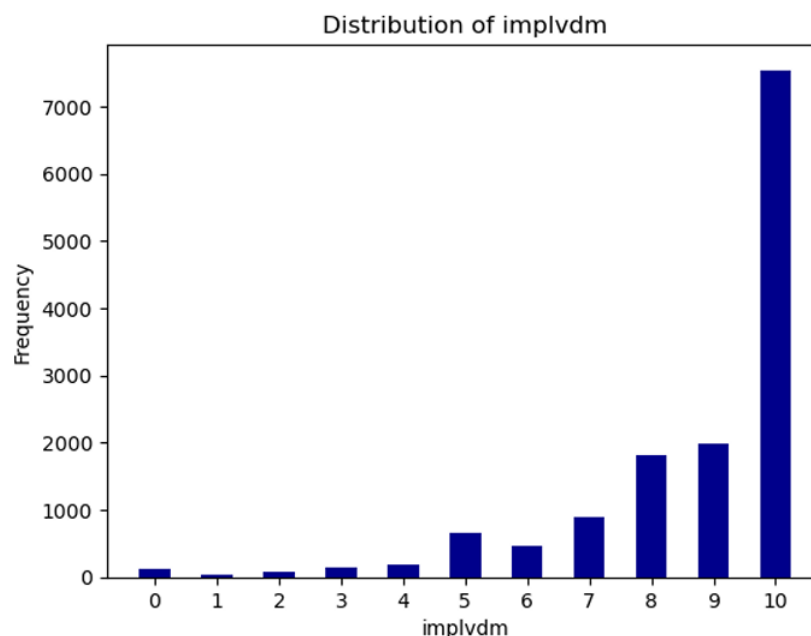


Measuring Democracy: the challenges of ranking democracy with personal data

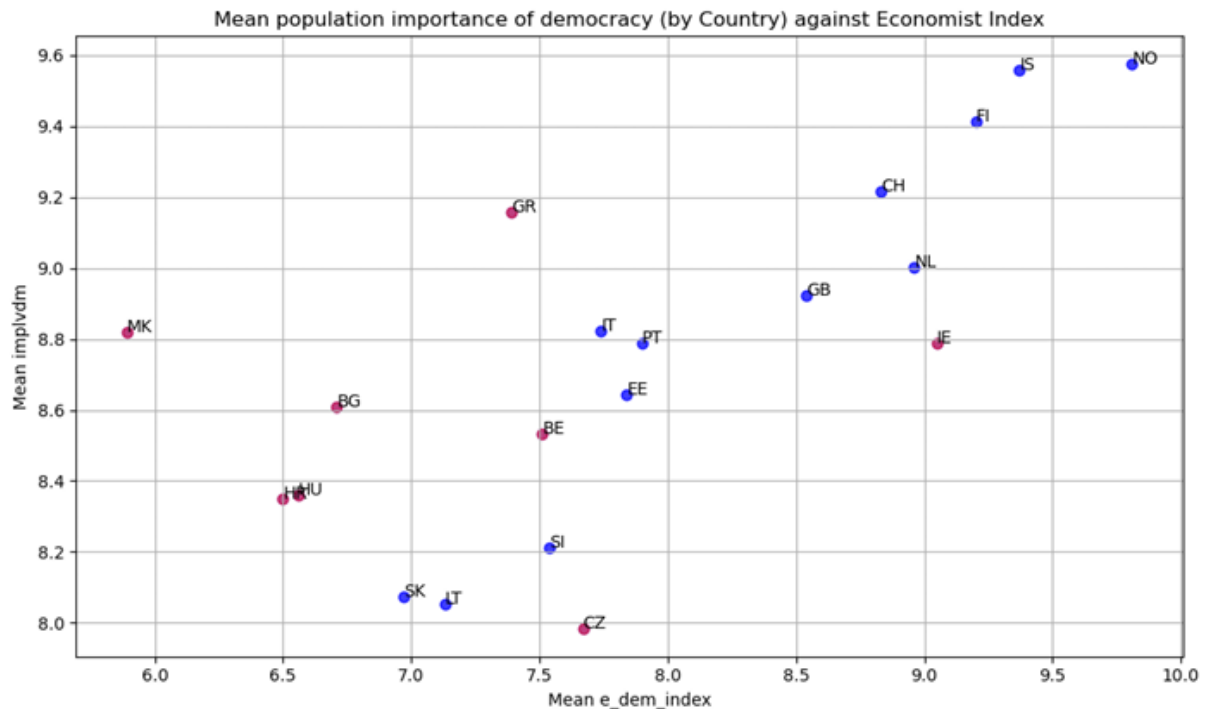
Abstract:

The measuring of democratic values has received a staunch amount of attention. When trying to capture this process, there is a trade-off in doing so via direct or indirect measures. Namely if done directly, the wording is precise to the variable at hand, but surveyed individuals may respond with exaggerated responses in favor of this form of government; if done indirectly, how can we be sure it is actually capturing individuals' democratic values? This preliminary study uses cross-sectional data from 22 European countries and compares the scores of traditional measures and indirect measures of democracy to the widely accepted Economist's Democracy Index. Initial results seem to show that an indirect measure of democracy constructed by using an index of instrumental variables that, according to the literature, are highly correlated with democratic values, ranks countries more accurately compared to a direct question. Additionally, the indirect measure is also closely correlated and associated with many variables in the direction the literature claims. Next steps include thinking about ways in which this measurement is a relevant measure for democracy.

A good first approach to observe the democratic values of individuals would be to find a variable that most closely portrays this question. When looking into the latest round of data from the European Social Survey (2022), an exercise imparted in numerous countries of that continent, we find that there is a direct question that fulfills this criteria: "How important is it for you to live in democratically governed country" (an ordinal variable in ascendant ordered, measured 0 to 10). Although the question seems straight forward and to be directly measuring what we are interested in, we run into a possible problem: social desirability bias. Repeated studies (Edwards, 1957; Krumpal, 2013) have found that, when individuals complete surveys, they tend to select categories that don't personally reflect their feelings towards a subject, because they think their answer will be judged by the researcher. On the contrary, they select the category that they think "seems correct", rather than expressing their sincere preferences. We have good reason to think that one such case is the sentiment people hold towards democracy. When viewing the distribution of the variable from our data, we find that it is massively skewed towards a positive view on democracy:



An insightful experiment is to disaggregate the surveyed individual's democratic stance based on their values. This could be informative to know how it reflects the democratic situation of their countries. As a metric of accuracy, we could compare this approach to a well-accepted measurement of democracy: the Economist's Democracy Index. When plotting the two of them, we get the following picture:



As can be seen, the results are mixed. On one hand most if the top performing countries (Norway, Iceland, Finland, Switzerland, i.e.), as well as a few low performing countries (Slovenia, Slovakia, Lithuania) in the ESS10 survey's measure are located close to their Economist democratic index value counterpart. On the other hand, there are quite a few values that don't see to adjusted adequately: while countries like Belgium, Czechia, Ireland are scoring comparatively poorly using this question, other countries that are considered far less democratic in the Economist's Index, like Greece, Northern Macedonia, Bulgaria are scoring conspicuously high. Although we have many reasons to expect variance between individual measurements and national scores, this pattern seems odd: is it that national measurements of democracy are disconnected from individual measurements, or is it that direct questions are highly biased?

A second approach is to employ indirect questions; choosing an instrumental variable that can measure a person's support of democracy without asking that question directly. To do so, I propose the creation of an index, composed out of a series of instrumental variables that are highly correlated to a person's disposition towards democracy, yet should not introduce important biases to our estimations. A first variable that could be used to generate this index is if an individual tends to vote in his/her election. Using the survey data, we find that this question is asked as "Voted in last national election" and is asked in a dichotomous manner (we only concentrate on the coded answers "Yes" and "No"). Since the basic definition of a democracy is that is a system in which decisions are made by the people (Aristotle [350 BCE] 2009), it would make sense to include this

measure in the index. Although we might see a high number of voters turning out as a baseline, it could be a good differentiator for individuals not as passionate for democracy.

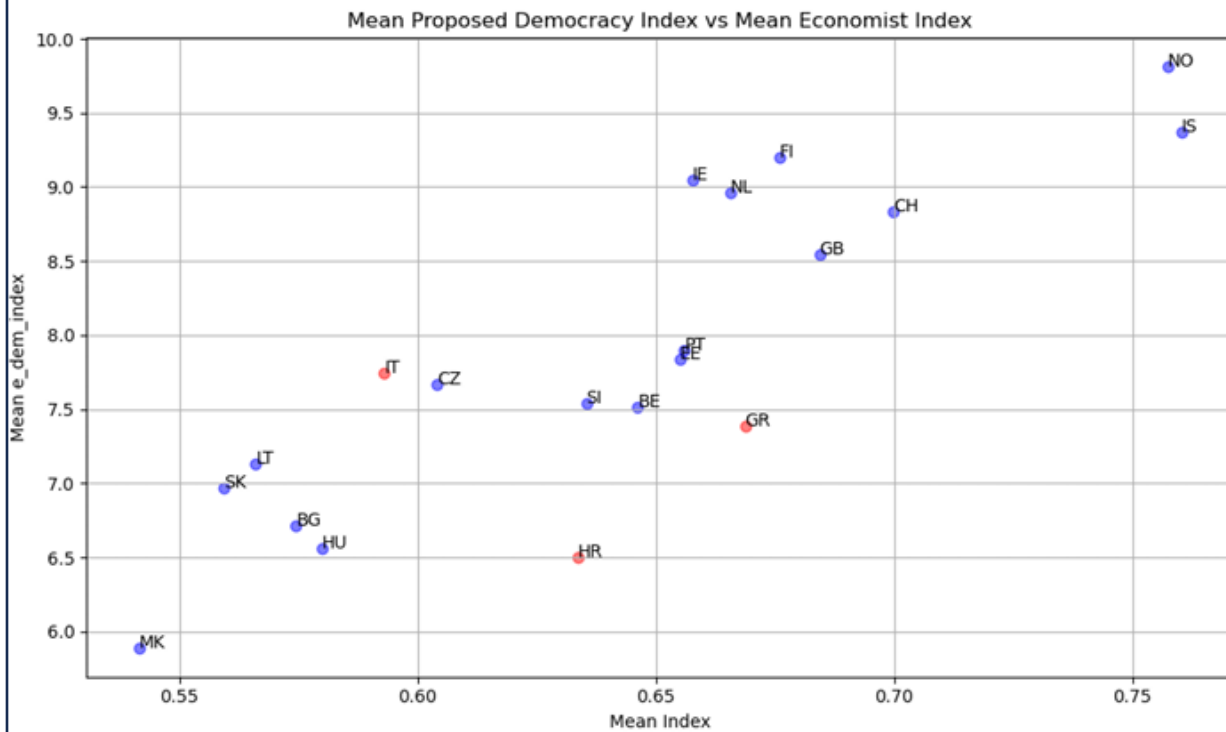
A second variable for the index could be if individuals have less contestation towards politicians and authorities. Since democracy tends to imply that voters are the decision makers in a political system, it is reasonable to expect individuals who are most obedient and submissive to authority might be less inclined to favor a system that proposes the opposite behavior. One of the ways best found by scholars (Feldman and Stenner, 1997) is to use the instrumental variable of children's education: parents who tend to value submission to an authority also tend to instruct their children to prioritize obeying authority. The question is measured as: "Obedience and respect for authority as the most important virtues children should learn."

Another way to measure this almost blind obedience to authority, concerning for democratic values, is seeing how important it is to individuals having loyalty to a leader. This is also measured directly in the survey via the question: "Country needs most loyalty towards its leaders". Another useful variable to measure democratic values is to see respondent's perception on leaders that violate the law. Since modern representative democracy's foundations are based on limiting the power of elected authorities towards institutional boundaries in order to guarantee that they implement the will of the people (Madison et al, [1788] 2005), it would make sense that proponents of democracy would prefer leaders not violate legal boundaries. To measure this, in the survey there is the question of: "Acceptable for the country to have a strong leader above the law".

Another important measure is the capacity of a government of being responsive to the population. Since democracy is a system in which elected authorities should be held accountable by the population (Bourke, [1774] 1777; Bingham Powell, 2004), it would make sense that people who are democratic tend to prefer their authorities change their actions based on the will of the people. In order to measure this, the survey asks the question: "Important for democracy: government changes policies in response to what most people think".

Finally, a more recent breakthrough in the literature (Pantazi and Prooijen, 2023) has been the finding that individuals who tend to be less democratic also tend to be those that believe in political conspiracy theories. Since most of the creators of conspiracy theories tend to be populist politicians who want to stay in power and create these to try to justify their mistakes/failures to the population, the individuals who believe in conspiracy theories tend to be supporters of these antidemocratic politicians and their governments. In order to measure this, the survey asks: "[There is a] [s]mall secret group of people responsible for making all major decisions in world politics.

Normalizing and assigning the same weight to these six instrumental variables, an index can be created. When seeing its mean ranking per country and comparing it to the Economist's Index, the following results appear:



As can be seen above, there seems to have been a noticeable improvement in the ranking and positioning of countries. Although the national means of Greece (GR) and Croatia (HR) in the proposed index are still better than that of the Economist's Democracy Index, this difference seems noticeably smaller than before, and these are the two countries who had a noticeable boost despite being less democratic. Italy (IT) also seems to be categorized slightly less democratic than what would be expected, but this difference is not as substantial as that of Greece and Croatia. Other important outliers we saw before, as North Macedonia (MK), Czechia (CZ), Belgium (BE) and Ireland (IE) are now much closer to their correct ranking than with the previous direct measure.

An additional test it to see what sociodemographic variables in the survey are highly correlated to this "indirect" proposed democracy index. These are some of the results:

edlveno	0.337729
edlvdpt	0.284096
edlvehr	0.237181
edlvdch	0.225660
edlvdee	0.196029
hincfel	0.189925
edlvebg	0.174549
atncrse	0.172138
hinctnta	0.166196
edlvdis	0.162695
mbtru	0.145104
pdwrk	0.132434
edlvfebe	0.131819
edlvdcz	0.130006
pdjobev	0.129377

When checking these variables' ranking with regards to their correlation to the index, the main sociodemographic consideration seems to be education ('edlvxx' variables) and preparation ('atncrse') of individuals in their different countries. This result is consistent with the literature regarding democratic values, as various studies (Bratton and Mattes 2001; Norris and Inglehart, 2004) find that individuals who tend to get more education, find out about the advantages of this form of government over the alternatives and, therefore, prefer democracy. Other variables that seem to be correlated with support for democracy is satisfaction with income ('hincfel') and income level ('hinctnta'). This seems to show two trends: being at different levels of income tends to affect a person's disposition towards democracy, while their perceived (personal) satisfaction with their economic situation also seems to have an effect on their disposition towards democracy.

Furthermore, individuals who are engaging in economic activities, as being currently engaged in paid work ('pdwrk') being part of a trade union ('mbtru') or simply having had a job in the past ('pdjobev') also seems to be among the most correlated with support for democracy. All these findings regarding wealth (earning, satisfaction and employment status) seem to reflect important democratic principles (Manin, 1997): a tenant in the foundation of modern representative democracy was people's commitment with citizenship, which was reflected in their earning and income. In other words, since individuals who had money and property seemed were the ones most affected by democratic decisions (via taxes and economic loss), it was mandated for the earliest voters to have property and surpass an income threshold for them to engage in democracy. Although this belief could seem antiquated, perhaps it reflects a truth applicable to our modern context: individuals who have something to lose or that have experienced the costs of working could be the largest proponents of democracy.

Finally, it is reasonable to see if there are additional sociodemographic variables that could be correlated with the proposed democracy index.

OLS Regression Results						
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Dep. Variable:	index	R-squared:	0.098			
Model:	OLS	Adj. R-squared:	0.098			
Method:	Least Squares	F-statistic:	303.1			
Date:	Sun, 07 Apr 2024	Prob (F-statistic):	6.07e-309			
Time:	11:54:45	Log-Likelihood:	6414.7			
No. Observations:	13889	AIC:	-1.282e+04			
Df Residuals:	13883	BIC:	-1.277e+04			
Df Model:	5					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	0.6737	0.005	128.481	0.000	0.663	0.684
trstep	0.0029	0.001	5.498	0.000	0.002	0.004
hinctnta	0.0075	0.001	14.961	0.000	0.007	0.008
dscrgrp	0.0245	0.005	5.012	0.000	0.015	0.034
rlgdgr	-0.0049	0.000	-11.465	0.000	-0.006	-0.004
hmsacl	-0.0235	0.001	-24.898	0.000	-0.025	-0.022
=====						
Omnibus:	323.127	Durbin-Watson:	1.859			
Prob(Omnibus):	0.000	Jarque-Bera (JB):	301.262			
Skew:	-0.317	Prob(JB):	3.82e-66			
Kurtosis:	2.655	Cond. No.	40.5			

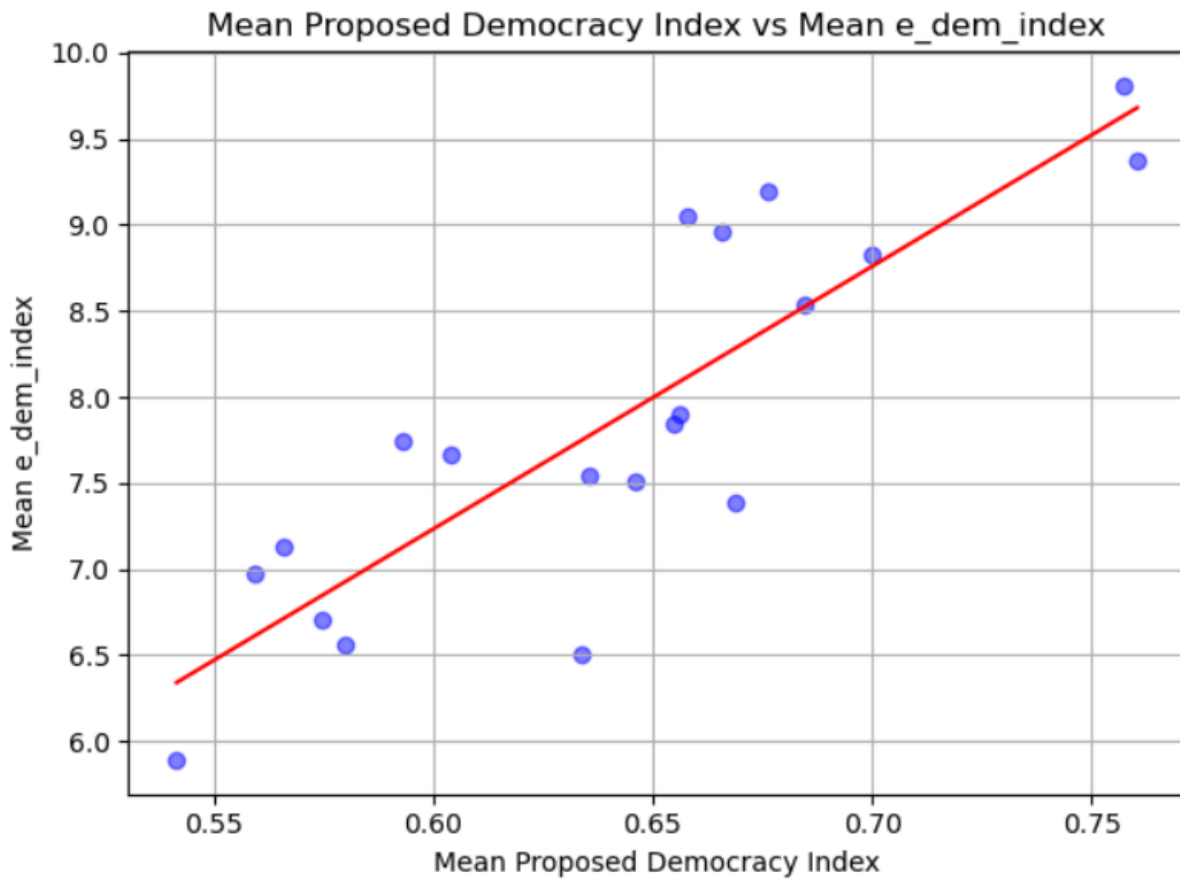
These results show some patterns that could seem expected. All else equal, individuals who are more democratic tend to have a positive and statistically significant correlation to trusting large international institutions, in this case the European Parliament (trstep); individuals with more wealth tend to be more democratic (hinctnta), as mentioned in the discussion above. Additionally, individuals who come from a discriminated group(hmsacld') also seem to be less democratic. On another note, individuals who favor progressive agendas ('dscrgrp'), as rights for the LGBTQ+ group, seem to also score high in democratic preferences, which is consistent with research on these trends (PewResearchCenter,2021).

Finally, we also observe that individuals who are more religious('rlgdgr')tend to be less in favor of democracy, something that could be reflecting a timeless sociological and institutional argument (Schmitt, 16 [1922] 1985): since individuals who are religious are used to respect and obey a set of principles and rules imposed from a deity, they are less prone to accept a system of government like democracy in which the laws and principles are determined by mere popular preferences, rather than a more robust and credible authority. The R-squared of this regression is almost 10%, which means that this cursory model explains close to 10% of how much an individual favors or not democracy, which is a noteworthy amount for a phenomenon in the social sciences.

Clearly this proposed index to measure democratic values is far from ideal, but it could versatile tool in which many dimensions of democratic values can be captured and summarized into a single variable, making it useful for analysis in social sciences. The only question remains: is this enough of a justification to measure democratic values of the population? Even if this index were adequately measuring the democratic values of the population; does it tell us anything about how useful it is to measure national level democracy (i.e. while people may have very democratic values, their countries might be antidemocratic; and vice versa)?

Appendix:

Positive correlation of proposed index and e_dem_index



Regression equation: $y =$

$15.26 x - 1.923$

P-value: $1.5522326941723303e-06$