

Welfare Regimes and Support for Redistribution in Europe

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Replication study

This work replicates the article "Welfare Regimes and Support for Income Redistribution in Europe" by Ales Kudrnac and Ivan Petrušek, published in *Public Opinion Quarterly* (2022) Vol 86 No 4, 968–996. Furthermore, it extends the mostly descriptive work done by the authors by introducing inferential statistics to examine the phenomenon of interest.

Abstract

Can support for welfare in Europe be explained by the "regime hypothesis"?

The regime hypothesis argues that regime membership should explain between-country differences in attitudes towards redistribution. In the replicated article, the authors use European Social Survey data to establish trends in support for income redistribution across 18 European countries from 2002 to 2019. Additionally, the authors have examined trends in public support for redistribution across income groups and assessed the prevalence of belief in meritocracy and egalitarianism.

The authors found that attitudes towards redistribution remained relatively stable across time. However, they have found significant variation among countries of the same welfare regime.

In this paper, the analysis of trends is expanded to include inferential statistics to further explore the relationship between support for redistribution, welfare regime, social spending and income.

Introduction to the study

The concept of income redistribution is defined by the authors as the process of transferring income from some individuals to others. This serves as a crucial mechanism to alleviate income inequality within societies and can be accomplished through a number of different government strategies, such as taxation, social spending, basic income scheme, etc.

Utilizing data from the European Social Survey (ESS) spanning 18 countries, this study aimed to delineate trends in public support for income redistribution in Europe from 2002 to 2019. Given the heterogeneity among countries in framing and contesting income redistribution, the study further explores whether attitudes toward income redistribution follow distinct trajectories within specific welfare regimes. Additionally, the study investigates trends in income redistribution support across various household income groups to assess the influence of income on attitudes toward redistribution across different welfare regimes.

While factors such as the Great Recession, immigration, and rising income inequality have likely impacted public attitudes toward income redistribution, studies exploring these trends in Europe remain scarce, with existing research primarily focused on the United States.

Methodology and Analysis

The study employs a welfare regime typology framework based on Esping-Andersen's typology and distinguishes conservative, social-democratic, liberal, Mediterranean and post-communist welfare states. By categorizing countries into these regime types, the analysis tests the "regime hypothesis," which posits an association between redistributive policies and public welfare attitudes.

Hence, in this study, Belgium, France, Germany, the Netherlands, and Switzerland are conservative welfare regimes; Denmark, Finland, Norway, and Sweden are social-democratic regimes; the United Kingdom and Ireland are liberal regimes; Spain and Portugal are Mediterranean regimes; and the Czech Republic, Estonia, Hungary, Poland, and Slovenia are post-communist regimes.

Outputs of the study

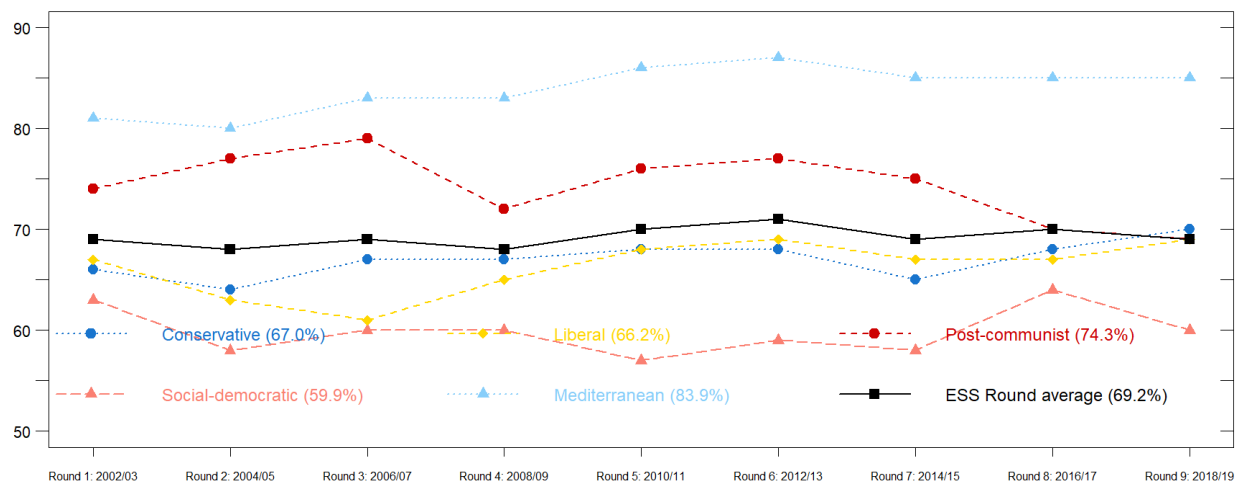


Figure 1: Average support for income redistribution by welfare regime.

In figure 1, the authors have averaged attitudes towards redistribution within each welfare regime and contrasted them in a plot across ESS rounds (from 2002 to 2019). From this plot it is clear that Mediterranean

and Post-communist regime countries are on average more supportive of income redistribution, despite the latter showing significant variation across the years. It is also evident that Social-democratic countries are the ones who are least supportive of redistributive policies, while the remaining groups tend towards the middle.

The following plots show variation within the welfare regime groups to reveal significant differences among the previously grouped countries.

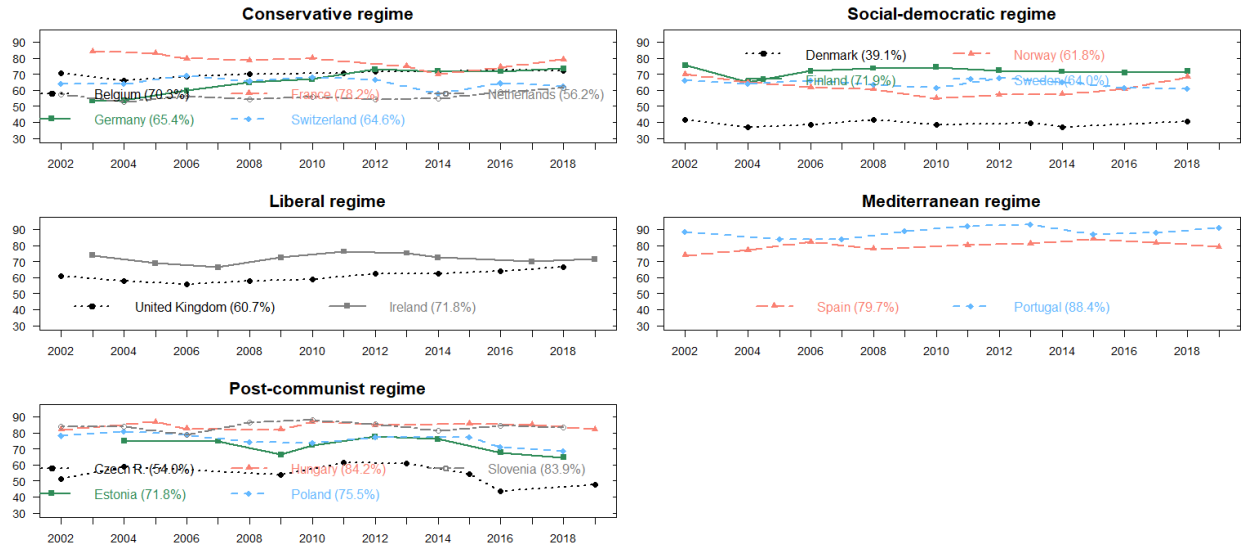
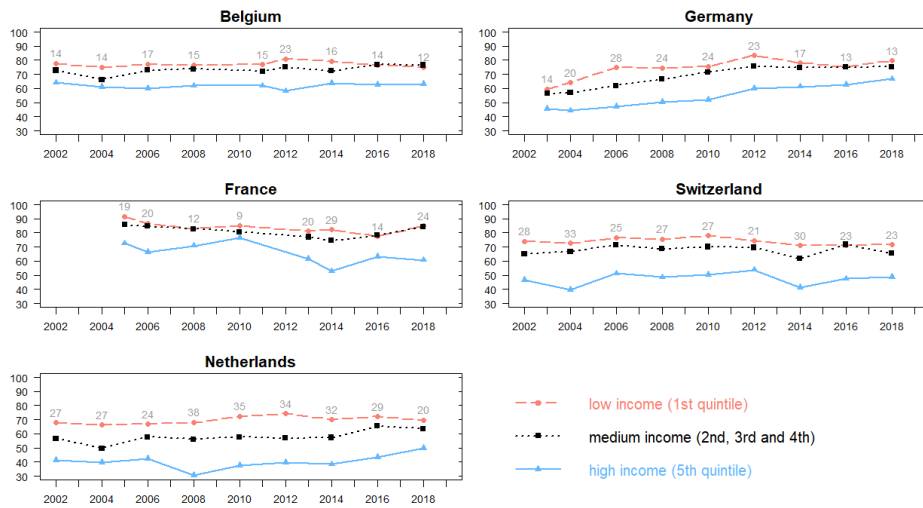
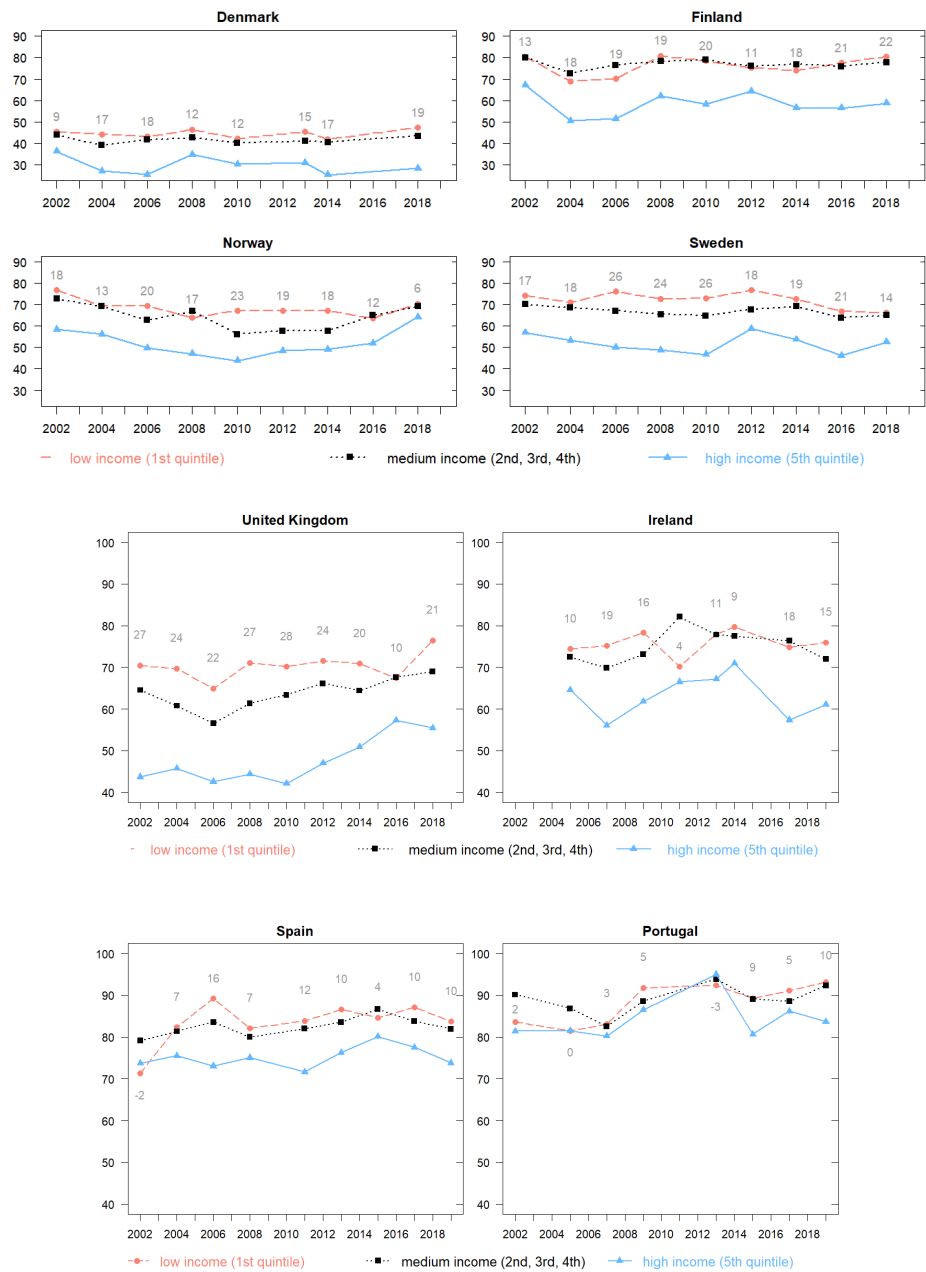


Figure 2: Support for income redistribution by welfare regime types).





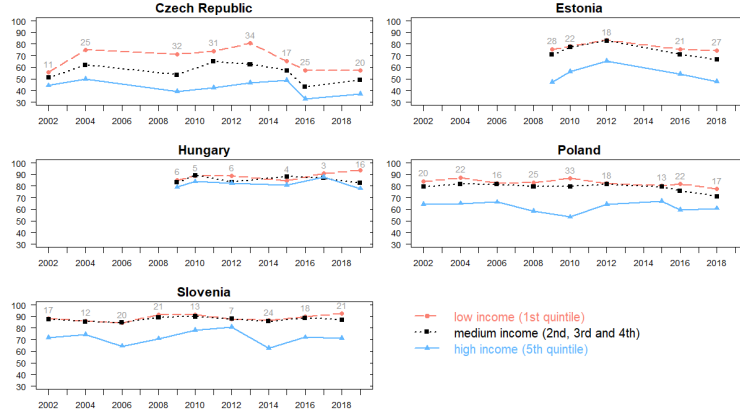


Figure 3: Support for income redistribution by income group across welfare regimes.

The authors' use of the regime hypothesis to group European countries together facilitates the analysis of trends and the detection of outliers within groups. The most outstanding example of an outlier here would be Denmark in the Social-democratic regime group.

The authors conclude that data reveals relatively consistent levels of support for income redistribution across most countries. By categorizing countries based on their welfare regime type, they were able to examine trends in support for income redistribution within the framework of the "regime hypothesis."

While overall support for income redistribution remained relatively stable, there were notable variations among different welfare regimes.

Furthermore, the analysis of support for income redistribution across income groups found that the association between income and support for redistribution varied between countries and within welfare regimes. Finally, this study also concluded that beliefs in meritocracy are most prevalent in countries with liberal and conservative regimes (see Figure 4 and 5 in the Appendix).

Original Contribution

This paper's contribution to this study is to employ inferential statistics to further explore the patterns found regarding support for redistribution in Europe.

The main purpose is to assess evidence in support for the regime hypothesis or, in other words, to examine the relationship between support for redistribution and welfare regime, in order to determine if regimes have internal consistency in their ability to explain support for redistribution.

Data preparation

Firstly, the data had to be prepared for analysis. Two datasets from the original study were used:

1. `dataround1_9 <- read.spss("ESS1-9e01_1_red.sav", to.data.frame = TRUE)`
2. `soc_exp_sub_full <- read.csv("DP_LIVE_12042022195739284.csv", sep = ",")`

The first dataset is an SPSS data file containing cumulative European Social Survey data (Rounds 1 through 9). This dataset contains, among other variables, the country, the year and the support for redistribution "gincdif".

The second dataset comes from the OECD database and contains Public social spending (% of GDP) for a series of countries from 2002 to 2019.

The task consisted in adequately merging the two datasets. For this purpose, the datasets were subset to only include the countries they have in common, matching the codes to the countries. The years were matched to the corresponding ESS rounds, through a mapping and eliminating odd years in social spending values.

Finally, a vector of social spending values was created for each country and each ESS round/year and added to the main dataset "dataround1_9".

The next step in preparing the data consisted in addressing the ordinal variable of interest "gincdif". The answers "Agree strongly" and "Agree" were merged as well as "Disagree strongly" and "Disagree". In the meanwhile, the answers "Neither agree nor disagree" and NAs were suppressed. This variable was then converted into a dummy variable (0/1).

The last step in this preparation was to group the 17 countries into five Regime groups in accordance to the original study.

```
conservative_countries <- c("Belgium", "Germany", "France", "Netherlands")
social_democratic_countries <- c("Denmark", "Finland", "Norway", "Sweden")
liberal_countries <- c("United Kingdom", "Ireland")
mediterranean_countries <- c("Spain", "Portugal")
post_communist_countries <- c("Hungary", "Poland", "Czechia", "Slovenia", "Estonia")
dataround1_9$regime <- NA # Initialize the regime variable

# Assigning regime labels based on country groups
dataround1_9$regime[dataround1_9$cntry %in% conservative_countries] <- "Conservative"
dataround1_9$regime[dataround1_9$cntry %in% social_democratic_countries] <- "Social_Democratic"
dataround1_9$regime[dataround1_9$cntry %in% liberal_countries] <- "Liberal"
dataround1_9$regime[dataround1_9$cntry %in% mediterranean_countries] <- "Mediterranean"
dataround1_9$regime[dataround1_9$cntry %in% post_communist_countries] <- "Post_Communist"
```

Before starting the analysis, some checks were done, such as checking for missing values and checking for issues of multicollinearity.

Data analysis

The main question to be answered with this analysis is: how does the classification of countries into welfare regimes compared to individual country characteristics influence the understanding of support for redistribution policies across the years?"

To answer this question, the first regression was constructed using the glm function.

Table 1: Regressing Support for redistribution on regime type

	<i>Dependent variable:</i>
	gincdif_dummy
regimeLiberal	0.079*** (0.017)
regimeMediterranean	1.365*** (0.027)
regimePost_Communist	0.481*** (0.015)
regimeSocial_Democratic	-0.156*** (0.015)
Constant	1.403*** (0.010)
Observations	238,408
Log Likelihood	-104,651.800
Akaike Inf. Crit.	209,313.600
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

The model shown in Table 1 includes dummy variables for each regime type to assess the effect of each regime type on support for redistribution. The estimated coefficients represent the log-odds ratios of supporting redistribution for each regime type compared to a reference category (Conservative Regime).

For the regime type "Liberal", the estimated coefficient suggests that the log-odds of supporting redistribution are on average 0.07932 units higher compared to the reference category.

For the regime type "Mediterranean", the log-odds of supporting redistribution are on average 1.36510 units higher compared to the reference category.

For the regime type "Post_Communist", the log-odds of supporting redistribution are on average 0.48142 units higher compared to the reference category.

For the regime type "Social_Democratic", the log-odds of supporting redistribution are on average 0.15621 units lower compared to the reference category, suggesting that individuals in "Social Democratic" countries are significantly less likely to support redistribution compared to the reference category.

The p-values associated with each coefficient indicate that all regime types have p-values less than 0.05, suggesting that each regime type has a statistically significant relationship with support for redistribution.

This means that there is strong evidence to reject the null hypothesis, which in this case postulates that there is no effect of the regime type on support for redistribution.

These results are consistent with the observable trends found by the authors. In the next step, it is deemed necessary to compare this model, where countries are grouped by regime, with a model that does not group countries by regime.

Table 2: Regressing support for redistribution on individual countries

	<i>Dependent variable:</i>	
	gincdif_dummy	
cntryCzechia	−0.543***	(0.029)
cntryGermany	−0.085***	(0.028)
cntryDenmark	−1.435***	(0.030)
cntryEstonia	0.498***	(0.035)
cntrySpain	0.942***	(0.037)
cntryFinland	0.460***	(0.033)
cntryFrance	0.422***	(0.033)
cntryUnited Kingdom	−0.280***	(0.029)
cntryHungary	1.587***	(0.048)
cntryIreland	0.272***	(0.031)
cntryNetherlands	−0.598***	(0.029)
cntryNorway	−0.201***	(0.032)
cntryPoland	0.364***	(0.033)
cntryPortugal	1.749***	(0.049)
cntrySweden	0.219***	(0.033)
cntrySlovenia	1.126***	(0.044)
Observations	238,408	
Log Likelihood	−99,711.070	
Akaike Inf. Crit.	8	199,456.100
<i>Note:</i>		
*p<0.1; **p<0.05; ***p<0.01		

The model in Table 2 includes dummy variables for each country to assess the effect of each country on support for redistribution. The estimated coefficients represent the log-odds ratios of supporting redistribution for each country compared to a reference category (which is Belgium). For example, for Czechia, the estimated coefficient of -0.54294 indicates that the log-odds of supporting redistribution are lower compared to the reference category by on average 0.54294 units. The p-values associated with each coefficient indicate the statistical significance of the relationship between each country and support for redistribution. All countries have p-values less than 0.05, suggesting that each country has a statistically significant relationship with support for redistribution.

According to the regime hypothesis, regime membership should explain between-country differences in attitudes towards redistribution. If the regime hypothesis were true then grouping countries by regime type should work better than the individual countries model.

While both models show statistically significant relationships between country/regime type and support for redistribution, it is possible to compare their goodness-of-fit through indicators such as Akaike Information Criterion.

Therefore, based on the residual deviance and AIC, the model in Table 2 that assesses the effect of each country on support for redistribution better explains the variance in the data compared to the model with the regime variable, contrarily to the regime hypothesis.

Measuring the dispersion within regime type

In order to better understand the heterogeneity of attitudes towards redistribution within different political regimes, the standard deviations for each regime group are examined. This examination provides insights into the degree of consensus or divergence among countries within each regime category regarding their preferences for redistribution policies.

The standard deviation measures the dispersion or spread of values within a dataset. A larger standard deviation indicates greater dispersion of values around the mean.

Table 3: Standard Deviation of Support for Redistribution by Regime

Regime	Standard Deviation
Conservative	0.398
Liberal	0.388
Mediterranean	0.236
Post-Communist	0.338
Social-Democratic	0.416

Based on these results, the Social-Democratic regime has the highest variability in support for redistribution, followed by the Conservative regime. As mentioned before, the variability within the Social-Democratic regime is likely due to Denmark, whose support for redistribution tends to decrease as social spending increases. The Mediterranean regime has the lowest variability in support for redistribution among the regime groups.

Other models were constructed using the variables "social spending", "year", "country", in an effort to consider alternative model specifications. This methodology could be improved by considering other models, by performing robustness checks to assess the robustness of results, by making sure all of the models' assumptions are respected and by taking into account potential confounding factors and interactions between variables. It would also be necessary to take into account time and space trends that should be accounted for in fixed-effects.

There are also aspects of the original study that could have been improved. Particularly, the dependent variable chosen by the authors represented by "gincdif" and measured by the ESS survey may not be the best measure of support for redistribution.

The question is formulated in the following way: "Government should reduce differences in income levels". It

is believed that this question may be too general by not presenting any of the strategies commonly associated with redistribution. It is possible that if individuals were being asked, for instance, about taxation or about increasing social benefits, that they would answer very differently.

In one of these additional models, when some fixed effects for countries and social spending were included in the logistic regression model, the coefficient for the Social-Democratic regime becomes non-significant. This suggests that the effect of being in the Social-Democratic regime on the probability of supporting redistribution may be confounded by other factors such as country-specific characteristics and social spending levels. Given the internal variability of this particular regime group this result is not surprising.

Similarly to the model depicted in Table 1, another model was constructed with the added covariates year and socialspending. This regression is consistent with the authors' observation according to which attitudes for redistribution have remained stable accross time, since this variable does not seem to explain variation in the outcome.

Table 4: Regressing support for redistribution on regime, year and social spending

	<i>Dependent variable:</i>
	gincdif_dummy
regimeLiberal	0.076*** (0.003)
regimeMediterranean	0.165*** (0.003)
regimePost_Communist	0.115*** (0.002)
regimeSocial_Democratic	-0.013*** (0.002)
year	0.0002 (0.0002)
socialspending	0.010*** (0.0002)
Constant	0.150 (0.302)
Observations	238,408
R ²	0.029
Adjusted R ²	0.029
Residual Std. Error	0.367 (df = 238401)
F Statistic	1,198.727*** (df = 6; 238401)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Conclusion

This paper investigates support for redistribution across different welfare regimes using data from Ales Kudirnac and Ivan Petrúsek (2022). This analysis employed various regression models to explore the relationship between regime type, social spending, and other covariates on the likelihood of supporting redistribution.

The findings revealed that regime type has a significant effect on the likelihood of supporting redistribution, even after controlling for country-specific characteristics and social spending levels. Specifically, results suggest that individuals residing in regimes classified as Liberal, Mediterranean, and Post-Communist are more likely to support redistribution compared to those in Conservative regimes. However, the effect of being in a Social-Democratic regime decreased the likelihood of support for redistribution and it was not significant after accounting for country and social spending fixed effects.

Moreover, this analysis indicated that social spending levels also play a crucial role in shaping attitudes towards redistribution. Higher levels of social spending were associated with increased support for redistribution, highlighting the importance of welfare policies in influencing public opinion on income redistribution. Furthermore, it seems that this tendency is stable across time.

These results are consistent with expectations and contribute to supporting the claims made by the authors of the original paper. Even though they were merely observing descriptive trends, they were already skeptical of the regime hypothesis and confident in the stability of averaged attitudes towards redistribution across time.

As the results from this paper suggest, there is considerable variation between countries and most importantly within regime types and these trends are stable across time. Even though regime types are well fitted to explain variation in support for redistribution, this classification does not improve fit comparative to a country-level approach.

This variation does not offer support for the regime hypothesis and emphasizes the need for further examination of European patterns in support for redistribution and the factors behind it.

Appendix

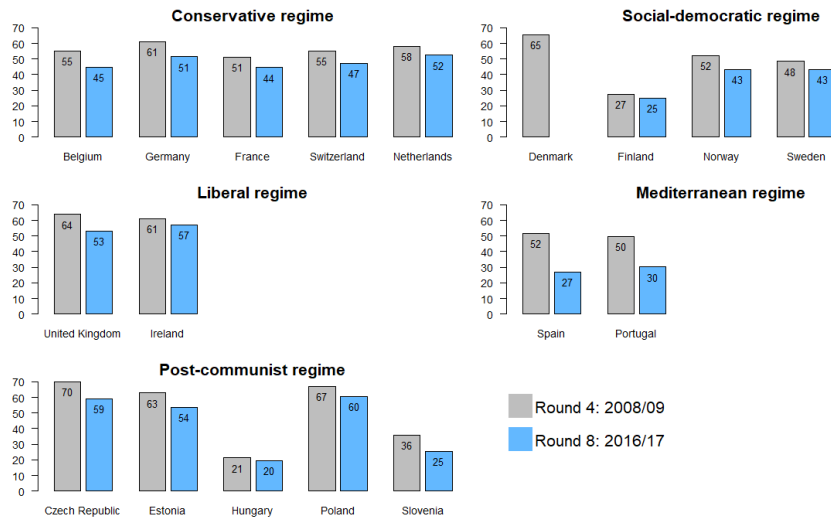


Figure 4: Belief in meritocracy in Europe by five welfare regime types.

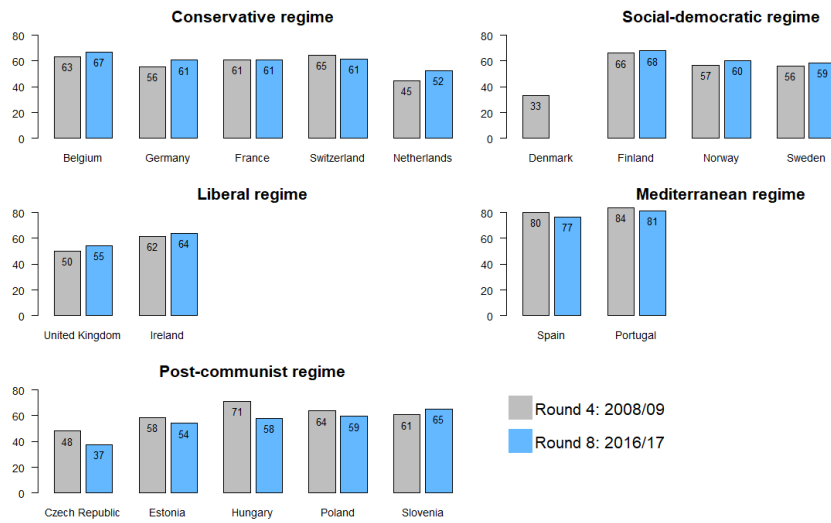


Figure 5: Belief in egalitarianism in Europe by five welfare regime types.