Populism and Civic Engagement

Towards more realistic simulations of voting behaviours

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Context

- The Populism and Civic Engagement (PaCE) Project investigates populist movements across Europe to find ways to combat their negative effects

- Agent-based simulation of political processes and attitudes is one tool

- Start with a reference model for one relevant case study that can be evaluated based on available survey data and expertise, in this casde: 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)

Approach

- Evidence-driven rather than Simplicity-Driven (Edmonds & Moss 2005)

- Use a variety of data, maybe including qualitative, to inform micro-level specification of model, then validate with other data, e.g. macro-level aggregate data (Moss & Edmonds 2005)

- Many iterations of model development, between modelling team (Manchester) and data team (Salzburg)

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Model Ingredients
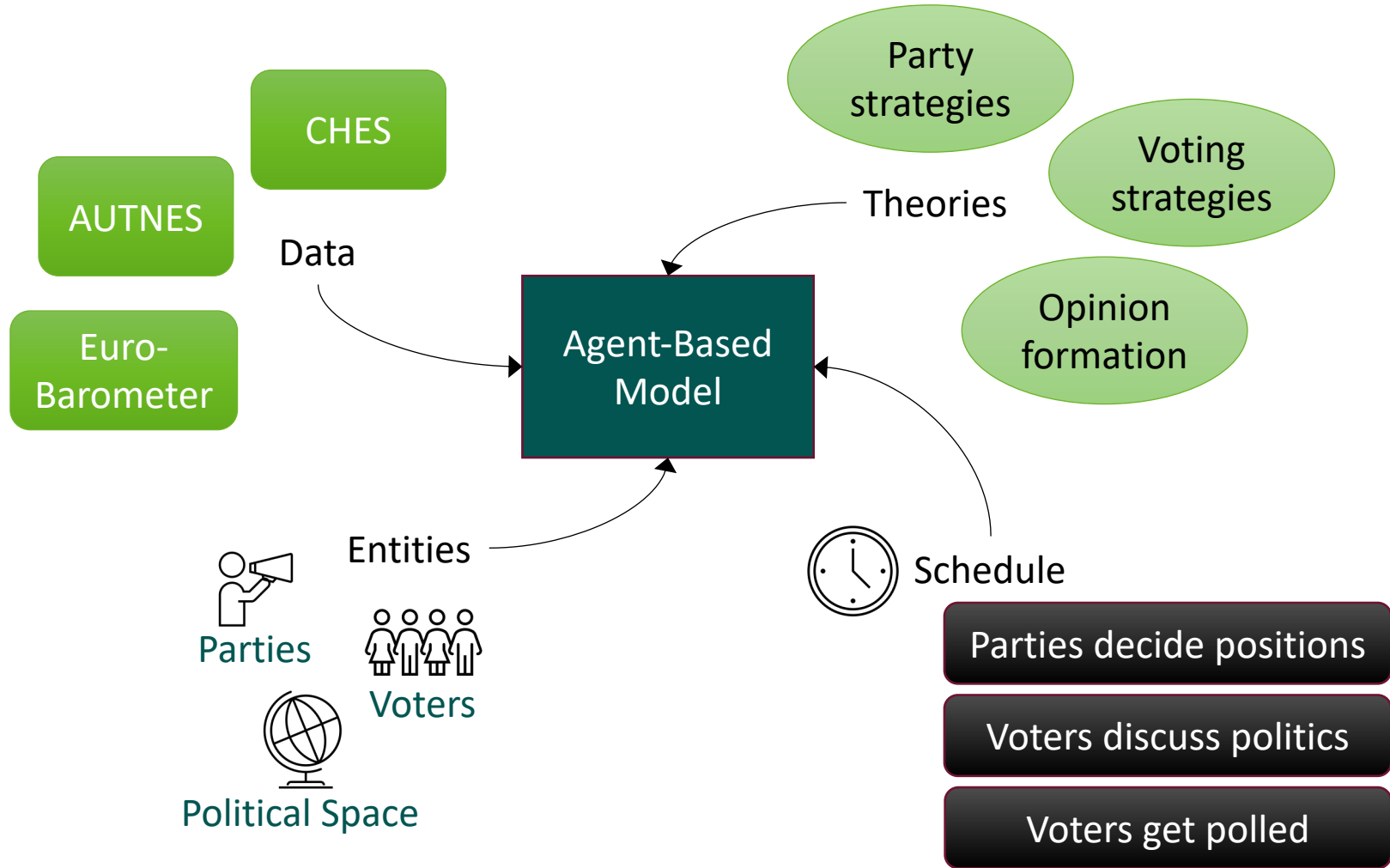
The political space

- 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

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Voters

- 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 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

Parties

- 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)

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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

Laver, M.: Policy and the Dynamics of Political Competition. *American Political Science Review* 99(2), 263-281 (2005).
Muis, J., Scholte, M.: How to find the 'winning formula'? *Acta Politica* 48(1), 22-46 (2013)

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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 issues

Schweighofer, S., Garcia, D., Schweitzer, F.: An agent-based model of multi-dimensional opinion dynamics and opinion alignment. *Chaos: An Interdisciplinary Journal of Nonlinear Science* 30(9), 093139 (2020).
Baldassarri, D., Bearman, P.: Dynamics of Political Polarization. *American Sociological Review* 72(5), 784-811 (2007).

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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)

Lau, R., Kleinberg, M., Ditonto, T.: Measuring voter decision strategies in political behavior and public opinion research. *Public Opinion Quarterly* 82(S1), 911-936 (2018).

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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)

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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, Laver & Sergenti (2012)
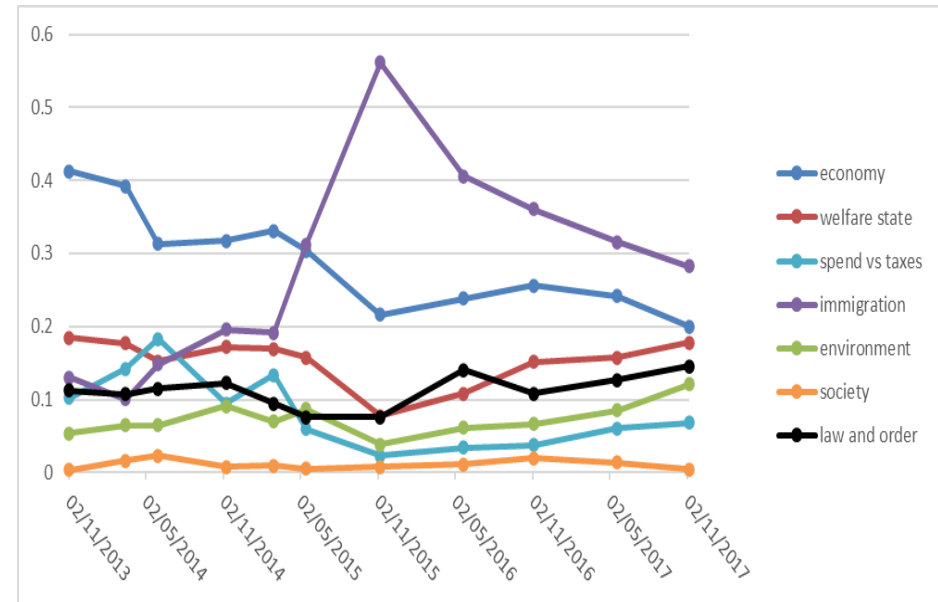
Model Initialisation
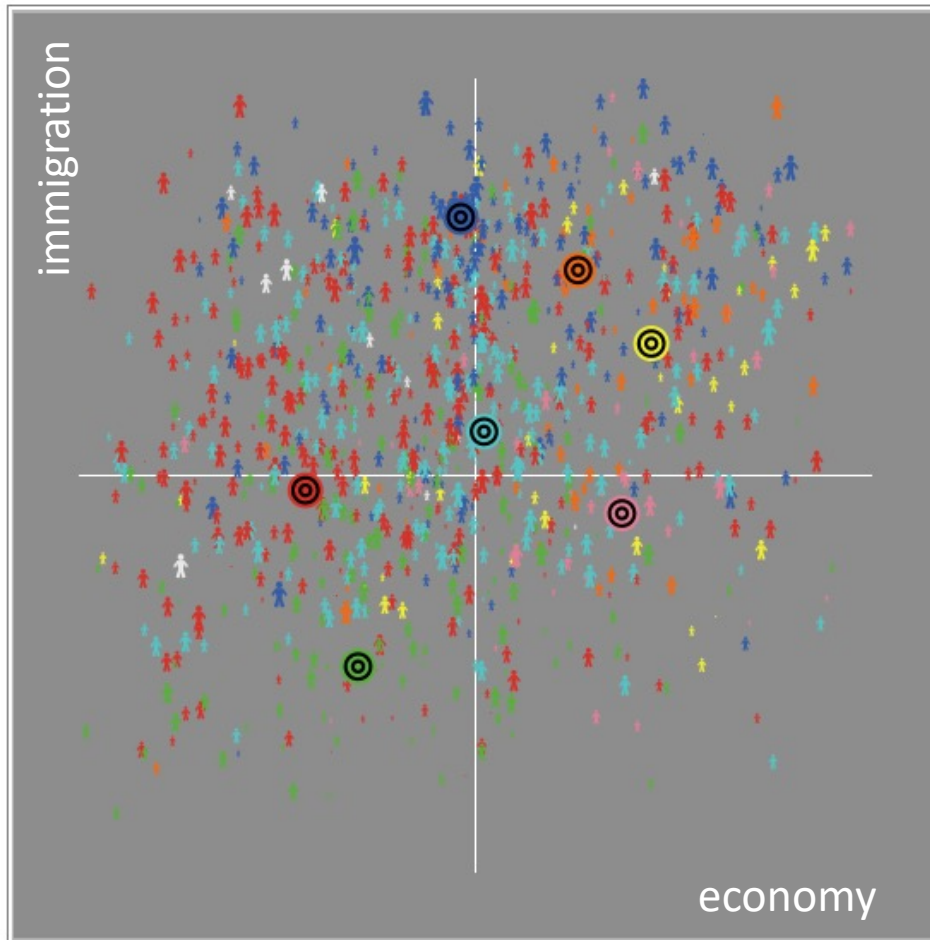
- Parties (7) are placed according to the party positions and assigned a strategy
  - Aggregator: **SPÖ**, **ÖVP**
  - Hunter: **FPÖ**
  - Sticker: **Greens**, **BZÖ**, **NEOS**, **Team Stronach**

- 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%

Alternative views of space
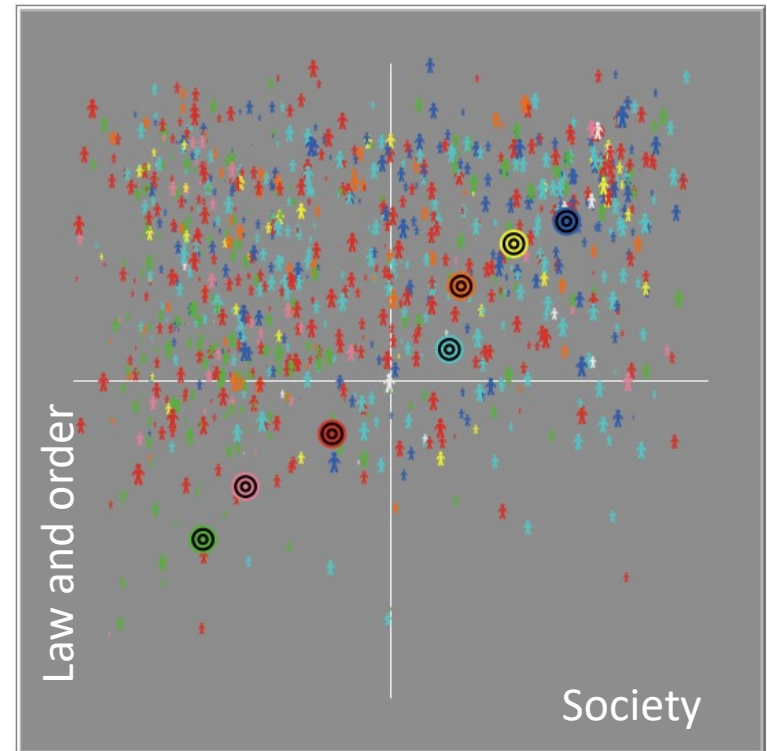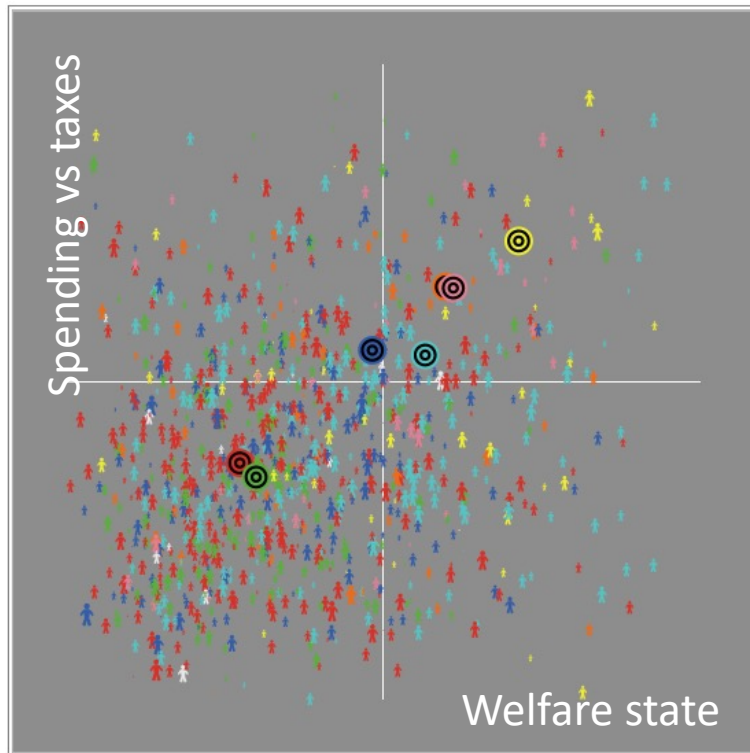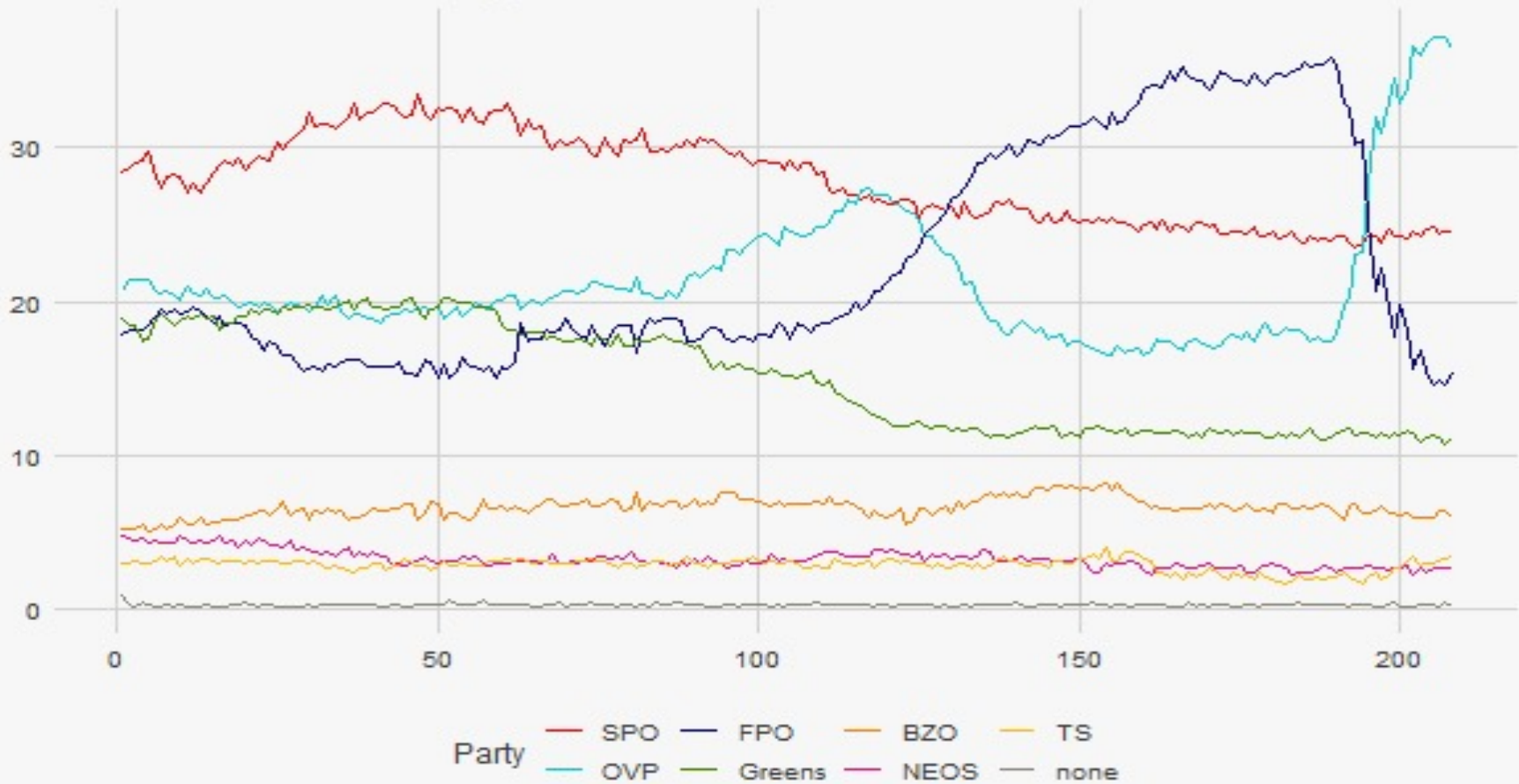
Historical data:
Opinion polls 09/2013 - 09/2017
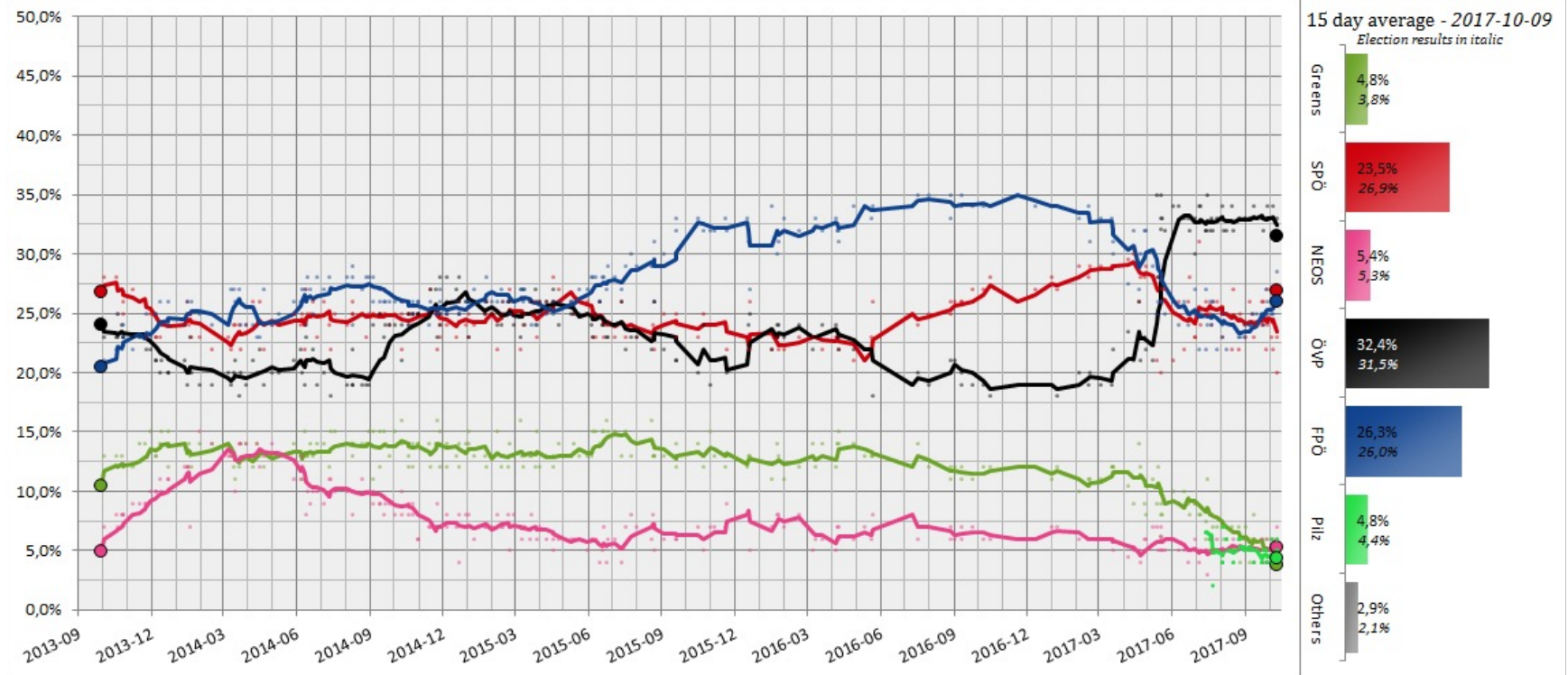
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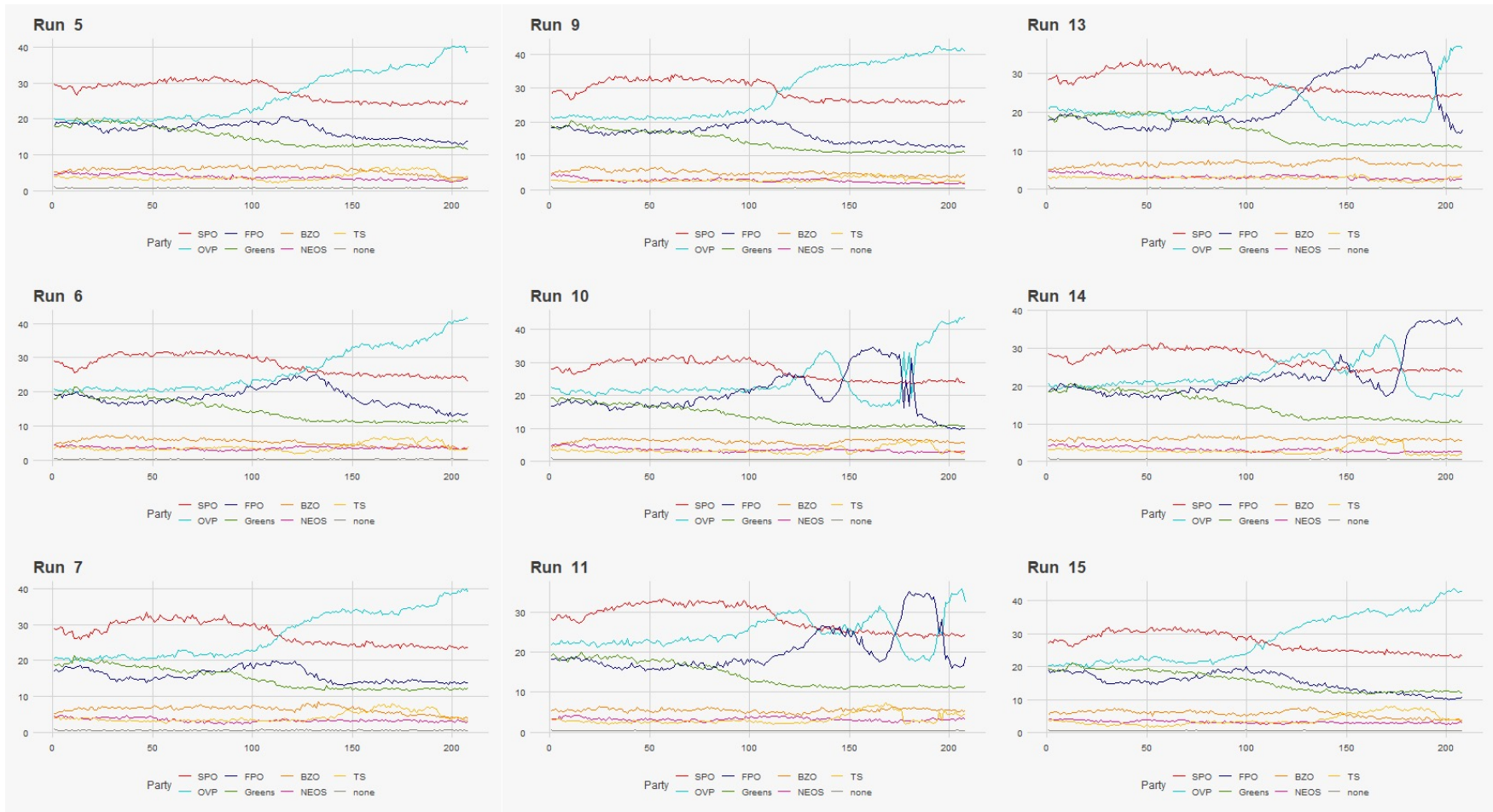
Best Model Results

Mix of Voter Strategies

But Model Results Vary – People are not Predictable!

First insights from analysis
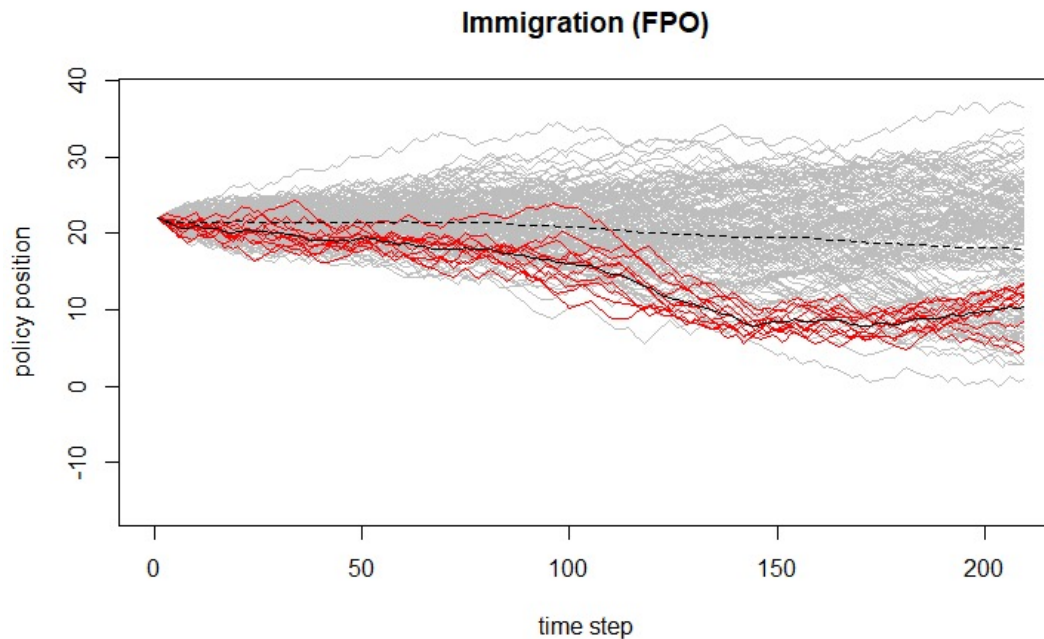
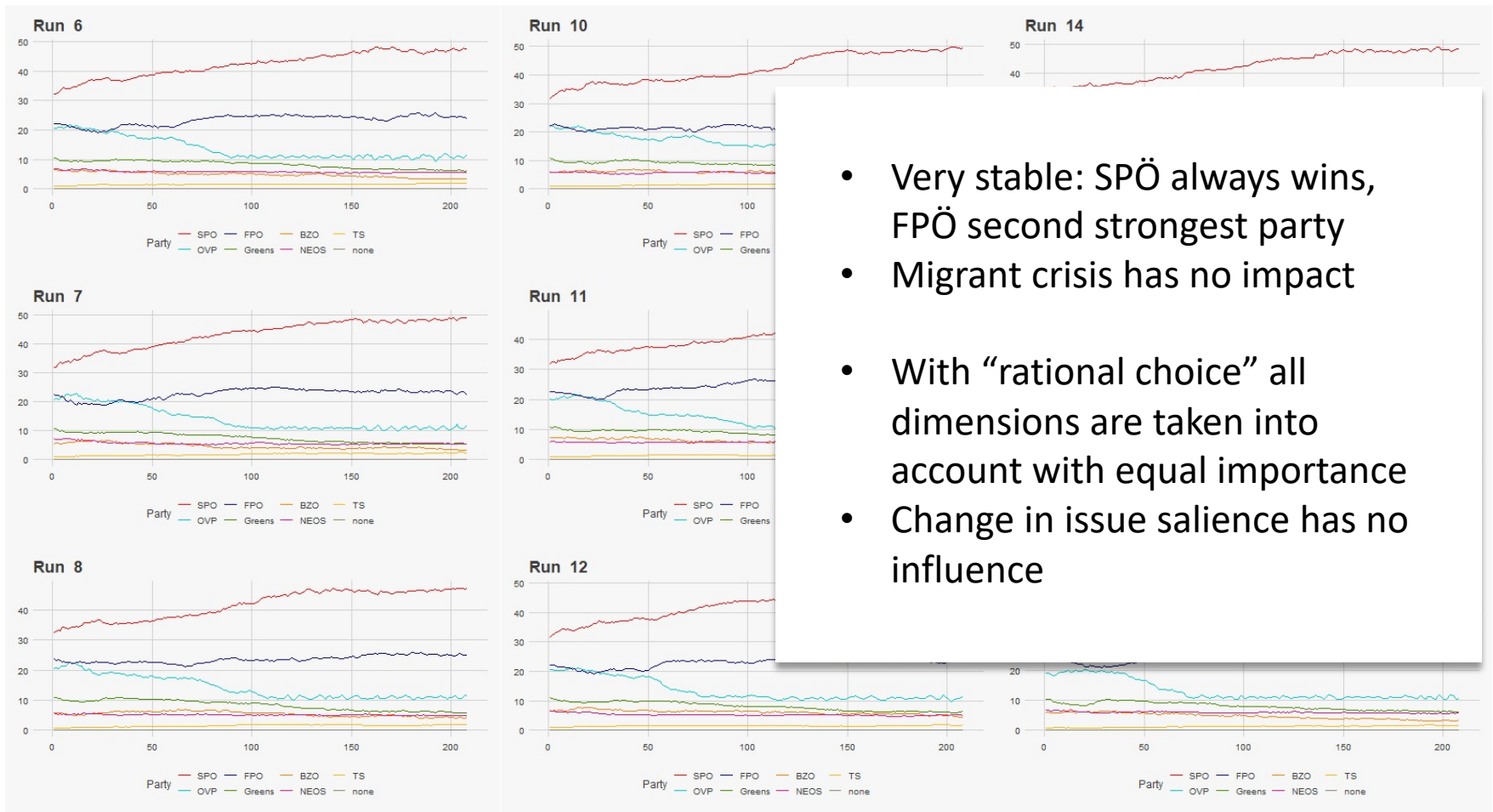**Immigration (FPO)**

- 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

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What-if: All Voters are "Rational"?

- Very stable: SPÖ always wins, FPÖ second strongest party
- Migrant crisis has no impact

- With "rational choice" all dimensions are taken into account with equal importance
- Change in issue salience has no influence

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What-if: All Voters Use Quick Optimisers?
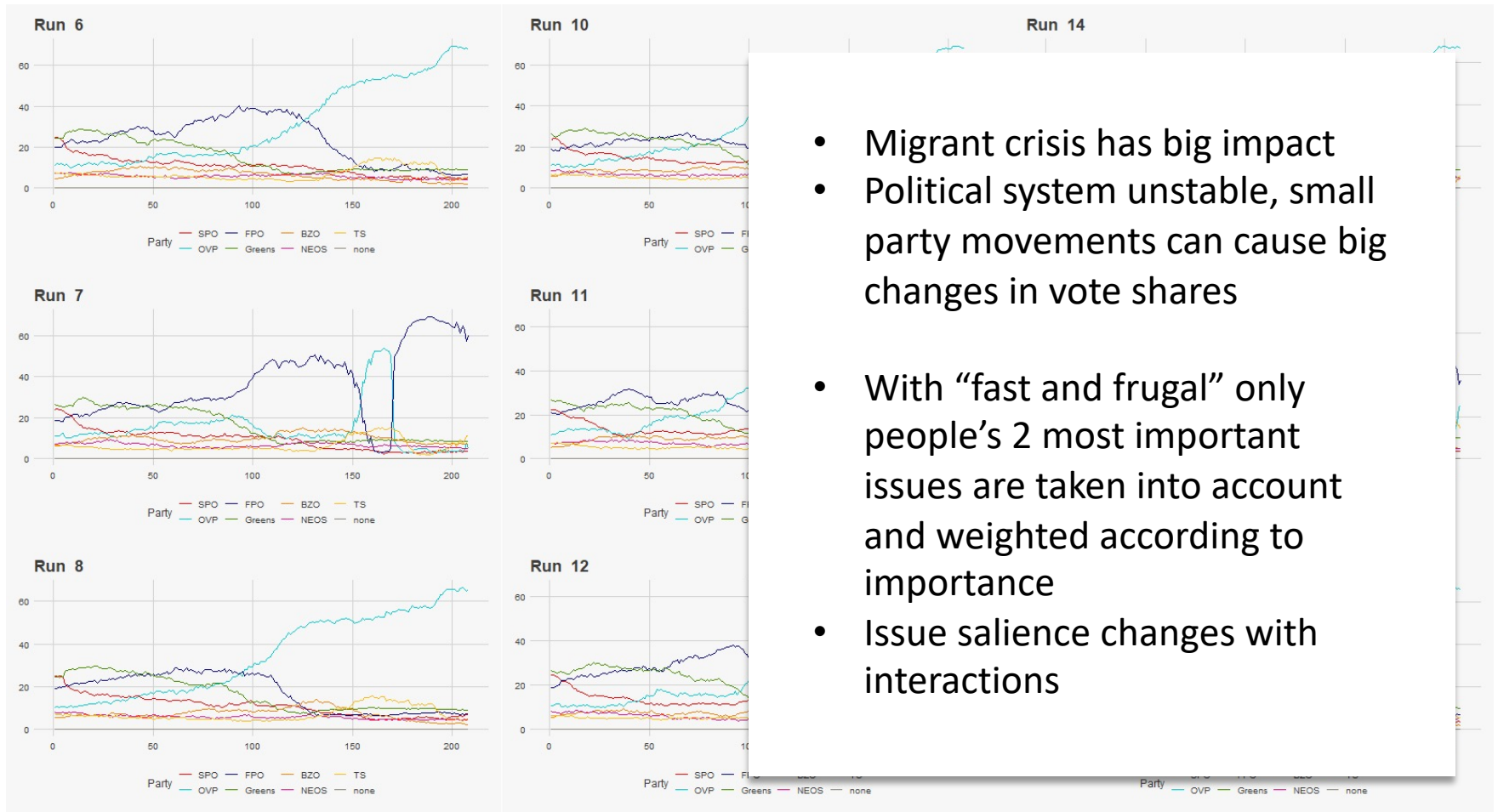
- Migrant crisis has big impact
- Political system unstable, small party movements can cause big changes in vote shares

- With "fast and frugal" only people's 2 most important issues are taken into account and weighted according to importance
- Issue salience changes with interactions

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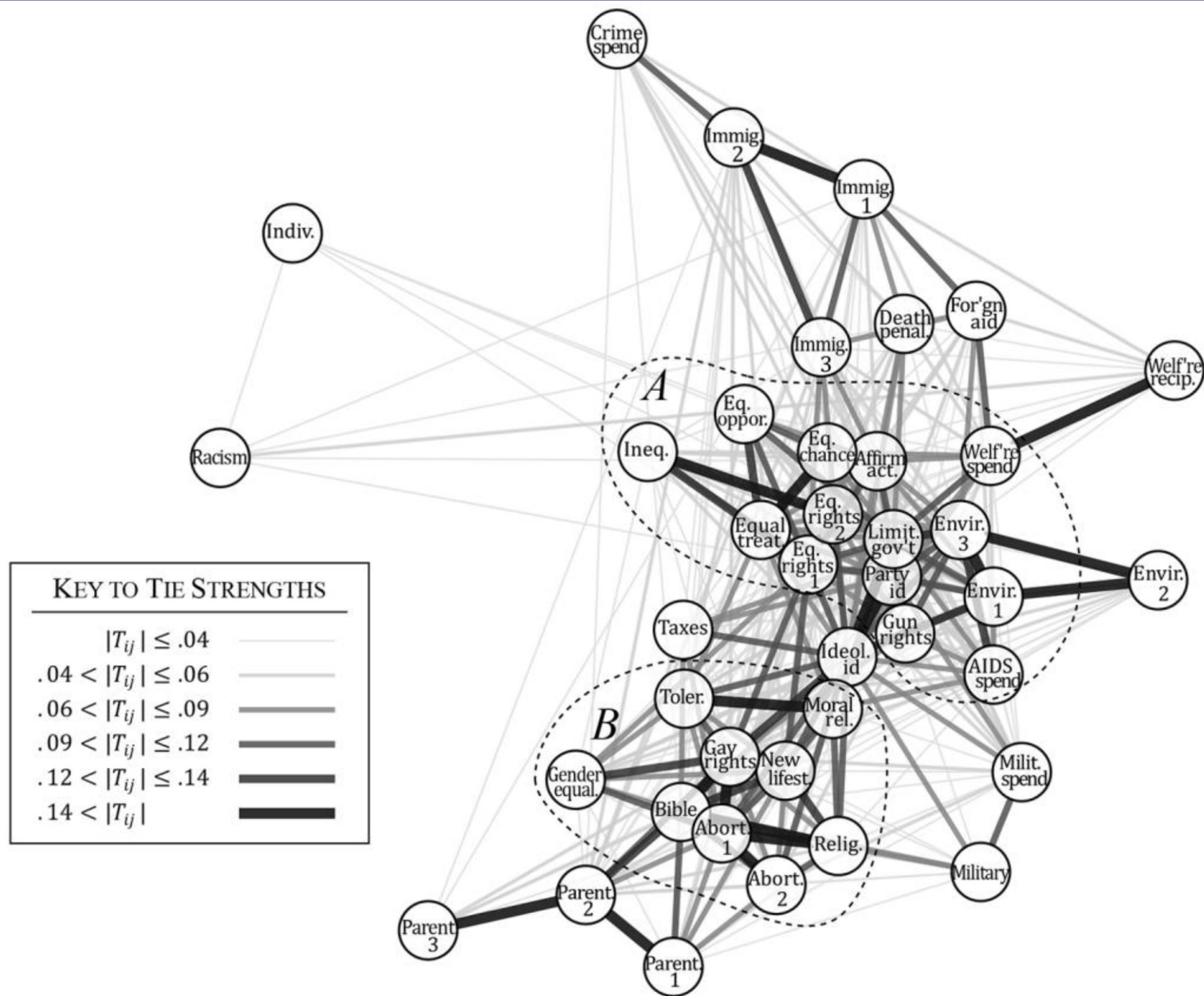
Conclusions of this Modelling Work (*so far*)

- Big parameter space, but almost all are empirically determinable if we get the right data

- 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

- We are unsatisfied with cognitive model of voters as it does not leave much room for identity-based politics yet

- Big uncertainties about voter-voter or media-voter influence processes

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Future Directions

- Continue to look for more data to condition/calibrate model

- Apply model to Germany case study

- Add Alternative Social Identity Mechanisms for Voters

- Measure results in terms of "Democratic Representitiveness" – to what extent does a government voted in match the attitudes of the electorate

- New model direction – specify voter cognitive model based on belief coherence model based on survey data

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KEY TO TIE STRENGTHS

$|T_{ij}| \leq .04$	
$.04 < |T_{ij}| \leq .06$	
$.06 < |T_{ij}| \leq .09$	
$.09 < |T_{ij}| \leq .12$	
$.12 < |T_{ij}| \leq .14$	
$.14 < |T_{ij}|$	

Boutyline, A., & Vaisey, S. (2017). Belief network analysis: A relational approach to understanding the structure of attitudes. *American journal of sociology*, *122*(5), 1371-1447.

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Slides and papers available at:
http://cfpm.org/voter

Thank you!

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http://popandce.eu