What Citizens Want from the Economy

Determinants and Predictability of Economic Evaluations

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Summary

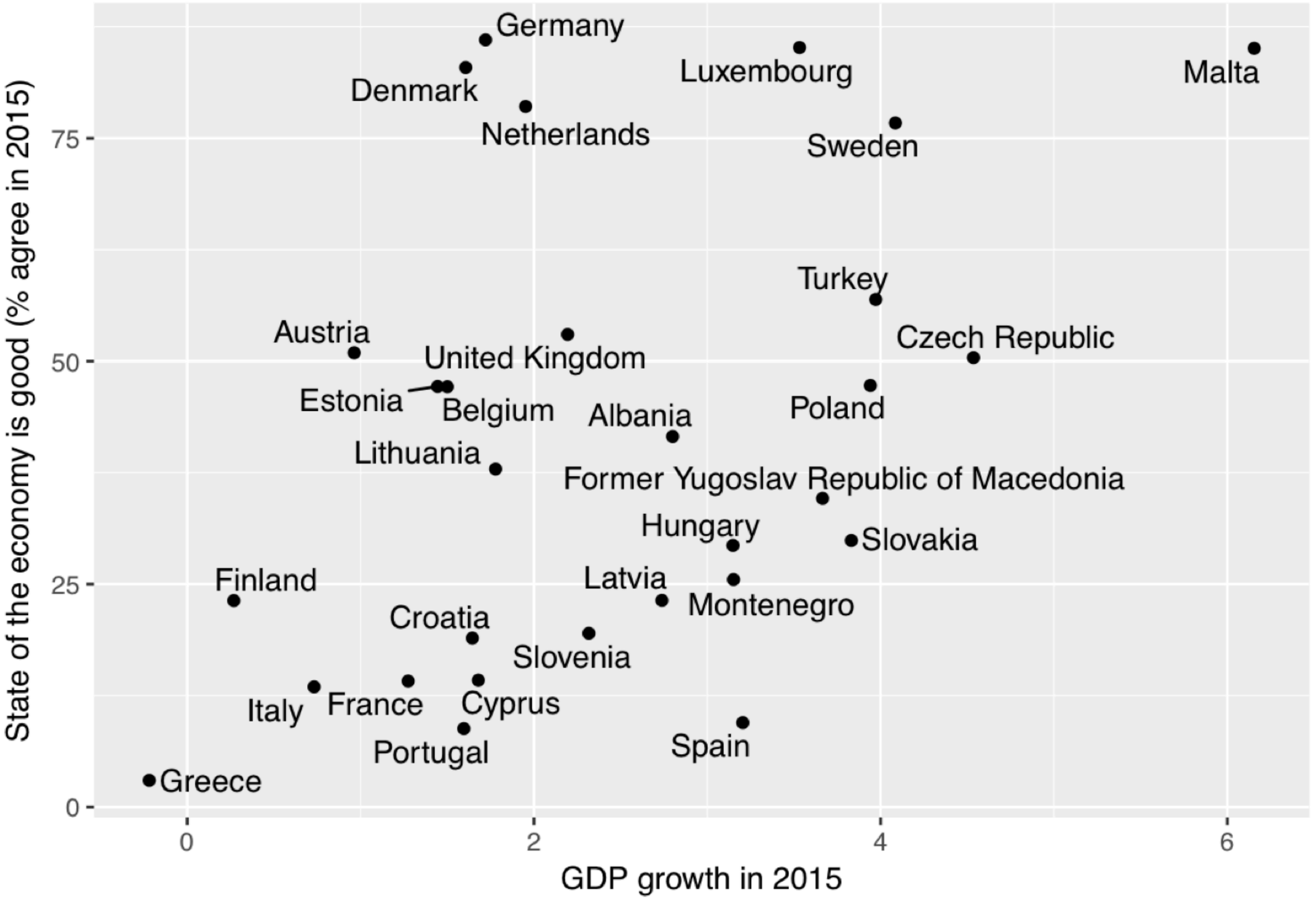
- RQ: When is the economy doing “well enough” according to citizens?
- When the labor market indicators are favorable
- Objective welfare translates quite closely into subjective perceptions

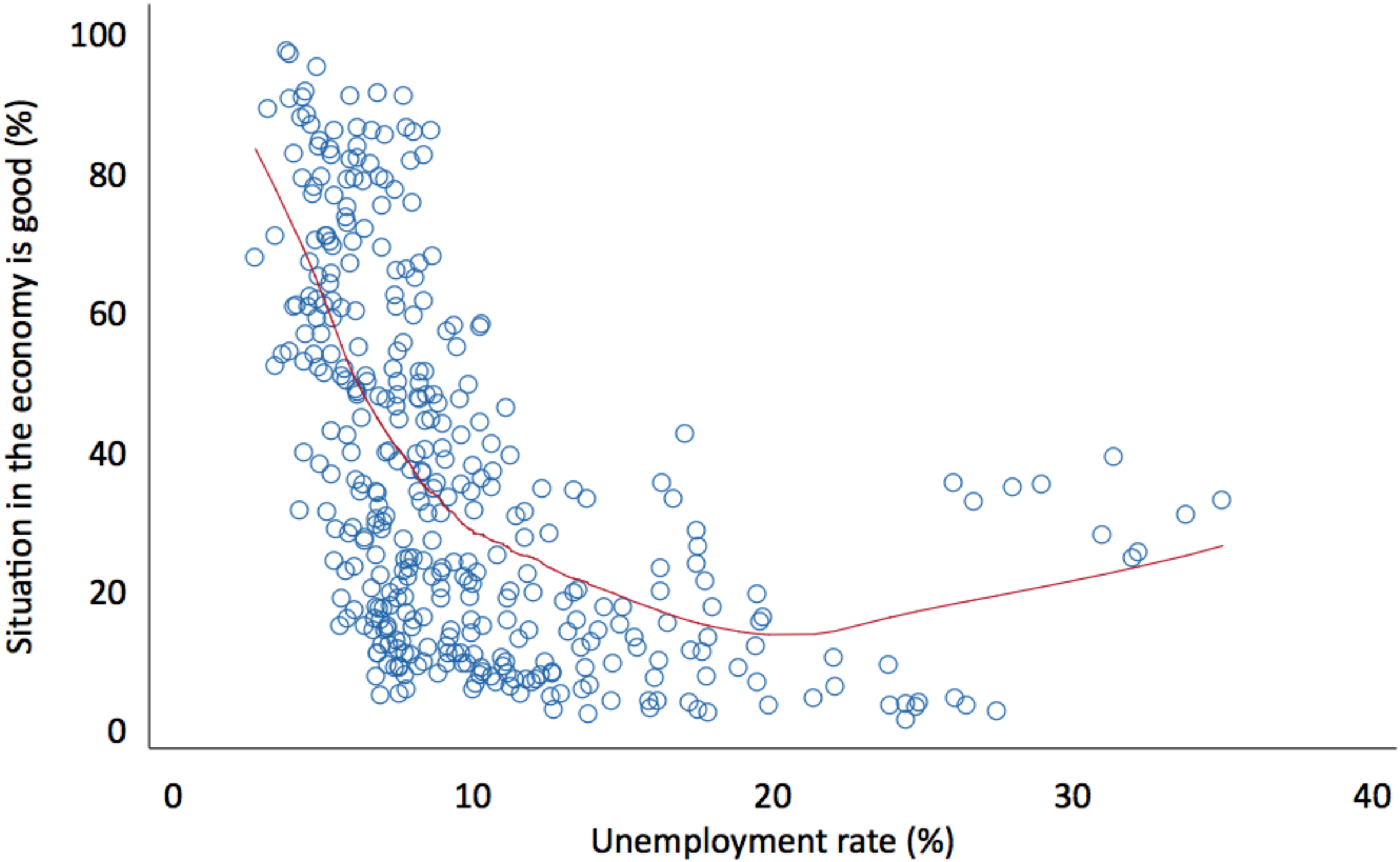
Goal: Uncover which economic outcomes citizens value

- What drives beliefs about the economy? Many (too many?) possibilities?
  - GDP growth
  - How easy/hard it is to find a job? How many jobs are created?
- General problem/blessing: large number of covariates
- **Claim:** approaches from machine learning can reliably identify the attributes of the economy that drive subjective economic sentiment

Measurement challenge: misreporting and inattention

- Evidence of partisan biases: Main and Sufi (2017)
- Possibility: Economic evaluations are really measuring political opinions
- H: Only some citizens (non-partisans) are actually evaluating the economy
- H: Only in some (non-polarized) countries can we gather meaningful data on economic sentiment


Germany
Denmark
Netherlands
Luxembourg
Malta
Sweden
Turkey
Austria
United Kingdom
Czech Republic
Estonia
Belgium
Albania
Poland
Lithuania
Former Yugoslav Republic of Macedonia
Hungary
Slovakia
Finland
Latvia
Montenegro
Croatia
Slovenia
Italy
France
Cyprus
Portugal
Spain
Greece
State of the economy is good (% agree in 2015)
75
50
25
0
0
2
4
6
GDP growth in 2015


Situation in the economy is good (%)
100
80
60
40
20
0
0
10
20
30
40
Unemployment rate (%)

Data & Methods

- Eurobarometer/Gallup/Pew data. How would you judge current economic conditions?
- Outcome: Proportion of respondents evaluating the economy positively
- Common approach: add “plausible” covariates into a long regression
- Alternative: disciplined variable selection
  - Allows for search over a rich set of variables and functional forms
  - Let data decide how to make the bias–variance trade-off *Kleinberg et al. (2015)*

Plausible feature space

- GDP growth (annual %)
- GDP per capita, PPP (current international $)
- Inflation
- Unemployment rate
- Personal remittances, received (% of GDP)
- Government expenditures (% of GDP)
- General government final consumption expenditure (% of GDP)
- Exports of goods and services (% of GDP)
- Gross fixed capital formation (annual % growth)
- Trade (% of GDP)
- Agriculture, forestry, and fishing, value added (% of GDP)
- Manufacturing, value added (% of GDP)
- Industry (including construction), value added (% of GDP)
- Industry (including construction), value added (annual % growth)
- **And 70+ other variables**

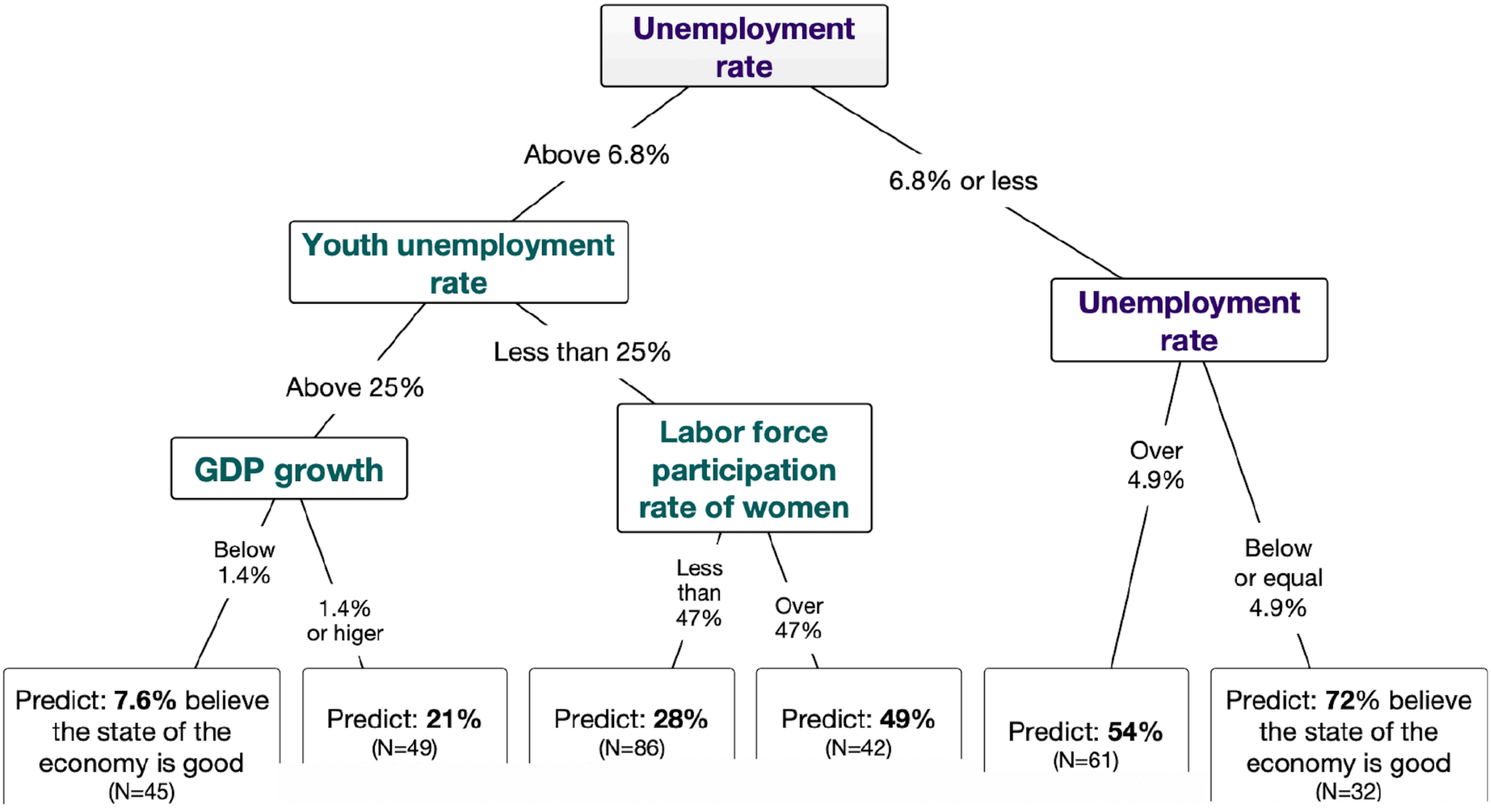
Search for best predictors

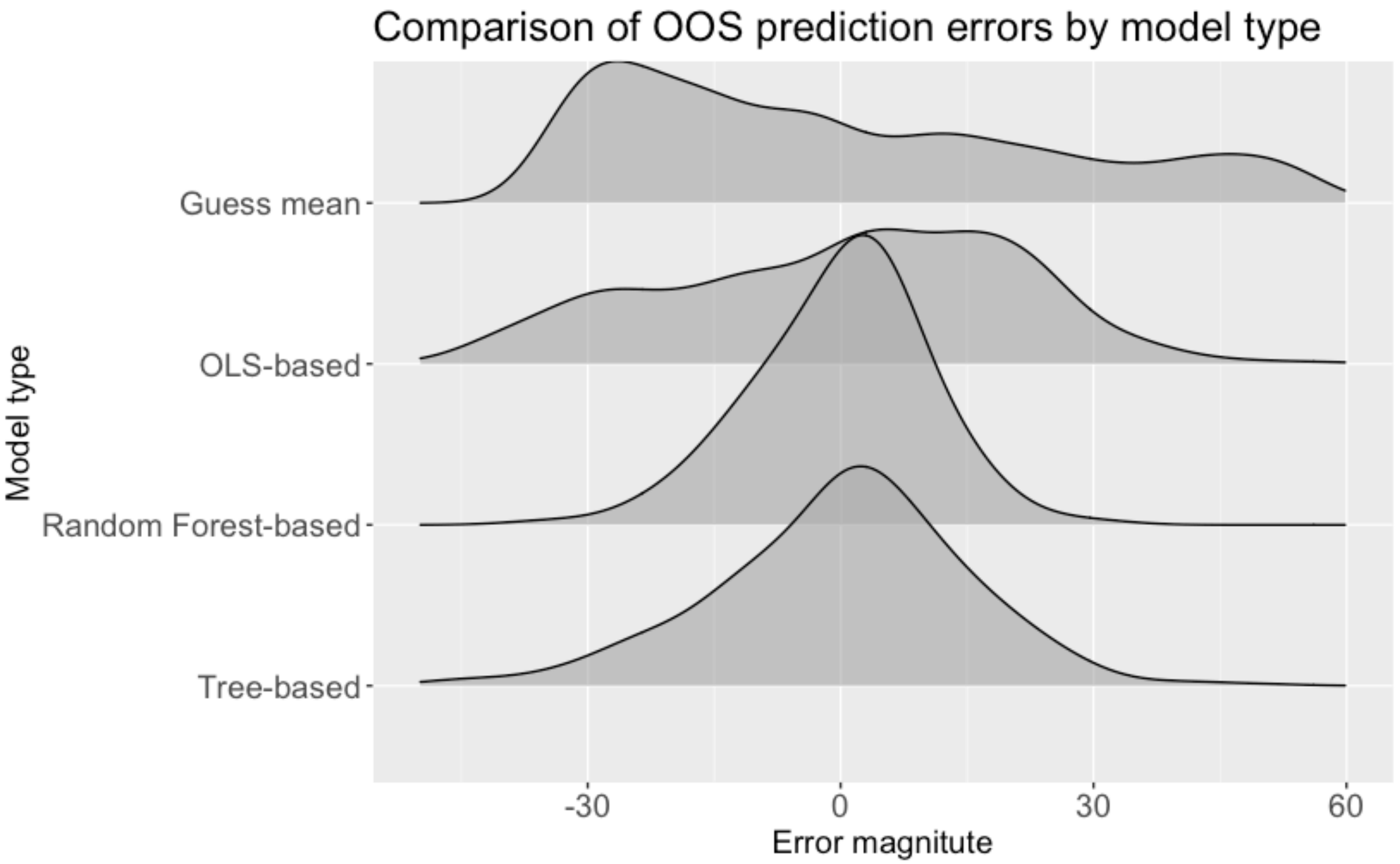
Regression trees

- Sequentially partition the covariate space
- Pick an optimal split of the data to minimize deviance (squared residuals)
- Check all variables but only pick the most diagnostic one at each step
- Typically keep going until a large tree is built, then prune

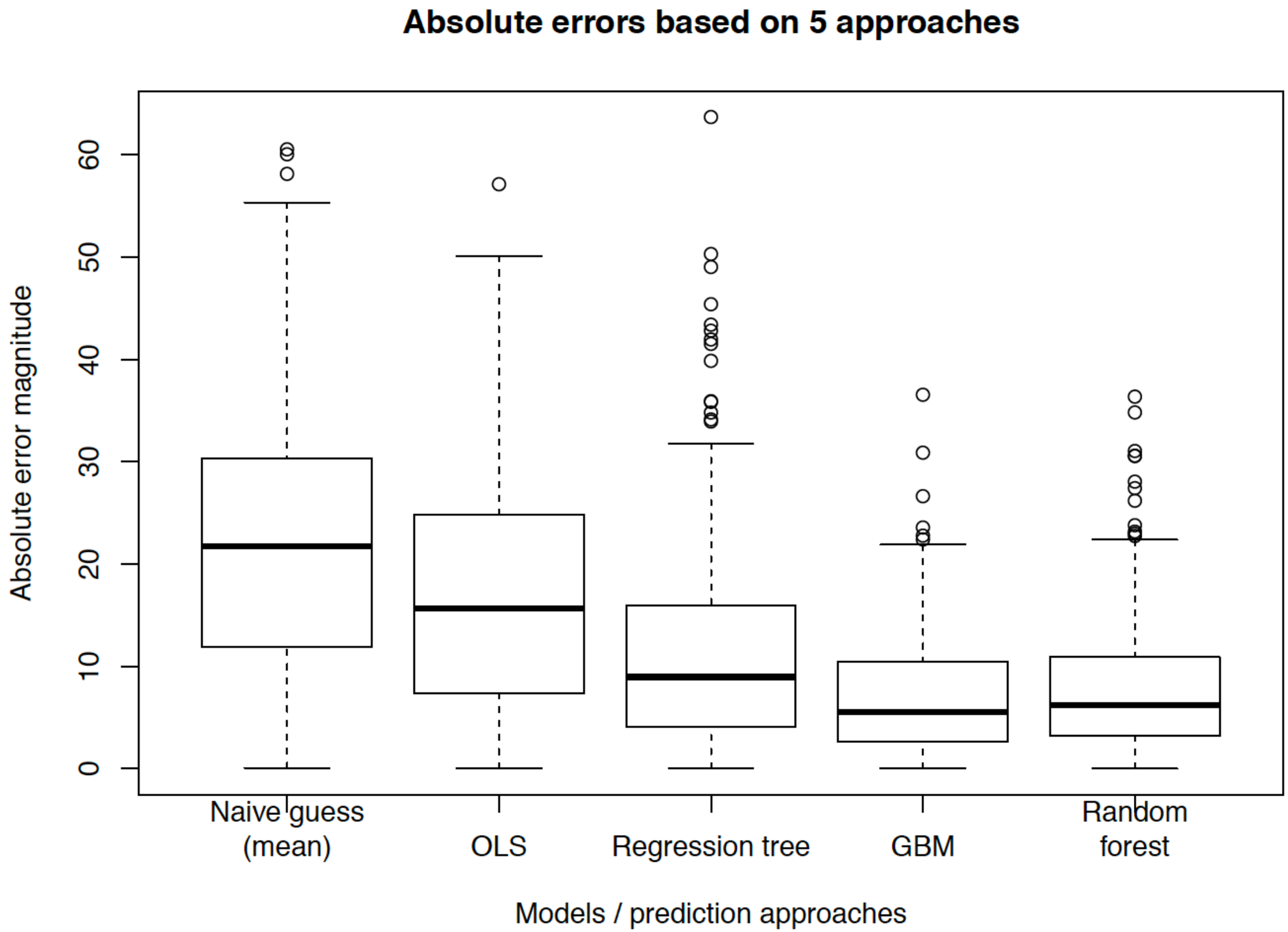
Random forest

- Randomize which variables are available for splitting at each step
- Grow 1000 trees. Let each tree make a prediction.


Unemployment rate
Above 6.8%
6.8% or less
Youth unemployment rate
Less than 25%
Above 25%
GDP growth
Below 1.4%
1.4% or higer
Predict: 7.6% believe the state of the economy is good (N=45)
Predict: 21% (N=49)
Labor force participation rate of women
Less than 47%
Over 47%
Predict: 28% (N=86)
Predict: 49% (N=42)
Unemployment rate
Over 4.9%
Below or equal 4.9%
Predict: 54% (N=61)
Predict: 72% believe the state of the economy is good (N=32)


Comparison of OOS prediction errors by model type
Model type
Guess mean
OLS-based
Random Forest-based
Tree-based
-30
0
30
60
Error magnitute

Out-of-sample performance of four modeling approaches relative to guessing the global mean (as a benchmark)



Conclusion

- Objective economic indicators and citizens' subjective economic evaluations are linked.
- Evidence that voters pay attention to the reality around them
- Economic variables interact and they do not map into perceptions linearly
- *But* there are also some rules of thumb