Together We Stand, Divided We Fall: Political Polarisation and Income Inequality in the EU and the UK

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Abstract

This paper investigates the link between political polarisation and inequality in Europe from 1989 to 2024. Using Bayesian Aldrich-McKelvey scaling, the DER polarisation index, and Araar decomposition, it traces polarisation's regional and structural foundations. Results show that polarisation has risen steadily, with Mediterranean and Central/Eastern Europe consistently more polarised than Western and Northern regions. Araar decomposition reveals that polarisation stems mainly from between-group alienation, not within-group identification. Divides over EU membership, class, and urban-rural residence account for much of the increase, with radical groups contributing disproportionately. Fixed-effects regressions confirm that inequality is the strongest determinant of polarisation: higher Gini values consistently predict greater antagonism. Economic growth reduces polarisation only under egalitarian conditions; when coupled with inequality, it amplifies divides. These findings highlight a self-reinforcing cycle of inequality and polarisation, suggesting that inclusive growth and redistributive policies are essential to safeguarding Europe's democratic resilience.

Keywords: political polarisation, inequality, EU, economic growth, affective polarisation
JEL Codes: C23, C38, D31, D72

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Introduction

Political polarisation has emerged as one of the most pressing challenges for advanced democracies in recent decades. Across the Atlantic, public life is increasingly dominated by partisan divides, growing social hostility, and widespread erosion of trust in institutions. These trends carry particularly significant consequences for the EU and its member states. Unlike the US, where polarisation is channeled into a two-party system, Europes context is shaped by multiparty competition that operates simultaneously at national, regional, and supranational levels. This makes polarisation more complex and multifaceted, as it not only influences electoral outcomes but also affects the stability of coalition governments, the cohesion of European integration, and the broader ability of democratic systems to provide inclusive and sustainable prosperity.

In recent years, the academic literature has expanded rapidly in an effort to understand these developments. Early studies largely focused on ideological extremity, describing polarisation as a widening gap between the left and the right. However, subsequent work has emphasized that polarisation goes far beyond ideology, extending into affective and identity-based dimensions (McCarty et al., 2006; Iyengar and Westwood, 2015; Funke et al., 2016). In increasingly polarised environments, politicians tend to adopt uncompromising or radical policy positions, while citizens mirror these patterns by aligning more firmly with partisan identities. As a result, the gap between political camps has deepened. Importantly, this pattern is not confined to the most politically informed or engaged citizens; while it is more visible in these groups, it extends to the broader electorate and shapes mass public opinion more generally. At the same time, scholars continue to debate whether polarisation originates primarily among political elites or within the mass public. Abramowitz and Saunders (2008) present evidence of ideological sorting among voters, while Fiorina and Abrams (2008) argue that most citizens remain largely centrist and that polarisation is overstated. Mason (2015), by contrast, emphasizes the growing alignment of religious, racial, and cultural identities with partisan affiliation, a phenomenon she terms identity stacking, which generates deeper affective polarisation even without corresponding increases in ideological extremity. Taken together, these perspectives suggest a dual dynamic: elites may polarise strategically to mobilize their supporters, while voters polarise affectively through identity-based attachments. Disentangling the relative importance of these mechanisms remains an open question, yet doing so is essential for designing effective policy responses.

Parallel to this debate, an important strand of research highlights the close relationship between polarisation and inequality. The idea that deeply divided societies struggle to achieve sustained growth was brought to prominence by Easterly and Levine (1997) in their study of Africa's *growth tragedy*, where ethnolinguistic fractionalization was found to undermine economic development de-

spite the continents considerable potential.[1] Building on this insight, Acemoglu and Robinson (2001) argued that wealth inequality often produces political instability, making democratic consolidation more difficult and crises more destabilizing. Their work highlighted that inequality not only shapes political outcomes but can also create fertile ground for polarisation, particularly during times of financial turmoil when the opportunity cost of unrest is low. Related contributions, such as Glaeser (2005), suggest that elites may deliberately stoke animosity and adopt extreme positions as a way of maintaining support, thereby exacerbating both polarisation and inequality.

Empirical evidence from advanced democracies reinforces this argument. In the US, McCarty et al. (2006) demonstrated that rising income inequality and partisan polarisation are closely intertwined, producing long-term shifts in legislative behaviour and political discourse. Duca and Saving (2016), using time-series analysis, confirmed the existence of bidirectional causality, showing that inequality both drives and is reinforced by polarisation. Within Europe, Pontusson and Rueda (2008) revealed that distributive conflicts play a central role in shaping political representation. More recently, widening inequalities after the global financial crisis, coupled with the uneven effects of globalization, have fueled the rise of radical-right and Eurosceptic parties, fragmenting political systems and destabilizing established party alignments (Autor et al., 2013; Colantone and Stanig, 2018). Further studies document the spread of affective polarisation across the continent, with citizens expressing stronger hostility towards opposing parties and leaders (Reiljan et al., 2024; Wagner, 2024). The implications are clear: polarisation and inequality interact in ways that create dangerous feedback loops. Polarisation can reinforce inequality by producing policy gridlock or by entrenching biases in favor of certain groups, while inequality can fuel polarisation by sharpening identity-based divides and reducing trust in democratic institutions. This cycle is visible in numerous European cases. The Brexit referendum in the UK, the electoral realignments in France and Italy, and the rise of populist radical-right parties in Central and Eastern Europe illustrate how economic disparities can translate into entrenched political blocs and lasting institutional strains.

Despite this growing body of work, a key challenge remains how to measure polarisation in a way that is both consistent over time and comparable across countries. Much of the existing research relies on survey perceptions or context-specific indicators, raising concerns about reliability and comparability. This paper addresses that gap by employing formal measurement frameworks grounded in axiomatic principles. Specifically, we construct the first EU-wide panel of mass polarisation covering the period from 1989 to 2024, based on harmonized data from the European Election Studies (EES) Voter Study. By applying Bayesian Aldrich-McKelvey scaling to correct perceptual biases in party and self-placement data (Hare et al., 2015), and by operationalizing the Duclos-Esteban-Ray (DER) index with group decomposition, we provide a measure of polarisation

[1] Their conclusion was confirmed later on by Alesina et al. (2003) who used data from more countries in the continent validating that indeed a divided society hinders economic growth.

that is both theoretically rigorous and empirically robust (Duclos et al., 2004).

This framework allows us to capture long-term trajectories of polarisation across Europe, identify whether polarisation arises primarily from stronger within-group identification or from widening between-group divides, and link these dynamics directly to patterns of income inequality. Our results show that polarisation intensifies as inequality widens, while the pacifying effects of growth depend crucially on the distribution of its gains. In combining formal measurement with comparative empirical analysis, this paper seeks to advance our understanding of the polarisation-inequality nexus in Europe and to contribute to broader debates about democratic stability, distributional conflict, and the risks posed by self-reinforcing equilibria of inequality and polarisation. The remainder of the paper proceeds as follows: Section 2 sets out the theoretical framework and measurement strategy; Section 3 describes the data and empirical methodology; Section 4 presents the results; and Section 5 concludes with implications for policy and future research.

Theoretical Framework

Defining Political Polarisation

Political polarisation has become a central concept in political science and related disciplines over recent decades. It is used to describe conflicts not only among political elites -parties, parliamentary groups, and leaders- but also among citizens and the broader electorate. At its core, political polarisation may be seen as closely related with the distributional properties of public opinion across either a single or several different dimensions (e.g., Layman et al., 2006; Hetherington, 2009). In other words, it refers to a society's division into categories based on the positioning of their political views, taking under consideration the distance between the groups as well as how homogeneous the opinions of the people within a group are. Hence, in other words, polarisation is a mixture of the homogeneity within a group and the heterogeneity across groups. Conceptualizing this, DiMaggio et al. (1996) defined four basic principles to describe political polarisation:

The dispersion principle: The variance of opinion distributions reflects the spread of views. Greater dispersion implies stronger feelings of distance and alienation among individuals.

The bimodality principle: The presence of multiple peaks in the distribution (e.g., two opposing camps) indicates distinct clusters of identification. The further apart these clusters are, the higher the polarisation.

The constraint principle: Polarisation is reinforced when beliefs across issues are tightly correlated within individuals. For instance, opinions on welfare, healthcare, or same-sex marriage may align consistently, reflecting strong within-group coherence and sharp between-group divides.[2]

[2] A notion introduced by Converse (2006) in his seminal 1964 paper.

The consolidation principle: Polarisation intensifies when social characteristics (e.g., income, education, gender, or religion) correlate strongly with political preferences, turning social cleavages into the focal points of political conflict.[3]

Together, these principles underscore that polarisation is multidimensional: it concerns not only ideological distance but also clustering, coherence, and the social embedding of political divisions

The DER Index of Polarisation

Using this general framework Duclos et al. (2004), extenting the earlier work of Esteban and Ray (1994), suggested a polarisation index that more accurately reflects social tension and predicts conflicts than simple, one-dimensional measures of inequality. Adding on DiMaggio et al. (1996) ideas, the frequency of each cluster carries weight, so that the distance between groups is not the only factor that matters, but the number of individuals in each cluster also plays a significant role.[4] Using a rigorous axiomatic approach, Duclos et al. (2004) developed a more mathematical and abstract characterization of polarisation, the DER Index, based on what they call *identification-alienation* (IA) principle. In summary, the IA principle, adjusted to voters behaviour, implies:[5]

Identification. As with Esteban and Ray (1994), the IA framework emphasizes on the fact that alienation on its own does not suffice for the creation of social tension, but for it to be translated into effective voice, or create unrest, the individual must identify with other individuals on the same polarised dimension (i.e. voter behaviour). More specifically, identification will depend on the density function of the dimension that characterizes polarisation. Many low density points (a society evenly spread around various political modes with lower density per mode) imply a less polarised society. One small group, comprised of say only 1% of total population, no matter how far left (or right) it may lay, it cannot, on its own, create social tensions. It is considered as an individual outlier to whom no significant weight is assigned.

Alienation. An individual located with a political view at point x will feel alienated towards an individual with a political view at y and this alienation increases monotonically with distance $|x-y|$. So, politically speaking, an individual on the right would feel alienated towards an individual on the left. Additionally, the more to the right the conservative voter (or the left for the democratic voter) moves, the larger the cleavage between the two voters, the higher the alienation sentiment.

Actually, the DER index measures the combined effect of both the identification and the alien-

[3] Based on the work of Blau (1977), DiMaggio et al. (1996) actually add social characteristics as parameters that define the interaction of members within a group as well as among individuals between groups.

[4] Along the same framework, Iyengar et al. (2012) introduced the term *affective* political polarisation capturing the sense of belonging to a group or political party as an alternative way to capture the degree of homogeneity within groups. In other words, it is not only ideological differences that matter but group-centric impulses also play a significant role.

[5] Initially, Esteban and Ray (1994) and Duclos et al. (2004) applied their axiomatic approach in measuring income polarisation as an alternative indicator for income inequality.

ation sentiments with what is called the *effective antagonism function* defined initially by Esteban and Ray (1994). Simply put, realized alienation among voters is translated into effective voice through their identification sentiment, which refers to the group identity feeling, created among the members of the group. An individual voter located at point x of the political spectrum feels a sense of identification which depends on the density at that point, $f(x)$. Then, effective antagonism can be expressed by the non-negative function $T(I, A)$, where $I = f(x)$ and $A = |x-y|$ is the alienation sentiment captured by the distance between groups at the corresponding points of the political spectrum. It is assumed that T is increasing in A and $T(0, A) = T(I, 0) = 0$ (i.e., people at the same point of the political spectrum feel no alienation with each other and single, unique outliers have no effect on the polarisation of the society).

Then, the extent of polarisation in the society is the average weighted sum of all effective antagonisms among voters:

$$P(F) = \int_0^\infty \int_0^\infty T\Big(f(x), |x-y|\Big) f(x) f(y) dx dy$$

According to Duclos et al. (2004), the above measure of political polarisation satisfies the following four axioms:[6]

Axiom 1 *In a single-party society, a stronger ideological consistency will decrease polarisation.* The more homogeneous a cluster is, the stronger the identification sentiment. A *squeeze* of a single density means a smaller range and larger homogeneity. The smaller base of the density indicates a stronger ideological consistency of the group.

Axiom 2 *In a three-party society, if the supporters within each of the two outer parties become more ideologically committed to their parties, and the middle party supporters remain unchanged, then we will have an increase in polarisation.* This axiom implies that when we have two groups, whose mean value does not change but the members become more consistent ideologically (we have a higher degree of homogeneity), we will have a more polarised society, even if remaining party(ies) supporters remain unchanged.

Axiom 3 *If the distance between the mean voters of two parties grows larger (i.e. the parties move further apart ideologically), then polarisation will go up, even if the distribution of the rest of the society remains unchanged.* This axiom refers to the fact that $T(I, A)$ is increasing in A.

Axiom 4 *If* $P(F) \geq P(G)$, *then* $\forall \lambda > 0$ *it holds that* $P(\lambda F) \geq P(\lambda G)$. In other words, the polarisation measure is population-invariant (the value of the index does not change with an increase of population size by replicating it).

[6] Additionally, it also satisfy general axiom of *anonymity*, that is, the index depends only on individual political beliefs and not in other personal characetristics.

Therefore, the DER index offers two key advantages for studying polarisation. First, it provides a theoretically grounded tool for distinguishing between within-group identification and between-group alienation, allowing to assess whether societies are clustering more tightly within camps or drifting further apart across them. Second, its axiomatic foundations ensure comparability across countries and time, which is especially important in Europe's multiparty context. By integrating these insights with distributional indicators, one can systematically examine how polarisation interacts with inequality and broader socio-political dynamics.

Empirical Approximation

An algebraic form for the above DER polarisation index, that satisfies all four axioms, can be expressed as:[7]

$$P_{\alpha}^{DER} = \int_0^{\infty}\int_0^{\infty} f(x)^{1+\alpha} f(y) |x-y| dxdy \tag{1}$$

where $f(\cdot)$ is the density function at any point on the distribution of political beliefs and $\alpha \in [0.25, 1]$ is a normative parameter that expresses the sensitivity of the index to the identification at every point of the distribution. The interval reflects the interaction between the identification and alienation components so that there is always an optimal tradeoff between them. The chosen value of the normative parameter must ensure that the index will not be biased or determined mainly by one of the two components.[8]

It can be further decomposed into three multiplicative components, namely, *identification*, *alienation* and one plus the *normalized covariance* between them:

$$P_{\alpha}^{DER} = \bar{i}_{\alpha}\bar{a}\,(1+\rho) \tag{2}$$

where

$$\begin{aligned}
\bar{i}_{\alpha} &= \int_0^{\infty} f(x)^{1+\alpha} dx \\
\bar{a} &= \int_0^{\infty}\int_0^{\infty} f(x)\, f(y) |x-y| dxdy \\
\rho &= \frac{\int_0^{\infty} \Big(i_{\alpha}(x) - \bar{i}_{\alpha}\Big)\Big(a(x) - \bar{a}\Big) dx}{\bar{i}_{\alpha}\bar{a}} = \frac{P_{\alpha}^{DER}}{\bar{i}_{\alpha}\bar{a}} - 1
\end{aligned}$$

where, $\bar{i}_{\alpha}$ and $\bar{a}$ are the average identification and alienation effects (the later being identical to the *Gini* coefficient) and ρ is the normalized covariance between identification and alienation

[7] The algebraic form of the index as defined initially by Duclos et al. (2004) is closely related to the functional form of the *Gini* coefficient reflecting the alienation sentiment of polarisation. In fact, it approximates the *Gini* coefficient as α goes to zero (Araar and Duclos, 2003).

[8] We explore that further in our empirical application.

components.

Given a sample of n observations $(x_1, \ldots, x_n)$, a natural estimator of the DER index in (1) can be expressed from:[9]

$$\hat{P}_{\alpha}^{DER} = \frac{1}{n} \sum_{i=1}^{n} \hat{f}(x_i)^{\alpha} \hat{a}(x_i) \tag{3}$$

where $\hat{f}(\cdot)$ is the kernel density estimate (KDE) of the true, underlying, distribution of the observations approximating the identification effect and $\hat{a}_{\alpha}(\cdot)$ is the estimated alienation effect of individual observations. The *Gaussian* kernel used for the KDE is defined from the following:

$$\hat{f}(x_i) = \frac{1}{n\sqrt{2\pi}h} \sum_{i=1}^{n} e^{-\frac{(x-x_i)^2}{2h^2}} \tag{4}$$

where $h = 4.7n^{-0.5}s\alpha^{0.1}$ is the kernel's bandwidth parameter where s denotes the sample standard deviation. Accordingly, the estimator for the alienation effect, of the i^{th}observation, is given by:

$$\hat{a}(x_i) = \bar{x} + x_{(i)} \frac{2i-1}{n} - \frac{1}{n} \sum_{j=1}^{i-1} x_{(j)} + x_{(i)} \tag{5}$$

where $x_{(i)}$ denote the ordered observations, such that $x_{(1)} \leq \ldots \leq x_{(n)}$, and $\bar{x}$ denotes the sample mean. Finally, average identification effect is computed from the following:

$$\hat{\bar{i}}_{\alpha} = \frac{1}{n} \sum_{i=1}^{n} \hat{f}(x_i)^{\alpha} \tag{6}$$

Then, using relations (3) through (6), the DER index and its decomposition in (2) can be approximated using any empirical dataset on political or social beliefs.

The Practical Problem

Empirical Data

The data used in our empirical analysis are obtained from the *Voter Study* which is part of the *European Election Studies* (EES) undertaken the last decade by *GESIS Leibniz Institute for Social Sciences*.[10] *Voter Study* is the only survey within EES conducted continuously since the first time that the members of the European Parliament have been elected directly by European citizens.[11]

[9] Empirical estimation of the DER index was done using the *R* package `DER`, developed for the purposes of this paper, available at `https://CRAN.R-project.org/package=DER`.

[10] The EES is run under the responsibility of the international *European Election Research Group* constituted by political and social scientists from academic institutions across Europe.

[11] Until 1994, the question modules of the *Voter Survey* were part of *Eurobarometer* surveys. Starting with the 1999 elections, the EES surveys are collected independently.

Despite the fact that the surveys evolved over the years, focusing on contemporary issues, they were always designed along similar principles and included some identical questions, like the questions of self-placement. Additionally all countries are surveyed the same year, i.e. the year of the European Parliament elections. Therefore the obtained data are harmonized and aligned across EU allowing for a reliable comparison between member states as well as an in depth analysis of the evolution of polarisation within a country.

to create a comparable distribution of political beliefs among European voters in each member state we use the following two questions that are common in *Voter Study* since 1989:[12] (i) in political matters people talk of *the left* and *the right*. How would you place your views? and (ii) using the same range, place the political parties in your country from left to the right. In both cases, the scale ranges from one (far left) to ten (far right). However, perceptual data of this type may create serious challenges in any empirical application. Since European citizens are asked to subjectively position themselves and their country's parties on the political left-right axis, the answers can be both biased and weighted towards the one or the other direction, depending on the voter's personal opinion and point of view. To make it clear, consider for example a voter on the left of the scale (not the far-left per se, but not the center left as well). Such a voter will most probably allocate a center right party more to the right than would a voter who places himself on the right (let alone a voter in the far-right). Additionally, there is a tendency of voters to place candidates as well as themselves on the *prominent* points of the scale, i.e., the middle point and the two ends. Often the in-between points are avoided because either voters cannot make such fine distinctions between various candidates or because respondents do not know how exactly to interpret the in-between points.

In other words, the problem arises due to the different interpretation each individual might give to the terms left and right and even more to the relative classification of who is more left/right than whom. Another reason might be cognitive bias. People tend to listen to news and stories that confirm what they already believe. So if a voter, for some reason has a wrong impression of a candidate's true position, this will most probably not only hardly change, but often be reinforced (this is what makes fake news so popular nowadays). This also affects the quality of information one is receptive to. In any case, whatever the reason, each voter has his own perceptual space, which is a result of the true space subject to an observation error (by the voter). So, the data are contaminated by two types of variation: (a) the variation in the placement of one's self as well as the political parties and (b) the variation in interpretation of the scale and how the interviewee communicates his perception to the interviewer. The two types of variation essentially stem from the same problem, the subjective interpretation of information by the people who receive it. But

[12]Table C.3 in Appendix B presents the sample size of the *Voters Study* in each member state and for every European election year from 1989 to 2024.

the two types of variation which contaminate the data happen at two different time intervals. The first happens on a daily basis throughout the voter's life and the second one is at the time of the interview.

Bayesian AM Data Scaling

to deal with issue, Aldrich and McKelvey (1977) first suggested a probabilistic model that factors out the bias created by the subjective interpretation of a party's manifesto by voters and the consequent relative placement (or misplacement) of parties on the left-right scale. Let assume that each political party, j, occupy a true position $j = 1, \ldots, J$ on a one-dimensional issue continuum. Each individual voter, i, has his/her own perception of the party's true position. The i^{th} individual's perception of the j^{th} party's true position is denoted by z_{ij}, which is randomly distributed around the party's true position. This perception is modeled as the party's true position distorted by some randomly distributed variation. The Aldrich and McKelvey (AM) model creates a two-fold procedure, which deals first with the scaling and calculation of the true parameters regarding the true parties' positions and secondly with obtaining the ideal point estimate of the individuals' true position, which is what is of concern in this study. The model assumes that z_{ij} follows a normal distribution, $z_{ij} = \delta_i + \beta_i \zeta_j + u_{ij}$, where ζ_j is the true position of party j, δ_i and β_i are the distortion parameters (the shift and the stretch term, respectively) and u_{ij} is the usual error term following a normal distribution with zero mean and some variance. Thus, the AM may be seen as a general latent analysis model, or a variant of the classical factor analysis model, where ζ_j is the true value of the j^{th} factor, β_i plays the role of the loading and δ_i is the mean. The quantities, δ_i, β_i, ζ_j and u_{ij} form the components of the observed i^{th} individual's perception of the j^{th} party's true position, and are the model's estimable parameters.

Each respondent in each country fills a questionnaire which consists of a question regarding their personal positioning for each of the J political parties, where the positioning scale ranges from 1 (far left) to 10 (far right). The respondents are also asked to place themselves on the same positioning scale. Positive values of the shift term δ_i indicate that the i^{th} voter places the political party (and implicitly himself) high on the positive side on the scale, while negative values indicate the opposite. For example, on the standard left-right scale in which higher values denote more right wing political opinions, positive δ_i values indicate that the voter is overusing the right wing side of the scale (pushing stimuli too far right), while negative δ_i values indicate that the voter is overusing the left wing end of the scale (pushing stimuli too far left). This suggests that one would expect, that right wing voters would have higher and positive δ_i values than left wing voters, who would have lower and negative a values. The β_i parameter (the stretch term) expands or shrinks the reported placements on the scale, reversing them when it is negative. Hence, voters with negative

β_i possess lower levels of political information than respondents with positive β_i.

In our empirical model we use Hare et al. (2015) approach who improved the AM model suggesting a *Bayesian* framework to identify true political positions. Bayesian implementation allows for flexible priors, incorporates uncertainty, and generates posterior distributions of both party and voter ideal points. This procedure yields corrected ideological placements that are more comparable across respondents and contexts, addressing the measurement error that plagues raw self-placements in multiparty systems. In the bayesian framework, z_{ij} is assumed to follow a normal distribution $N(\mu_{ij}, \tau_{ij})$, where $\mu_{ij} = \delta_i + \beta_i \zeta_j$ and $\tau_{ij} = \tau_i \tau_j$. The estimated ideal point is given by $\hat{x}_i = \frac{y_i - \hat{\delta}_i}{\hat{\beta}_i}$, where y_i is the i^{th} voters's self-placement on the political scale and $\hat{\delta}_i$ and $\hat{\beta}_i$ are the estimated shift and stretch parameters, respectively. Since in our empirical study we are interested on the observational errors by individual voters, we focus only on the shift parameter and we proxied the ideal point from $\hat{x}_i = y_i - \hat{\delta}_i$.

In contrast to Hare et al. (2015) who assumed non-informative uniform priors for the distortion parameters, we assumed *Gaussian* priors, but with a higher variance, $\delta_i, \beta_i \sim N(0, 6^2)$. For the τ parameters we assumed an inverse gamma distribution, $\tau_j \sim IG(0.5, 0.5)$, $\tau_i \sim IG(\nu, \omega)$, where $\nu \sim G(0.5, 0.5)$ and $\omega \sim G(0.5, 0.5)$ are gamma distributed, and finally for the the true position of political party j we assumed that is standard normally distributed, $\zeta_j \sim N(0, 1)$. To estimate the parameters of the model, MCMC was conducted using the *JAGS* (Just Another Gibbs Sampler) software run through *R* via the *R* package `runjags` (Denwood, 2016). We required that respondents had placements for at least three political parties to be included analysis. We run two chains, with 50,000 adaptive iterations to use at the start of the simulation, discarding the first 10,000 iterations as a burn-in period and thinning the results of the remaining 40,000 iterations with a thinning interval of 10. In general, the chains showed convergence according to the *Gelman-Rubin* diagnostic. In the end the median of each posterior distribution was used to report the estimated values of δ_i.

Results and Discussion

Hence, applying the *Bayesian AM* scaling procedure we can estimate the ideal positions of voters in different European countries on a single scale political dimension, from left to right. This approach squarely addressed the measurement error that plagues perceptual data and it is crucial in the European multi-party contexts where citizens' party placements anchor the scale. Histograms of both the self positioning of respondents and their estimated ideal points using the *Bayesian AM*

scaling procedure for 2019 are presented in Figures B.1 through B.3 in the Appendix.[13] According to the raw self-placements, the distributions in almost all countries follow a bell curve pattern with a peak close to the middle point and with a small proportion of respondents located at the extremes. On the other hand, the *Bayesian AM* ideal point estimates tell a more nuanced story about the ideological makeup of the European electorate. More peaks in the distribution appear across all countries indicating greater polarisation than the raw self placement data. Indeed there is uncertainty in these ideal point estimates, but the use of raw self placement data to measure polarisation may not accurately reflect actual conditions among voters. The ideological center, which is evident in raw placements, appears to hollow out once we account for the perceptual biases that seems to affect individual perceptions.

The constructed ideal political placements are actually the x_i variable in relation (3) that allows the estimation of political polarisation across EU member states for the 1989–2024 period. Before that, we need to choose an appropriate value for the normative parameter of the DER index. According to Duclos et al. (2004) this parameter must be bounded within the $[0.25, 1]$ interval. First, we use combined data from all countries for the period 1989–2024 to examine the effect of the α values on the resulting distributions of the DER index utilizing two different statistical tests. Specifically, we used the conventional paired t-test to compare the mean differences between the estimated indices together with the permutation based variant of the *Kolmogorov-Smirnov* test of Wang et al. (2025) to compare the distributions of the estimated DER indices under different values of α.[14] For either testing procedure the comparisons took place between the pairs of observations formed when computing the DER index at $\alpha = 0.25$ and the DER index computed at $\alpha = 0.5$, 0.75 and 1. The results suggest that the means of the DER indices were decreasing with increasing α values, and their differences were statistically significant (all p-values were less than 0.001) revealing statistically significant differences as the $\hat{P}_{\alpha}^{DER}$ decreases. The p-values of the *Kolmogorov-Smirnov* test were also less than 0.05 (or 0.001 in some cases) providing evidence that the distributions of the DER index are statistically significantly different for different values of α. We repeated the same tests for the countries in each of the following 4 years separately, 2009, 2015, 2019 and 2024[15]. The outcome was the same across EU throughout the period implying a downward bias regarding the prior choice of α. Hence, indeed the prior choice of the normative parameter affects the estimated value of the DER index. Nevertheless, this effect seems to be robust across observations for our dataset which may not be a problem given that polarisation is evaluated in relative terms according to the DER index.

[13] We choose 2019 as all 28 member states including UK are present. The detailed data for the whole period and for all countries are available upon request. The overall picture though is similar with 2019.

[14] The detailed results of statistical testing are available upon request.

[15] We choose this specific period because all 28 EU members are present (except of Croatia in 2009 and UK in 2024) and therefore we has sufficient number of observations to perform statistical testing.

However, what it may be a problem is whether the choice of α is affecting the ability of the DER index to predict correctly polarised political environments. This is essential in identifying political cleavages among European voters. To do so we design two *Monte Carlo* (MC) experiments to investigate this relationship with random data. First, we generate two sets of randomly distributed data assuming that the distributions are moving gradually away by one point in the political scale every time. This was repeated assuming different variances for these distributions to examine also the impact of the identification component in the ability of the index to predict correctly polarisation.[16] The results of the first MC experiment indicate that the DER estimator has a higher probability in predicting the evolution of polarisation correctly when $\alpha = 0.25$ (see Table A.1 in the Appendix). This is more obvious in less intensive alienation effects when the variance of the distributions increases (identification effect decreases). to explore further this finding, we used a *Gaussian Mixture Model* on the same random distributions to examine whether the estimated DER indeed predicts the actual increase in alienation effect as the means of the two distributions deviate further. The results indicate again that when $\alpha = 0.25$ the predictive power of the estimator is the highest approximating better the increase in polarisation (see Table A.2 in the Appendix). It is worthy to mention that when the variance of the generated random distributions increases (the identification sentiment is weaker) the less likely is that the DER index is predicting correctly polarisation in the sample. These experimental results reinforces the need for careful calibration, particularly in multiparty contexts where ideological distance interacts with uneven group sizes. In our empirical application we adopt this value for the normative parameter in estimating the DER index with the EES data.

The estimated DER indicators for each one of the 28 EU member states and for the period 1989–2024 are presented in Tables 1 through 4 and in Figure 1. Malta, Slovenia, Croatia and Cyprus have the highest DER index estimate, whereas Luxembourg, Estonia, Ireland and Latvia the lowest one. On average the DER index was estimated to be 0.6006 in Malta and only 0.3786 in Luxembourg underlying a highly differentiated political environment among EU countries. Further, the estimated DER index reveals striking differences in polarisation across Europe's regions. When aggregated by broad clusters, Mediterranean (0.4903) and Central and Eastern European (CEE) countries (0.4979) consistently record higher polarisation than Western Europe (0.4200) and Northern Europe (0.4330). These differences are not marginal but substantial, and they persist across the three decades covered by the data. In the Mediterranean region, polarisation has been fueled by fragmented party systems, frequent government turnover, and exposure to repeated economic crises, including the Eurozone debt crisis. Italy's oscillation between technocratic governments and populist coalitions, Greece's sharp left-right divide during austerity, and Spains post-crisis rise of

[16] The details of the two experiments are presented in Appendix A. the results of the MC experiment do not change if the distance between the means is over the whole $[0, 2]$ range.

Podemos and *Vox* illustrate how distributive and cultural conflicts reinforce polarisation. The CEE region displays similarly high polarisation, though rooted in different dynamics. Post-communist states have undergone volatile party system transformations, accompanied by sharp cleavages over democracy, national identity, and European integration. The rise of *Fidesz* in Hungary and *PiS* in Poland exemplifies how polarisation can be sustained not only through socioeconomic divides but also through institutional conflict over liberal democratic norms. By contrast, Western and Northern Europe show comparatively lower levels of polarisation. Welfare state capacity, stronger corporatist traditions, and more consolidated party systems moderate the intensity of political conflict. For instance, Scandinavian countries exhibit ideological competition but retain broad consensus on redistribution and social policy, which tempers polarisation. Yet even in these regions, DER values trend upward over time, suggesting that no European context is immune to the broader drivers of polarisation. This cross-regional picture underscores that polarisation in Europe is not uniform but deeply conditioned by institutional resilience, economic risk exposure, and party system dynamics.

The DER decomposition shows that polarisation in Europe is more strongly driven by between-group alienation than by within-group identification. Citizens do not simply identify more closely with their own partisan camp; they increasingly perceive the opposing camp as distant, illegitimate, or threatening. This finding resonates with studies on affective polarisation (Iyengar et al., 2012), which show that citizens' dislike and distrust of political opponents has intensified even where ideological distances remain moderate. In the European context, this is particularly visible in multiparty systems, where alienation manifests in perceptions of out-parties as fundamentally hostile to national identity or democratic norms. For example, in Poland, *PiS* voters perceive liberal and pro-EU parties not merely as ideological opponents but as existential threats to national sovereignty. Similarly, in Spain, polarisation between unionist and pro-independence parties reflects alienation more than ideological extremity. In France, the polarisation between centrist pro-European elites and populist challengers (both left and right) reflects alienation across the globalization divide, rather than conventional class-based identification. The decomposition thus clarifies that Europe's polarisation is not simply about *left versus right* but about the hardening of antagonisms across camps. Alienation fosters zero-sum logics and undermines willingness to compromise. It also creates incentives for elites to mobilize negative partisanship, further entrenching divisions.

Beyond regional variation, polarisation across EU has followed an upward trend since 1989 (see Figure 1 and Tables 5 through 7). However, this trajectory has been punctuated by crises that both exacerbate and temporarily suppress polarisation. The global financial crisis marked a turning point. DER indices spiked across the EU, particularly in Mediterranean and CEE states. The crisis was not merely economic but also profoundly political: it exposed the limits of European economic

governance, shifted adjustment costs disproportionately to peripheral economies, and destabilized mainstream party systems. Funke et al. (2016) demonstrate that financial crises historically increase support for extremist parties. Europe's post-2008 trajectory confirms this. Radical-left movements like *Syriza* and *Podemos* emerged in opposition to austerity, while radical-right parties such as *Lega* and *Golden Dawn* capitalized on nationalist sentiment.

Surprisingly, DER indices declined somewhat in the years immediately following the crisis. This may reflect what could be termed a *stabilization effect*: elites across the EU converged around austerity and fiscal consolidation, muting visible left-right competition. Yet this convergence came at the cost of democratic legitimacy. As distributive grievances mounted, citizens increasingly perceived mainstream parties as indistinguishable, paving the way for a rebound in polarisation from 2014 onward. By the 2019 and 2024 EES waves, polarisation had intensified once again. Several dynamics contributed: (i) the delayed consequences of austerity, including persistent unemployment in Southern Europe, (ii) the immigration crisis of 2015, which fueled cultural and identity-based divides, (iii) the Brexit referendum in 2016, which sharpened polarisation around Europe's future, (iv) the COVID-19 pandemic, which amplified divides over state capacity, welfare, and science. By 2024, DER indices reached historically high levels in multiple member states, underscoring that polarisation is not episodic but cumulative: shocks accelerate divisions, but underlying structural factors sustain long-run growth in antagonism.

We then apply Araar (2008) group decomposition to separate within-group from between-group contributions, allowing us to diagnose whether rising polarisation reflects tighter within-group clustering or widening gaps across groups.[17] We define three different groups for European voters coming from the perceptions manifested in EES Voter Study. Specifically, we use their perceptions against EU (good thing, bad thing, neither), their social class (working class and lower middle, middle class, and upper middle or upper class), and their living place (rural area, small or middle size town, and large town or city). The decomposition of the DER index, as suggested by Araar (2008), for each own of the defined groups of voters, is obtained from the following:

$$P = \sum_{g}^{G} \phi_g^{1+\alpha} \psi_g^{1-\alpha} R_g P_g + \tilde{P} \tag{7}$$

and

$$R_g = \frac{\int_0^{\infty} a_g \pi_g f(x)^{1+\alpha} dx}{\phi_g \int_0^{\infty} a_g f_g(x)^{1+\alpha} dx}$$

[17] An important advantage of Araar's decomposition is because it reveals asymmetries across social groups. Not all groups contribute equally. For example, small but ideologically extreme parties (e.g., *Vox* in Spain, *AfD* in Germany) or social groups (e.g., working class versus the elite) may disproportionately drive polarisation relative to their size.

where P_α is the overall polarisation in the population, a_g is the average alienation of group g, ϕ_g is the population share of group g (fraction of total population), ψ_g is the relative area under the curve of the ideal point of group g, π_g is the local proportion of individuals belonging to group g and having ideal point x,[18] P_g is the DER polarisation index of group g, and $\tilde{P}$ is the DER polarisation index when the within-group polarisation is ignored, that is, when all observations in each group have the same value, equal to their group mean.

The results of the above decomposition are presented in Tables 8 through 10. Dividing the electorate into those who perceive EU membership as *good*, *bad*, or *neither good nor bad* reveals polarisation driven overwhelmingly by between-group alienation. In the Mediterranean countries, polarisation around EU membership is especially strong. During the Eurozone debt crisis (2009–2014), alienation between pro-EU and anti-EU camps widened dramatically, as austerity policies were framed as externally imposed by Brussels. Groups that saw membership as bad diverged sharply from pro-EU voters, while the neither group diminished in size and buffering effect. In CEE, EU attitudes also form a sharp cleavage. Here, the divide is less about fiscal austerity and more about sovereignty, migration, and liberal values. Voters skeptical of EU membership cluster around nationalist parties (e.g., *PiS* in Poland, *Fidesz* in Hungary), while pro-EU voters align with liberal parties. Alienation between these groups contributes substantially to total polarisation. In Western and Northern Europe, EU membership is less polarising, though the decomposition still shows meaningful contributions. The presence of a large *neither* group, particularly in Northern Europe, helps buffer extremes, moderating polarisation. Yet even here, the Brexit referendum illustrates how quickly EU attitudes can crystallize into polarising camps when politicized. It seems though that EU membership acts as a meta-cleavage across Europe. Unlike traditional left-right divides, it cuts across parties and embeds questions of sovereignty, globalization, and identity. The decomposition demonstrates that polarisation here is almost entirely between-group - supporters and opponents of EU integration perceive each other as fundamentally distant, while within-group heterogeneity remains low.

When groups are defined by economic class (e.g., working, middle, upper), DER decomposition shows that class divides translate directly into polarisation. Mediterranean countries display the sharpest class-based alienation. During the austerity decade, working-class voters moved decisively towards anti-establishment and redistributive platforms, while upper-class voters clustered around pro-market or centrist parties defending EU fiscal orthodoxy. Between-group alienation explains most of the rise in polarisation in this region. In Western Europe, class divides are weaker but still evident. Here, the middle class plays a buffering role, dampening alienation between upper and lower classes. Nevertheless, the post-2008 period saw increases in between-class polarisation,

[18] For individuals from 2 different groups with different ideal point estimates, $\pi_g(x) = 1$. If, on the other hand, two individuals from 2 different groups have the same ideal point, then $\pi_g(x) = 0.5$

especially in France, where *Yellow Vest* protests revealed stark resentments against elites. CEE countries exhibit volatile but significant class polarisation. The transition from state socialism to market capitalism generated inequality shocks that translated into enduring alienation between classes. Working classes, often concentrated in rural or industrial regions, aligned with populist parties, while higher-income urban voters clustered around liberal or pro-market parties. The decomposition confirms that economic inequality is not merely correlated with polarisation; it is directly embedded in political antagonisms. Within-group polarisation is consistently lower than between-group polarisation, meaning voters within each class largely agree ideologically - the conflict lies in the distances between classes.

Grouping voters by urban vs. rural residence highlights the territorial dimension of polarisation. In CEE countries, the urban-rural divide is particularly stark. Urban centers lean towards liberal, pro-EU positions, while rural areas support nationalist, traditionalist, and often Eurosceptic parties. The decomposition shows that between-group alienation dominates, with rural voters clustering tightly around conservative positions and perceiving urban voters as distant. In the Mediterranean, the urban-rural divide is growing. Rural areas, hit hard by unemployment and agricultural decline, have become strongholds of populist parties. Urban voters lean towards centrist or left parties with pro-European outlooks. The alienation between these blocs accounts for an increasing share of polarisation post-2009. In Western and Northern Europe, the divide exists but has historically been weaker. However, the rise of radical-right parties drawing disproportionately from rural and small-town areas (e.g., *Sweden Democrats*, *Danish People's Party*, *AfD* in Germany) has sharpened urban-rural alienation in recent years. The urban?rural cleavage reflects geographic inequality and uneven development. Polarisation here is not only ideological but territorial, raising risks of spatial political segregation. Again, within-group polarisation is relatively low - urban and rural blocs are internally cohesive, but the ideological distance between them is wide.

In summary, the Araar (2008) decomposition demonstrates that polarisation in Europe is socially structured. It is not an artifact of partisan strategies alone but rooted in enduring socioeconomic and territorial divides. The finding that between-group alienation outweighs within-group polarisation implies that bridging divides across groups (e.g., rural-urban, poor-rich, pro- vs. anti-EU) is more critical than fostering cohesion within camps. This analysis strengthens the argument that inequality and uneven development fuel polarisation: economic and territorial disparities map directly onto political antagonisms. Policy responses must therefore address not only economic inequality but also spatial inequality and perceptions of exclusion from European integration. Without this, polarisation will persist as a structural feature of European politics.

Next, Tble 11 reports a series of fixed-effects regression models estimating the determinants of polarisation (measured by the DER index). The models progressively include measures of inequality

(Gini index), economic growth (RGDP per capita growth), and an interaction term capturing whether the effect of inequality varies with the pace of economic expansion.[19] Taken together, these models offer a powerful test of the central claim that inequality and growth interact to shape the trajectory of polarisation in Europe. Across all model specifications that include the Gini coefficient (Models I, III, and IV), inequality is a positive and statistically significant predictor of polarisation. The stability of this finding across specifications underscores the robustness of the inequality-polarisation relationship. This result aligns closely with both theoretical expectations and prior empirical work confirming that inequality is not only a background condition but a structural driver of polarisation. The inclusion of real GDP per capita growth (Models II, III, and IV) yields a more nuanced picture. In the simpler models, economic growth appears to reduce polarisation slightly, but the effect is weak and statistically insignificant. Only in Model IV, when the interaction term is introduced, does growth become significant as the coefficient is large and negative.

Growth on its own does not systematically mitigate polarisation across Europe. In some contexts, growth may ease distributive tensions, in others, it may leave polarisation unchanged. The negative sign in Model IV suggests that growth may reduce polarisation in low-inequality contexts, but this effect is conditional, as the interaction term shows. More importantly the positive and significant interaction term between the Gini coefficient and RGDPimplies that the polarising effect of inequality is amplified when growth occurs. In other words, in contexts of low inequality, growth can have a stabilizing effect, reducing polarisation (as indicated by the negative coefficient for growth alone). In contexts of high inequality, however, growth intensifies polarisation, because the benefits are distributed unevenly, heightening perceptions of unfairness and fueling between-group alienation. This result resonates with the *distribution matters* argument: growth is not inherently depolarizing or polarising. Its political effects depend on whether gains are broadly shared or concentrated among elites. The interaction captures this reality empirically, confirming that inequality is the decisive conditioning factor. Overall, econometric evidence demonstrates that inequality is the strongest and most consistent predictor of polarisation in EU. Economic growth, far from being a straightforward remedy, has conditional effects: it reduces polarisation in egalitarian contexts but exacerbates it in unequal ones. Together with the Araar (2008) decompositions, these findings underscore that polarisation is deeply rooted in socioeconomic structure. Addressing it requires not merely economic expansion or institutional tinkering, but deliberate strategies of redistribution and inclusive growth.

[19] Data on the growth rate of real GDP together with the Gini index are taken from the World Inequality Database and are presented in Table C.1 and C.2 in the Appendix.

Concluding Remarks

In this manuscript we have examined the relationship between political polarisation and inequality in the EU (including UK), employing both novel measurement strategies and robust empirical tests. Using Bayesian Aldrich-McKelvey scaling to correct perceptual biases in left?right self-placement, combined with the DER polarisation index and Araar decomposition, the analysis has provided both aggregate and disaggregated insights into polarisation dynamics across EU member states from 1989 to 2024. the results suggest that polarisation has increased across Europe over the past three decades, though its intensity varies markedly by region. Mediterranean and CEE states consistently record higher DER values than Western and Northern Europe. While all regions show upward trends, the intensity and drivers differ: austerity and distributive conflict dominate in the Mediterranean, sovereignty and regime divides in CEE, populist challenges in Western Europe, and cultural/immigration issues in the North. The long-run upward drift, punctuated by sharp rises after crises such as the 2008?09 financial shock, confirms that polarisation is not merely cyclical but accumulative. Each crisis leaves a residue of antagonism that contributes to structural growth in polarisation.

The decomposition of the DER index demonstrates that between-group alienation outweighs within-group identification. Citizens across Europe are not only clustering within partisan camps but also perceiving their opponents as increasingly hostile and illegitimate. The Araar decompositions reinforce this insight. When groups are defined by on social characteristics, polarisation is driven overwhelmingly by alienation across groups rather than internal heterogeneity. This reveals the structural bases of antagonism: pro- vs. anti-EU divides (Mediterranean, CEE); class divides between working- and upper-class voters (Mediterranean, France); territorial divides between urban and rural constituencies (CEE, Northern Europe). These cleavages illustrate that polarisation in Europe is not diffuse but socially structured, mapping onto long-standing economic and territorial inequalities.

The econometric analysis confirms that income inequality is the most consistent predictor of polarisation. Economic growth alone does not reliably reduce polarisation. Only when growth is coupled with low inequality does it appear to mitigate antagonism. When growth occurs in contexts of high inequality, the interaction term reveals that it actually exacerbates polarisation by intensifying perceptions of distributive unfairness. This finding is crucial: growth is not politically neutral. Its polarising or depolarizing effects depend on distribution. This result explains why polarisation remained high in Europe even after economic recovery in the mid-2010s. The gains of growth were uneven, reinforcing alienation across social and territorial lines. Taken together, these findings highlight the risk of self-reinforcing cycles of inequality and polarisation. Rising inequality generates alienation across socioeconomic and territorial groups. Polarisation in turn hampers

redistributive capacity, producing policy gridlock, elite capture, and democratic backsliding. This cycle is particularly dangerous in Europe because of its institutional architecture. Economic governance is partly supranational, while distributive politics remain national. This mismatch fuels resentment and polarisation, as seen in Brexit, the populist backlash in Italy and Greece, and illiberal consolidation in Hungary and Poland.

From a policy perspective, the results underscore that strategies to counter polarisation cannot rely solely on institutional reforms, elite agreements, or appeals to civility. While valuable, these approaches remain superficial if underlying inequalities of income, geography, and opportunity are left unaddressed. Reducing polarisation requires tackling inequality directly through inclusive growth, redistributive welfare, rural and regional development, and policies that broaden the benefits of European integration. Further this study demonstrates the importance of examining polarisation not only as an ideological phenomenon but as one rooted in socioeconomic and territorial structures. Future research should extend these tools to longitudinal panel data, explore the role of new identity cleavages (gender, migration, climate politics), and investigate whether the inequality-polarisation nexus holds outside Europe.

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Tables and Figures

Table 1: Estimated DER index for Mediterranean countries[1]

Country		1989	1994	1999	2004	2009	2014	2019	2024
Cyprus	DER index	-	-	-	0.5018	0.6706	0.4541	0.5597	0.5818
	2.5% CI	-	-	-	0.4728	0.6331	0.4087	0.5031	0.5452
	97.5% CI	-	-	-	0.5304	0.7111	0.5020	0.6147	0.6201
	Alienation	-	-	-	0.5860	0.7433	0.5213	0.6756	0.6567
	Identification	-	-	-	0.8624	0.8968	0.9013	0.8485	0.8971
	$1+\rho$	-	-	-	0.9928	0.9961	0.9665	0.9764	0.9875
Greece	DER index	0.4593	0.4414	0.5217	0.4846	0.5514	0.3986	0.5086	0.5246
	2.5% CI	0.4379	0.4212	0.4849	0.4536	0.5180	0.3804	0.4796	0.4980
	97.5% CI	0.4801	0.4620	0.5564	0.5188	0.5849	0.4180	0.5362	0.5489
	Alienation	0.5409	0.4937	0.5842	0.5412	0.6401	0.4557	0.6147	0.6060
	Identification	0.8674	0.9389	0.9051	0.9068	0.8936	0.9224	0.8627	0.9144
	$1+\rho$	0.9789	0.9522	0.9865	0.9874	0.9639	0.9483	0.9590	0.9464
Italy	DER index	0.4904	0.4439	0.4855	0.5277	0.5965	0.4387	0.5346	0.5705
	2.5% CI	0.4661	0.4227	0.4701	0.5060	0.5630	0.4142	0.5070	0.5440
	97.5% CI	0.5166	0.4657	0.4999	0.5476	0.6335	0.4658	0.5647	0.5984
	Alienation	0.5847	0.5169	0.5614	0.6345	0.7216	0.5136	0.6400	0.6843
	Identification	0.8709	0.8848	0.8825	0.8434	0.8306	0.8855	0.8481	0.8380
	$1+\rho$	0.9630	0.9705	0.9800	0.9862	0.9953	0.9646	0.9850	0.9950
Malta	DER index	-	-	-	-	0.6180	0.4868	0.6361	0.6613
	2.5% CI	-	-	-	-	0.5746	0.4423	0.5729	0.6129
	97.5% CI	-	-	-	-	0.6628	0.5282	0.6969	0.7157
	Alienation	-	-	-	-	0.7184	0.5627	0.7772	0.7257
	Identification	-	-	-	-	0.8662	0.8840	0.8359	0.9232
	$1+\rho$	-	-	-	-	0.9931	0.9787	0.9793	0.9871
Portugal[2]	DER index	0.3600	0.3766	-	0.5120	0.4767	0.3863	0.5129	0.5167
	2.5% CI	0.3341	0.3528	-	0.4857	0.4504	0.3628	0.4852	0.4907
	97.5% CI	0.3883	0.4033	-	0.5398	0.5034	0.4125	0.5439	0.5434
	Alienation	0.4131	0.4305	-	0.5736	0.5558	0.4394	0.6221	0.6135
	Identification	0.9219	0.9270	-	0.9017	0.9039	0.9342	0.8662	0.8584
	$1+\rho$	0.9454	0.9437	-	0.9899	0.9488	0.9411	0.9518	0.9811
Spain	DER index	0.4959	0.4819	0.5345	0.4846	0.5428	0.4795	0.5957	0.5820
	2.5% CI	0.4603	0.4498	0.4977	0.4663	0.5024	0.4502	0.5665	0.5579
	97.5% CI	0.5333	0.5112	0.5706	0.5022	0.5870	0.5100	0.6249	0.6099
	Alienation	0.6169	0.5832	0.6283	0.5613	0.6656	0.5708	0.7410	0.7176
	Identification	0.8370	0.8511	0.8656	0.9040	0.8416	0.8727	0.8171	0.8231
	$1+\rho$	0.9605	0.9710	0.9829	0.9550	0.9689	0.9626	0.9838	0.9854

[1] Confidence intervals were computed using nonparametric bootstrapping; [2] The EES does not contain data for Portugal in 1999.

Table 2: Estimated DER index for Western European countries[1]

Country		1989	1994	1999	2004	2009	2014	2019	2024
Austria	DER index	-	-	0.3876	0.4038	0.4549	0.4101	0.4521	0.4606
	2.5% CI	-	-	0.3559	0.3840	0.4254	0.3902	0.4299	0.3864
	97.5% CI	-	-	0.4180	0.4263	0.4859	0.4322	0.4753	0.4280
	Alienation	-	-	0.4483	0.4483	0.5404	0.4700	0.5344	0.4986
	Identification	-	-	0.9155	0.9726	0.8964	0.9170	0.8985	0.9459
	$1+\rho$	-	-	0.9444	0.9260	0.9390	0.9515	0.9414	0.9765
Belgium[2]	DER index	0.3913	0.3167	-	-	0.4964	0.3603	0.4496	0.4477
	2.5% CI	0.3658	0.2419	-	-	0.4697	0.3390	0.4268	0.4280
	97.5% CI	0.4188	0.3919	-	-	0.5219	0.3836	0.4727	0.4687
	Alienation	0.4484	0.3411	-	-	0.5826	0.4012	0.5175	0.5025
	Identification	0.9031	0.9754	-	-	0.8936	0.9402	0.8985	0.9151
	$1+\rho$	0.9662	0.9518	-	-	0.9534	0.9551	0.9670	0.9736
France	DER index	0.4446	0.4544	0.4730	0.5736	0.4992	0.4790	0.5074	0.5117
	2.5% CI	0.4271	0.4363	0.4503	0.5512	0.4675	0.4556	0.4803	0.4876
	97.5% CI	0.4643	0.4746	0.4960	0.5956	0.5309	0.5032	0.5364	0.5377
	Alienation	0.5203	0.5381	0.5609	0.6755	0.6015	0.5652	0.6039	0.5981
	Identification	0.8866	0.8744	0.8710	0.8606	0.8614	0.8734	0.8604	0.8657
	$1+\rho$	0.9638	0.9658	0.9683	0.9869	0.9634	0.9702	0.9766	0.9883
Germany	DER index	0.3976	0.3877	0.4162	0.3981	0.4311	0.3829	0.4204	0.4328
	2.5% CI	0.3854	0.3711	0.3984	0.3770	0.4102	0.3627	0.3973	0.4070
	97.5% CI	0.4091	0.4056	0.4354	0.4217	0.4539	0.4038	0.4436	0.4541
	Alienation	0.4244	0.4262	0.4476	0.4587	0.4874	0.4281	0.4871	0.4974
	Identification	0.9750	0.9585	0.9906	0.9132	0.9396	0.9510	0.9199	0.9367
	$1+\rho$	0.9609	0.9502	0.9387	0.9502	0.9413	0.9405	0.9382	0.9290
Ireland	DER index	0.3466	0.3597	0.3664	0.4218	0.4671	0.3513	0.4213	0.4258
	2.5% CI	0.3295	0.3455	0.3352	0.4067	0.4425	0.3321	0.3996	0.4054
	97.5% CI	0.3638	0.3763	0.3999	0.4390	0.4953	0.3708	0.4461	0.4461
	Alienation	0.3732	0.3845	0.4143	0.4537	0.5179	0.3768	0.4835	0.4804
	Identification	0.9591	0.9813	0.9371	0.9728	0.9459	1.0090	0.9298	0.9438
	$1+\rho$	0.9682	0.9534	0.9437	0.9556	0.9535	0.9239	0.9371	0.9389
Luxembourg	DER index	0.3489	0.3544	0.3668	0.3573	0.4222	0.3711	0.3994	0.4091
	2.5% CI	0.3128	0.3103	0.3273	0.3444	0.3994	0.3338	0.3690	0.3781
	97.5% CI	0.3872	0.4013	0.4073	0.3721	0.4486	0.4115	0.4334	0.4407
	Alienation	0.3993	0.4096	0.4214	0.3784	0.4815	0.4207	0.4713	0.4671
	Identification	0.9386	0.9207	0.9239	1.0087	0.9235	0.9453	0.9112	0.9142
	$1+\rho$	0.9308	0.9397	0.9422	0.9362	0.9494	0.9331	0.9299	0.9579
Netherlands	DER index	0.4176	0.3905	0.4320	0.4820	0.4863	0.4015	0.4386	0.4425
	2.5% CI	0.3985	0.3715	0.4107	0.4666	0.4599	0.3847	0.4167	0.4059
	97.5% CI	0.4380	0.4073	0.4538	0.4979	0.5137	0.4189	0.4620	0.4432
	Alienation	0.4825	0.4349	0.4884	0.5556	0.5767	0.4420	0.5114	0.4977
	Identification	0.8941	0.9293	0.9086	0.8838	0.8681	0.9400	0.8890	0.9176
	$1+\rho$	0.9680	0.9661	0.9735	0.9815	0.9712	0.9663	0.9648	0.9689
UK	DER index	0.3845	0.3769	0.4237	0.4389	0.4606	0.3934	0.4164	-
	2.5% CI	0.3643	0.3528	0.3888	0.4220	0.4324	0.3706	0.3941	-
	97.5% CI	0.4052	0.4010	0.4572	0.4579	0.4906	0.4162	0.4405	-
	Alienation	0.4326	0.4268	0.4880	0.4652	0.5231	0.4374	0.4790	-
	Identification	0.9270	0.9312	0.9235	0.9972	0.9236	0.9545	0.9117	-
	$1+\rho$	0.9589	0.9483	0.9400	0.9461	0.9533	0.9424	0.9536	-

[1] Confidence intervals were computed using nonparametric bootstrapping; [2] The EES does not contain data for Belgium in 1999 and 2004.

Table 3: Estimated DER index for Northern European countries[1]

Country		1989	1994	1999	2004	2009	2014	2019	2024
Denmark	DER index	0.4048	0.4009	0.4110	0.4227	0.5196	0.4228	0.5682	0.5746
	2.5% CI	0.3890	0.3867	0.3922	0.4057	0.4948	0.4030	0.5532	0.4522
	97.5% CI	0.4220	0.4158	0.4316	0.4417	0.5448	0.4440	0.6071	0.4972
	Alienation	0.4433	0.4434	0.4665	0.4718	0.6228	0.4777	0.6890	0.6736
	Identification	0.9319	0.9297	0.9132	0.9172	0.8497	0.9082	0.8303	0.8768
	$1+\rho$	0.9798	0.9723	0.9648	0.9768	0.9819	0.9745	0.9931	0.9730
Estonia	DER index	-	-	-	0.3818	0.3914	0.3702	0.3899	0.3847
	2.5% CI	-	-	-	0.3665	0.3665	0.3513	0.3694	0.3683
	97.5% CI	-	-	-	0.3973	0.4173	0.3901	0.4118	0.4046
	Alienation	-	-	-	0.4131	0.4411	0.4055	0.4282	0.4174
	Identification	-	-	-	0.9575	0.9450	0.9626	0.9589	0.9694
	$1+\rho$	-	-	-	0.9652	0.9389	0.9486	0.9496	0.9506
Finland	DER index	-	-	0.3851	0.3831	0.4048	0.3651	0.4760	0.4799
	2.5% CI	-	-	0.3488	0.3655	0.3853	0.3510	0.4547	0.4580
	97.5% CI	-	-	0.4187	0.4033	0.4228	0.3818	0.4983	0.5007
	Alienation	-	-	0.4410	0.4182	0.4424	0.3952	0.5651	0.5691
	Identification	-	-	0.9091	0.9505	0.9526	0.9582	0.8665	0.8692
	$1+\rho$	-	-	0.9605	0.9636	0.9607	0.9640	0.9721	0.9703
Latvia	DER index	-	-	-	0.3485	0.4156	0.3476	0.4018	0.4146
	2.5% CI	-	-	-	0.3330	0.3905	0.3305	0.3795	0.3936
	97.5% CI	-	-	-	0.3672	0.4439	0.3671	0.4295	0.4358
	Alienation	-	-	-	0.3691	0.4617	0.3628	0.4448	0.4655
	Identification	-	-	-	0.9832	0.9370	0.9925	0.9559	0.9404
	$1+\rho$	-	-	-	0.9602	0.9606	0.9654	0.9450	0.9471
Lithuania	DER index	-	-	-	-	0.4581	0.5576	0.4480	0.4441
	2.5% CI	-	-	-	-	0.4279	0.5276	0.4165	0.4193
	97.5% CI	-	-	-	-	0.4905	0.5875	0.4792	0.4707
	Alienation	-	-	-	-	0.5286	0.6397	0.5214	0.5024
	Identification	-	-	-	-	0.8977	0.8800	0.9099	0.9225
	$1+\rho$	-	-	-	-	0.9654	0.9906	0.9443	0.9581
Sweden	DER index	-	-	0.4925	0.4229	0.5335	0.4774	0.4869	0.5548
	2.5% CI	-	-	0.4623	0.4084	0.5043	0.4578	0.4643	0.5294
	97.5% CI	-	-	0.5228	0.4385	0.5630	0.4964	0.5090	0.5805
	Alienation	-	-	0.5858	0.4793	0.6344	0.5538	0.5774	0.6645
	Identification	-	-	0.8533	0.9232	0.8532	0.8773	0.8664	0.8433
	$1+\rho$	-	-	0.9853	0.9556	0.9856	0.9825	0.9732	0.9900

[1] Confidence intervals were computed using nonparametric bootstrapping.

Table 4: Estimated DER index for Central and Eastern European countries[1]

Country		1989	1994	1999	2004	2009	2014	2019	2024
Bulgaria	DER index	-	-	-	-	0.5630	0.5125	0.4880	0.4973
	2.5% CI	-	-	-	-	0.5199	0.4725	0.4610	0.4552
	97.5% CI	-	-	-	-	0.6102	0.5490	0.5169	0.5025
	Alienation	-	-	-	-	0.6688	0.5915	0.5455	0.5485
	Identification	-	-	-	-	0.8570	0.8769	0.9224	0.9372
	$1+\rho$	-	-	-	-	0.9823	0.9880	0.9699	0.9673
Croatia	DER index	-	-	-	-	-	0.4964	0.6000	0.5744
	2.5% CI	-	-	-	-	-	0.4671	0.5609	0.5479
	97.5% CI	-	-	-	-	-	0.5250	0.6407	0.6030
	Alienation	-	-	-	-	-	0.5618	0.7387	0.6917
	Identification	-	-	-	-	-	0.9109	0.8361	0.8558
	$1+\rho$	-	-	-	-	-	0.9700	0.9715	0.9703
Czechia	DER index	-	-	-	0.4250	0.4917	0.4389	0.4464	0.4547
	2.5% CI	-	-	-	0.4058	0.4664	0.4101	0.4205	0.4081
	97.5% CI	-	-	-	0.4464	0.5175	0.4669	0.4721	0.4583
	Alienation	-	-	-	0.4803	0.5671	0.4857	0.5113	0.4987
	Identification	-	-	-	0.9036	0.8895	0.9380	0.9148	0.9765
	$1+\rho$	-	-	-	0.9793	0.9748	0.9633	0.9544	0.9336
Hungary	DER index	-	-	-	0.4609	0.4457	0.4457	0.5182	0.5055
	2.5% CI	-	-	-	0.4444	0.4198	0.4244	0.4909	0.4794
	97.5% CI	-	-	-	0.4791	0.4728	0.4694	0.5481	0.5340
	Alienation	-	-	-	0.5253	0.5045	0.4756	0.5985	0.5802
	Identification	-	-	-	0.8988	0.9078	0.9525	0.8892	0.9033
	$1+\rho$	-	-	-	0.9762	0.9731	0.9838	0.9737	0.9644
Poland	DER index	-	-	-	0.4339	0.4593	0.3981	0.4703	0.5238
	2.5% CI	-	-	-	0.4100	0.4322	0.3774	0.4488	0.5013
	97.5% CI	-	-	-	0.4586	0.4894	0.4194	0.4938	0.5479
	Alienation	-	-	-	0.4867	0.5221	0.4414	0.5285	0.6114
	Identification	-	-	-	0.9134	0.9078	0.9308	0.9182	0.8739
	$1+\rho$	-	-	-	0.9761	0.9690	0.9691	0.9690	0.9804
Romania	DER index	-	-	-	-	0.5967	0.5311	0.4614	0.4770
	2.5% CI	-	-	-	-	0.5504	0.4937	0.4377	0.4353
	97.5% CI	-	-	-	-	0.6442	0.5701	0.4882	0.4846
	Alienation	-	-	-	-	0.6876	0.6104	0.5071	0.5284
	Identification	-	-	-	-	0.8722	0.8762	0.9363	0.9302
	$1+\rho$	-	-	-	-	0.9948	0.9929	0.9718	0.9706
Slovakia	DER index	-	-	-	0.4724	0.4952	0.5144	0.4427	0.5153
	2.5% CI	-	-	-	0.4500	0.4650	0.4853	0.4162	0.4832
	97.5% CI	-	-	-	0.4955	0.5260	0.5443	0.4687	0.5504
	Alienation	-	-	-	0.5513	0.5877	0.5951	0.5051	0.6091
	Identification	-	-	-	0.8927	0.8713	0.8945	0.9493	0.8835
	$1+\rho$	-	-	-	0.9598	0.9671	0.9664	0.9233	0.9576
Slovenia	DER index	-	-	-	0.5193	0.6794	0.5909	0.5471	0.5071
	2.5% CI	-	-	-	0.4899	0.6421	0.5565	0.5173	0.4799
	97.5% CI	-	-	-	0.5501	0.7171	0.6257	0.5770	0.5340
	Alienation	-	-	-	0.5759	0.8046	0.6813	0.6673	0.6029
	Identification	-	-	-	0.9298	0.8531	0.8800	0.8446	0.8747
	$1+\rho$	-	-	-	0.9699	0.9898	0.9856	0.9706	0.9617

[1] Confidence intervals were computed using nonparametric bootstrapping.

Table 5: Changes of the DER index between election years

	1989-94	1994-99	1999-04	2004-09	2009-14	2014-19	2019-24	Average
Mediterranean								
Cyprus	-	-	-	33.63	-32.28	23.26	3.96	7.14
Greece	-3.90	18.19	-7.11	13.78	-27.70	27.58	3.16	3.43
Italy	-9.48	9.39	8.69	13.03	-26.46	21.87	6.71	3.39
Malta	-	-	-	-	-21.22	30.67	3.95	0.31
Portugal	4.60	-	-	-6.90	-18.96	32.77	0.74	2.45
Spain	-2.82	10.91	-9.35	12.01	-11.66	24.24	-2.30	3.01
Average	-2.90	12.83	-2.59	13.11	-23.05	26.73	2.70	3.83
Western Europe								
Austria	-	-	4.15	12.67	-9.85	10.24	1.91	3.82
Belgium	-19.06	-	-	56.74	-27.42	24.80	-0.43	6.93
France	2.21	4.09	21.27	-12.98	-4.05	5.95	0.85	2.48
Germany	-2.47	7.33	-4.34	8.30	-11.17	9.77	2.98	1.48
Ireland	3.79	1.85	15.12	10.75	-24.80	19.94	1.06	3.96
Luxembourg	1.58	3.51	-2.59	18.14	-12.10	7.63	2.43	2.66
Netherlands	-6.49	10.64	11.56	0.89	-17.44	9.25	0.86	1.33
UK	-1.98	12.40	3.59	4.95	-14.59	5.85	-	1.70
Average	-3.20	6.64	6.97	12.43	-15.18	11.68	1.38	2.96
Northern Europe								
Denmark	-0.96	2.52	2.86	22.91	-18.63	34.35	1.20	6.32
Estonia	-	-	-	2.53	-5.41	5.32	-1.34	0.27
Finland	-	-	-0.53	5.68	-9.82	30.38	0.82	5.31
Latvia	-	-	-	19.26	-16.35	15.58	3.18	5.42
Lithuania	-	-	-	-	21.71	-19.66	-0.87	0.03
Sweden	-	-	-14.13	26.15	-10.52	1.99	13.95	3.49
Average	-0.96	2.52	-3.93	15.30	-6.50	11.33	2.82	2.94
Central and Eastern Europe								
Bulgaria	-	-	-	-	-8.98	-4.77	2.00	-3.92
Croatia	-	-	-	-	-	20.88	-4.27	8.30
Czechia	-	-	-	15.71	-10.75	1.72	1.49	2.04
Hungary	-	-	-	-3.31	0.00	16.26	-2.45	2.63
Poland	-	-	-	5.85	-13.31	18.12	11.39	5.51
Romania	-	-	-	-	-10.99	-13.12	3.14	-6.99
Slovakia	-	-	-	4.84	3.88	-13.94	16.40	2.79
Slovenia	-	-	-	30.82	-13.03	-7.41	-7.30	0.77
Average	-	-	-	10.78	-7.60	2.22	2.55	1.99

Table 6: Changes of the alienation component between election years

	1989-94	1994-99	1999-04	2004-09	2009-14	2014-19	2019-24	Average
Mediterranean								
Cyprus	-	-	-	26.83	-29.86	29.59	-2.79	5.94
Greece	-8.74	18.35	-7.37	18.29	-28.81	34.89	-1.41	3.60
Italy	-11.59	8.61	13.02	13.72	-28.82	24.61	6.92	3.78
Malta	-	-	-	-	-21.68	38.11	-6.61	0.23
Portugal	4.22	-	33.24	-3.11	-20.94	41.58	-1.37	8.94
Spain	-5.47	7.73	-10.66	18.59	-14.25	29.83	-3.17	3.23
Average	-5.39	11.56	7.06	14.86	-24.06	33.10	-1.41	5.10
Western Europe								
Austria	-	-	-0.01	20.56	-13.04	13.72	-6.70	2.90
Belgium	-23.93	-	-	70.80	-31.14	28.98	-2.90	8.36
France	3.43	4.24	20.42	-10.95	-6.04	6.85	-0.95	2.43
Germany	0.43	5.01	2.50	6.25	-12.16	13.77	2.13	2.56
Ireland	3.03	7.75	9.52	14.14	-27.24	28.32	-0.64	4.98
Luxembourg	2.57	2.88	-10.21	27.25	-12.63	12.04	-0.89	3.00
Netherlands	-9.85	12.30	13.76	3.80	-23.37	15.70	-2.66	1.38
UK	-1.33	14.34	-4.68	12.46	-16.39	9.52	-	2.32
Average	-3.67	7.75	4.47	18.04	-17.75	16.11	-1.80	3.31
Northern Europe								
Denmark	0.04	5.19	1.14	31.99	-23.30	44.25	-2.24	8.16
Estonia	-	-	-	6.78	-8.08	5.61	-2.52	0.45
Finland	-	-	-5.17	5.77	-10.66	42.99	0.71	6.73
Latvia	-	-	-	25.09	-21.42	22.60	4.65	7.73
Lithuania	-	-	-	-	21.01	-18.50	-3.63	-0.03
Sweden	-	-	-18.17	32.35	-12.70	4.26	15.08	4.16
Average	0.04	5.19	-7.40	20.40	-9.19	16.87	2.01	3.99
Central and Eastern Europe								
Bulgaria	-	-	-	-	-11.55	-7.77	0.55	-6.26
Croatia	-	-	-	-	-	31.49	-6.36	12.57
Czechia	-	-	-	18.08	-14.36	5.28	-2.46	1.63
Hungary	-	-	-	-3.95	-5.74	25.84	-3.05	3.28
Poland	-	-	-	7.29	-15.47	19.74	15.68	6.81
Romania	-	-	-	-	-11.23	-16.92	4.19	-7.99
Slovakia	-	-	-	6.60	1.25	-15.11	20.58	3.33
Slovenia	-	-	-	39.72	-15.33	-2.05	-9.65	3.17
Average	-	-	-	13.55	-10.35	5.06	2.43	2.67

Table 7: Changes of the identification component between election years

	1989-94	1994-99	1999-04	2004-09	2009-14	2014-19	2019-24	Average
Mediterranean								
Cyprus	-	-	-	3.98	0.50	-5.85	5.73	1.09
Greece	8.25	-3.60	0.19	-1.45	3.22	-6.48	6.00	0.88
Italy	1.60	-0.26	-4.43	-1.51	6.60	-4.23	-1.19	-0.49
Malta	-	-	-	-	2.05	-5.44	10.46	0.16
Portugal	0.54	-	-2.73	0.25	3.34	-7.27	-0.91	-1.13
Spain	1.69	1.71	4.43	-6.90	3.69	-6.37	0.73	-0.15
Average	3.02	-0.72	-0.64	-1.13	3.24	-5.94	3.47	0.19
Western Europe								
Austria	-	-	6.24	-7.84	2.30	-2.02	5.28	0.79
Belgium	8.01	-	-	-8.39	5.22	-4.43	1.84	0.45
France	-1.38	-0.39	-1.19	0.10	1.40	-1.49	0.62	-0.34
Germany	-1.69	3.34	-7.81	2.89	1.21	-3.28	1.83	-0.50
Ireland	2.31	-4.50	3.82	-2.77	6.67	-7.85	1.51	-0.12
Luxembourg	-1.91	0.35	9.18	-8.45	2.36	-3.61	0.33	-0.25
Netherlands	3.93	-2.22	-2.73	-1.78	8.28	-5.42	3.22	0.47
UK	0.46	-0.82	7.98	-7.38	3.34	-4.48	-	-0.15
Average	1.39	-0.71	2.21	-4.20	3.85	-4.07	2.09	0.08
Northern Europe								
Denmark	-0.24	-1.78	0.44	-7.36	6.89	-8.58	5.60	-0.72
Estonia	-	-	-	-1.30	1.86	-0.39	1.10	0.32
Finland	-	-	4.56	0.21	0.59	-9.57	0.31	-0.78
Latvia	-	-	-	-4.70	5.92	-3.69	-1.62	-1.02
Lithuania	-	-	-	-	-1.97	3.40	1.38	0.07
Sweden	-	-	8.19	-7.58	2.82	-1.24	-2.67	-0.09
Average	-0.24	-1.78	4.40	-4.15	2.69	-3.35	0.69	-0.25
Central and Eastern Europe								
Bulgaria	-	-	-	-	2.32	5.18	1.61	3.04
Croatia	-	-	-	-	-	-8.22	2.36	-2.93
Czechia	-	-	-	-1.55	5.45	-2.47	6.75	2.04
Hungary	-	-	-	1.00	4.93	-6.65	1.59	0.22
Poland	-	-	-	-0.62	2.53	-1.35	-4.82	-1.06
Romania	-	-	-	-	0.46	6.85	-0.65	2.22
Slovakia	-	-	-	-2.40	2.67	6.12	-6.92	-0.13
Slovenia	-	-	-	-8.25	3.15	-4.02	3.56	-1.39
Average	-	-	-	-2.36	3.07	-0.57	0.43	0.14

Table 8: Decomposition of the DER index according to perceptions against EU membership[1]

Group of countries		1989	1994	1999	2004	2009	2014	2019	2024
Mediterranean	DER_1	0.4186	0.4187	0.4900	0.4844	0.5175	0.4147	0.5297	0.4951
	DER_2	0.5333	0.4767	0.5909	0.5334	0.6880	0.4769	0.6303	0.5588
	DER_3	0.4968	0.4168	0.4941	0.4849	0.5961	0.4196	0.3491	0.4938
	Within	0.2755	0.2184	0.2976	0.2847	0.3185	0.1858	0.3767	0.2629
	Between	0.1743	0.2185	0.2146	0.2180	0.2568	0.2538	0.1756	0.3101
W. Europe	DER_1	0.3814	0.3683	0.4075	0.4243	0.4475	0.3866	0.4444	0.4288
	DER_2	0.3650	0.3341	0.3543	0.4358	0.4658	0.3687	0.3832	0.3933
	DER_3	0.3846	0.3656	0.3800	0.4252	0.4631	0.3733	0.3539	0.4059
	Within	0.2208	0.2148	0.2502	0.2288	0.2667	0.2009	0.2690	0.2017
	Between	0.1685	0.1622	0.1593	0.2097	0.1982	0.1925	0.1718	0.2418
N. Europe	DER_1	0.3006	0.3338	0.3802	0.3538	0.4188	0.3876	0.4478	0.4480
	DER_2	0.4535	0.4535	0.4809	0.4345	0.4910	0.5004	0.4735	0.4367
	DER_3	0.3764	0.3391	0.4028	0.3845	0.4490	0.4114	0.3752	0.4289
	Within	0.1284	0.1434	0.1683	0.1476	0.2080	0.2050	0.2924	0.2187
	Between	0.2791	0.2585	0.2620	0.2439	0.2458	0.2187	0.1653	0.2562
C.&E. Europe	DER_1	-	-	-	0.4329	0.5215	0.4775	0.4787	0.4741
	DER_2	-	-	-	0.4407	0.4880	0.4293	0.4923	0.4711
	DER_3	-	-	-	0.4526	0.5132	0.4509	0.3867	0.4563
	Within	-	-	-	0.2047	0.2891	0.2115	0.3196	0.2191
	Between	-	-	-	0.2566	0.2442	0.2787	0.1778	0.2803

[1] Generally speaking, do you think that [country] membership of the European Union is: 1- good thing, 2 - bad thing, 3- neither.

Table 9: Decomposition of the DER index according to economic class[1]

Group of countries		1989	1994	1999	2004	2009	2014	2019	2024
Mediterranean	DER_1	0.4793	0.4197	0.5327	0.5098	0.6450	0.4455	0.5961	0.5392
	DER_2	0.4238	0.4545	0.4725	0.4756	0.5162	0.4250	0.5172	0.4823
	DER_3	0.4257	0.3508	0.4468	0.4594	0.4320	0.4056	0.4652	0.4431
	Within	0.1859	0.2316	0.2347	0.2079	0.2458	0.1932	0.2362	0.2091
	Between	0.2653	0.2027	0.2800	0.2931	0.3294	0.2461	0.3209	0.3653
W. Europe	DER_1	0.4015	0.3726	0.4264	0.4551	0.4774	0.3809	0.4315	0.4583
	DER_2	0.3721	0.3665	0.3786	0.4118	0.4406	0.3739	0.3967	0.4035
	DER_3	0.3435	0.3230	0.3750	0.3776	0.4103	0.3883	0.3857	0.3961
	Within	0.1616	0.1773	0.1703	0.1796	0.2004	0.1691	0.1624	0.1669
	Between	0.2291	0.2017	0.2386	0.2584	0.2635	0.2236	0.2591	0.2776
N. Europe	DER_1	0.4124	0.3787	0.4526	0.4142	0.4849	0.4499	0.5092	0.4830
	DER_2	0.3806	0.4003	0.3988	0.3573	0.4210	0.4043	0.4479	0.4215
	DER_3	0.3221	0.3378	0.3685	0.3297	0.3561	0.3941	0.4055	0.3879
	Within	0.1694	0.1711	0.1646	0.1567	0.1806	0.1723	0.1863	0.1715
	Between	0.2337	0.2289	0.2665	0.2339	0.2734	0.2514	0.2939	0.3033
C.&E. Europe	DER_1	-	-	-	0.4602	0.5323	0.4870	0.4930	0.4881
	DER_2	-	-	-	0.4280	0.4920	0.4639	0.4720	0.4808
	DER_3	-	-	-	0.4300	0.4763	0.4277	0.4519	0.4506
	Within	-	-	-	0.2074	0.2346	0.2022	0.1998	0.2043
	Between	-	-	-	0.2542	0.2954	0.2870	0.2957	0.2941

[1] where, 1 - working and lower middle class, 2 - middle class, 3 - upper and upper middle class.

Table 10: Decomposition of the DER index according to living place[1]

Group of countries		1989	1994	1999	2004	2009	2014	2019	2024
Mediterranean	DER_1	0.4298	0.4297	0.4862	0.4808	0.5453	0.4313	0.5571	0.5093
	DER_2	0.4499	0.4242	0.5004	0.4696	0.5664	0.4308	0.5422	0.5043
	DER_3	0.4531	0.4251	0.5117	0.5046	0.5423	0.4159	0.5495	0.5001
	Within	0.1542	0.1565	0.2100	0.1887	0.2419	0.1710	0.2327	0.1993
	Between	0.2972	0.2799	0.3179	0.3132	0.3337	0.2697	0.3252	0.3752
W. Europe	DER_1	0.3613	0.3785	0.3981	0.4116	0.4335	0.3630	0.3968	0.4091
	DER_2	0.3896	0.3767	0.4013	0.4084	0.4511	0.3847	0.4122	0.4231
	DER_3	0.4032	0.3699	0.3977	0.4137	0.4612	0.4009	0.4195	0.4265
	Within	0.1441	0.1344	0.1414	0.1533	0.1632	0.1465	0.1473	0.1603
	Between	0.2462	0.2426	0.2679	0.2790	0.3016	0.2472	0.2761	0.2850
N. Europe	DER_1	0.3959	0.3852	0.4165	0.3680	0.4287	0.3944	0.4549	0.4424
	DER_2	0.3755	0.3792	0.4374	0.3755	0.4397	0.4134	0.4691	0.4400
	DER_3	0.4110	0.4041	0.4076	0.3869	0.4472	0.4137	0.4772	0.4436
	Within	0.1347	0.1358	0.1521	0.1394	0.1640	0.1554	0.1763	0.1612
	Between	0.2689	0.2653	0.2775	0.2524	0.2898	0.2680	0.3071	0.4168
C.&E. Europe	DER_1	-	-	-	0.4582	0.4809	0.4650	0.4716	0.4781
	DER_2	-	-	-	0.4531	0.5400	0.4759	0.4747	0.4768
	DER_3	-	-	-	0.4449	0.5039	0.4548	0.4822	0.4848
	Within	-	-	-	0.1630	0.1870	0.1798	0.1918	0.1735
	Between	-	-	-	0.3063	0.3462	0.3112	0.3050	0.3258

[1] where, 1 - rural area or village, 2 - small or middle size town, 3 - large town or city.

Table 11: FE Estimates of Political Polarisation Determinants

Variable	Model I		Model II		Model III		Model IV	
	Est.	StError	Est.	StError	Est.	StError	Est.	StError
Gini	0.3420	0.1456**	-	-	0.3402	0.1473**	0.2665	0.1432**
RGDP	-	-	-0.0566	0.1487	-0.0145	0.1475	-2.4601	1.4780*
Gini×RGDP	-	-	-	-	-	-	5.1261	3.0827*
R^2	0.3814		0.1043		0.3824		0.5723	
Adjusted R^2	0.1561		-0.2005		0.1643		0.1954	
F-statistic	5.5163**		0.1456		2.7435*		2.7732**	

where, RGDP is the growth rate of real per capita GDP. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Figure 1: DER political polarisation index for the 27 EU member states and UK