

An Evidence-Driven Model of Voting and Party Competition

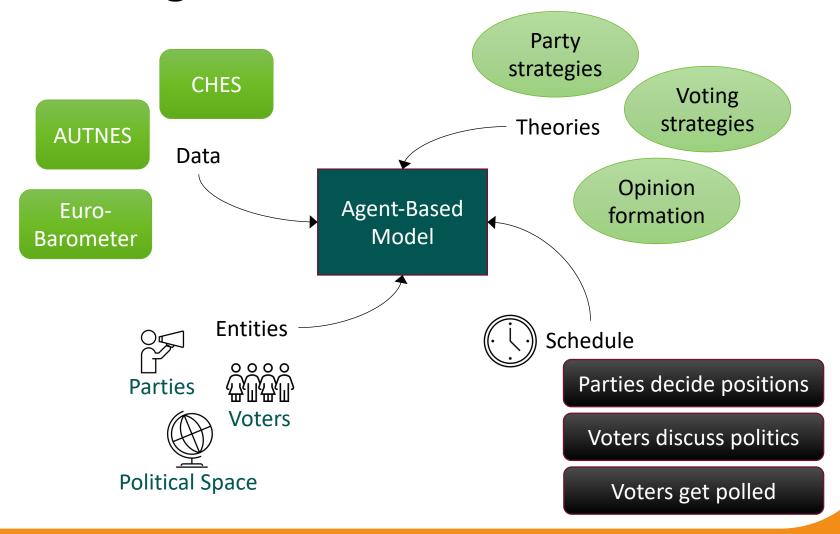
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Context

- The Populism and Civic Engagement (PaCE) Project investigates populist movements across Europe in order to find possible responses to combat their negative effects on liberal democracies.
- Agent-based simulation of political processes and attitudes is one of the tools employed
- Start with a reference model for one relevant case study that can be evaluated based on available survey data and expertise
- Austria
 - Comprehensive empirical data for demand and supply side
 - AUTNES (Austrian National Election Survey)
 - CHES (Chapel Hill Expert Survey)
 - Established radical-right populist party (FPÖ), twice in government so far
 - Period between 2013 and 2017 contains relevant political events (migrant crisis)



Model Ingredients





The political space

- We identified seven common issues from AUTNES (voters) and CHES (parties):
 - **Economy:** pro/against state intervention in the economy
 - Welfare state: pro/against redistribution of wealth
 - **Budget:** pro/against raising taxes to increase public services
 - Immigration: against/pro restrictive immigration policy
 - Environment: pro/against protection of the environment
 - Society: pro/against same rights for same-sex unions
 - Law and order: against/pro strong measures to fight crime, even to the detriment of civil liberties
- All agents are placed in this space according to their positions on these issues



Voters

Parties

- Demographic attributes
 - Age, gender, education, income level, residential area
- Political attributes
 - Political interest, closest party, degree of closeness, propensities to vote for parties, party they voted for in the last election
- Positions on the seven issues
 - Most important issues (0-3) with weights
- Social network
 - Links with most similar voters (age, education, residential area) from a randomly chosen pool
- All attributes are initialised from the 2013 Austrian National Election Study (AUTNES)

- Name, party colour
- Party programme
 - Positions on the seven issues
 - 1-3 most important issues with weights
- All attributes initialised from the 2014 Chapel Hill Expert Survey (CHES)



Party Behaviour

- Strategies defined by Laver (2005) and Muis & Scholte (2013)
- Aggregator
 - Adopt ideological stance of supporters by moving towards the average position of their current supporters
- Hunter
 - If last move increased vote share, keep moving in the same direction. Otherwise, turn around and move in new direction randomly chosen from 180° arc
- Sticker
 - Do not change position, i.e. stick with the party programme
- Satisficer
 - Only move if current vote share falls under a certain threshold; then act like an aggregator



Voter Behaviour: Opinion Formation

- Most ABM of party competition assume voters have 'fixed' opinions, i.e. their positions in the political space do not change
- Our model lets voters change their opinions via political discussions
- Based on a modified multi-dimensional opinion dynamics model (Schweighofer et al. 2020)
 - Mechanism to select discussion partner
 - Randomly from all voters, interaction only if ideological distance < threshold
 - Threshold individual for each voter based on 'affective level' (political interest)
 - Mechanism to change opinion (following Baldassarri & Bearman 2007)
 - Compromise: move closer to each other's position on discussed issue if agreement on majority of other issues
 - Repulsion: move further away from each other if disagreement on most of other issues



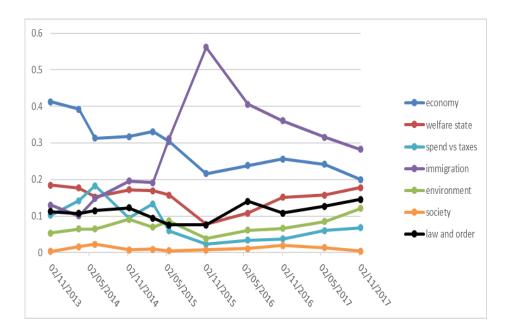
Voter Behaviour: Decision Strategies

- Strategies identified by Lau et al. (2018); operationalised for our model
- Rational choice: Compare all parties on all issues
 - Choose party closest to me (Euclidean distance in all seven dimensions)
- Confimatory: Heavily influenced by party identification
 - Choose party I feel closest to (taken from AUTNES data)
- Fast and frugal: Only compare parties on important issues for efficiency
 - Choose party closest to me on my two most important issues (weighted distance)
- Heuristics-based: Apply a heuristic, e.g. follow friends' recommendations
 - Pick party chosen by majority of my social links
- Go with gut: Strictly affective, no information search
 - Choose party for which I have the highest propensity to vote for (AUTNES data)



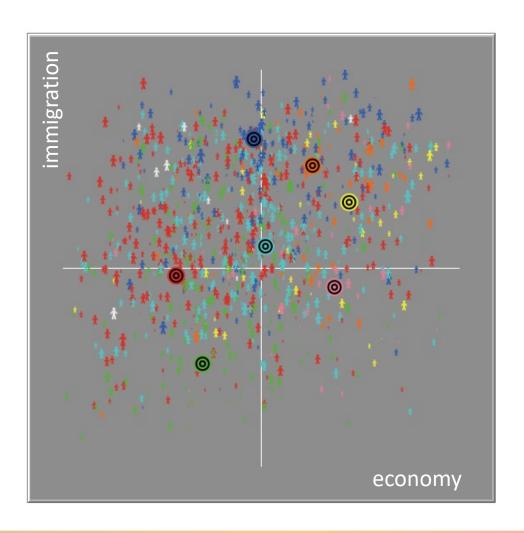
External Influences

- Effect of refugee crisis in 2015/16
 - Change of issue salience in public opinion over time
 - Data from Eurobarometer surveys taken as proxy for actual media influence
 - Determine which topics voters talk about
- Leadership change in the ÖVP in 2017
 - New leader Sebastian Kurz emphasised immigration policy above all else
 - Modelled as adaptation of Aggregator strategy
 - include immigration as most important issue, direction of move mediated by party's ideology (ideal positions) instead of purely aiming for centre of supporters, following Laver & Sergenti (2012)



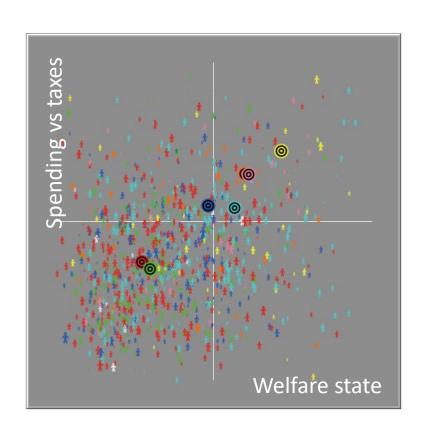


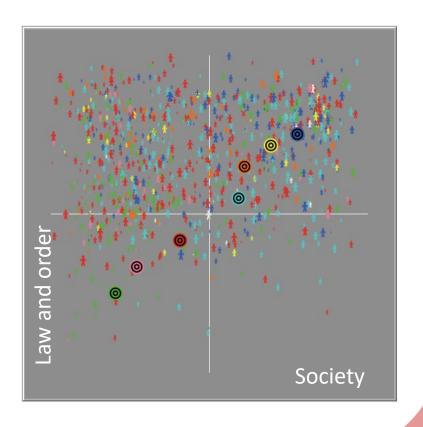
Model Initialisation



- Parties (7) are placed according to the party positions and assigned a strategy
 - Aggregator: SPÖ, ÖVP
 - Hunter: FPÖ
 - Sticker: Greens, BZÖ, NEOS, Team Stronach
- Voters (1060) are placed according to their opinions
 - with some random noise added
 - Adopt colour of party they currently would vote for
- Assigned mix of strategies taken from our analysis of AUTNES
 - Rational Choice: 18.3 %
 - Confirmatory: 29.8 %
 - Fast and Frugal: 38.5 %
 - Heuristics-based: 4.9%
 - Go with Gut: 8.5%

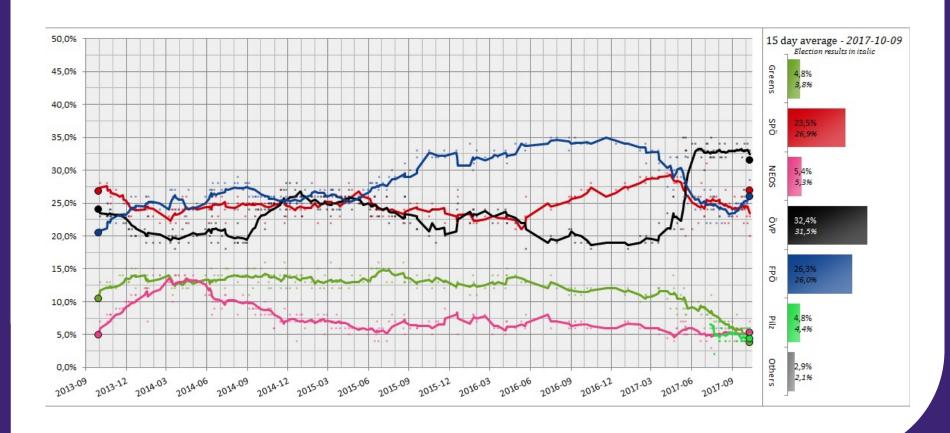






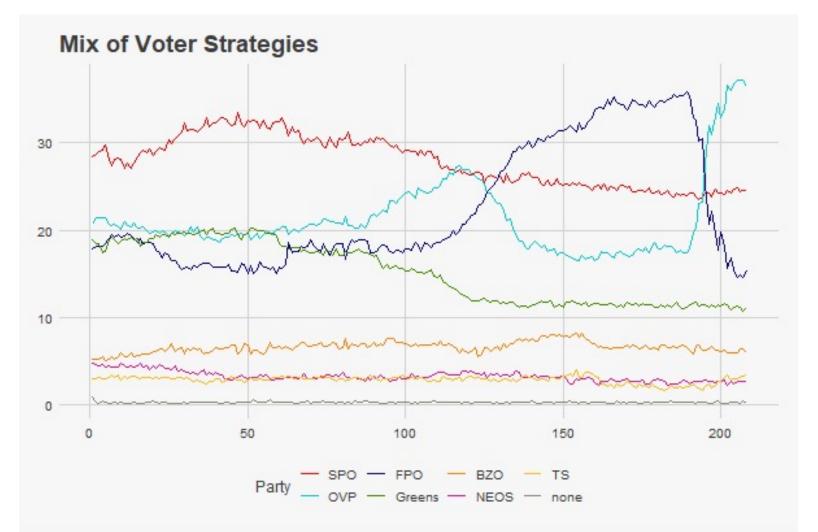


Historical data: Opinion polls 09/2013 - 09/2017





Best Model Results



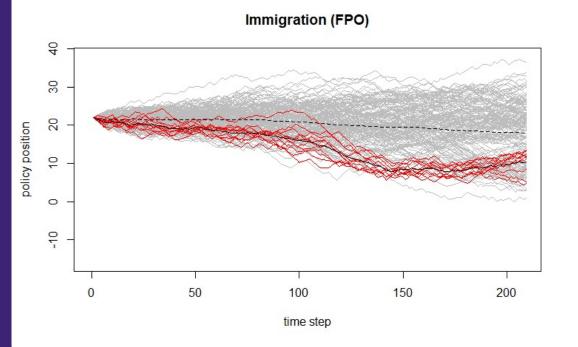


But Model Results Vary – People are not Predictable!





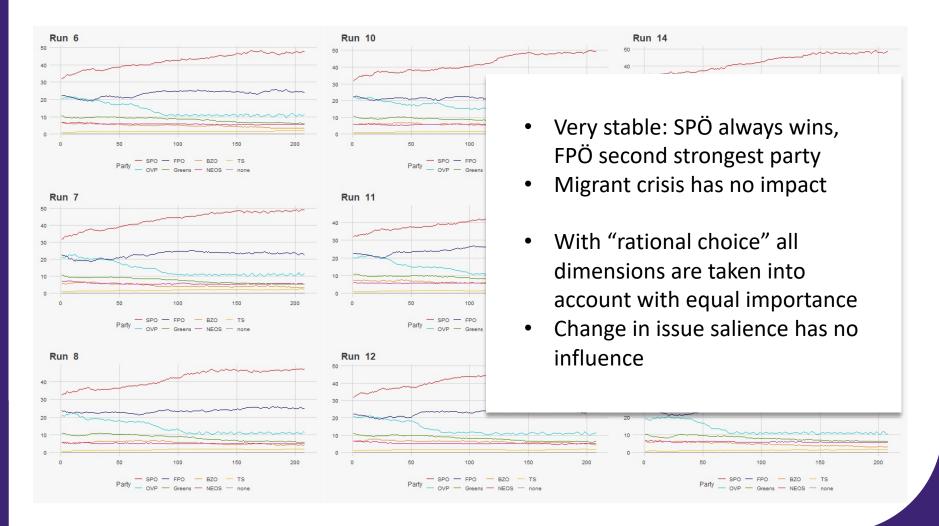
First insights from analysis



- Small number of "successful" runs (11 / 170)
- Movement of FPÖ on immigration issue most influential
 - Contra-intuitive: Adopt more "centrist" view during migrant crisis
 - Become slightly more extreme before election
 - ÖVP moves in and takes the votes

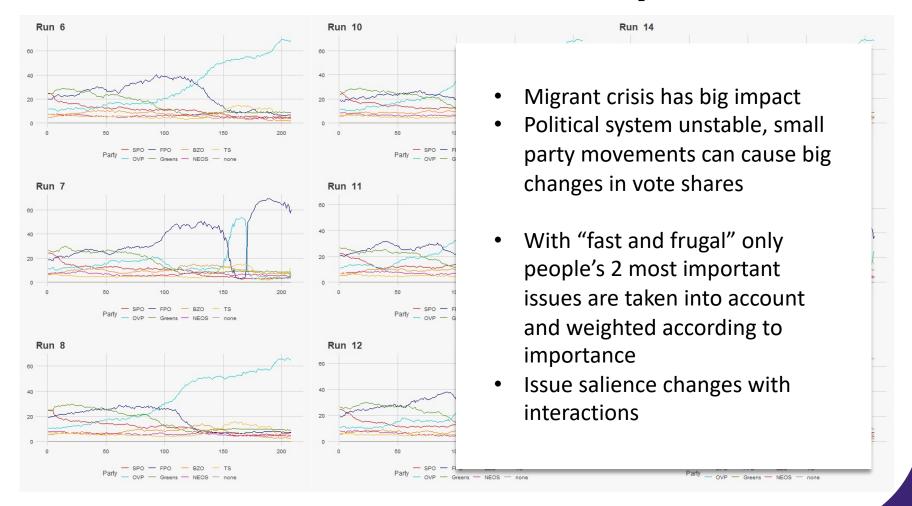


What-if: All Voters are "Rational"?





What-if: All Voters Use Quick Optimisers?





Conclusion and Outlook

- Type and mix of voter decision strategies have huge impact on electoral outcomes
 - Usual assumption of 'rational' voters seems unfounded
- Only a small proportion of runs come qualitatively close to observed historical data
- Mix of strategies is necessary but not sufficient to achieve this
- How do we improve this model?





Assigning Strategies to Voters

- Problem: which voter uses which strategy?
- No clear, unambiguous allocation available
 - Lau et al. (2018) report only vague correlations of demographic/political variables with strategy types ("rational choice is particularly high among women, young people and respondents with high levels of political interest")
 - Best allocation attempt using additional data from AUTNES restricts pool of survey participants to those whose vote in 2013 is known (1060 out of 3266)
 - Result: 31% of voters with exactly one strategy, 51% with 2-4, 18% with none
- Allocation process applies mixture of deterministic and random assignment under constraint of given strategy proportions (model parameter)

