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Research and Documentation Centre

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A New Index of Political Inequality (IPI)

A joint effect of social characteristics of people on political participation –
a cross-national longitudinal study 1980-2022

Vardan Barsegyan

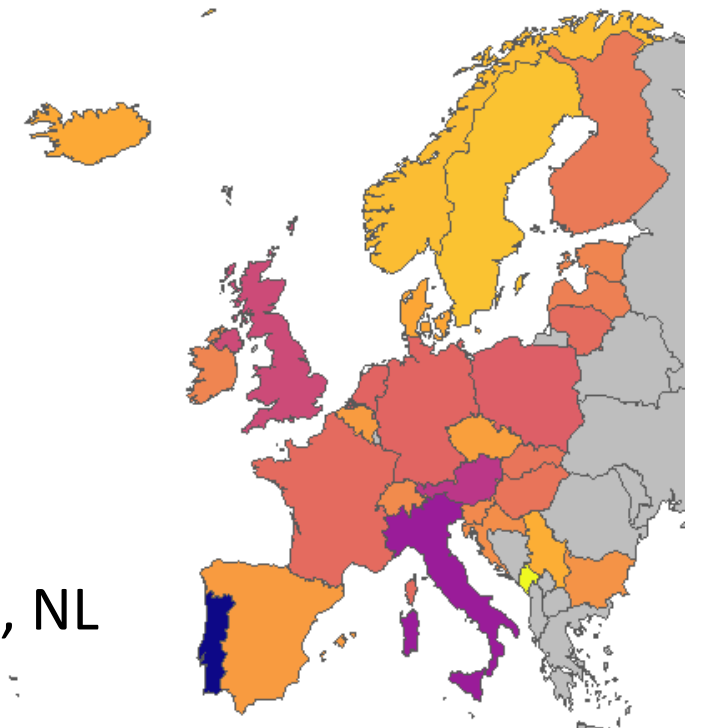
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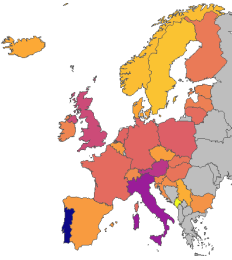
<http://vardanbarsegyan.com>

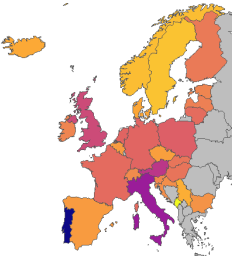
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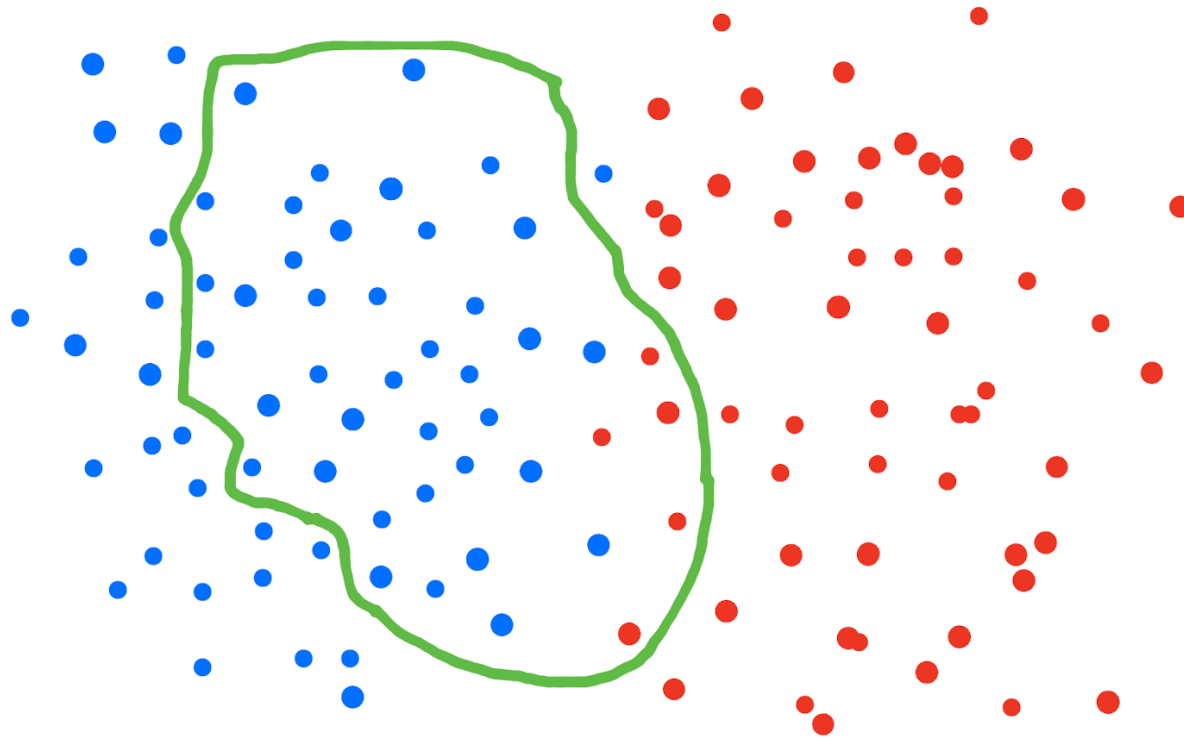


Social characteristics
of people should not
affect their political
participation



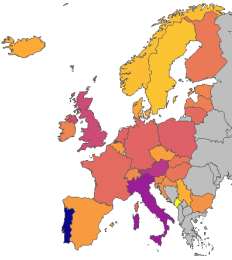


WHY NOT?



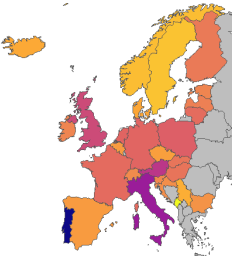
- The sample of “activists” is biased
- The sample does not represent the population
- The voices of some groups of people are underheard

Political inequality is the degree to which the voice of the people is biased by their social characteristics



Synonyms

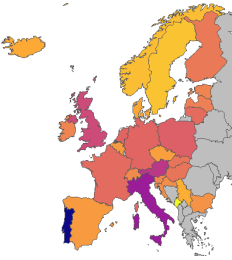
- Political inequality
- Political voice inequality
- Political participation inequality
- Political participation gap
- Inequality in political voice
- Underexpressed political voice



How to measure political inequality?

The statement	Statistical counterparts
Social characteristics of people	
should not affect	
their political participation,	
otherwise,	
political inequality exists and	
the stronger the influence, the higher inequality	

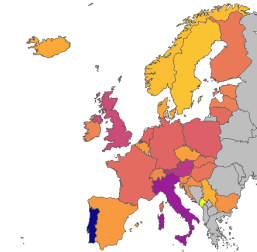
The statement	Statistical counterparts
Social characteristics of people	“Social” variables: age, sex, education, income, occupation, place of residence, migration background...
should not affect	A numerical entity that measures the effect / predictive power of a set of variables: $M = 0$
their political participation,	Voting, protesting, signing petitions, boycotting, etc.
otherwise,	If the measure $\neq 0$
political inequality exists and	political inequality exists and
the stronger the influence, the higher inequality	the larger the M , the higher inequality



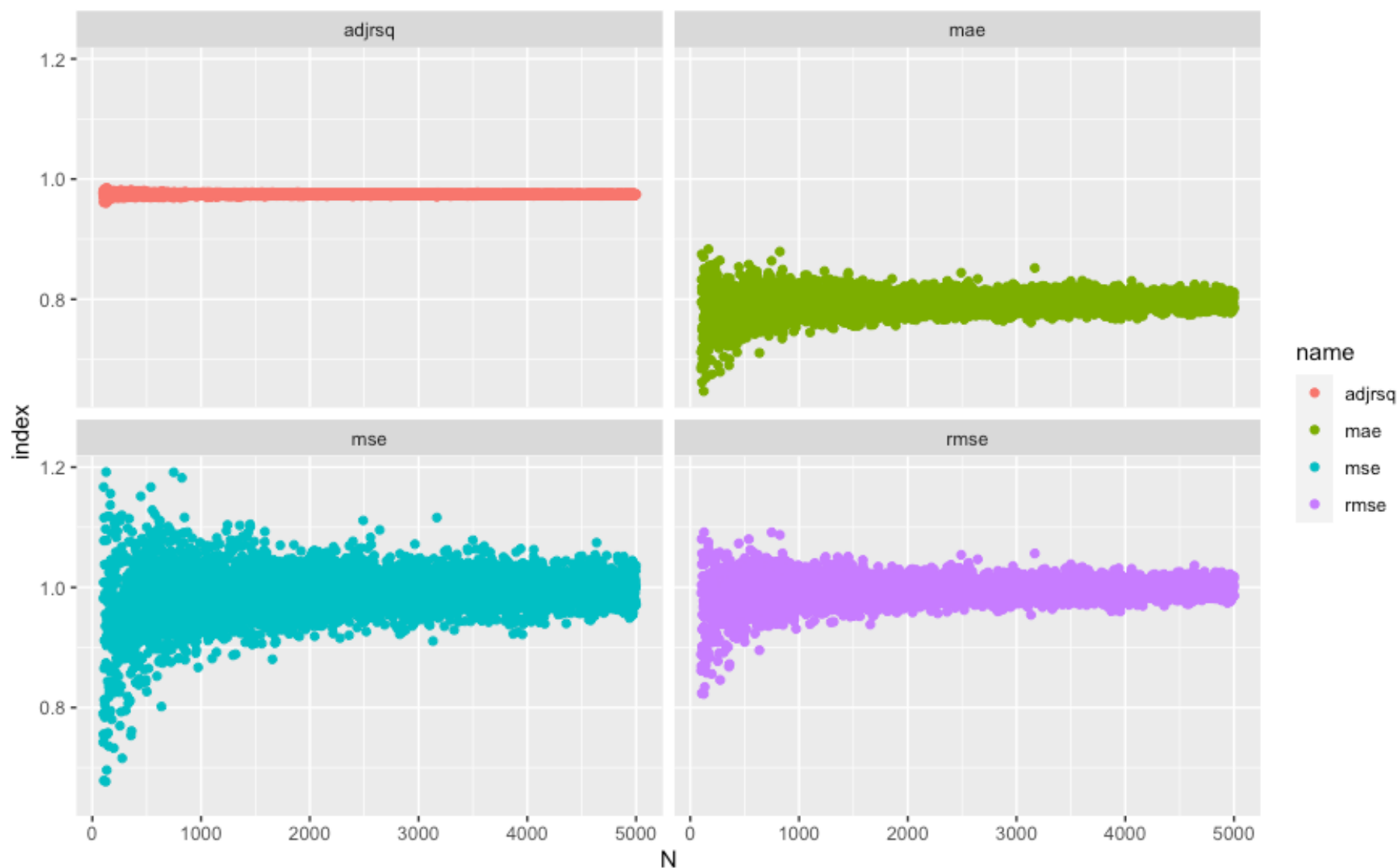
Which numerical
entity to choose?

Measure	Range	Single number	Sample size dependent	# of vars dependent
β_x				
R^2				
Adjusted R^2				
MAE				
MSE				
RMSE				

Measure	Range	Single number	Sample size dependent	# of vars dependent
β_x	+/- inf.	no	no	-
R^2	0 to 1	yes	no	yes
Adjusted R^2	0 to 1*	yes	no	no
MAE	0 to inf.	yes	yes	yes
MSE	0 to inf.	yes	yes	yes
RMSE	0 to inf.	yes	yes	no

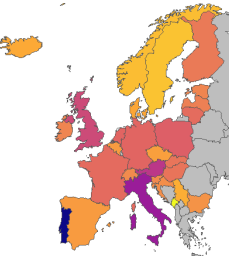
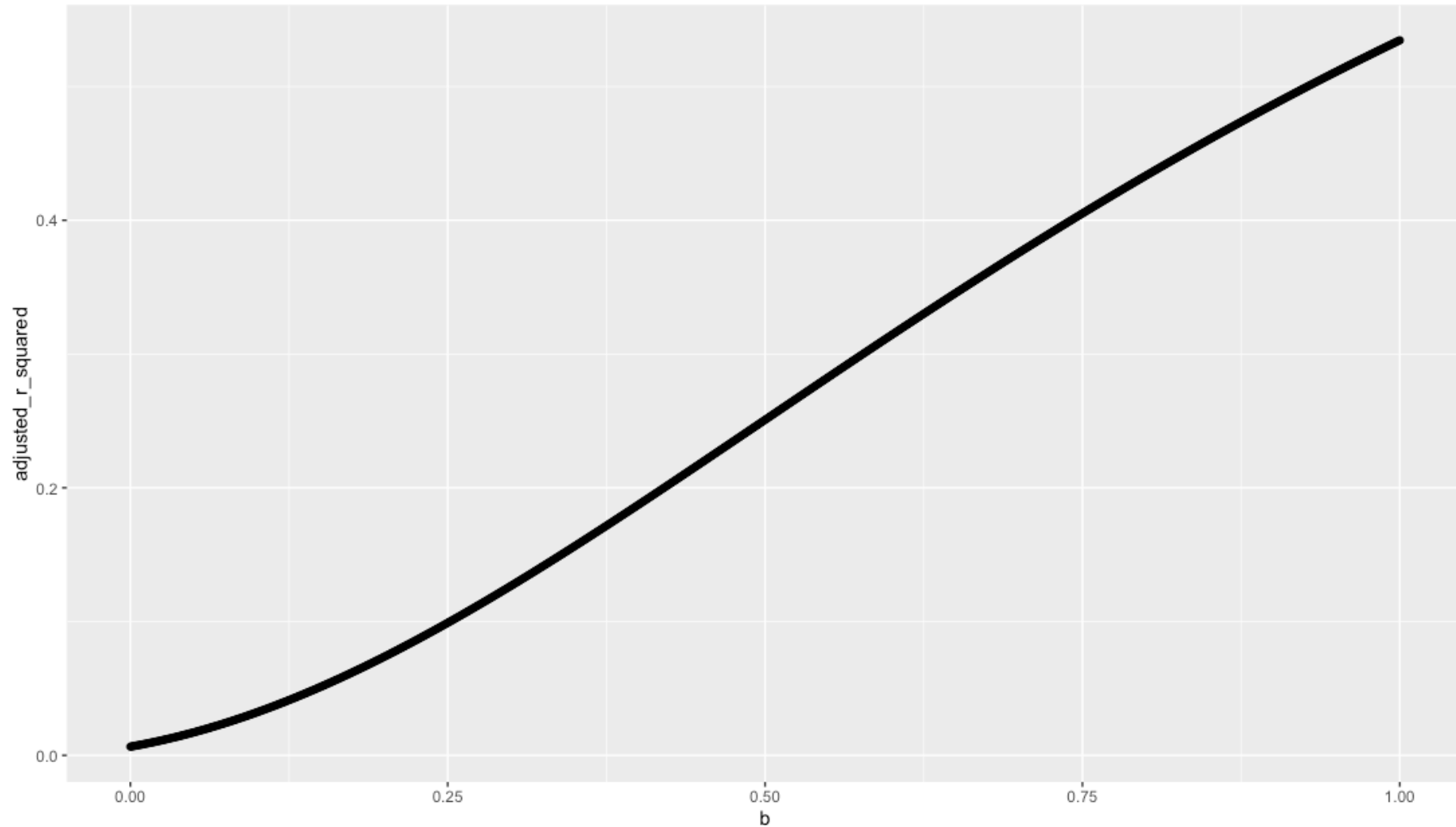


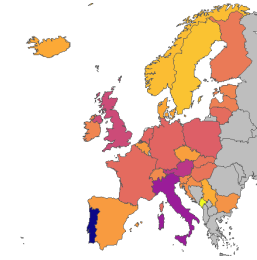
Robustness. Sample size should not affect the measure



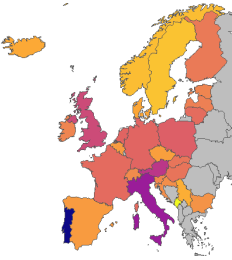
Properties:

R^2 reflects the strength of the effects (b-coefficients)





Creating the index



Data, Measurements, Methods

Data: ESS, CSES, ISSP, ANES, GSS, 1980-2022, 600 country-years (~400 - after cleaning),

N > 2 million respondents (~1 million - after cleaning)

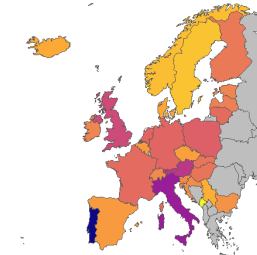
Political participation: voted (1/0)

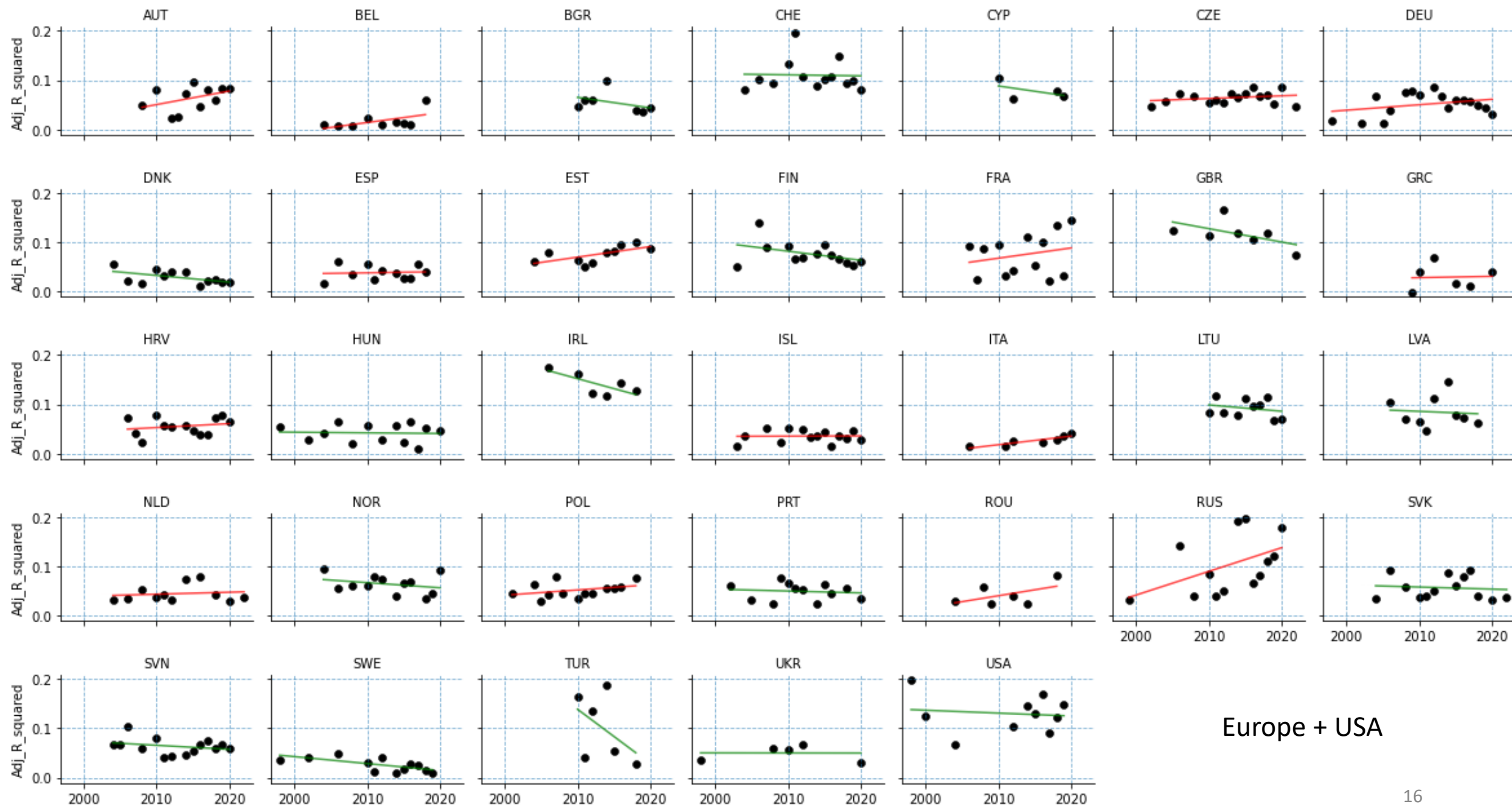
Social characteristics: age, female (1/0), higher education (1/0), religious (1/0), urban (1/0), married (1/0), employed (1/0)

Methods: OLS regression (LPM) of political participation on social characteristics on 400 country-years separately

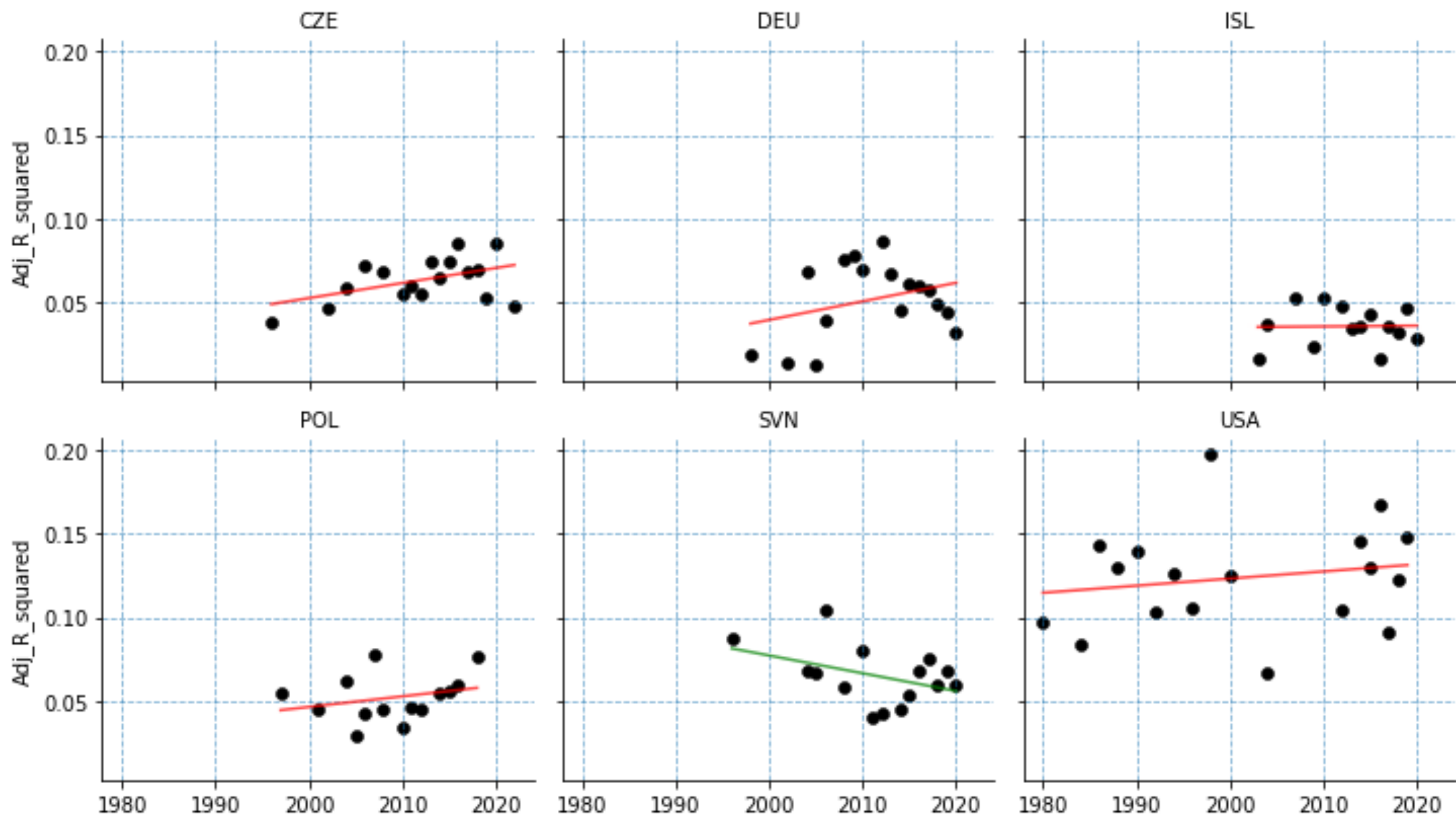
The index of inequality: adjusted r-squared for each 400 country-years

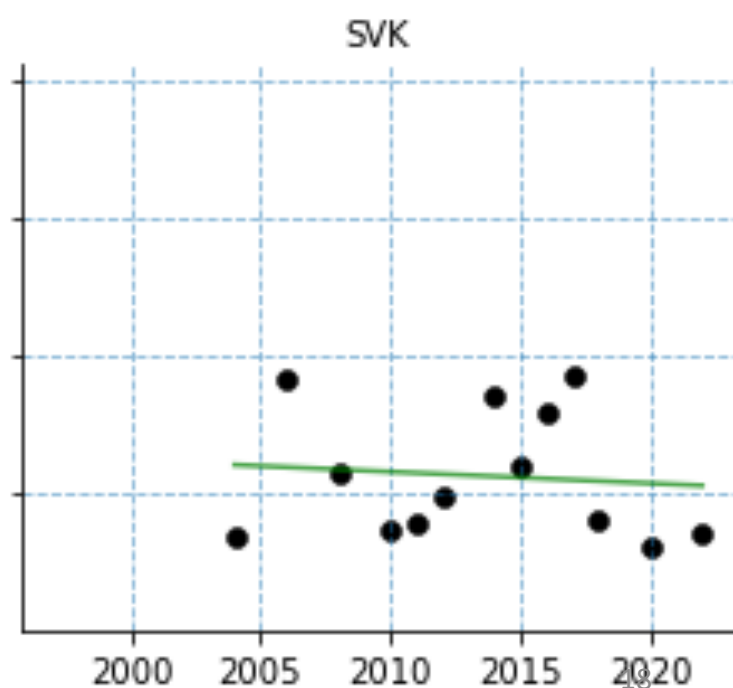
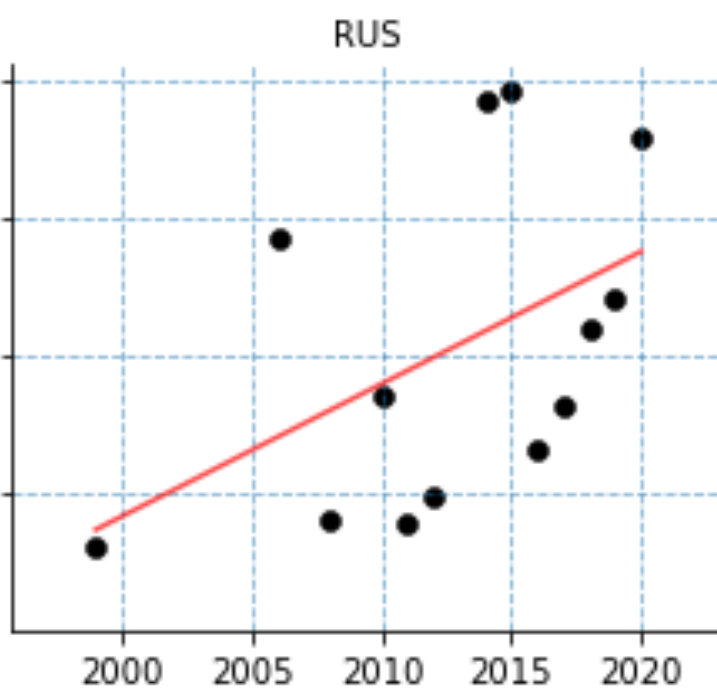
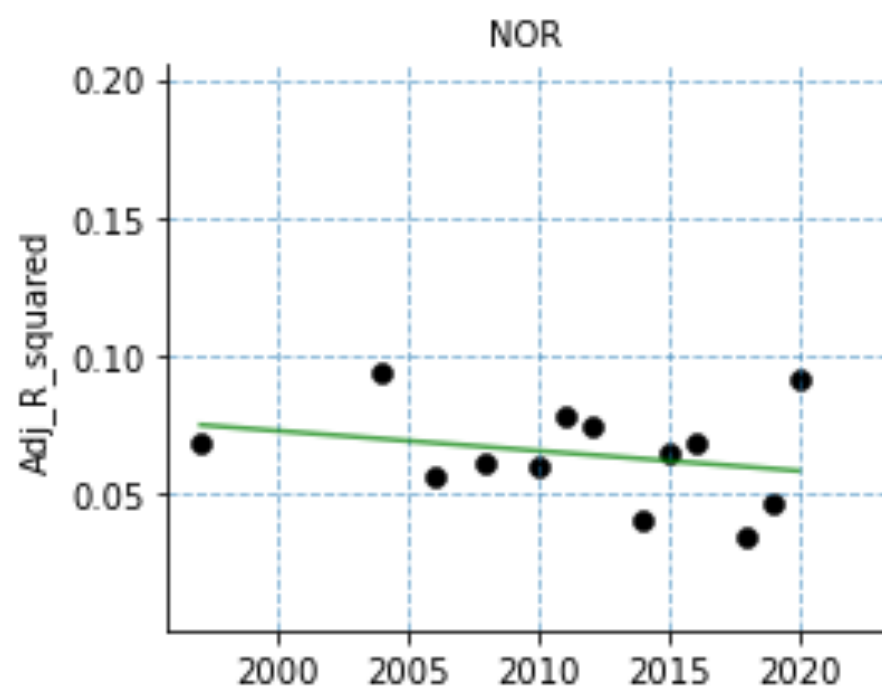
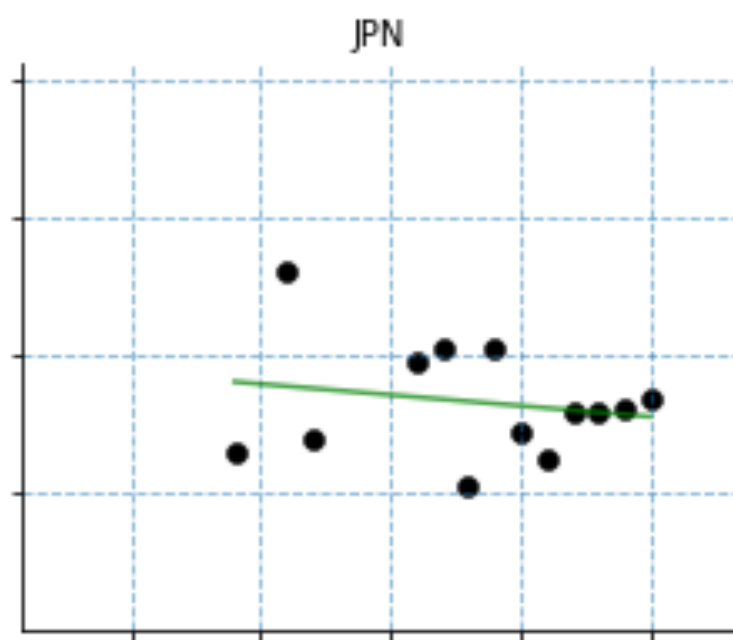
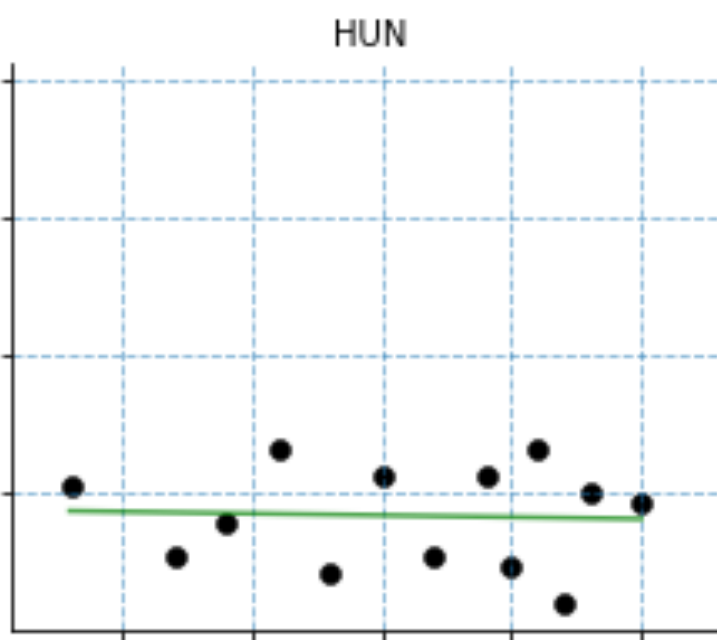
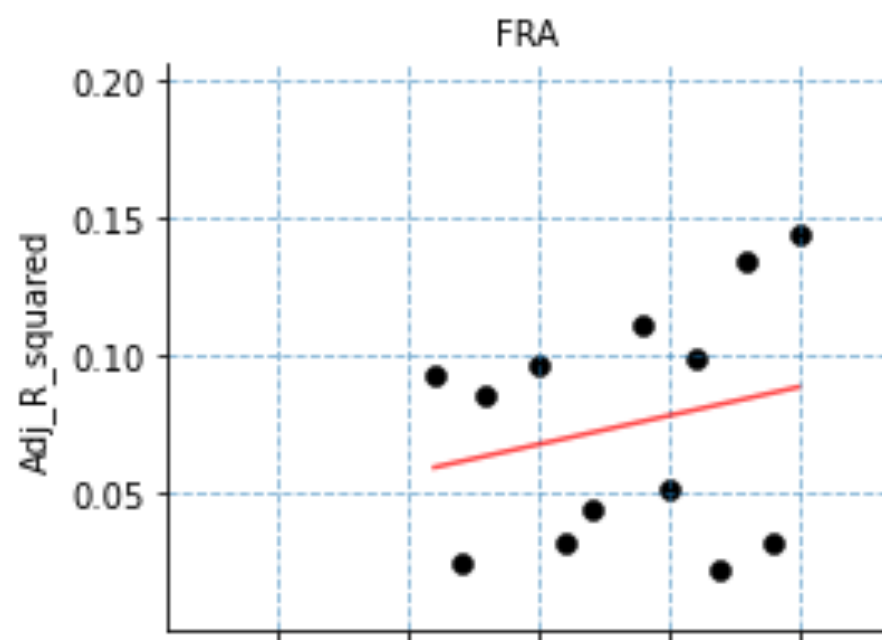
Results

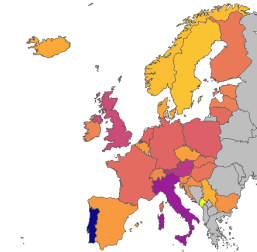




Europe + USA





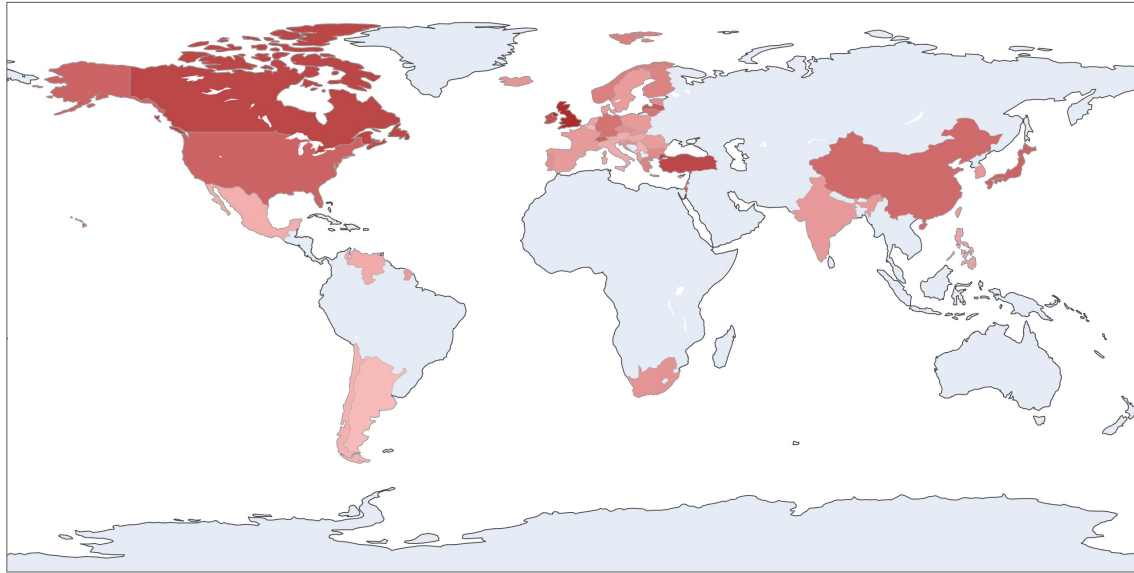


Within & between variability of the index

Variance	Within	Between
Country	0.0009	0.0013
Year	0.0017	0.0009

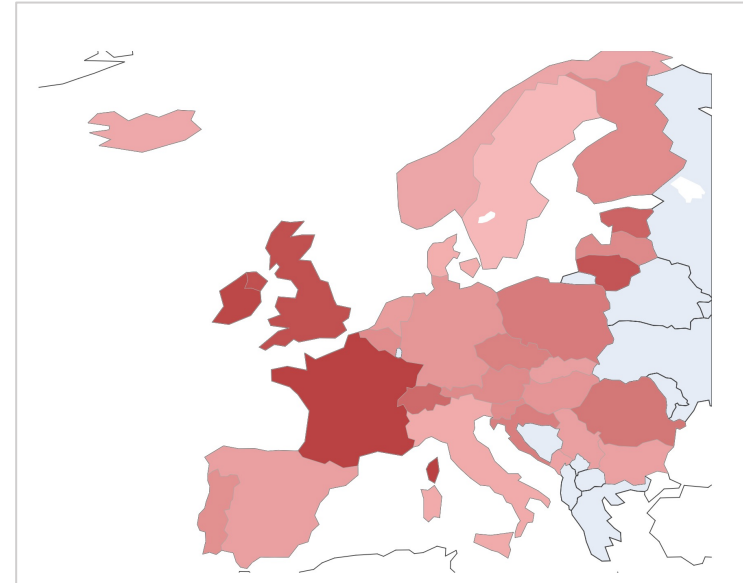
$N_{\text{country_years}} = 588$

Interactive maps!



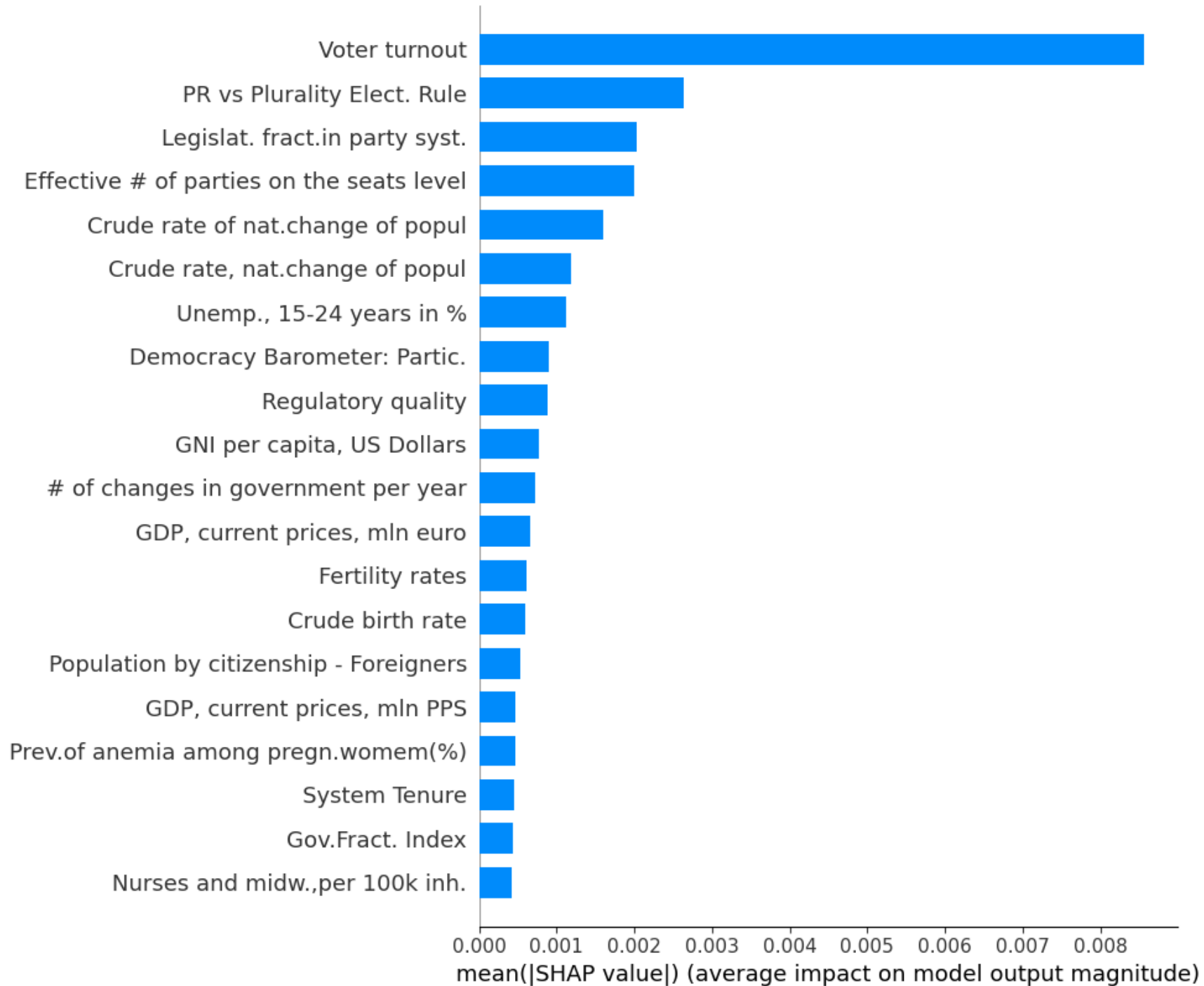
World:

https://www.vardanbarsegyan.com/publications/ipi_world_red_1.html

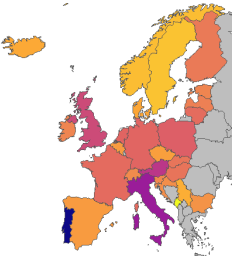


Europe:

https://www.vardanbarsegyan.com/publications/ipi_EU_red_1.html

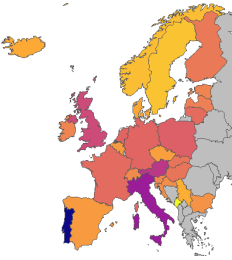






To do

- Include 10,000 macro-indicators for machine learning
- Include other forms of political participation, separately / together
- Test other model performance measures
- Add more data
- Compare with other political indexes
- Update the index yearly



Thank you for your attention!

Questions, comments?

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