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# Party system ideological polarization in Western Europe: data, trends, drivers, and links with other key party system properties (1945–2021)

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## ABSTRACT

Unlike other key party system properties (e.g. fragmentation, volatility), polarization lacks a publicly available cross-national and longitudinal dataset that can be used as an established source among the scientific community. This article aims to fill this gap by introducing a novel publicly available dataset of party system ideological polarization in Western European party systems. The dataset relies on multiple expert surveys and provides measures of party system ideological polarization for each parliamentary election and legislature in 20 Western European countries since 1945. The article also presents party system polarization's comparative longitudinal trends, drivers, and links with other key party system properties. It finds that party system ideological polarization is on the rise in Western Europe, mainly due to a progressive shift in the electoral support from ideologically moderate mainstream parties to more extreme challenger parties. Moreover, in recent years, high party system polarization has recurred in highly fragmented and volatile contexts, thus creating a detrimental context for the working of democracy.

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## KEYWORDS

Party system ideological polarization; parties' left-right placements; party systems; Western Europe; dataset

## Introduction

Polarization is a relatively old topic in political science (Gerring 1998; Sani and Sartori 1983; Sartori 1976), but the interest in it has recently revived due to a massive wave of studies stemming particularly from the United States, where this phenomenon has indisputably become more relevant given the ideological radicalization affecting citizens, societal groups, and parties (Heltzel and Laurin 2020; Neal 2020; Putnam 2020). Therefore, polarization has become one of the most studied topics in contemporary political research and encompasses several realms, such as public opinion (Boxell, Gentzkow, and Shapiro 2022; Reiljan et al. 2024; but see Lelkes 2016), party systems (Dalton 2021), elites and institutions (Hetherington 2009; Hill and Tausanovitch 2015).

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The importance of studying polarization emerges when we consider the crucial consequences it can have for citizens, party systems, and democracy as well, from declining interest in politics to satisfaction with (or trust in) political institutions, from gridlock in parliament to party patronage (Hetherington 2009; Iyengar et al. 2019; Kopecký, Meyer-Sahling, and Spirova 2022; Layman, Carsey, and Horowitz 2006; Meléndez and Kaltwasser 2021; Schaffner 2011).

In this article, we focus on the ideological dimension of polarization at the party system level, which refers to the dispersion of parties along the left-right ideological spectrum (see Dalton 2021).<sup>1</sup> Unlike for other key party system properties (e.g. fragmentation, volatility), a widely shared cross-country and longitudinal dataset of party system polarization has not yet established itself among the scientific community. This is because, for a long time, scholars have employed different measures and relied on ad-hoc data collection and calculation of parties' left-right placement based on various and often inconsistent sources.

This article aims to fill this gap by introducing a novel publicly available dataset of party system ideological polarization in Western Europe.<sup>2</sup> The dataset relies on multiple expert surveys and provides measures of party system polarization for almost 400 parliamentary elections and legislatures in 20 Western European countries since 1945.

After presenting the dataset, the article turns to the empirical analysis by addressing three Research Questions (RQs). Is party system polarization on the rise in Western Europe? If so, is polarization driven by the radicalization of mainstream parties or the increasing weight of challenger parties? How does polarization interact with other key party system properties, such as fragmentation and volatility?

In a nutshell, the article shows that party system polarization is on the rise in Western Europe, and such an increase is mainly due to a progressive shift in the electoral support from ideologically moderate mainstream parties to more extreme challenger parties. Moreover, in recent years, high polarization has recurred in highly fragmented and volatile contexts, thus creating a detrimental context for the working of democracy.

The article is organized as follows: in the next section, we briefly introduce our new dataset of party system ideological polarization. The subsequent three sections illustrate the empirical analysis by analyzing, respectively, the temporal and cross-national trends in party system polarization since 1945, its internal drivers, and the link with other party system properties such as fragmentation and volatility. A concluding section discusses the findings, their implications for comparative politics, and opportunities for future research.

## **A new dataset of party system ideological polarization**

Ideological party system polarization refers to the dispersion of parties in a party system along the left-right dimension.<sup>3</sup> A fundamental prerequisite to studying party system polarization is retrieving information on parties' left-right positions. The latter goal can be achieved through many different sources, the three most popular ones in Western Europe being mass surveys, party manifestos, or expert surveys. We contend expert surveys are the most reliable source, as they minimize respondents' political bias and lack of competence compared to mass surveys (see, e.g. Armstrong, Stephenson, and Alcantara 2023) and have not been subject to relevant critics of inaccuracy in

returning parties' left-right estimates compared to the party manifesto data (e.g. Gemenis 2013). Furthermore, for the sake of data availability, expert surveys allow us to obtain cross-country information through an extended timespan.<sup>4</sup>

In terms of measurement, rather than proposing an original measure, we rely on Dalton's index (2008), which considers both parties' position and strength and has become widely used in comparative research. Dalton's index has a theoretical range of 0–10, with higher values indicating more polarized contexts. The two extreme values of the index can occur, respectively, when all parties occupy the same left-right position or when all parties are split between the two extremes of the scale (e.g. see Dalton 2008, 906; 2021, 3).<sup>5</sup>

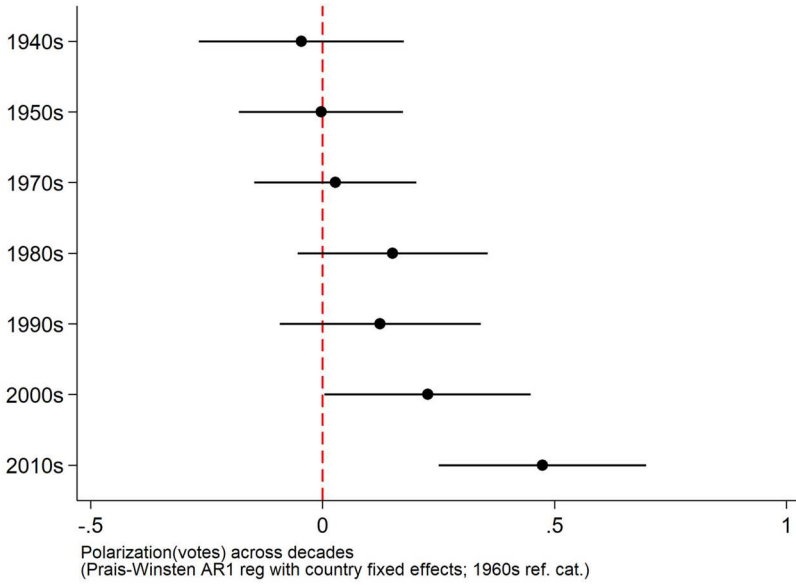
Dalton's index is applied to a series of comparative expert surveys that altogether cover a long timespan: Castles and Mair (1984), Huber and Inglehart (1995), and all CHES waves (1999, 2002, 2006, 2010, 2014, 2019) (Jolly et al. 2022). We have applied these expert surveys' placements to post-1945 parliamentary elections to calculate polarization scores at the election and parliamentary levels (that is, respectively, using parties' vote share or seat share) on the general left-right, the economic left-right and the GAL-TAN dimensions.<sup>6</sup> By doing so, we have calculated polarization scores for 398 parliamentary elections and legislatures in 20 Western European countries.<sup>7</sup>

## The rise of party system polarization in Western Europe

It is now time to show preliminary empirical evidence and address the Research Questions (RQs) formulated in the Introduction, starting with the first one: is party system polarization on the rise in Western Europe? Contrasting considerations can arise. On the one hand, the answer could be negative, as divisive ideologies have waned across the continent, especially after the fall of the Berlin Wall, given the turn from 'cleavage politics' to 'issue politics' (Franklin, Mackie, and Valen 1992; Green-Pedersen 2007; Hobolt and De Vries 2015) or the alleged cartelization of Western European party systems (Katz and Mair 1995; 2018). On the other hand, the recent successful rise of challenger or anti-system parties (Casal Bértoa and Rama 2020; Hino 2012; Hobolt and Tilley 2016; Zulianello 2019) contesting the foundations of Western European liberal democracies (e.g. the EU, globalization, or representative democracy) could have revitalized the importance of ideological differences by bringing new centrifugal tendencies, in line with the wave of increasing polarization coming from the United States (Heltzel and Laurin 2020; Neal 2020; Putnam 2020).

Figure 1 reports the coefficient plot of polarization (calculated on parties' vote share) across decades, based on a Prais-Winsten regression model with country-fixed effects.<sup>8</sup>

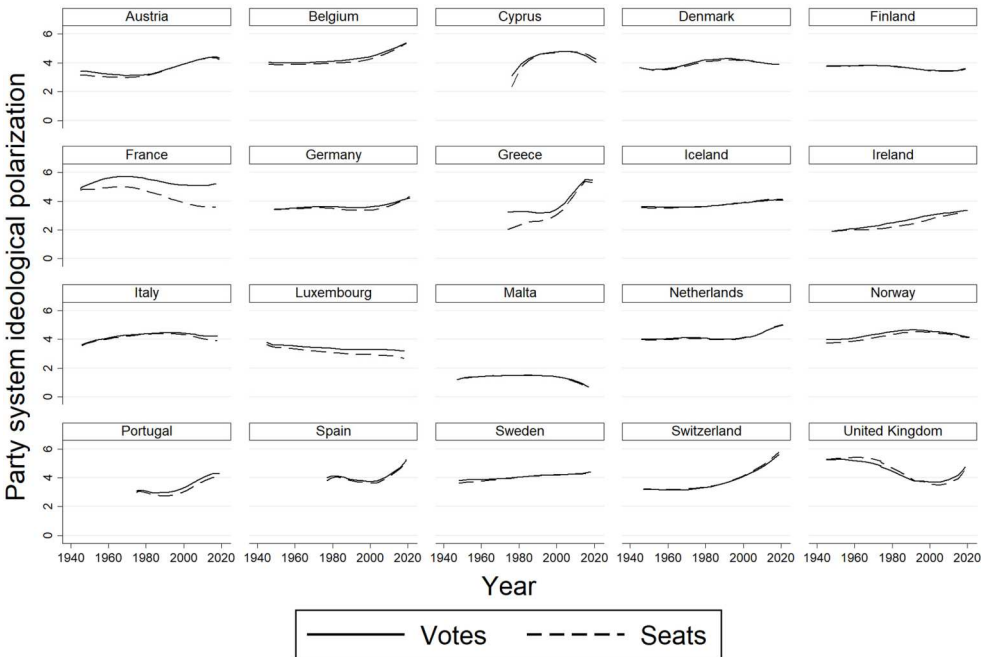
The analysis offers a positive answer to our first RQ: party system polarization is on the rise in Western Europe. Compared to the 1960s, taken as the reference category as the last decade of the 'golden age' of parties (Janda and Colman 1998; Mair 1994), polarization in Western Europe has remained substantially stable across the twentieth century before increasing significantly in the 2000s and, most importantly, in the 2010s, where the predicted level is almost a half point higher than in the 1960s ( $p < 0.001$ ). The picture is almost the same if we look at polarization based on parliamentary seats rather than votes (Figure A1 in the Appendix). Furthermore, the increase in the levels of polarization over time is also confirmed if we look more specifically at its economic and cultural (GAL-



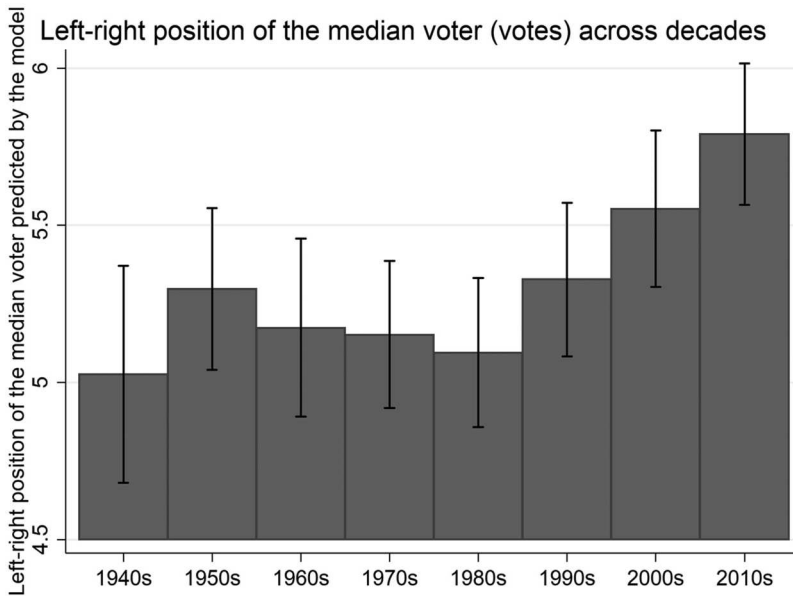
**Figure 1.** Coefficient plot of the regression of time (decades) on polarization (votes).

TAN) dimensions, both showing a strong and statistically significant coefficient for the 2010s decade (see Figures A2 and A3 in the Appendix).

The increase in party system polarization is a phenomenon involving most Western European party systems, as displayed in Figure 2.<sup>9</sup> In particular, the upsurge trend is



**Figure 2.** Evolution of party system polarization in Western Europe: national variations.



**Figure 3.** Predicted probabilities of the left-right position of the median voter across decades.

rather strong in third-wave countries (Greece, Portugal, and Spain) and consociational democracies (Belgium, Netherlands, and Switzerland), although exceptions to the general trend persist (e.g. Finland, Luxembourg, and Malta).

If, today, Western European countries are more polarized than ever since the end of the Second World War, this may be either the result of symmetric centrifugal pressures, with voters increasingly rewarding parties at both the left and the right fringes, or the consequence of asymmetric pressures, characterized by a leftward or rightward shift.

Figure 3, which reports the predicted probability of the left-right position of the median voter across decades,<sup>10</sup> seems to suggest that the latter scenario has indeed occurred. The result is rather straightforward: Western European party systems have experienced a substantive rightward shift after the fall of the Berlin Wall. Indeed, in the 1980s, the median voter was, on average, located at 5.1 on the 0–10 left-right scale. Since the 1990s, there has been a gradual shift to the right, with the median reaching 5.51 in the 2000s and even 5.73 after the hit of the Great Recession, namely, since the 2010s. Overall, this increase of more than 0.6 points in the scale is significant at  $p < 0.01$  and exerts a substantive interest, representing about 60 percent of the standard deviation of the variable.

### **The drivers of polarization: radicalization of mainstream parties or increasing weight of challengers?**

After showing that party system polarization is on the rise in Western Europe, we explore the mechanism underlying this trend. Indeed, party system polarization can increase because of two (not necessarily mutually exclusive) mechanisms: first, polarization can increase if established, mainstream parties move towards the edges of the political

spectrum (holding vote shares constant); secondly, polarization increases if electoral support for (existing or new) challenger political parties at the fringes of the political spectrum increases (holding party positions constant). So, here, we address our second RQ related to the mechanism driving polarization, be it either the radicalization of mainstream parties or the increasing weight of challengers. We look at two different pieces of empirical evidence that represent the two fundamental elements composing the index of polarization, namely, parties' left-right position and vote share.

Figure 4 compares the evolution of the left-right positioning of the two main mainstream parties (left pane) and challenger parties (right pane). We identified, in each country and for every parliamentary election, the main center-left and center-right mainstream parties and the main left and right challenger parties (if any).<sup>11</sup> Once having identified the two main mainstream and two challenger parties, we have calculated, for each election, the difference in the respective left-right position. The bar chart reports the average difference by decade to verify whether there has been a process of convergence or radicalization of mainstream and challenger parties, respectively.<sup>12</sup>

The main takeaway point from Figure 4 is that the recent trend in party system polarization in Western Europe does not seem to be driven by the radicalization of mainstream parties. This is because the average left-right distance in the 2010s is 3.18, which, despite being higher than in the 1990s (2.70), is in line with the 1950–1979 value (3.23) and lower than the value occurring in the immediate aftermath of World War II (3.39 in the 1940s).

Moreover, the left-right positions of challenger parties do not seem to play a role in the increasing polarization trend. Consistent with the principle of ideological stickiness (Hooghe and Marks 2018), challenger parties have always remained at the fringes of the ideological spectrum, with an average difference oscillating between 7 and 8 points in the 0–10 scale (7.33 in the 2010s).

Therefore, the recent surge in party system polarization is not the result of ideological shifts but rather a fundamental change in the balance of power between mainstream (ideologically more moderate) parties and challenger (ideologically more extreme) parties.

This finding is shown in Figure 5, reporting, for each decade, the aggregate vote share of the two mainstream parties (left pane) and challenger parties (right pane). The result is straightforward. On the one hand, the electoral support of mainstream parties has

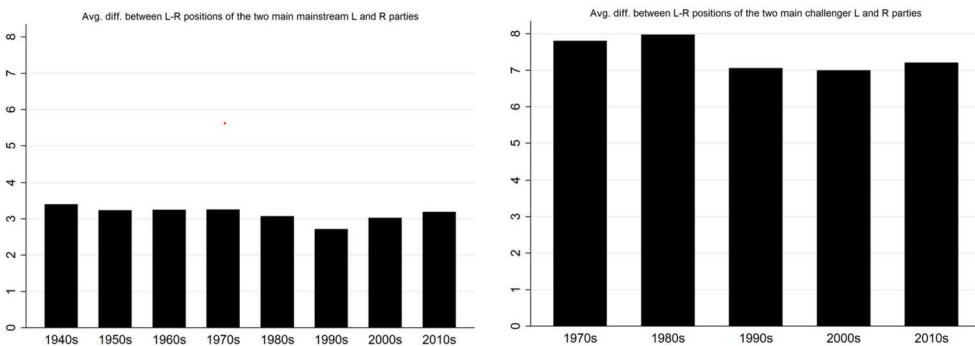
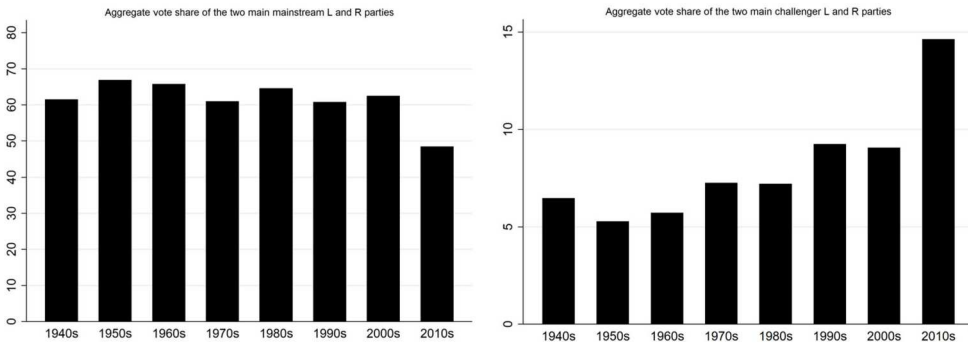


Figure 4. Average difference in the left-right position of the two main mainstream parties (left pane) and challenger parties (right pane) across decades.



**Figure 5.** Aggregate vote share of the two main mainstream parties (left pane) and challenger parties (right pane) across decades.

suffered from a substantive loss in the Great Recession period (see also the discussion in Rovira-Kaltwasser and Bale 2021). Indeed, in the 2010s, less than half of the votes cast in Western Europe is held by the two main center-left and center-right mainstream parties (48.3%), while this figure was about two-thirds in the 1950s and 1960s and still 62.3% in the 2000s. On the other hand, the upsurge of challenger parties has been remarkable, as their vote share in the 2010s (14.6%) almost tripled compared to the 1950s and more than doubled compared to the 1980s.

### Polarization and the link with other party system properties

It is now turn to address the third RQ, namely, how polarization interacts with other fundamental party system properties. Specifically, two factors that have acquired growing centrality in recent decades have to be considered: party system fragmentation and electoral volatility. Western European party systems have become more fragmented (Best 2013) and volatile (Chiaromonte and Emanuele 2017; 2022) in recent decades. Exploring empirically the relationship among these three party system properties is not just useful for a mere descriptive understanding of Western European party systems but has important implications, as all these factors are expected to negatively influence the working of democracy.<sup>13</sup> Therefore, it is worth asking whether the three phenomena are linked and how.

Using our dataset of party system polarization and taking Gallagher's data (2022) on the Effective Number of Electoral Parties (ENEP) as a proxy for party system fragmentation (Laakso and Taagepera 1979) and Emanuele's data (2015) on Electoral Volatility (Pedersen 1979), we can explore the combination of these three properties in post-World War II Western European party systems. By taking the average of fragmentation (4.42), volatility (10.87), and polarization (3.84) as discriminatory thresholds,<sup>14</sup> eight possible party system types emerge, with elections categorized as having high vs. low fragmentation (Fragmented vs. Limited), high vs. low volatility (Volatile vs. Stable), and high vs. low polarization (Polarized vs. Convergent).

Table 1 reports the number of elections falling into each type of party systems for different temporal subsets. If there were no association among the three party system properties, we would expect an even distribution of elections across the eight types, with about 48 elections per type ( $382/8 = 47.75$ ).



**Table 1.** Types of party systems in Western Europe resulting from the combination of fragmentation, volatility, and polarization.

Type of party system	N of elections				Country
	1945–2021	1945–2009	Since 2010	Last election	
Limited, stable, and convergent	99	96	3	1	MT
Fragmented, stable and convergent	31	28	3	1	LX
Limited, volatile, and convergent	35	35			
Fragmented, volatile, and convergent	18	12	6	1	IR
Limited, stable, and polarized	54	52	2	1	UK
Fragmented, stable and polarized	44	34	10	2	FI, NO
Limited, volatile, and polarized	30	21	9	3	AT, GR, PT
Fragmented, volatile, and polarized	71	41	30	11	BE, CY, DK, FR, GE, IC, IT, NL, ES, SE, CH
Total	382	319	63	20	

Yet, we do observe that certain types are much more recurrent than others: almost half of the sample falls into two distinct and specular types: the limited, stable, and convergent type (99) and the opposite fragmented, volatile, and polarized type (71). Not surprisingly, the three variables are positively correlated with each other.<sup>15</sup> So, an association between polarization and, respectively, fragmentation and volatility does exist despite being far from perfect. Specifically, the positive relationship between polarization and volatility rejects the widely shared scholars' expectation of a negative relationship between them (Bartolini and Mair [1990] 2007; Tavits 2005) and rather points to the idea that highly polarized countries are not immune from vote switching across subsequent elections.<sup>16</sup> This general preliminary finding can be better qualified by splitting the temporal span into different phases. Table 1 splits the sample between a pre-Great Recession period (1945–2009) and a post-Great Recession period (since 2010). The pictures of the two periods are rather different. In the former, the limited, stable, and convergent type is still largely overrepresented at the expense of others. Conversely, since 2010, the picture has radically changed: almost half of the elections fall in the fragmented, volatile, and polarized type (30 against an expected frequency of 9).<sup>17</sup> This pattern is even more relevant if we focus on the last parliamentary election with available data in each country (the last two columns of Table 1). More than half of the sample (11 out of 20) currently falls in the fragmented, volatile, and polarized type, which characterizes polities with different sizes, geographical locations, and institutional arrangements: from small (Cyprus, Iceland) to large polities (France, Germany), from Southern (Cyprus, Italy, and Spain) to Northern polities (Denmark, Iceland, and Sweden); from consensual (Belgium, Netherlands, and Switzerland) to majoritarian (France) polities.

So, over the last years, Western European party systems have been characterized by the increase in fragmentation, volatility, and polarization. Unlike in the past, where the three phenomena were almost entirely independent from one another, since 2010, they have been clearly associated and tended to come together, thus creating a sort of perfect storm for the working of Western European democracies.

## Conclusion

This article has introduced a novel dataset of party system ideological polarization in Western Europe. By relying on multiple expert survey data, the dataset provides data on party system polarization in almost 400 elections and legislatures across 20 Western European countries since 1945.

The article has addressed three Research Questions, related respectively to the evolution over time of party system polarization, its internal drivers, and the link between polarization and other key party system properties like fragmentation and volatility. Despite being clearly an exploratory analysis, it has brought about some remarkable findings that have the potential to become the first empirical foundation on which subsequent works can erect further building blocks.

First, our data show that party system polarization is on the rise in Western Europe. After decades of substantial stability after World War II, party system polarization has increased significantly since the 2000s, and more remarkably in the last years. Despite the alleged decline of ideologies following the fall of the Berlin Wall and the collapse of the main alternative to liberal democracy, party politics in Western Europe has been undergoing a process of progressive radicalization, consistent with the trend observed in the United States. Furthermore, the upsurge of polarization, rather than being the byproduct of symmetric pressures toward the extremes of the ideological spectrum, is the consequence of asymmetric pressures, as the median voter in Western European party systems has progressively shifted to the right since the 1990s.

Second, unlike in the United States, where the two main parties have become more ideologically radical compared to the past, the rise in party system polarization in Western Europe is not driven by a radicalization of mainstream parties, but the fundamental driver has been the remarkable change in the balance of power between mainstream and challenger parties. The latter have gained momentum, especially after the hit of the Great Recession, and have either revived old radical ideologies or brought about fresh left – or right-wing extreme positions.

Third, contrary to previous empirical accounts, our data show an overall positive relationship between polarization and two other key party system properties: fragmentation and volatility. Where the number of parties is relatively low and vote shifts across elections are limited, parties' left-right positions tend to be closer than in contexts where the party system is fragmented and unstable. This is especially true in recent years. Since the 2010s, instances of fragmented, volatile, and polarized party systems have become the rule, and, unlike what was suggested by previous studies, these characteristics tend to go hand in hand now. As all these three phenomena are usually associated with a poor working of democracy, this is not a good piece of news for Western European polities.

To the best of our knowledge, this is the publicly available data source on party system polarization with the largest spatial and temporal scope and is designed to encourage comparative analysis on what is probably one of the most debated topics in contemporary political science. As far as new waves of Chapel Hill expert surveys are released, the dataset will be regularly updated to cover new elections. Moreover, we plan to widen the scope of the dataset by including also Central and Eastern European countries in the upcoming updates.

We hope this dataset will open new avenues of research in the field of party politics and party system studies, but also beyond them. Among the new studies that may be developed through this dataset, comprehensive accounts of the determinants of party system polarization and careful investigations of its consequences for democracy seem particularly needed. Furthermore, fresh analyses about the interactions between polarization and social cleavages – especially new ones – can shed new light on this long-debated topic. These studies can be pursued either through analyses at the aggregate level – comparing polarization and cleavage characteristics (e.g. strength, scope, crosscutting vs. overlapping nature) among different party systems – or at the individual level – employing polarization as a contextual feature that may influence characteristics, attitudes, and behaviours of individuals within different social, economic, and cultural groups.

## Notes

1. Besides the ideological dimension, polarization can be studied on other dimensions (e.g. affective polarization) and, in turn, each dimension can be analyzed at different levels (elites or party systems, voters, issues). For a comparison between ideological and affective polarization, see, for instance, Borbáth, Hutter, and Leininger (2023) while, for recent works on affective polarization, see Boxell, Gentzkow, and Shapiro (2022), Reiljan et al. (2024), and Riera and Garmen Madariaga (2023). Finally, for other conceptualizations and operationalizations of polarization, see, for instance, the ‘populist polarization’ proposed by Enyedi (2016) or the ‘political polarization’ and the ‘polarization of society’ in the V-DEM dataset (Coppedge et al. 2023).
2. In this article, we use the expressions ‘party system ideological polarization’ and ‘party system polarization’ as synonyms. While ideological polarization can be studied at different levels, this article focuses exclusively on ideological polarization at the party system level.
3. For a recent review, see Rodríguez-Teruel and Casal Bértola (2023) and Bauer (2019). An expanded version of this section of dataset presentation can be found in section 1 in the Appendix, which also provides a discussion about the left-right dimension vis-à-vis the multidimensionality of contemporary politics.
4. For a critical review of the different sources to retrieve parties’ left-right positions, see section 1 in the Appendix.
5. The index formula is  $P = \sqrt{\{\sum(\text{party vote share}_i) * ([\text{party LR score}_i - \text{party system average LR score}] / 5)^2\}}$ . For alternative measures, see section 1 in the Appendix.
6. See section 1 in the Appendix for a detailed discussion on the rules followed to attribute expert surveys’ left-right placements to political parties.
7. Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. See section 1 in the Appendix for a discussion about the correlation between our polarization index and polarization scores taken from other datasets. Our country-level dataset is complemented by a party-level dataset that includes information about parties’ left-right scores and size (vote and seat share). A detailed description of the dataset’s content, rules, sources, and notes on individual countries’ specificities is reported in section 3 in the Appendix.
8. The six observations occurring in 2020 and 2021 have been aggregated to the 2010s decade. Table A4 in the Appendix reports the full regression models.
9. This finding is consistent with Casal Bértola and Rama (2020) that shows a significant increase in the vote share of anti-political-establishment parties after the 2008 Great Recession. Figures A4 and A5 in the Appendix replicate the same chart for the economic and cultural (GAL-TAN) dimensions of polarization.

10. The left-right position of the median voter has been calculated by ordering each party in each parliamentary election from the leftmost to the rightmost and then taking the left-right score of the party included in the 50th percentile of the voting distribution (see Kim and Fording 1998).
11. The full list of parties is available in the Appendix (Table A5).
12. The right pane, reporting the average difference between challenger parties, does not include bars for the pre-1970 decades as, in that period, there are no observations with both a left and right challenger party in the same country and election.
13. See section 2 in the Appendix for a review of the relationship among these three party system properties and their negative effects on democracy.
14. The overall number of elections considered is 382, slightly lower than for ideological polarization alone, as electoral volatility is necessarily available only from the second post-WWII or the second post-authoritarian election in each country.
15. Fragmentation and volatility show a Pearson's  $r$  of 0.38, fragmentation and polarization 0.42, volatility and polarization 0.29. All correlation coefficients are statistically significant at  $p < 0.001$ .
16. Casal Bértoa and Rama (2020) found a similar pattern of association, as they show the positive link impact of fragmentation and volatility on the electoral support of anti-political-establishment parties, used as a proxy of polarization. This further corroborates the validity of our measure, and specifically its 'nomological/construct' form, according to which 'scores which can be validly claimed to measure a systematized concept should fit well-established expectations derived from causal hypotheses that involve this concept' (Adcock and Collier 2001, 542). We deal with the other two forms of validity outlined by Adcock and Collier (2001) in section 1 of the Appendix.
17. These results are corroborated by a two-sample  $t$ -test of polarization, fragmentation, and volatility across the two time periods (1945–2009 and 2010–2021). For each of the three variables, the  $t$ -test rejects the  $H_0$  assumption that the difference between the two means is equal to 0 and confirms that the 2010–2021 period shows higher means (significant at  $p < 0.001$  for each variable).

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Data availability statement

The data that support the findings of this study are openly available in the GESIS Datorium that can be accessed at this link [https://search.gesis.org/research\\_data/SDN-10.7802-2592?doi=10.7802/2592](https://search.gesis.org/research_data/SDN-10.7802-2592?doi=10.7802/2592)

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