D2.2:

Report and Public Release of a First Set of Simulation Scenarios Based on Case Study Analysis

[WP2 – Simulation Analysis]

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Populism and Civic Engagement

Report and Public Release of a First Set of Simulation Scenarios Based on Case Study Analysis

The objective of building a social simulation in the PaCE project is to study the phenomenon of populism by mapping individual level political behavior and explain the influence of agents on, and their interdependence with the respective political parties.

In this initial phase of the project, our aim is to provide a valid first set of simulations based on one relevant case that we are able to evaluate based on survey data and available expertise on that political system. In short, we selected a case that is exceptionally well documented through empirical data and contextual information to serve as a yardstick for evaluating the simulation. Therefore, we chose Austria as basis for a prototype simulation for the reasons discussed in some detail below. This set of simulations is publicly released along with this report.

After reviewing and verifying that the mechanisms we observe in the prototype simulation are indeed valid, we plan to proceed by extending the model to other contexts and thus be able to simulate voting and party behavior more broadly.

Data Selection – AUTNES 2013 and CHES 2014

We chose to model a prototype simulation for the Austrian case for the following reasons: (1) The Austrian National Election Study (AUTNES; Wagner et al. 2018) is one of the most comprehensive national election studies that we have identified in our compilation of pertinent election data[1] . It covers the most relevant variables compared to other data sets, including socioeconomic data, media content and media consumption data and specific attitudinal variables of political psychology like authoritarianism and the widely used Big Five personality traits. (2) The Chapel Hill Expert Survey (CHES; Polk et al. 2017) was administered in 2014. Thus, supply-side data for the time shortly after the election is available, which we can match in the process. (3) The election data come in handy, which enables us to first start building a model based on data that AUTNES collected following the 2013 national election in Austria.

As we also have the comparable data for the 2017 election provided by AUTNES, we will be able to validate and interpret the results derived from the prototype agent-based model. The phase of increased migration to Europe in 2015, which also affected Austria in particular, falls into the period between the two national elections. The aim is to position the prototype as close to the actual change in voter and party behavior, so that we can apply the model to contexts that we do not have any particular expertise in and the data is not as rich. (4) Austria also offers interesting perspectives as a case: It includes one of Europe oldest and most successful radical rightwing populist parties, the Freedom Party, which has been in government four times. Moreover, as a central European country, Austria has many cultural, political, and historical ties with Germany as well countries to the East and Southeast, which may facilitate extending the prototype simulation to other cases. Finally, as country experts on Austria in the PaCE project, our team members are immediately able to check any findings on the case for their face validity. These reasons made us select Austria to explore the different possibilities offered by the simulation.

Variables and Operationalization of Input Data

In a first step, we identified variables covered in the AUTNES data sets, which have been theoretically linked to voting behavior in the literature. A table naming all of the variables identified as possibly worth analyzing within the scope of the prototype simulation can be found in Tables A1 and A2 in the appendix. The results of an initial logistic regression, in which we were able to investigate the effects of the variables on voting (i.e., having voted in the last national election) for the Freedom Party (FPÖ) in Austria, gave us a first overview of correlations in advance of the actual simulation. Figure 1 shows the marginal effects. Succinctly stated, we find a right position as dominant and immigration as the most important issue at the time. We also note that more rightwing attitudes on same-sex marriage, environmental protection, and immigration has a significant effect on the probability of voting for the FPÖ.

[1] Deliverable 2.1. An online catalogue of the relevant data sources: http://popandce.eu/wp-content/uploads/2019/08/pace_d2.1_v0.3-6.pdf

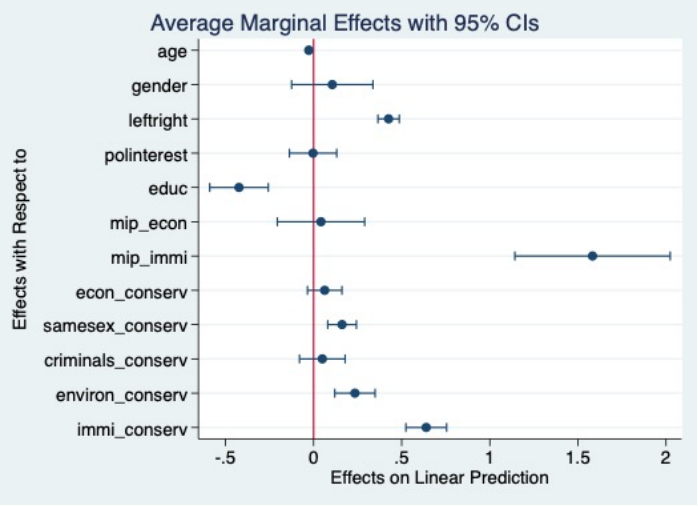

Figure 1: Average Marginal Effects of concepts associated with populism on voting for the FPÖ

In the following, we are outlining the process of building the first version of a prototype simulation model. The first task in preparing for the simulation was the recoding of individual survey data taken from AUTNES 2013 as well as the party positions that stem from CHES 2014 as mentioned above. In a first step, we model the positions on the two dimensions economy (i.e. state intervention) and immigration, as these issues were the most salient for voters before and after 2015, respectively. This way, we are able to visualize the positions of both, voters and parties in a two-dimensional sphere and therefore gain an impression of the status quo distribution in 2013.

The challenge is to model changes on these positions by voters and parties so that it would match the outcome of the AUTNES 2017 data. While political science usually predicts behavior in the form of probabilities and most commonly with a type of regression analysis, very little research has been carried out on how voters reach the decisions. We assume different people go about reaching voting decisions differently. In the context of the simulation, individuals alter their positions based on rules, which we propose to establish based on (1) regression analyses and (2) based on theoretical considerations stemming from the literature on different types of voters (e.g., Lau et al. 2018). In the following, we present our basic considerations in order to starting off the first set of simulations:

(1) In addition to the initial impressions from the first regression analysis presented before, we investigate the propensity to vote for a populist party (i.e., the FPÖ in our case) for different groups in an exploratory way. We see in Figure 1 based on AUTNES 2013 data two groups of voters. Depicted on the left graph are voters who consider issues other than immigration to be the most important ones facing the country at that moment. The other group, depicted on the right graph considers immigration the most important issue. The members of the former group become slightly more likely to vote for the FPÖ, the more they agree with the statement that Austria should take a tough stance on admittance of asylum seekers. However, for the members of the latter group, this effect is considerably larger in its increase.

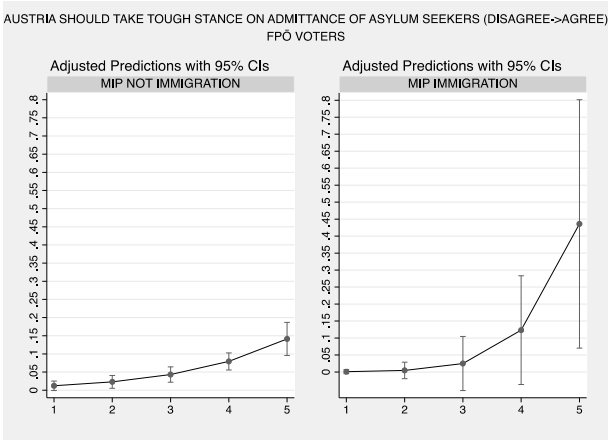

Figure 2: Marginal Effects of two voter groups

(2) Lau et al. (2018) propose and test a set of five types of voters' strategies that are applied when reaching a decision about party choice: rational choice, confirmatory, fast and frugal, heuristic-based, and going-with-your-gut. Although the authors find (relatively weak) correlations between the strategies, except for the rational choice strategy, thus indicating that these strategies are empirically not completely distinct, they allow for

the possibility to design rules of how voters decide. In the upcoming phase of developing the simulation further, we plan to validate the input data with real world events and results of surveys, wherever possible.

We implemented the five different types of voter decision-making strategies above in the prototype simulation model by translating them into rules as follows:

(a) Rational choice: A voter chooses the party closest to them on all modelled issues (Euclidean distance in seven dimensions).
(b) Confirmatory: A voter chooses the party they feel closest to (taken from the AUTNES 2013 data) or, there is no such party, the party they are most familiar with (heard most about).
(c) Fast and frugal: A voter chooses the party closest to them on their most important issues (weighted Euclidean distance in two dimensions).
(d) Heuristic-based: A voter follows recommendations of people they trust and chooses the party most of their friends will vote for.
(e) Going with gut: A voter chooses the party they have the highest propensity to vote for (taken from the AUTNES 2013 data).

Parties may also apply different strategies to adapt their positions on policy issues in the political landscape. For example, Muis & Scholte (2013) outline four different strategies following Laver (2005), which we used for the prototype model:

(a) The *sticker* does not change any of their positions and sticks with their party programme.
(b) A *satisficer* party stops moving once the aspired vote share is reached or surpassed and only starts moving again if the loss of votes passes a certain threshold (set to 25% in the model).
(c) An *aggregator* moves towards the average position of their supporters in all dimensions
(d) A *hunter* keeps moving in the same direction if they gained vote share with their last move, otherwise they turn around and choose their next direction with some variability. The version of this strategy implemented in the model restricts movement to the two most important issues of the party.

Populism on the Demand Side

The aim of the prototype simulation is to model the reciprocal effects of voters and parties with respect to populism. We rely on survey data on the demand side (voters) and on experts' assessments on the supply side (parties). While the populist character of political parties has been the object of political science research for a long while, the questions of how to measure populism on the demand side of politics is still an ongoing debate (e.g., Akkerman et al. 2014; Castanho Silva et al. 2019; Geurkink et al. 2020). This also means that for the period of our prototype simulation, we have no data available on populist attitudes. The aforementioned Freedom Party had staunch focus on anti-immigration policy (in the period of observation) and we consider this host-ideology essential for voting for this very party.[2] Our initial analysis of voting for the FPÖ supports our argument (see Figure 1). When applying the simulation to other contexts, we plan to account for populist attitudes, i.e. populism as factor on the demand side in addition to the host ideology, as well. This means that while at this stage we are

[2] For a comprehensive discussion on the relationship between thin- and host-ideology, see e.g., Loew & Faas 2019, Mudde 2017, and Van Hauwaert & Van Kessel 2018.

not able to include populism as a phenomenon on the individual level without losing the benefit of being able to verify the model with newer data, future versions will include populist attitudes. This will give us the opportunity to better analyze individuals who hold populist attitudes, but do not vote for a populist party and/or do not hold radical attitudes.

Prototype Simulation Model

We have made the prototype simulation model publicly available via the CoMSES Computational Model Library, a repository for agent-based models. To access it, please follow this link:

https://www.comses.net/codebases/e1bbefe2-89d7-4a19-9d7e-ba018917f399/releases/1.0.0/

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