$ the party valence

- Estimate $\beta$ based on within-party variation over time

$$\Delta\hat{\delta}_j = \Delta \beta z_j + \beta \Delta z_j + \Delta \nu_{jt}$$
We want to decompose changes in mean utility \( \delta_j = \beta'z_j + \zeta_j \)
- Could be due to party positions, weights, residual
- Estimate the following linear model for all waves jointly

\[
\hat{\delta}_{j,t} = \beta_t z_{j,t} + \eta_j + \nu_{jt} + \zeta_{j,t}
\]

- Control for party fixed-effect \( \eta_j \)
- Add additional waves for more power
- \( \hat{\eta}_j + \hat{\nu}_{jt} = \hat{\zeta}_{jt} \) the party valence

Estimate \( \beta \) based on within-party variation over time

\[
\Delta \hat{\delta}_j = \Delta \beta \bar{z}_j + \bar{\beta} \Delta z_j + \Delta \nu_{jt}
\]
Stage 2: Dimension Reduction

- Assume a linear trend in $\beta$
  \[ \beta_{t+1} = \frac{\beta_{t+2} + \beta_t}{2} \]

- Restrict parameter space of $\beta$ to avoid over-fitting
  - Restrict $\beta_t$ based on $\Phi_t$
  - Factors that determine weight differences are the same to determine weights absolute value
  - Use first 5 dimensions from SVD of $\Phi$
Nuclear Norm

- Writing

\[ x'_i \Phi z_j = \sum_{l=1}^{L} \lambda_l < u'_i x_i, v'_l z_j > \]

nuclear norm is sum of the singular values \( \sum |\lambda_l| \)

- Yields low \( L \) (convex envelope of the rank function)
Assume that voters have a bliss point which is a linear function of their observables

\[ U_{ij} = \|z_j - A x_i\|^2 + \zeta_j + \varepsilon_{ij} \]

under some norm \( \|a\|^2 = \sum_k \beta_k^2 a_k^2 \) then

\[ U_{ij} = x_i \Phi z_j' + \delta_j \]

with \( \Phi = A \ast \text{diag}(\beta) \) and \( \delta_j = z^2 \beta^2 + \zeta_j \).

Our model misspecifies \( \delta_j \)

- The misspecification would be attributed to \( \zeta_j \).
<table>
<thead>
<tr>
<th>Party</th>
<th>Pop.</th>
<th>Left</th>
<th>Green</th>
<th>Other</th>
<th>Mainstream Right</th>
<th>PRRP</th>
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<tbody>
<tr>
<td>UKIP_UK</td>
<td>0.2</td>
<td>0.14</td>
<td>-0.03</td>
<td>-0.13</td>
<td>-0.07</td>
<td>-0.13</td>
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<tr>
<td>SwedeDems_SWE</td>
<td>0.51</td>
<td>0.16</td>
<td>-0.06</td>
<td>-0.07</td>
<td>-0.19</td>
<td>-0.19</td>
</tr>
<tr>
<td>SlovenianDemocratic_SVN</td>
<td>0.2</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.11</td>
<td>-0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>National_SVK</td>
<td>0.0</td>
<td>0.03</td>
<td>-0.02</td>
<td>0.04</td>
<td>0.11</td>
<td>-0.04</td>
</tr>
<tr>
<td>People_CHE</td>
<td>0.27</td>
<td>0.11</td>
<td>0.03</td>
<td>-0.07</td>
<td>0.51</td>
<td>0.2</td>
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<tr>
<td>FreedomAlliance_NLD</td>
<td>0.5</td>
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Correlation between Parties

- Pop.: Popular
- Left: Left
- Green: Green
- Other: Other
- Mainstream Right: Mainstream Right
- PRRP: PRRP
Aggregate Weights by Party Category 2017-2020

- Utility impact if party shifts $1\sigma$ to the right

### Economic Index Weights

- PRRP
- Main–Right
- Left
- Green

### Cultural Index Weights

- PRRP
- Main–Right
- Left
- Green

Weights (p25, median, p75)
Individual Weights

Environmental Protection
Education Expansion
Equality: Positive
Welfare State Expansion
Technology and Infrastructure: Positive

Weights (p25, median, p75)

Welfare State Expansion
Radical Right
Main-Right
Left
Green

Education Expansion
Radical Right
Main-Right
Left

Technology and Infrastructure: Positive
Radical Right
Main-Right
Left
Green

Equality
Radical Right
Main-Right
Left

Weights (p25, median, p75)
Party Positions Do Not Drive Populist Support

A.28
Shift in Positions

Party Economic Positions Index

Party Cultural Positions Index

Year (5-year average)

Net Percent of Manifesto

PRRP  Main–Right  Left  Green
Priority Changes by Self-Reported Ideology

Party Economic Positions Index

Party Cultural Positions Index

Weight

Density


Left–wing

Right–wing
Priority Change - College Graduation Status

Party Economic Positions Index

Party Cultural Positions Index

Priority Change - Union Status

Party Economic Positions Index

Party Cultural Positions Index

Union Member

Not a Union Member


Priority Change - PRRP Score

- Party Economic Positions Index
- Party Cultural Positions Index
- PRRP Score Negative
- PRRP Score Positive

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The diagram illustrates the relationship between voter culture index and party culture index for two different time periods: 2005-2009 and 2017-2020. The Beta values for these periods are 0.15 and 0.23, respectively.

- In the 2005-2009 period, the relationship is shown with a Beta value of 0.15. The plot displays a scatter of points with a line of best fit.
- In the 2017-2020 period, the relationship is shown with a Beta value of 0.23. Similar to the previous period, a scatter of points with a line of best fit is depicted.

The axes are labeled as follows:
- Y-axis: Party culture index
- X-axis: Voter culture index

The graph provides visual evidence of the cultural weights and their influence on party culture during the specified years.
Culture Weights - Traditional Morality vs. New Populism

- **Voter traditional morality index**
  - Beta = 0.13
  - Beta = 0.15
  - 2005−2009
  - 2017−2020

- **Party traditional morality index**
  - Beta = 0.12
  - Beta = 0.21
  - 2005−2009
  - 2017−2020

- **Voter new culture index**
  - Beta = 0.12
  - Beta = 0.21
  - 2005−2009
  - 2017−2020

- **Party new culture index**
  - Beta = 0.12
  - Beta = 0.21
  - 2005−2009
  - 2017−2020
38% (from total of 49%) of residual is driven by new entries.

Supply shock vs endogenous entrance (Guiso et al., 2017; Cantoni et al., 2020)