Attitudes toward equality of outcomes and opportunities: A within-country analysis

Esa Karonen
University of Turku

Ilaria Lievore
UNED

Summary history		
Version	Date	Comments
1.0	14.11.2023	Manuscript for review
2.0	08.12.2023	Revised manuscript for submission
2.1	18.12.2023	DOI from Zenodo

Mapineq – Mapping inequalities through the life course– is a three-year project (2022-2025) that studies the trends and drivers of intergenerational, educational, labour market, and health inequalities over the life course during the last decades. The research is run by a consortium of eight partners: University of Turku, University of Groningen, National Distance Education University, WZB Berlin Social Science Center, Stockholm University, Tallinn University, Max Planck Gesellschaft (Population Europe), and University of Oxford

Website: www.mapineq.eu

Acknowledgement:

Publication information:

Funded by the European Union

Executive summary

Socioeconomic inequality is considered of high importance on the political agenda in most European countries. The definitions of concepts such as equality and fairness have also been central in sociological and economic research, and several authors have tried to define what an "equal" regime should look like. The two most common concepts are of equality of outcomes and equality of opportunities.

There has been a long-standing interest in sociological research about the extent of social mobility, inequality, and opportunity related to countries' characteristics between and within countries. However, less attention has been focused on examining the differences between and within countries concerning individual's attitudes about (in)equalities and opportunity and concerning the macro indicators, at the country level but especially at the regional level, that can shape individuals' perception about these issues.

We measure the probability of agreeing with sentiments on both equality of opportunity and equality of outcome. Our research questions are the following:

— How do attitudes towards equality of opportunity and equality of outcome differ across regions, countries, and over time?"

— Which factors explain differences in attitudes towards equality of opportunity and equality of outcome between regions, between countries, and over time?

We use the European Social Survey's years 2008 and 2016 along with other data sources to measure within-country differences, by focusing on regional factors and individual factors which include background variables such as years of education and level of income. Regional levels are defined as NUTS codes, and for analysis purposes, we use NUTS3 area codes for descriptive analysis and multilevel models NUTS2 area codes, as they hold the maximum number of countries in each round.

The main results show, that both country- and regional-level variance in the equality attitudes were equally significant. Overall, both in equality of opportunity and outcome, there is a clear split in attitudes in both eastern-European and the UK compared to the rest of the EU. In general, Nordic countries and Mediterranean regimes have low agreement towards equality of opportunity and higher approval for equality of outcome. Over time, opinions on both equality of opportunity and of outcomes have become more fragmented both between countries and regions. Also, the general attitudes toward equality of opportunity have become stricter, since the rate of agreement has decreased by 12 percentage points on average. However, the same change did not occur considering attitudes toward equality of outcomes. Countries that share similar systems, seem to be also similar in equality attitudes. On specific factors, we found that economic variables with political alignment were important in people's attitudes on equality, while on a regional level higher economic output is associated with a decrease of agreement with equality of outcome.

Abbreviations

UTU University of Turku

UNED National Distance Education University

ESS European Social Survey

Content

Tables

Figures

Attitudes toward equality of outcomes and opportunities: A within-country analysis

This research aims to contribute providing new evidence on individual attitudes toward equality, studying individual attitudes on equality of opportunities and equality of outcome in several European countries, and focusing both on how different factors affect differences between European countries as well as on differences within countries at the regional level. We use the European Social Survey's years 2008 and 2016 along with other data sources to within-country differences, by focusing on regional-, individual-, and economic factors. The main results show, that both country- and regional-level variance in the equality attitudes were equally significant. Over time, we found that attitudes toward both equality of outcomes and opportunities attitudes have become stronger, yet opinions have become more fragmented. Countries that share similar systems, seem to be also similar in equality attitudes. On specific factors, we found that economic variables with political alignment were important in people's attitudes on equality, while on a regional level higher economic output decreases agreement with equality of outcome.

Overall, regions are as important as countries for explaining equality attitudes. Eastern European countries and the UK are more in favour of rewarding efforts than rest of the Europe, which agree more often with equality of outcome.

We found that in both cases of equality attitudes, the original sentiment in each country has increased or decreased their magnitude over time. In addition, the opinions in both have become more fragmented between 2008 and 2016.

Economic factors are important at both the individual and regional level. At the regional level, the GDP had negative effect on the equality of outcome, while at the individual level, income, occupational status, and political attitudes were important.

1. Introduction

Socioeconomic inequality is considered of high importance on the political agenda in most European countries. The definition of concepts such as equality and fairness have been central also in sociological and economic research, and several authors tried to define

what an "equal" regime should look like. The two most common concepts are of equality of outcomes (EO) and equality of opportunities (EOs).

The distinction between the two concepts lies in the premise that equality of *outcomes* refers to an equal distribution of outcomes in society, such as income, education, social status, and well-being; equality of *opportunities* implies instead a dual differentiation in the channel through which the economic outcomes are achieved (Roemer, 1998; Dunnzlaff et al., 2011). That is, individuals can reach a specific societal outcome because of both circumstances and individual effort. Roemer (1998) defined circumstances as all the factors that are outside of an individual's control, and for which the individual cannot be considered responsible. Examples of factors that lie in the circumstances category are individual gender, year of birth, ethnic origin, place of birth, socioeconomic background, and so on. Effort, instead, is an umbrella term encompassing everything for which the individual can be held accountable in a societal environment, such as personal choices and actions. A country regime that prioritizes equality of opportunities has the goal of reducing disparities among individuals born in different circumstances, allowing only effort to affect economic outcomes (Roemer, 1993; 1998). In an "equal opportunity society", individuals have equal access to resources and advantages regardless of their circumstances (Dunnzlaff et al. 2011), and the differences between individuals in their outcomes lie in how they manage to convert the access to advantages in a profitable advantage compared to other individuals through their effort.

There has been a long-standing interest in sociological research about the extent of social mobility, inequality, and opportunity related to countries' characteristics at the macro level and related to differences between and within countries. Many sociological studies focused on describing the extent of equality of opportunity and equality of income in different countries, trying to understand what are the factors that help contribute to shaping differences in socioeconomic inequality between European countries (see for example Dunnzlaff et al., 2011; Checchi et al., 2010; Marrero & Rodriguez, 2010).

However, less attention has been paid to between- and within- country differences in individuals' attitudes towards equality of opportunity and equality of outcomes, and the regional- and country-level determinants thereof. The existing literature does not provide much evidence about whether actual country and regional levels reflect individuals' preferences and attitudes concerning the issue (Murthi & Tiongson, 2009). Indeed, there is a great variation across countries in the extent to which individuals' perceptions and preferences mirror the actual level of inequalities, and some studies showed that the two have an independent effect on other social outcomes (Janmaat, 2013; Mason, 1995; Gijsberts, 1999).

For this reason, the study of drivers of individuals' attitudes towards inequalities and their differences across countries and regions is worthwhile to explore, especially considering drivers both at the regional and individual levels. In the last years, studies investigating individuals' views on inequalities have been facilitated by the availability of international and comparative public opinion surveys, but results are scattered and difficult to harmonize, mainly because of different conceptualizations of similar concepts.

In this work, we focus on individual attitudes and on what people think about inequalities in general, focusing on the two concepts of equality in outcome and equality of opportunities. We focus on an individual's attitudes, defined as "individual dispositions to act preferentially toward a specific object, behavior, person, institution or event" (Kulin & Svallfors, 2013:157). Attitudes are conceived as psychological drivers expressed mainly by being "in favor" or "not in favor" of a specific object, such for example a person, a behavior, or an institution (Eagly & Chaiken, 1998; Ajzen, 2001).

Our contribution to the literature is twofold. First, we describe the attitudes on the two outcomes in several European countries, focusing both on differences between European countries as well as on differences within a single country, looking at the smallest regional level available with our data. Second, we show how regional features, together with individual determinants, can shape individuals' attitudes toward equality of outcomes and equality of opportunities, and how different factors affect between-country and between-region attitudes toward equality of opportunity and equality of outcomes. Europe is an interesting context perfectly suitable for this study, since the level of inequalities displays considerable across-country differences, especially in terms of resources people have at their disposal (Kulin & Svallfors, 2013).

2. (In)equality attitudes between and within European countries

Individual attitudes toward concepts such as equality of the outcomes or the redistribution of resources to provide equal living standards, may be affected by numerous different factors. In principle, people have specific perceptions of their risks and resources, and they are cognitively more or less able to connect their values to the state redistributive practices (Kulin & Svallfors, 2013).

Following Janmaat (2013), there are mainly three perspectives adopted in the study of the determinants of attitudes toward equality: a modernist/functionalist approach, a cultural approach, and a regimes approach. The modernist approach considers peoples' attitudes as a reflection of the socio-economic conditions they live in, where institutions can partly shape individual's attitudes (Inglehart & Welzel 2005). The basic intuition is that, in countries where the level of inequality is lower, poverty is less widespread, and institutions are pushing egalitarian reforms, the priority of individuals' self-interests may be mitigated in favor of more egalitarian attitudes (Kulin & Svallfors, 2013). Consequently, comparing societies with similar economic systems and with similar development, there should be no major differences in attitudes toward equality. According to this perspective, Western societies, having similar economic and structural features, should not display massive differences in individuals' attitudes toward equality of opportunities and meritocracy – since it is a system based on these premises.

The cultural approach instead emphasizes differences between individuals in their attitudes, that are entirely shaped by individuals' culture, political orientation, and social conditions (Huntington, 1996). This micro-approach accepts the idea that cross-national differences in attitudes are explained only through differences in the composition of the

population. In contrast, the regime's perspective underlines how cultural and socio-economic conditions are not unrelated to "outside" pressures such as economic or technological development, that may change people's ideas and preferences (Esping-Andersen, 1990; Hutton, 1995). This macro-approach assumes that individuals' values are driven by the circumstances they are living in, and societal conditions such as redistribution and welfare characteristics at the country or even at the regional level are determinants in shaping attitudes toward equality at the individual level.

In this work, the aim is to provide a comprehensive approach for the investigation of attitudes toward equality considering a geographical variation that has not been investigated in previous work to the authors' knowledge. That is, we aim to produce new evidence trying to bridge the abovementioned approaches focusing on the regional level. Our intuition is that, given the high variation within countries in macro-determinants for attitudes, such as economic, educational, and structural features, focusing only on the country-level determinants can lead to misleading results. Therefore, we present a model that introduces macro-determinants of attitudes toward equality at the regional level that take into account at the same time the hierarchical structure of individuals nested in regions nested in countries.

2.1.   Country and regional differences in attitudes toward equality

Many studies have focused on explaining differences across countries in individual attitudes toward equality in opportunities. The first group of studies focused on explaining differences in attitudes toward inequality and social justice between Eastern European countries versus Western ones (see for example Orkény & Székelyi, 2000; Verwiebe & Wegener, 2000; Suhrcke, 2001; Gijsberts, 2002; Redmond et al., 2002; Kelley & Zagorski, 2005). Results show that attitudes towards equality of opportunities are similar, with both Eastern and Western populations endorsing meritocratic and workload-based principles. However, Eastern populations over time seem to accept income disparities to a larger extent, and they increasingly perceive non-meritocratic factors – individual circumstances – as significant determinants of income. At the same time, individuals living in Eastern countries show higher levels of disapproval of existing income inequality.

A second group of studies focuses on the influence of welfare regimes on attitudes toward equality. Results show that individuals' attitudes are structured by welfare regimes: Scandinavian (social-democratic) countries show a higher proclivity toward smaller income differences compared to English-speaking (liberal) and German-speaking (conservative) countries (Svallfors, 1997). Luebker (2004) and Dubet et al. (2010) also found that English-speaking nations expressed higher rates of approval regarding income inequality compared to Scandinavian and central EU countries, despite their higher real income inequality.

However, findings from different studies using different indicators and items for measuring the concept of "equality" lead to contrasting results. Some studies found that English-speaking countries show higher support for equality (Arts & Gelissen, 2001), stronger endorsement for merit (Janmaat & Green, 2013), but also a larger variation in opinions on whether merit or equality should guide income determination (Green & Janmaat, 2011).

To the authors' knowledge, there is no evidence of differences on attitudes toward equality within European countries, even though differences in opportunities and outcomes are widespread both across countries as well as within countries in Europe (Dunnzlaff et al., 2011).

2.2. Macro and micro determinants of attitudes toward equality

The number of studies assessing the impact of macro and micro determinants at the country level on individual attitudes toward equality of opportunities and equality of outcomes has increased in the last years, especially thanks to the possibility of exploiting the impact of both micro and macro simultaneously with hierarchical/multilevel models.

At the macro level, the goal is to assess the impact of country conditions such for example income inequality, meritocracy, ethnic diversity, or educational composition (Janmaat, 2013). In unequal societies, for example, individuals might be more likely to have stronger meritocratic ideologies to justify inequalities, and meritocratic beliefs are stronger in countries with higher degrees of income inequality (Duru-Bellat & Tenret, 2012). Kunovich and Slomczynski (2007) found that the rate of individuals with tertiary educational degrees at the country level is positively correlated to meritocratic attitudes and beliefs, while GDP is negatively correlated with such attitudes. Overall, results show that socio-structural macro-conditions are strongly correlated to attitudes toward equality at the individual level, and this correlation is independent and complementary to micro-level determinants (Janmaat, 2013).

When focusing on the micro-level determinants of attitudes, most studies focus on an individual's economic circumstances – such as income, occupation, employment status, etc., is driven by the fact that advantaged social classes are generally less exposed to risk, especially in the labor market (Kulin & Svallfors, 2013). Since lower classes are those who have more to gain when considering economic redistribution, they may be more in favor of equality of income and other outcomes. On the other hand, studies on the determinants of attitudes toward equality always assume that an individual's preferences for equality are a function of the individual's background characteristics as well, meaning the characteristics for which the individual does not have any agency, such as gender, year of birth, place of birth, years of education (Murthi & Tiongson, 2009). Interestingly, micro-level determinants of attitudes on inequality toward outcomes or opportunities, as explored by Svallfors (1997), remained consistent across countries, indicating that social cleavages generating these attitudes do not differ substantially by regime type.

3. Aim, Data, and Methods

Our study follows the line of research about attitudes toward inequalities by measuring 1) attitudes toward equality of opportunities as individual agreement to the statement "Large differences in income are acceptable to reward talents and efforts", and 2) attitudes toward equality of outcomes as individual agreement to the statement "For a fair society, differences in standards of living should be small". We use ESS in two time points, 2008 and 2016, to assess the extent of individual attitudes about equality of outcomes and equality of opportunities in several European regions over time.

We measure the probability of agreeing with sentiments on both equality of opportunity and equality of outcome. Our research questions are the following:

— How do attitudes towards equality of opportunity and equality of outcome differ across regions, countries, and over time?"

— Which factors explain differences in attitudes towards equality of opportunity and equality of outcome between regions, between countries, and over time?

3.1. Data

The data used in this study is the European Social Survey (ESS), specifically rounds 4 (2008/2009) and 8 (2016/2017). ESS is a social survey designed to chart and explain the interaction between Europe's changing institutions and the attitudes, beliefs, and behavior patterns of its diverse populations. Rounds are selected by their contents, as they measure attitudes towards equality of opportunity and equality of outcome. These are the only waves for which both dependent variables are available.

We also use the contextual dataset (multilevel ESS data) to construct several regional variables, such as GDP, unemployment rate, and share of tertiary education. Regional levels are defined as NUTS codes, where NUTS1 refer to major socio-economic regions, NUTS2 to basic regions for the application of regional policies, and NUTS3 to small regions for specific diagnoses. For analysis purposes, we use the NUTS3 level for descriptive analysis and the NUTS2 level for multilevel models, as they hold the maximum number of countries in each round. In addition, some of the data is only available to the NUTS2 level for most of the countries, which excludes the possibility of using the NUTS3 areas in our main models.

Some of the contextual data in ESS has limitations, as some countries have omitted their results either on certain areas or aggregated them into more general levels. Thus, we have supplemented the missing information by using European Union Statistics on Income and Living Conditions (EU-SILC) and Luxembourg Income Study datasets to gain the maximum number of areas and countries for analysis (see Table A.1.). As these are aggregate numbers and often obtained from the same data sources, they are reasonably harmonized. Still, it is to be noted that small variations are possible due to imputed data.

3.2. Variables and Operationalization

Dependent variables serve as a proxy for how much an individual agrees with equality of opportunity or equality of outcome.

First, we use the variable *dfincac* which asks, *"Large differences in income acceptable to reward talents and efforts"* to capture opinions on equality of opportunity. The central thesis is, that the acceptance of this statement equals that respondent does value the idea that each individual is free to pursue higher income best of their abilities, which should be rewarded concerning their abilities. Thus, the reward is based on fair meritocracy and differences between individuals are acceptable. Second, to capture opinions on equality of outcome we use variable *smdfslv*, which questions *"For fair society, differences in standard of living should be small"*. Here, the question serves as an acceptance that to achieve general fairness, there should be efforts to minimize the gap

in living standards between people. For example, these notions include redistributive efforts of the tax benefit system, as the idea entails active efforts to lessen the divide.

Both variables are on Likert-scale where 1 is "strongly agree", 2 is "agree", 3 is "Do not know", 4 is "disagree" and 5 is "strongly disagree". We operationalized both dependent variables as dummy variables 1 to agree (1 or 2) and 0 to undecided or disagree (3, 4 or 5), to obtain predicted probabilities to agree with equality of opportunity and equality of outcome. Thus, the outcome of our analysis is a share of individuals who agree with either of the dependent variable's statements. Previous methodological research suggests that dichotomous variables do maintain their accuracy to a 5-point Likert scale, yet the choice of cutoff point and if neutral answers are treated as "negative" is not arbitrary (see discussion Jeon & Lee). As an analytical choice, we decided to treat only confirmed answers as agreement and keep neutral answers as "other" along with disagreement sentiments.

Our *independent variables* of interest refer to the regional context factors as well as individual-level demographic and socioeconomic status (SES). Some of the regional macro-variables are supplemented by using external data sources where applicable (see Table A.1 for details). The main source of regional variables is the ESS contextual dataset for each round.

First, for the regional context factors (in NUTS2 level), we chose the measurement year, the Gini index, gross domestic product, the share of tertiary education within a region, and the unemployment rate. We do use a logarithm of GDP to ensure model specifications for normal distribution are met. The variables were chosen based on previous research, for example, GDP is negatively correlated to meritocratic attitudes and beliefs while the rate of individuals with tertiary educational degrees at the country level is positively correlated. Similarly, overall income inequality and unemployment are correlated with equality attitudes.

Second, we measure individual-level demographics by using mean-centered age, years of education, sex, and immigrant status. For age, we used the continuous variable *agea* which was mean centered, on the range of working age population 18 to 60 years. This choice is also made to ensure the appropriate number of observations for analysis, especially for the later life stage. Sex is a dummy variable where 0 is men and women are 1. For immigrant status to control attitudes outside of the measurement country, we used *ctzcntr* to form a dummy variable where immigrants are coded as 1 and other individuals 0.

We also adjust for individual-level socioeconomic variables. The education variable is a continuous variable, where we used the current highest education level as a basis (*edulvla* for the 2018 dataset and *edulvlb* for 2008 as they use different levels of harmonization) and recoded each ISCED educational level with the corresponding year needed to attain the corresponding education level (see UNESCO, 2012). Last, as one major factor that mediates attitudes, the political scale is coded as a continuous variable where 1 denotes the left side of political affiliation and 10 denotes the right side of the political scale. We centered the political scale to 5, where negative values denote left-leaning values and positive values to right-leaning affiliations.

Third, we measure individual economic variables by occupational status (ISEI), unemployment status, and income. Here, economic well-being and occupational position is treated as a factor, which could shape an individual's opinion on equality sentiments. To code occupational status as a continuous variable, we used ISCO08 and ISCO88 variables which were transformed to ISEI values (see Ganzeboom et al., 1992). Unemployment status was coded as a dummy variable from the *hincsrca* variable, where 0 is employed and 1 is unemployed. Income is treated as a continuous variable, although there are only 1-10 deciles for income available. This is a data limitation of the ESS, but it still captures the overall distribution with reasonable accuracy.

Selected countries are elaborated in the modeling section further below. For overall descriptive statistics, see Table 1.

Table 1. Descriptive Statistics

	Mean	Std. Dev.	Min	Max
Dependent variables				
Equality of opportunity	0.499		0	1
Equality of outcome	0.590		0	1
Independent variables				
Regional variables (NUTS2)				
Year				
2008	0.515		0	1
2016	0.485		0	1
Gini index	0.333	0.029	0.278	0.561
Log. GDP	9.953	0.594	8.517	11.118
Individual-level demographic & SES variables				
Mean centered age	0.131	11.596	-22.884	19.116
Female	0.509		0	1
Immigrant	0.054		0	1
Years of education	13,780	2.258	9	17
Rate of tertiary educated	30.314	9.799	6.8	58.4
Political scale (left and right)	0.050	2.114	-5	5
Individual-level economic variables				
ISEI	44.118	19.027	11.01	90
Unemployed	0.120	0.325	0	1
Income	5.939	2.686	1	10

3.3. Methods

For the first research question on how do attitudes towards equality of opportunity and equality of outcome differ across regions, countries, and over time, we used OLS regression as a linear probability model to form descriptive results. Thus, results are understood as a share of people who agree with equality sentiment in each year. The outcome variables are the equality of opportunity and the equality of outcome, while we only adjusted for age and sex to capture overall attitudes. We measured all estimates from each region in their maximum depth level. For example, if NUTS3 is available, we use that area code but revert to NUTS2 if it is not possible. Thus, for the descriptive figures we aimed for the best regional measurement resolution. Finally, we plotted estimates on a map of Europe, which was formed by using shapefiles made by Eurostat's GISCO.

To answer our second research question on which factors explain differences in attitudes towards equality of opportunity and equality of outcome between regions, between countries, and over time, we utilize a two-level random-effects model, as we study the variability in individuals' responses between the regions and countries. Our levels are country and region (NUTS2). In addition, we add a random slope of ESS year to see if an agreement to equality sentiments has become more unified or dispersed over time. For our analysis, we use all the countries where both questions of the dependent variable are measured and NUTS2 level data is available for independent variables, which limits our analysis to 17 countries (see Table A.2. in the appendix for a list).

Our random effect model has fixed effects and random effects components. The interpretation of the fixed effects coefficients works similarly as in a simple linear regression, where the coefficient represents the change in the dependent variable associated with a one-unit change in the respective predictor variable, holding all other variables constant. The random effects represent how individual units deviate from the average effect size at each respective level. For instance, *c* represents how the the average agreement on equality sentiments varies between countries (level 1), while *r* measures the variance between different regions (level 2). The residual term represents the error, and depending on the outcomes of the model, the random slopes at each level might significantly contribute to the overall variation in explained outcomes. Our model can be denoted as follows:

$$y_{icr} = \beta_0 + \beta_1 x_{1cr} + u_{0c} + u_{1r} x_{1cr} + \varepsilon_{0icr}$$

In more technical terms, the y_{icr} denotes the outcome of the dependent variable, which is the probability of agreeing with an attitude on equality for country *c* in region *r*. In our study, we have two dependent variables, which are coded as dummy variables where 1 is agreement and 0 is disagreement or undecided. Thus, results are to be interpreted as percentage unit change on the constant, which is the probability of agreement as in percentages. The intercept of the model is β_0 while the independent variables are denoted x_{cr} where a country is *c* and region is *r*. The u_{0c} is the estimated effect or random intercept residual for a country. This is the difference in the outcome for an individuals in country *c* compared to an individuals in the average country, after taking into account those independent variables that have been adjusted in the model. The u_{1r} denotes the slope residual for a country *c* that is associated with the independent variable x_{1icr} or x_{1cr}, which is the extent of a difference from the overall slope in a *random slope* model. Finally, the ε_{0icr} is the individual-level residual or error term for individual i in a country r. We also include wave fixed effects for considering possible biases arising from institutional, political or economic changes over time, such as for example the 2008 economic crisis.

4. Results

4.1. Regional stratification of inequality attitudes between European countries

Our first research question asks simply how regions over European countries differ in their attitudes to equality of opportunity and equality of outcome over time. Figure 1 shows the regional predicted probability to agree with equality of opportunity or equality of outcome. Predicted probability is shown as a share of the population agreeing with the statement. For the descriptive geospatial figure, we used the maximum depth of NUTS areas that were available. Thus, some of the areas are at the NUTS3 level, but others are NUTS2 level. Few countries have only offered data for country aggregates, such as Iceland.

Figure 1 shows two major paths that outline the results and the differences between regions. First, there are changes in the long-term attitudes toward attitudes of equality and second, there are clear regional differences between regimes especially towards equality of opportunity.

In a general sense, agreement on both questions on equality has changed over time. For example, in equality of opportunity, Europe as a whole has become less agreeable with the question. It seems that the countries that have higher income inequality – such as UK, Romania or Latvia – agree the most with the idea that larger differences in income are acceptable (see also Duru-Bellat & Tenret, 2012). This is especially clear in eastern-European countries and the UK, while Mediterranean and Nordic countries seem to mellow their favor in equality of opportunity. Thus, there seems to be a clear divide between liberal and more conservative countries. For example, in 2008, Eastern European countries and the UK had a more favorable attitude toward rewarding people for their talents and efforts, as their population agreed with this statement between 60-89 percent depending on the area. However, the UK has become less agreeable over time, as the northern part of the country has changed its attitudes. The highest areas in agreement, between 70-89 percent are found in eastern European countries, such as Poland, Latvia, and Ukraine.

Compared to equality of opportunity, a similar change is observable in equality of outcome, but in reverse: more areas have increased their magnitude in agreement. Here, the differences are not as drastic, but over the years the increase in overall agreement is more evident, especially in Nordic countries. For example, most of Sweden and Norway have 50 percent agreement on equality of outcome in 2008, but when moving to 2016 most of the areas have risen to 60-79 percent in agreement. Compared to other countries, Germany seems to remain more neutral over time, as most of the areas retain their median position on the agreement scale.

Figure 1. Regional predicted probability to agree with equality of opportunity and equality of outcome during 2008 and 2016. Missing data is shown as white areas with border transparency.
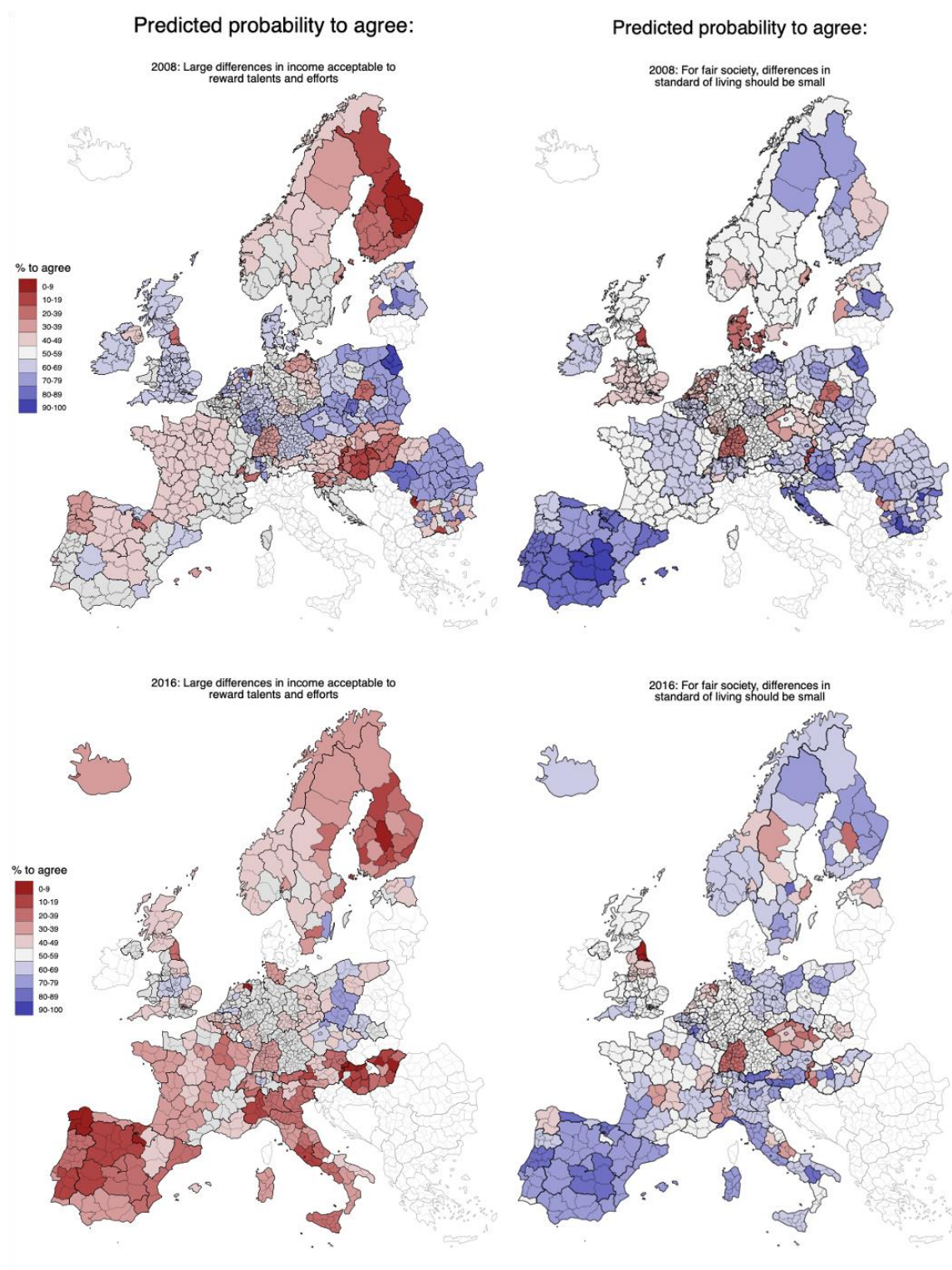
Essentially, it seems that the internal structure of regional changes within countries is rather small, as most of the areas only change in their magnitude in predicted probability but their geographical location does not change. For example, the polarization of attitudes seems to be quite rare at the regional level. Only in equality of outcome, France seems to change its regional structure of attitudes most, as the north-eastern area changes in reverse compared to other parts of the country. This could be explained by multiple policy changes in France, as they aim to reform the pension system which could have changed long-term attitudes on equality of outcome.

It is to be noted, that the lack of comparable data in some countries over the years does hinder more large-scale descriptive analysis.

4.2. The association of regional-, individual-level socioeconomic and economic factors on inequality attitudes between European countries and regions

Our second research question asks how different factors affect between-region and between-country attitudes to equality of opportunity and equality of outcome over time. Table 2 shows the results of a multilevel regression model for the attitudes on equality of opportunity and equality of outcome between 2008 and 2016. In both questions, we model regional-, individual-, and economic factors hierarchically.

In the fixed part of models 1 to 3, the constant term – which shows the predicted probability for agreeing with *equality of opportunity* – is 66 to 68 percent, when different variables have been adjusted.

For the factors in model 1, the year of measurement is the only statistically significant regional variable, where the support for equality of opportunity decreases by 13 percentage points between 2008 and 2016. Thus, the predicted probability of agreeing with equality of opportunity during 2016 is 54 percent.

In model 2, we adjust for individual and demographical factors, which are all statistically significant.

First, the mean-centered age does decrease the probability of agreeing with equality of opportunity. Thus, younger individuals are more likely to be in favor of meritocratic principles, although the effect size is small, just 0,1 percent per year. In practical terms, age does not increase the probability of agreeing substantially, as a 10-year increase in age increases the probability of agreeing only 1,3 percentage units. Second, the one-year increase in education increases the probability of agreeing by 0,8 percentage units, which means that the more education the individual has, the more they also favor equality of opportunity and meritocracy in earnings. In regards to respondent's sex, on average women disagree with equality of opportunity 6 percentage units less compared to men. Fourth, for immigrants, the probability of agreeing increases by 6 percentage units on average compared to the general population. Last, we adjust for political alignment, where moving towards to right wing of the scale increases 3,5 percentage units of probability to agree per one unit of scale. Thus, as 0 point is at the middle of the scale, being on the far left the probability to agree is -17 percentage units, and vice versa, being on the far right increases the probability of agreeing by 17 percentage units.

Table 2. Multilevel regressions for the attitudes on equality of opportunity and equality of outcome between 2008 and 2016.

	Equality of opportunity			Equality of outcome		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
2016 (ref. 2008)	-0,131***	-0,127***	-0,124***	-0,0006	-0,00841	-0,0139
	(0,0353)	(0,0348)	(0,0351)	(0,0268)	(0,0284)	(0,0264)
Regional Gini index	-0,517	-0,519	-0,467	0,284	0,259	0,224
	(0,290)	(0,284)	(0,284)	(0,286)	(0,274)	(0,267)
Log. GDP	0,00203	0,00252	0,00135	-0,0229*	-0,0239*	-0,0227*
	(0,0103)	(0,0101)	(0,0101)	(0,00991)	(0,00976)	(0,00964)
% of tertiary educated	0,000451	0,000276	-0,000201	0,000830	0,00116	0,00182
	(0,00119)	(0,00118)	(0,00117)	(0,00117)	(0,00111)	(0,00108)
Regional unemployment	0,00548	0,00294	0,00289	0,00610	0,00759	0,00752
	(0,0107)	(0,0105)	(0,0105)	(0,0104)	(0,0102)	(0,0101)
Mean centered age		-0,0013***	-0,0014***		0,00226***	0,00246***
		(0,00035)	(0,000348)		(0,000344)	(0,000345)
Years of education		0,00863***	-0,000142		-0,0146***	-0,00256
		(0,00182)	(0,00223)		(0,00181)	(0,00220)
Woman		-0,0616***	-0,0566***		0,0350***	0,0295***
		(0,00803)	(0,00803)		(0,00798)	(0,00796)
Immigrant		0,0569**	0,0713***		0,0617***	0,0427*
		(0,0188)	(0,0188)		(0,0186)	(0,0186)
Political scale, left or right		0,0359***	0,0342***		-0,0355***	-0,0335***
		(0,00196)	(0,00196)		(0,00194)	(0,00194)
ISEI			0,0008**			-0,0014***
			(0,00026)			(0,00026)
Unemployed			-0,0180			-0,00948
			(0,0135)			(0,0133)
Income			0,0128***			-0,0155***
			(0,00183)			(0,00181)
Constant	0,681***	0,659***	0,671***	0,718***	0,871***	0,851***
	(0,151)	(0,151)	(0,151)	(0,144)	(0,142)	(0,141)
Between-country slope diff.	0,101***	0,0972***	0,0955***	0,0442***	0,0479***	0,0375***
	(0,0379)	(0,0373)	(0,0365)	(0,0210)	(0,0205)	(0,0202)
Between-country intercept	0,162***	0,165***	0,164***	0,106***	0,101***	0,101***
	(0,0368)	(0,0377)	(0,0371)	(0,0228)	(0,0220)	(0,0218)
Year & country variance corr.	-0,678*	-0,678*	-0,697*	-0,285	-0,338	-0,426
	(0,258)	(0,264)	(0,274)	(0,121)	(0,140)	(0,200)
Between-region slope diff.	0,0770***	0,0754***	0,0772***	0,0587***	0,0690***	0,0688***
	(0,0173)	(0,0172)	(0,0169)	(0,0211)	(0,0207)	(0,0204)
Between-region intercept	0,0631***	0,0643***	0,0649***	0,0546***	0,0485***	0,0467***
	(0,0101)	(0,0102)	(0,0102)	(0,00989)	(0,0100)	(0,0100)
Year & region variance corr.	-0,651**	-0,677**	-0,689***	-0,344	-0,514	-0,552
	(0,170)	(0,175)	(0,175)	(0,125)	(0,202)	(0,225)
Within-region residual	0,477***	0,470***	0,468***	0,474***	0,466***	0,464***
	(0,00288)	(0,00283)	(0,00283)	(0,00286)	(0,00282)	(0,00280)
Region ICC	0,102	0,109	0,107	0,0468	0,0442	0,0448
	(0,042)	(0,044)	(0,043)	(0,019)	(0,019)	(0,019)
Country ICC	0,117	0,125	0,124	0,0593	0,0545	0,0544
	(0,041)	(0,043)	(0,043)	(0,019)	(0,019)	(0,018)
BIC	19379,5	19031,0	19004,8	19166,9	18788,0	18714,9
Region N	265	265	265	265	265	265
Country N	17	17	17	17	17	17
N	13991	13991	13991	13991	13991	13991

Note: Standard errors are in parentheses. Random effects in standard deviation. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In model 3 we adjust for economic factors. Here, ISEI and income have statistically significant results.

It is important to note, that adding economic variables do suppress some of the significance of individual variables. For example, years of education does lose their statistical significance, indicating that occupational position and income is a more important factor in the equality of opportunity. This might be due to individual tendency to maximize their utility, where being in a higher position and income bracket could drive the attitude for earning one's worth to be higher. This indicates that the direct utility of earnings drives the attitudes toward equality of opportunity. To dig deeper into the matter, we run further analysis (see Figure A.2) by adding interaction for education and income. Results show, that now the statistical significance remains, but it is due to differences between the both extremes of income deciles higher educated. In other words, the interaction between income and education does make attitudes more fragmented on highly educated.

First, the ISEI increases the probability of agreeing, which means that those who are positioned in higher occupations are more likely to agree with equality of outcome. Similarly, those who have higher incomes are more likely to agree with equality of outcome. To specify, one increase in the rank of income decile does increase the probability by 1,3 percentage units. Thus, on average belonging to the 10th decile increases the probability by 13 percentage units.

The models of random effects on equality of opportunity show that the random intercept between countries is larger than the between-region. This indicates that the between-country differences explain more than the total variance of agreement on equality of opportunity. To give a concrete view, the intraclass correlation on the region is 11 percent while the between-country variance explains 13 percent of the total variance of the agreement to equality of opportunity. While being rather small differences, it seems that differences between countries are larger than between regions. When observing the random slope of the measurement year, the variance between countries increased by 10 percentage units between 2008 and 2016. Thus, the variance to agree or disagree on equality of opportunity has increased in 2016 compared to 2008.

Next, in the fixed part on the probability to agree with *equality of outcome*, the models 4 to 6 the constant term is 71 to 85 percent, when different variables have been adjusted. Compared to equality of opportunity, there is higher range in overall probability between the models.

In model 4, the GDP is the only statistically significant regional variable, where the support for equality of opportunity decreases 2,3 percentage points 1 log unit. Thus, the predicted probability of agreeing with equality of opportunity depends on the region's overall economic output. Thus, the more productive and capable of offering services the region is, the more probable is that the population in that region is in favor of equality of outcome.

In model 5, when adjusting for individual and demographical factors, all of the variables are statistically significant. The mean-centered age does decrease by 0,2 percentage points per year in the probability of agreeing with equality of outcome. Compared to equality of outcome, younger individuals are also more likely to be in favor of redistributive measures to equalize the standard of living between individuals. Still, the effect size is

small, just 0,2 percentage units per year, which means that the probability of agreement does not increase substantially, as a 10-year increase in age increases the probability is only 2,3 percentage units. In education, the one-year increase increases the probability of agreeing by 1,5 percentage units. Thus, the more education the individual has, the more they favor equality of opportunity. Third, on average women agree with equality of outcome 3 percentage units less compared to men. Fourth, an immigrant's probability to agree increases by 6 percentage units on average compared to the general population. Immigrants seem to favor both equality of opportunity and outcome compared to the general population, which could be connected to their unique position as having different views on earnings and being more often recipients of social benefits. Last, we adjust for political alignment, where moving towards to right wing of the scale decreases 3,5 percentage units of probability to agree per one unit of scale. These are polarizing results compared to equality of opportunity, as being on the far left the probability to agree is 17 percentage units higher, and belonging on the far right of the scale decreases the probability to agree by 17 percentage units.

In the model 6, we again adjust for economic factors. Like in equality of outcome, the ISEI and income have statistically significant results, and adding economic variables does suppress the statistical significance of years of education, indicating that income is a more important factor in the equality of outcome. Again, this could indicate that earnings contribute to the attitudes on equality of outcome. Those who have higher income are more likely to agree less with equality of outcome, as one increase in rank of income decile does decrease the probability by 1,5 percentage units. Thus, on average belonging to the 10th decile decreases the probability by 15 percentage units.

Like previously, we ran further analysis (see Figure A.2) with interaction for education and income. Results show, as previously, the statistical significance remains because the differences between both extremes of income deciles higher educated. The same fragmentation is to be found, only in reverse order among income deciles, as being higher educated and higher income decreases the agreement with the equality of outcome.

Similarly like in the equality of opportunity, the random intercept between-country on the equality of outcome is larger than the between-region. Albeit, the effect size is rather small, this still shows that the between-country differences explain more from the total variance of agreement on equality of opportunity. The intraclass correlation on the region is 4 percent while the between-country variance explains 6 percent from the total variance of the agreement to equality of opportunity. Thus, differences between countries are larger than between regions. Results show that the random slope of the measurement year, the variance between countries is increasing only 4,5 percentage units on average between 2008 and 2016. Thus, the variance to agree or disagree on equality of opportunity has increased slightly in 2016 compared to 2008. It is to be noted that in model 3 the slope is 3,8 percentage units, which is smaller than in models 4 or 5. Thus, adjusting for economic factors, the variance to agree over the years does decrease.

5. Conclusions

In this study, we studied how regions over European countries differ in their attitudes to both equality arguments over time, and how different factors play a role in between-region and between-country attitudes.

The first research question is on how regions over European countries differ in their attitudes to both equality arguments over time. We found that overall, differences in equality attitudes between countries are structured by welfare regimes, similarly as Svallfors (1997) has proposed. Overall, both in equality of opportunity and outcome, conceptually as measured in this work, there is a clear split in attitudes in both eastern-European and the UK compared to the rest of the EU. In general, Nordic countries and Mediterranean regimes have low agreement towards equality of opportunity and higher approval for equality of outcome. Especially strong attitudes in Nordic countries make sense, as previous research has found that in egalitarian countries the priority of individuals' self-interests may be mitigated in favor of more egalitarian attitudes (Kulin & Svallfors, 2013).

While one might think that the UK has similar attitudes to Eastern Europe sounds foreign, it has been found that some English-speaking nations expressed lower rates of disapproval regarding income inequality (Luebker 2004; Dubet et al.,2010). In addition, both of these areas are culturally more conservative countries, which could affect the idea of equality similarly, However, the UK's attitudes have become closer to the rest of the EU area over time. As a more stagnant median, Germany's attitudes have remained mostly the same in both questions of equality. In a more specific analysis, we found that overall attitudes between countries explain slightly more of the total equality attitudes than between regions. It can be stated that both country and regional differences play an equal role in the variation of equality attitudes.

Our results show that, in general, both of the equality sentiments have decreased their magnitude over time. Thus, over time the general attitudes toward equality of opportunity have become stricter, as the rate of agreement has decreased by 12 percentage points. We also found that attitudes have become more dispersed both between countries and regions. However, we did not find similar change over the years in attitudes on equality of outcome, only that the attitudes have become more dispersed between regions than between countries.

In our second research question, we study how different factors played a role in between-region and between-country attitudes.

From regional analysis, only the GDP played a role in equality of outcome, as we found that when GDP increases the agreement for equality of outcome decreases. This means that the increased economic output and level of the region probably mirrors similar effects with income, as there is the self-interest of the individual to shift perspective to favor reward talents and efforts. Contrasting this with previous findings where, countries with lower levels of inequality favor more egalitarian attitudes (Kulin & Svallfors, 2013), it could be that the nature of the egalitarian thoughts shifts towards the equality of opportunity in

areas with higher economic output, thus being a reflection of the socio-economic conditions (Inglehart & Welzel 2005).

In individual characteristics, we found that sex had results in line with previous literature. It is known that women have in general more 'soft' values such as equality of outcome is more agreed upon (Pratto et al., 1997). Similarly, the political alignment had expected results, as more left-leaning alignment decreased favorability to equality of opportunities and favored more state-mandated outcomes. The more interesting point is the immigrants, who favored both equality of opportunities and outcome, which could be connected to their unique status, as there is a higher demand for social services and benefits combined with a more conservative work ethic, depending on the country of origin. Instead, the role of education was more complex, as it indeed supports a self-serving narrative as higher educated do favor equality of opportunity and reward for skills more readily than lower educated, but when income was adjusted these effects lost their significance.

To continue from this linkage to economic factors, in a more in-depth analysis, we found that the lost significance in education was due to those who were in the opposite extremes of the income distribution among the higher educated. This would be an interesting avenue for further research, as it is likely that depending on the field of study in education it leads to different returns to education. Overall, we found that both ISEI and income were significant which both represent the individual position status in the labor market. As expected, those in higher economic positions tend to favor equality of opportunities instead of economic outcome.

To summarize our findings, it seems that economic variables with individual political alignment were important in people's attitudes toward equality. In addition, those regimes who had similar economic and structural features did not display massive differences in attitudes toward equality of opportunities and meritocracy. These findings imply that both the cultural and regime perspectives may be more significant, as the cultural and socio-economic conditions are affected by economic development (Esping-Andersen, 1990; Hutton, 1995; Huntington, 1996).

We did contribute by doing groundwork for the first time by measuring equality attitudes between- and within European countries. In addition, we found how regional features, together with individual determinants, shape the attitudes toward equality of outcomes and equality of opportunities. However, more research is needed especially to focus on economic factors and how they interact with both education and the field of study.

References

Ajzen, I. (2001). Nature and operation of attitudes. Annual Review of Psychology, 52, 27–58.

Arts, W., & Gelissen, J. (2001). Welfare States, Solidarity, and Justice Principles: Does the Type Really Matter. Acta Sociologica, 44, 283-299.

Checchi, D., Peragine, V., & Serlenga, L. (2010). Fair and Unfair Income Inequalities in Europe (Discussion Paper No. 5025). IZA, Bonn, Germany.

Dunnzlaff, L., Neumann, D., Niehues, J., & Peichl, A. (2011). Equality of Opportunity and Redistribution in Europe. In J. Gabriel Rodríguez (Ed.), Inequality of Opportunity: Theory and Measurement (Research on Economic Inequality, Vol. 19, pp. 99-129). Emerald Group Publishing Limited.

Dubet, F., Duru-Bellat, M., & Vérétout, A. (2010). Le Società e la Loro Scuola. L'influenza del Diploma e la Coesione Sociale, Le Seuil, Paris.

Durant-Bellat, M., & Tenret, E. (2012). Who is for Meritocracy? Individual and Contextual Variations in the Faith. Comparative Education Review, 56(2), 223-247.

Eagly, A. H., & Chaiken, S. (1998). Attitude structure and function. In D. T. Gilbert (Ed.), The Handbook of Social Psychology (4th ed., pp. 269–322). McGraw-Hill.

Esping-Anderson, G. (1990). The Three Worlds of Welfare Capitalism. Princeton University Press.

Ganzeboom, H. B., De Graaf, P. M., & Treiman, D. J. (1992). A standard international socio-economic index of occupational status. Social science research, 21(1), 1-56.

Gijsberts, M. (2002). The Legitimation of Income Inequality in State-Socialist and Market Societies. Acta Sociologica, 45, 269-285.

Green, A., & Janmaat, J. G. (2011). Regimes of Social Cohesion: Societies and the crisis of globalization. Palgrave Macmillan.

Huntington, S. P. (1996). The Clash of Civilizations and the Remaking of World Order. Simon and Schuster.

Hutton, W. (1995). The State We're In. Jonathan Cape.

Inglehart, R., & Welzel, C. (2005). Modernization, Cultural Change and Democracy: The HUMAN Development Sequence. Cambridge University Press.

Janmaat, J. G. (2013). Subjective Inequality: A Review of International Comparative Studies on People's Views about Inequality. European Journal of Sociology, LIV(3), 357–389.

Janmaat, J. G., & Green, A. (2013). Skills Inequality, Adult Learning and Social Cohesion In The United Kingdom. British Journal of Educational Studies, 61(1), 7-24.

Jeong, H.J. & Lee, W.C. (2016). The level of collapse we are allowed: comparison of different response scales in safety attitudes questionnaire. *Biom Biostat Int J. 4*(4):128-134. doi: 10.15406/bbij.2016.04.00100

Kelley, J., & Zagorski, K. (2005). Economic Change and the Legitimation of Inequality: The Transition from Socialism to the Free Market in Central-East Europe. Research in Social Stratification and Mobility, 22, 321-366.

Kulin, J., & Svallfors, S. (2013). Class, Values, and Attitudes Towards Redistribution: A European Comparison. European Sociological Review, 29(2), 155–167.

Kunovich, S., & Slomczynski, K. M. (2007). Systems of Distribution and a Sense of Equity: A Multilevel Analysis of Meritocratic Attitudes in Post-Industrial Societies. European Sociological Review, 23, 649-663.

Lübker, M. (2004). Globalization and Perceptions of Social Inequality (Working Paper No. 32). International Labour Organization, Geneva.

Marrero, G. A., & Rodrı´guez, J. G. (2010). Inequality of opportunity in Europe: Economic and policy facts (Working Paper No. 172). ECINEQ, Society for the Study of Economic Inequality.

Murthi, M., & Tiongson, E.R. (2009). Attitudes to Income Equality: The 'Socialist Legacy' Revisited. Comparative Economic Studies, 51(3), 344–366. doi:10.xxxxx/xxxxxxxx

UNESCO Institute for Statistics. (2012). International standard classification of education: ISCED 2011. Comparative Social Research, 30.

Örkény, A., & Székelyi, M. (2000). Views on Social Inequality and the Role of the State: Posttransformation Trends in Eastern and Central Europe. Social Justice Research, 13, 199-218.

Pratto, F., Stallworth, L. M., & Sidanius, J. (1997). The gender gap: Differences in political attitudes and social dominance orientation. British journal of social psychology, 36(1), 49-68.

Redmond, G., Schnepf, S. V., & Suhrcke, M. (2002). Attitudes to Inequality After Ten Years of Transition (Innocenti Working Paper No. 88). UNICEF Innocenti Research Centre.

Roemer, J. E. (1993). A pragmatic theory of responsibility for the egalitarian planner. Philosophy and Public Affairs, 22(2), 146–166.

Roemer, J. E. (1998). Equality of opportunity. Harvard University Press.

Svallfors, S. (1997). Worlds of Welfare and Attitudes to Redistribution: A Comparison of Eight Western Nations. European Sociological Review, 13, 283-304.

Suhrcke, M. (2001). Preferences for Inequality: East vs West (Innocenti Working Paper No. 89).

Verwiebe, R., & Wegener, B. (2000). Social Inequality and the Perceived Income Justice Gap. Social Justice Research, 13, 123-149.

Appendix

Table A.1. Data sources used to supplement contextual data for the regions.

Variable	Data sources
GDP	ESS contextual multilevel dataset: OECD regional statistics: large regions TL2
Gini index	Authors own calculations from EU-SILC and LIS datasets at NUTS2 level EU-SILC dataset preferred and supplemented with LIS where needed Gini calculations were done with Stata package 'fastgini'
% of tertiary educated	ESS multilevel contextual dataset Eurostat regional dataset: edat_lfse_04
Regional unemployment	ESS multilevel contextual dataset

Table A.2. List of countries used in the multilevel analysis: all countries at NUTS2 level that include dependent variable in round 2008 and 2016 with all independent variables present.

Selected countries
AT – Austria
BE – Belgium
CH – Switzerland
CZ – Czech Republic
DE – Germany
EE – Estonia
ES – Spain
FI – Finland
FR – France
GB – United Kingdom
HU – Hungary
NL – Netherlands
NO – Norway
PL – Poland
PT – Portugal
SE – Sweden
SI – Slovakia

Figure A.1. Distribution of attitudes on equality of opportunity and equality of outcome by countries.
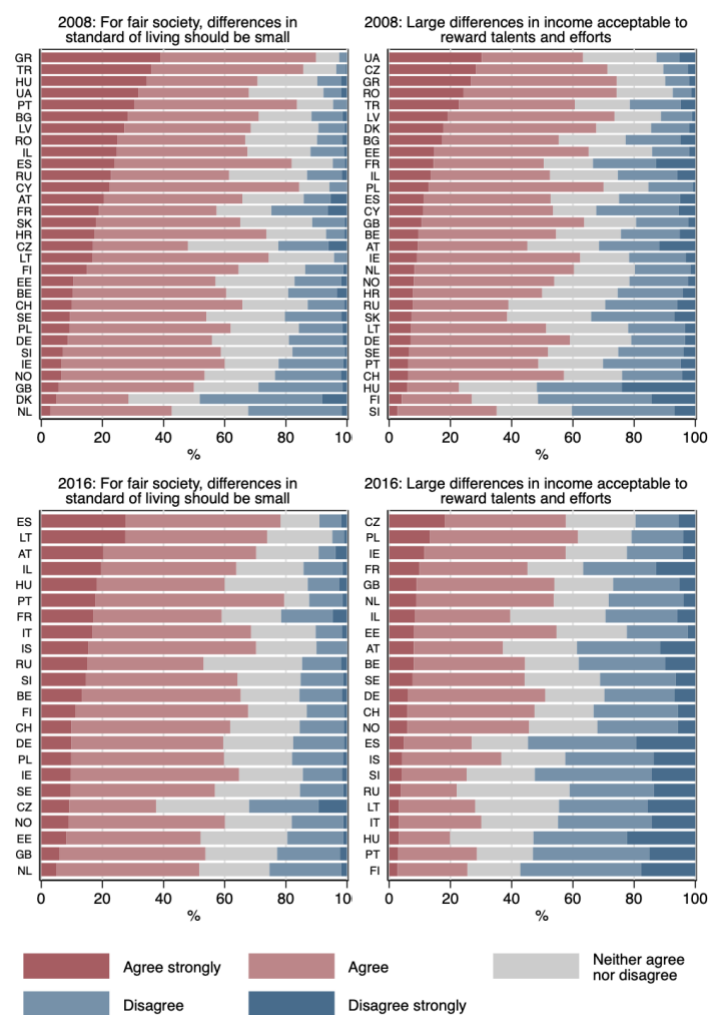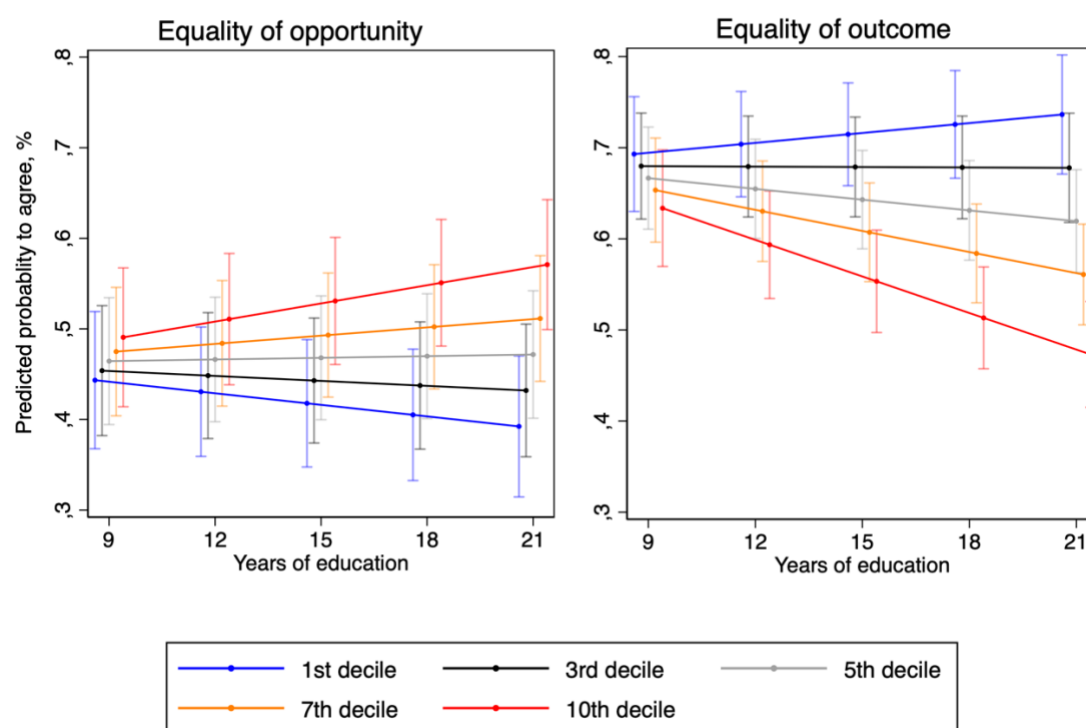
Figure A. 2. Interaction model between years of education and income. The outcome as predicted probabilities on attitudes on equality of opportunity and equality of outcome.

Note: The model is adjusted for age and sex, to avoid overcontrolling. For robustness, models were also done with full model with all the variables present, results being the same.