

### What is Populism?

Populism is the tendency to reject established elites in the name of the people's will. In our project we examined its right wing variant, which reflects xenophobic and culturally reactionary views. As a proxy we defined an individual to be populist based on their voting preferences for parties in far-right groupings (such as Europe of Freedom & Direct Democracy and Europe of Nations and Freedom) within the European Parliament.

### The Data

- 12,300 survey results from randomly selected individuals
- 28 countries of the European Union
- 90 questions, a subset of which are posed to each respondent based on their citizenship. The questions, range from demographic data to political affiliations to moral tendencies.

**Dalia** Group collected this data to understand the current rise of populism in the western world.

### Goals

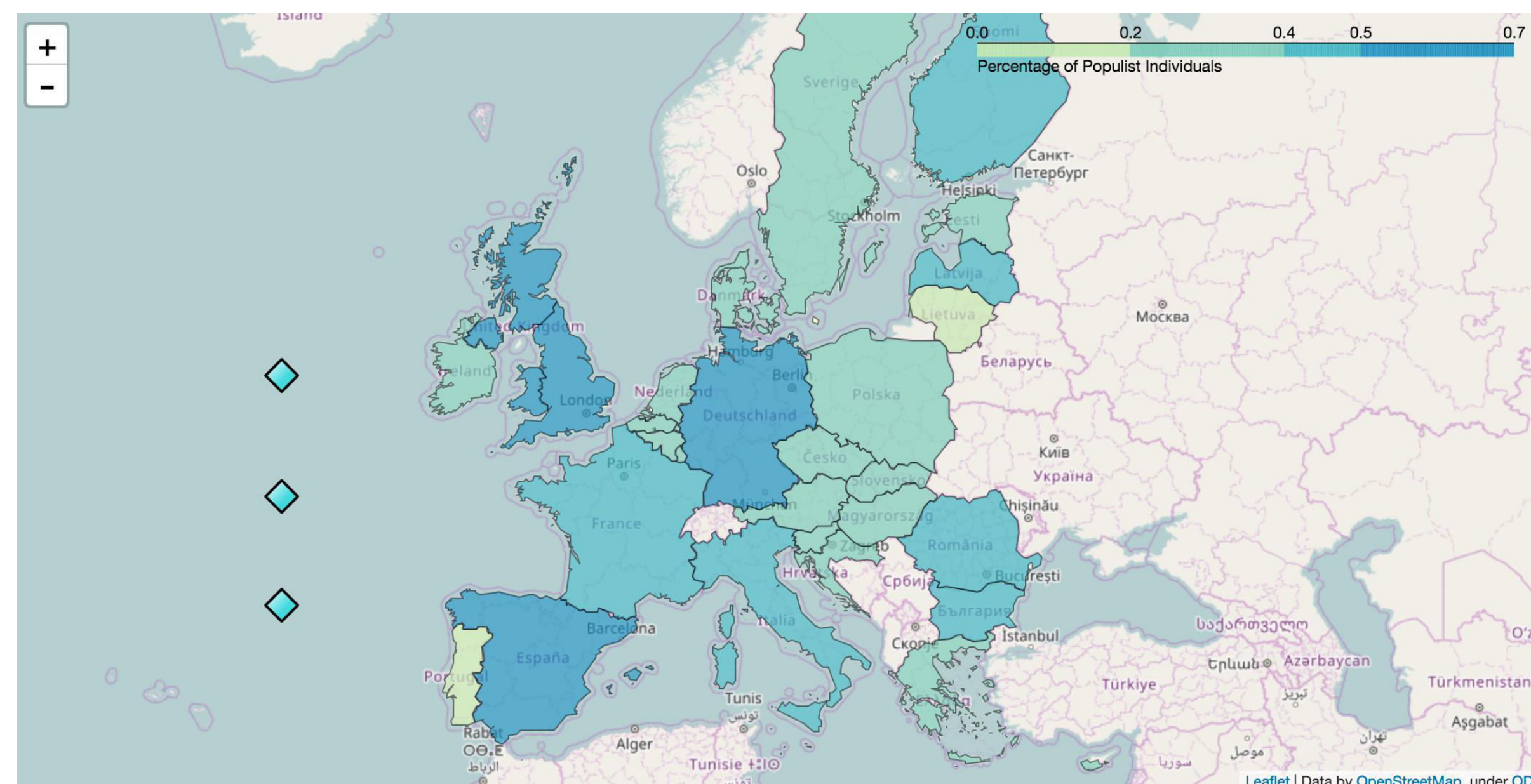
- Discover socio-economic factors and social attitudes that lead to populist sentiments within a country.
- Find the prototypical demographic profile of a populist
- Predict the winner of the French election based off our predicted populist sentiments

### Hypothesis

We expect to find populist tendencies to be paired with individualists who perceive the government as not representing their interests and the current state of their country to be deteriorating.

We speculate that Britain, with its unexpected vote to break from the EU, and France, with the rising popularity of LePen, will show high levels of populism.

### Results



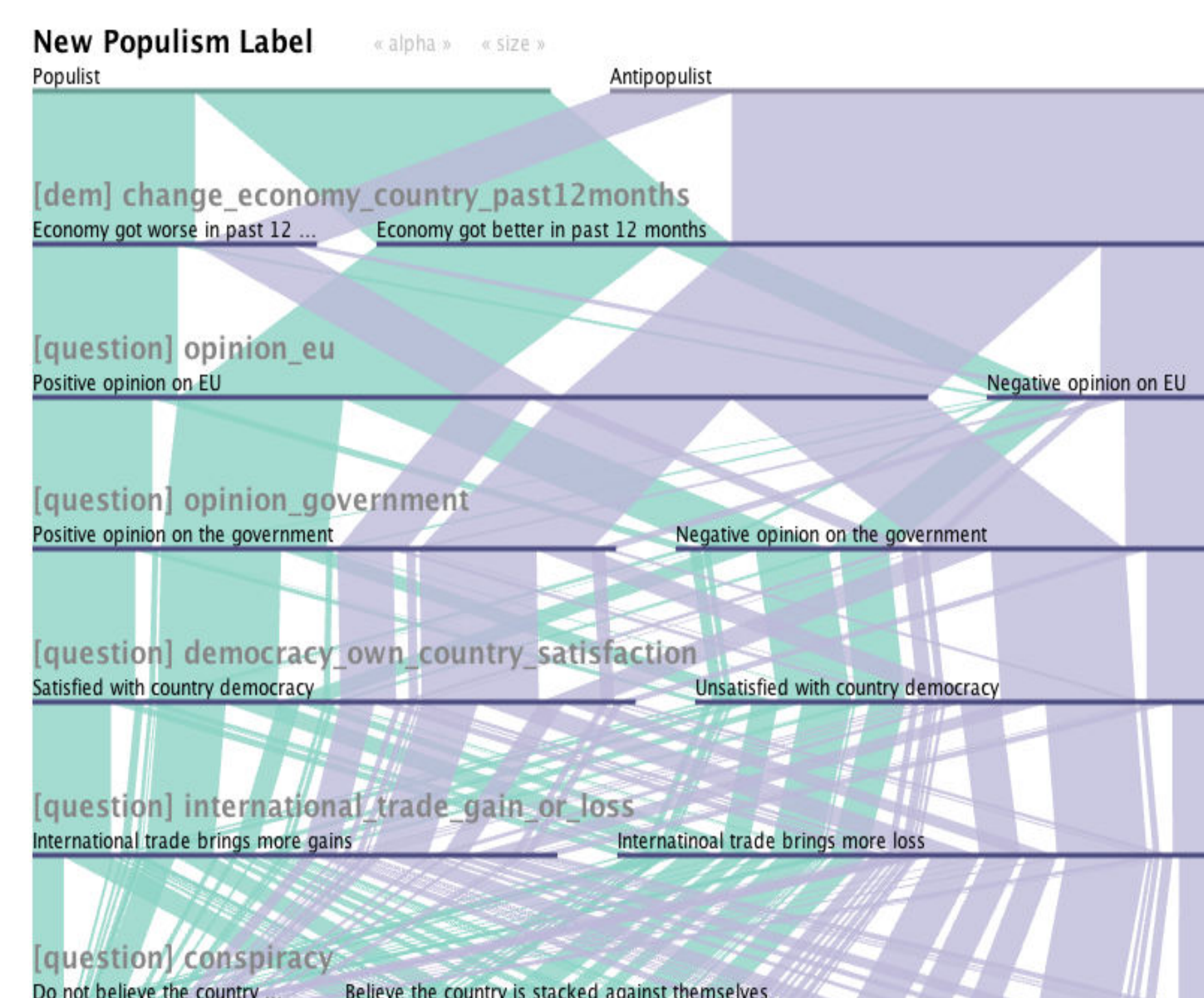
The percentage of populist individuals (predicted by regressors) in each country

**United Kingdom** As we expected, following Britain's vote to secede from the EU, we found extremely high levels of populist sentiments.

**Germany & Spain** In spite of the lack of right wing political parties, Germany and Spain ranked high in our populist ratings. Furthermore, Poland and Hungary were predicted to be more populist than their political representation would suggest.

**France** Per our results, France is leaning non-populist. Based off of our rankings we predict LePen will lose the upcoming French Election to Emmanuel Macron by a slim margin.

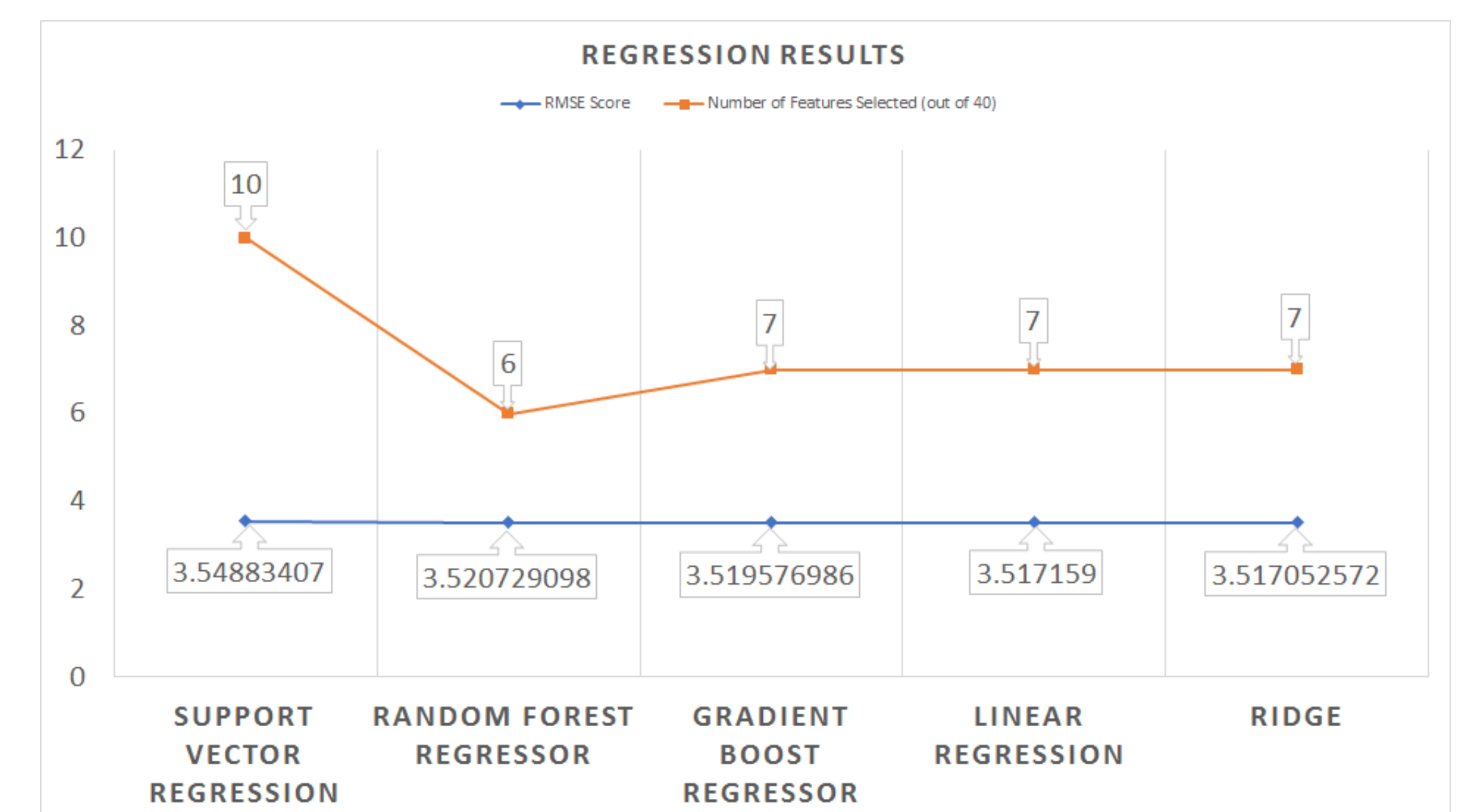
### What makes a Populist?



This is a parallel set visualization that illustrates the relation between populism and the six most indicative features of populism as selected by all 5 different regressors.

### Methodology

Our dataset came unlabeled. However, 8081 respondents from six countries had information regarding past voting decisions and party preferences. We created a scoring mechanism using these preferences that indicated the populist tendency of the respondents. We then used these 8081 observations as our train and test data.



We performed classifications and regressions shown in the figure above. To improve the performance of the regressors we implemented a two-phase machine learning pipeline that performed (1) **feature selection** to shortlist the features that were most indicative of populist tendencies, and (2) **hyperparameter optimization** for each of the regressions that we ran on our dataset.

**Ridge Regression** returned the best results and was thus used to predict the populism scores of the remaining data.

### Challenges

- Moving from an abstract idea of populism to quantifiable data proved difficult. We used voting preferences as proxies which introduces bias into our results.
- A vast majority of our dataset is categorical and can not be easily binarized. The process of conversion involved a thorough analysis of our definition of populism.
- SVM classifier scored low accuracy on the test data which indicates that our data is not linearly separable. It remains a challenge to find proper kernel functions and parameters to achieve better classification results.