



Explaining preferences for EU integration: Theory and empirical evidence

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ABSTRACT

We present and empirically test a model that explains how European citizens form their preferences for integration, which is crucial for understanding the public support for EU advancement. The model incorporates varying levels of information and awareness of how EU legislation impacts national politics as well as economic considerations. The empirical results indicate that European citizens tend to be aware of the interplay between EU laws and national legislation. We reach this conclusion by showing that further EU integration is supported by citizens who believe EU legislation amends their national policies. By contrast, Euroscepticism emerges among citizens who perceive the EU as interfering in their domestic politics. Our theory and empirical evidence suggest that citizens see EU legislation as correcting or undermining national politics, contrasting with other theories that directly link support for integration and Euroscepticism to left- and right-wing ideological orientations.

1. Introduction

Are European citizens willing to support the advancement of the European Union (EU)? Since its foundation, the EU has aimed to forge a solid supranational union by expanding its boundaries and consolidating its geopolitical strength.¹ Euroscepticism is a latent threat to European integration (Capelos and Katsanidou, 2018; Leruth et al., 2018; Teney et al., 2014), with voices from populist and extremist political parties manifesting discontent with common European policies.² European citizens are subject to both national and EU legislation, making it difficult to discern the impact of each.³ For example, farmer protests in France and Germany in early 2024 were attributed to European common legislation and specific national policies. In such mixed legislative scenarios, citizens form their preferences on EU integration, which plays a crucial role in determining public support for the EU project.

In this contribution, we argue that how citizens process the influence of European legislation on national policies can explain individual preferences for EU integration. The EU's complex institutional design provides an insightful environment to study alternative theories of preferences formation. We introduce a theoretical model that considers the varying levels of information and awareness among citizens regarding the impact of EU legislation. The novel aspect of our modeling approach stems from discussing

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¹ Among its competencies, the EU establishes economic cooperation, designs a common market and a common agricultural policy, activates foreign security policies, and responds to global challenges.

² According to recent studies by Colantone and Stanig (2018) and Foster and Frieden (2021), determinants such as being 'left behind' by globalization have contributed to contra-European preferences.

³ Indeed, an extensive list of competencies is shared by the EU and member states in economic, social, environmental, or transportation areas, among others.

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three distinct rationales to evaluate the ideological cost of EU membership. These rationales are categorized by citizens' levels of sophistication: low, moderate, and high.

Under low sophistication, citizens interpret that the EU legislation materializes into an ideological direction and evaluate the impact of such direction, whether left-wing or right-wing. Under moderate sophistication, citizens interpret that the EU legislation defines concrete policies implemented in every EU member state and evaluate their ideological distance to these policies. Finally, under high sophistication, citizens interpret that European and national laws combine to produce policies and assess their ideological distance to the resulting enacted policy compromise.⁴

We build on the traditional utilitarian model, which emphasizes citizens' economic calculus, and offer a more nuanced understanding of how ideological factors, specifically the perceived ideological costs of EU integration, shape public support for the EU. We empirically test the three proposed settings drawing on representative survey data from the 2019 European Election Study (Schmitt et al., 2022) and institutional data from ParlGov (Döring et al., 2022). We use a semiparametric model to evaluate how the ideological costs of integration into the EU influence individual support for the advancement of the union. Our contribution sheds light on questions such as: What integration preferences arise from each rationale? Which rationale best explains integration preferences? Do citizens across member states employ similar reasoning to evaluate EU integration, and what are the implications?

In our theoretical framework, different levels of sophistication lead to distinct preferences for EU integration. In the low sophistication setting, our theory predicts ideological polarization, with extreme-left citizens supporting EU integration and the extreme-right opposing it, or vice versa. In the moderate sophistication setting, our theory predicts that both ideological extremes, left and right, oppose EU integration in sharp contrast to ideological centrists favoring more integration. High sophistication predicts that preferences for EU integration vary based on specific national contexts. Citizens who perceive that the EU legislation amends their domestic politics prefer more integration, while those who perceive that the EU interferes with national policies prefer less integration. Our empirical estimates reveal that the high-sophistication rationale best explains EU integration preferences in most member states, however, with some minor differences that we discuss.

Our contribution bridges two independently developed strands of literature: the political economy theory of nation-building and the political science literature on EU integration. The political economy literature applies a utilitarian conceptualization of the nation or supranational union to understand its stability and size (see, e.g., Alesina and Spolaore, 1997, 2005; Ansolabehere and Puy, 2022; Desmet et al., 2011). We adopt this framework, but unlike these contributions, we investigate the public support for *further integration* (or centralization) as a function of individual-level factors. Studies in political science have explored the *approval* of EU membership by emphasizing the role of socioeconomic factors such as income, education, and employment, among others (see, e.g., Foster and Frieden, 2021; Gabel and Palmer, 1995; Gabel, 1998b; Hobolt et al., 2022; Toshkov and Krouwel, 2022). While we account for socioeconomic factors, our analysis centers on ideological considerations, which have become especially relevant since the sovereign debt crisis, in which European institutions played an active role. Our research advances the existing literature by addressing three gaps.

First, previous studies have not reconciled the role of ideological costs in shaping EU integration preferences. Hooghe et al. (2002) and Ray (2007) proclaim a linear relation between left–right ideology and Euroscepticism, with left-wing citizens being contra-European and right-wing citizens pro-European. In contrast, Aspinwall (2007) finds that the further to the left a government sits, the more likely it is to support European integration. Similarly, Hatton (2016) argues that Euroscepticism has become a more critical driver of right-wing populism. Other authors show a U-shaped relation where left and right extremes are more Eurosceptical than centrist (Halikiopoulou et al., 2012; König et al., 2017; van Elsas and van der Brug, 2015). Some recent studies appeal to the multidimensional nature of preferences for EU integration and highlight the heterogeneous impact across EU member states (see, e.g., De Vreese et al., 2019; Toshkov and Krouwel, 2022). Our contribution sheds light on the puzzle of assimilating EU integration preferences into the left–right ideological dimension based on citizens' awareness of the political consequences of EU membership.

Second, the multi-level governing structure of the EU generates unavoidable connections between national and supranational laws. As suggested by Sánchez-Cuenca (2000), Rohrschneider (2002) or Hobolt and De Vries (2016), diverse national contexts shape perceptions of the EU, and national institutions provide a benchmark to judge the EU. We contribute to clarifying the relationship between national and European legislation by providing a theoretical framework that explains how national and European laws interact and influence citizens' preferences for EU integration.

Third, the uncertainty due to the multi-level governance in the EU complicates citizens' evaluations of EU integration. The theories of cognitive mobilization by Gabel (1998a) and Inglehart (1970) emphasize the role of political awareness in shaping attitudes toward European integration. Anderson (1998) and Karp et al. (2003) differentiate between low and high levels of knowledge to explain *satisfaction* with the EU. Karp et al. (2003) defines politically aware individuals as those who can distinguish between EU and national institutions. We extend this concept by proposing that citizens possess varying levels of understanding regarding the impact of EU institutions. Our varying levels of understanding lead to distinct assessments of citizens' ideological alignment with EU politics.⁵ As an alternative to our theoretical assumptions, we suggest that varying levels of understanding regarding the impact of EU institutions can stem from national governments' noisy signals that either inflate or deflate the impact of EU laws on domestic politics (Matthews and Mirman, 1983). This alternative interpretation produces theoretical predictions compatible with our main results.

The rest of the paper is organized as follows. Section 2 presents three theories on preference formation. Section 3 outlines our empirical modeling strategy. Empirical results are described in Section 4. The last sections provide a discussion and conclusions.

⁴ These three settings can be understood as an application of the ideas in Simon (1990), March and Simon (2005) and Gabaix (2014), who posit that limits of human intellectual capacity require analyzing simplified models that capture their main features without incorporating all their complexity.

⁵ From this perspective, our theory relates to the works by Nagel (1995) and Arad and Rubinstein (2012) on the level of individual depth reasoning, and more sophistication can be interpreted as a better understanding of multi-level governance within the EU.

2. Theoretical model

Consider a group of nations (or states) that are part of a supranational union, such as the EU. We examine how citizens form their preferences for integration into the supranational union. We use the left–right dimension to define ideological preferences and locate the policies that emerge from national and supranational laws in the same dimension. We take the unit interval $[0, 1]$ as the ideological space, where 0 represents the extreme left and 1 the extreme right.

Each citizen i in nation n is characterized by an ideal ideological position in the left–right dimension $x_i \in [0, 1]$ and certain economic position (or income level) $e_i > 0$.⁶ Citizens have varying perceptions of the ideologies that govern their nation and supranational union along the left–right dimension: let $x_{in} \in [0, 1]$ denote the ideological perception of the policies of their nation n , and $x_{iU} \in [0, 1]$ the ideological perception of the policies of their union.

The degree (or level) of integration of the nations into the supranational union is denoted by $\delta \in [0, 1]$, where 0 indicates no impact of the supranational legislation on national policies and 1 means unification implying that the same supranational law rules all nations. Further integration provides efficiency gains by reducing trade and mobility barriers and implementing coordinated laws instead of distinct national regulations.⁷ However, greater integration requires the adoption of supranational legislation, potentially diminishing national sovereignty. The preferences of each individual i over degrees of integration δ are represented by a utility function that assesses benefits and costs⁸

$$u_i(\delta) = B_i(\delta) - \alpha C_i(\delta), \quad (1)$$

where B_i measures individual *benefits* (or *efficiency gains*) of integration, C_i measures individual *ideological costs* of integration and parameter $\alpha > 0$ measures the intensity of the ideological cost.⁹

Regarding the benefits of integration, we assume that the degree of integration and the individual economic position complement each other so that $B_i(\delta) = \delta e_i$; citizens with better economic positions benefit more from free labor and trade markets and more coordinated laws within their supranational union.¹⁰ For the costs of integration, we consider three alternative theories. We introduce the term *degree of sophistication* – high, moderate, or low – to express citizens' varying levels of understanding regarding the impact of supranational laws. We account for the possibility that citizens can be ill-informed or unaware of the ideological consequences of supranational membership. As a result, each rationale (high, moderate, and low sophistication) produces a distinct setting that influences citizens' assessment of the costs of integration.

First, *high-sophisticated* citizens possess a strong understanding of how national and supranational legislation interact to shape enacted national policies. Let \hat{x}_{in} denote the perceived enacted national policy for individual i ,

$$\hat{x}_{in} = \delta x_{iU} + (1 - \delta)x_{in}. \quad (2)$$

Thus, citizens interpret that enacted national policies are a compromise (or convex combination) between their perceived supranational x_{iU} and national x_{in} ideologies, and the selected degree of integration δ determines the weight assigned to the supranational ideology, while $1 - \delta$ is the weight assigned to the national ideology. In this setting, the degree of integration directly impacts enacted national policies and the ideological cost is the distance between citizens' ideal ideologies and perceived enacted policies, i.e., $C_i^H(\delta) = d(x_i, \hat{x}_{in})$, where the superscript H indicates high sophistication. Preferences for integration are represented by the utility function

$$u_i^H(\delta) = \delta e_i - \alpha d(x_i, \hat{x}_{in}). \quad (3)$$

Second, *moderate-sophisticated* citizens lack awareness of the interplay between national and supranational legislation described in Eq. (2). Instead, they base their integration costs solely on perceived supranational policies, disregarding national policies. This idea is captured by the cost function $C_i^M(\delta) = \delta^2 d(x_i, x_{iU})$, where citizens evaluate the ideological distance between their most preferred ideologies x_i and the supranational ideology x_{iU} and where the degree of integration squared increases the impact of such ideological distance. The superscript M indicates moderate sophistication. Under this setting, preferences for integration are represented by the utility function

$$u_i^M(\delta) = \delta e_i - \alpha \delta^2 d(x_i, x_{iU}). \quad (4)$$

Third, *low-sophisticated* citizens not only lack awareness of integration's implications but also do not have a clear perception of the supranational union's ideological position. They consider that the union points to a direction, left-wing or right-wing, and this direction can vary based on national ideologies. For instance, Portuguese citizens may perceive the EU as right-wing if their

⁶ In the empirical results section, we use economic status and education level as proxies for an individual's economic situation.

⁷ Previous contributions by [Alesina and Spolaore \(1997, 2005\)](#), [Flamand \(2019\)](#), [Goyal and Staal \(2004\)](#) also consider that the benefits of integration produce scale economies shared among citizens.

⁸ Alternatively, national and European identity motivations affect integration preferences ([Hobolt, 2016](#); [Hobolt and De Vries, 2016](#)). However, according to [Hobolt and Wrátil \(2015\)](#), recent European crises have reinforced the cost-benefit approach over identity-driven considerations.

⁹ [Alesina and Spolaore \(1997, 2005\)](#) account for the cost associated with heterogeneity in large populations, instead we model the cost related to the policies that emerge from supranational laws. Such costs are, for example, reflected by the so-called *Europeanization* of public policy by which national policies become increasingly subject to European policy-making (see, e.g., [Featherstone and Radaelli, 2003](#)).

¹⁰ Alternatively, we can consider $B(\delta, e_i) = \frac{e_i}{\delta}$, indicating that citizens with lower income benefit more from integration. The empirical application tests whether citizens with higher economic status (or higher education level) prefer more or less integration.

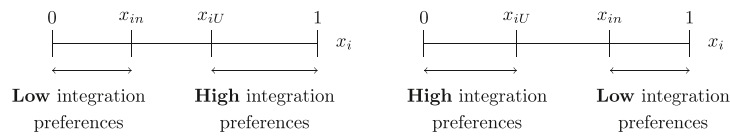


Fig. 1. Preferences for integration in the high-sophistication setting.

Note: x_i are ideal citizen ideologies in the unit interval. x_{in} and x_{iU} are different national and supranational policies: $x_{in} < x_{iU}$ (left panel), $x_{in} > x_{iU}$ (right panel).

national ideology is further to the left than the European standard. By contrast, citizens from the Czech Republic may perceive the EU as left-wing because their national ideology is more right-leaning than the European norm. As in the moderate-sophistication setting, preferences for integration are represented by the utility function in Eq. (4); however, x_{iU} takes two values only: $x_{iU}=0$ when citizens in nation n perceive the union as left-wing, and $x_{iU}=1$ when they perceive the union as right-wing.

Integration preferences for high-sophisticated citizens are represented by Eq. (3). Substituting Eq. (2) into (3) and considering the quadratic distance $d(x_i, \hat{x}_{in}) = (x_i - \hat{x}_{in})^2$, citizens solve¹¹

$$\max_{\delta \in [0,1]} \delta e_i - \alpha(x_i - \delta x_{iU} - (1 - \delta)x_{in})^2, \tag{5}$$

and most preferred levels of integration δ_i^{*H} for high-sophisticated citizens are given by¹²

$$\delta_i^{*H} = \frac{e_i}{2\alpha(x_{in} - x_{iU})^2} - \frac{x_i - x_{in}}{x_{in} - x_{iU}}. \tag{6}$$

Integration preferences for moderate-sophisticated citizens are represented by Eq. (4). Substituting the quadratic distance $d(x_i, x_{iU}) = (x_i - x_{iU})^2$ in this equation, citizens solve

$$\max_{\delta \in [0,1]} \delta e_i - \alpha\delta^2(x_i - x_{iU})^2, \tag{7}$$

and most preferred levels of integration δ_i^{*M} for moderate-sophisticated citizens are given by

$$\delta_i^{*M} = \frac{e_i}{2\alpha(x_i - x_{iU})^2}. \tag{8}$$

Low-sophisticated citizens only perceive the direction of the supranational policy, either left-wing $x_{iU} = 0$ or right-wing $x_{iU} = 1$. According to Eq. (8), most preferred levels of integration are twofold $\delta_i^{*L} = \frac{e_i}{2\alpha x_i^2}$ or $\delta_i^{*L} = \frac{e_i}{2\alpha(x_i - 1)^2}$, where the superscript L indicates low sophistication.

Individual's most preferred degrees of integration described in Eqs. (6) and (8) incorporate two effects. First, the *economic effect* captures whether citizens with better economic position express preferences for more integration through the derivatives

$$\frac{\partial \delta_i^{*H}}{\partial e_i} = \frac{1}{2\alpha(x_{in} - x_{iU})^2} > 0 \text{ from (6), and } \frac{\partial \delta_i^{*M}}{\partial e_i} = \frac{1}{2\alpha(x_i - x_{iU})^2} > 0 \text{ from (8).}$$

These derivatives indicate that preferred degrees of integration are increasing in e_i so that citizens with more income favor more integration.

Second, the *ideological effect* captures how individual ideologies impact most preferred levels of integration. The ideological effect depends on the proposed settings. For the case of high-sophisticated citizens, we use Eq. (6) so that

$$\frac{\partial \delta_i^{*H}}{\partial x_i} = \frac{-1}{x_{in} - x_{iU}}, \text{ which is positive (negative) when } x_{iU} > x_{in} \text{ (} x_{iU} < x_{in} \text{)}.$$

In other words, citizens with right-wing ideology prefer more integration when they perceive the supranational policy as more right-leaning than the national policy (see the left panel in Fig. 1), and prefer lower integration when the supranational policy is perceived as more left-leaning than the national policy (see the right panel in Fig. 1). High-sophisticated citizens interpret supranational policies as interacting with national politics through Eq. (2), and their most preferred levels of integration aim to modify enacted national policies toward their ideal ideology. Fig. 1 illustrates how preferences for low or high integration emerge among the left or right extremes depending on the perceived ideological position of the union compared to the national ideology. According to this setting, citizens who prefer intermediate levels of integration cannot be left or right extremists.

The left panel in Fig. 2 illustrates preferred degrees of integration for the case of high-sophisticated citizens. The two bottom dimensions depict citizens' ideal ideologies x_i and perceived national policies x_{in} . The third dimension gives the most preferred levels of integration when assuming $x_{iU} = 0.6$ for every citizen. We observe how the heterogeneity in perceiving national policies induces distinct preferences for integration.¹³ Thus, there is no unanimous preference for integration among right- or left-leaning citizens, as preferences for integration depend on how they perceive the union's policy compared to their nation's policy.

¹¹ The main conclusions do not depend on specific distance metrics used to define ideological costs.

¹² Online Appendix A includes calculations and description of non-interior solutions for the three settings.

¹³ For instance, among extreme right-wing citizens (those with ideology close to 1), the figure illustrates that the ones who perceive the national policy below 0.6 prefer unification ($\delta^* = 1$), and those who perceive the national policy above 0.6 prefer lower levels of integration.

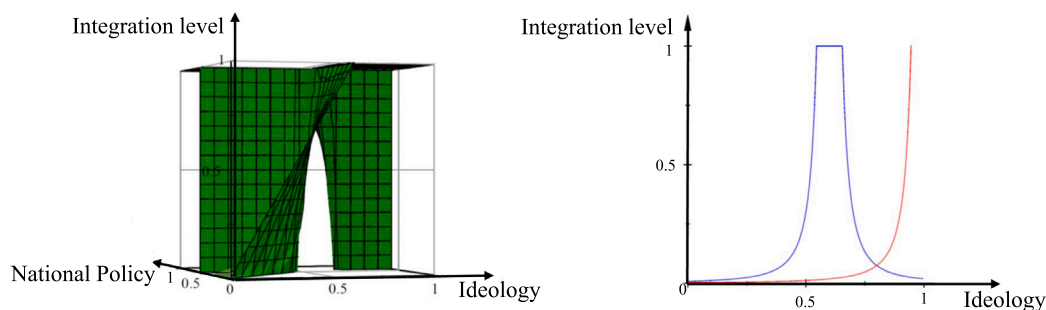


Fig. 2. Preferred Levels of integration as a function of ideal ideologies: High, moderate and low-sophistication settings.

Note: Left panel: Presents the high-sophistication setting. Right panel: Presents the moderate (blue color) and low (red color) sophistication settings. Simulations are based on $x_{iU} = 0.6$ for every citizen in the high and moderate-sophistication settings, $x_{iU} = 1$ for the low sophistication setting, $\alpha = 10$ and $e_i = 0.03$.

The ideological effect for the case of moderate- and low-sophisticated citizens differs from the case of high-sophisticated citizens. We use Eq. (8) so that

$$\frac{\partial \delta_i^* M}{\partial x_i} = -\frac{e_i}{\alpha(x_i - x_{iU})^2} \text{ which is positive (negative) when } x_i < x_{iU} \text{ (} x_i > x_{iU} \text{)}.$$

As a result, for the case of moderate-sophistication, preferences for integration increase in x_i up to $x_i = x_{iU}$ and decrease afterward. The blue color function in the right panel of Fig. 2 illustrates the inverted U-shaped relationship between the ideal ideology and the preferred degree of integration when assuming $x_{iU} = 0.6$ for every citizen. The ideological extremes on the left and right prefer low levels of integration, while moderate ideologies that align with the supranational ideological position prefer high levels of integration.¹⁴ However, for the case of low-sophisticated citizens, preferences for integration are always increasing when the common perception is that the union is right-leaning ($x_{iU} = 1$), and always decreasing when it is left-leaning ($x_{iU} = 0$). The red curve in the right panel of Fig. 2 illustrates the increasing shape of preferred levels of integration as a function of ideal ideologies when the common perception is $x_{iU} = 1$. In contrast to moderate-sophisticated citizens, a simplistic understanding of the influence of supranational union among low-sophisticated citizens leads to polarization; left and right extremes express opposing preferences for integration.¹⁵

In sum, the low-sophistication setting predicts ideological polarization between extremes. The moderate-sophistication setting predicts that both political extremes, left and right, oppose integration, whereas ideological centrists support it. The high-sophistication setting blends elements of both the low and moderate frameworks: it predicts some degree of polarization among ideological extremes, while centrist citizens' support for integration depends on their ideological proximity to perceived national and supranational policies.

Alternative explanations for the political cost of integration are also reasonable. Suppose that, as in the high-sophistication setting, citizens perfectly interpret that enacted national policies result from a compromise between national and supranational laws. However, due to national governments' noise signals, citizens may be uncertain about the relative importance of national and supranational legislation. We introduce this alternative model in Online Appendix A. We show that the described ideological effects in the moderate and high-sophistication settings align with this alternative interpretation, where national governments either inflate or deflate the influence of supranational legislation on domestic policies.

To conclude this section, we translate our theoretical framework into an empirical model using survey data on individual-level preferences on whether the current integration level has gone too far or should go further. To do so, suppose that citizens have a perception of the current level (status quo) of integration denoted by $\tilde{\delta}_i$. We consider that $\tilde{\delta}_i$ is uniformly distributed in $[\tilde{\delta} - \frac{1}{2\gamma}, \tilde{\delta} + \frac{1}{2\gamma}]$, where $\tilde{\delta}$ is average perceived status quo and $\gamma > 0$ captures homogeneity in perceptions.¹⁶ Citizens who prefer a higher level of integration than their perceived status quo are expected to support further integration. Calculating the probability of perceiving the status quo as below one's preferred level of integration yields $P(\delta_i^* > \tilde{\delta}_i) = \frac{1}{2} + \gamma(\delta_i^* - \tilde{\delta})$, which is strictly increasing in the preferred level of integration. Thus, across all sophistication settings (low, moderate, and high), positive economic or ideological effects are expected to translate into greater support for integration, as they increase δ . By contrast, negative economic or ideological effects are expected to reduce support for integration. Our next identification strategy directly examines how survey responses regarding the retention or expansion of EU integration are shaped by economic and ideological factors.

¹⁴ Such a constellation represents an 'ends against the middle' situation (Epple and Romano, 1996).

¹⁵ As Levy et al. (2022) show, simplistic interpretations of policy outcomes produce more polarization. The origin of simplistic beliefs is associated with populist political parties' manifestos.

¹⁶ For our argument, every other continuous distribution function is sufficient.

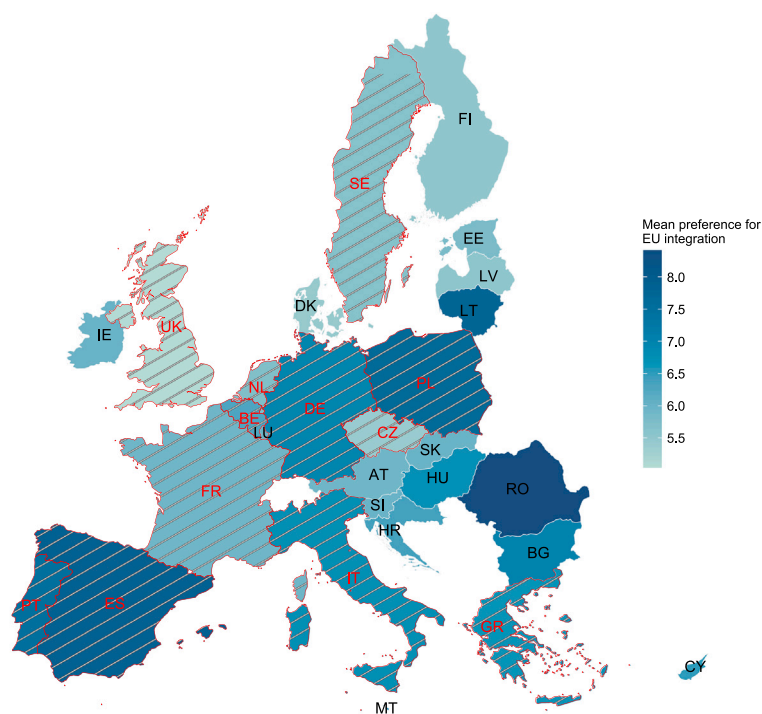


Fig. 3. Average integration preferences across EU member states.

Note: Preferences for integration are measured on a 11-point scale (1 contra EU, 11 pro EU). Member states marked with a red label and pattern are those selected for inclusion in our empirical analysis. Figure displays average values for each member state based on data from the EES 2019.

3. Empirical modeling

We empirically test which of the three theoretical settings, ranging from low to high sophistication, best predicts integration preferences. We use cross-national survey data from the 2019 European Election Study (EES, Schmitt et al., 2022), conducted on the occasion of the 2019 European Parliament (EP) elections. The EES Voter Study provides individual-level data that enable us to translate our theoretical framework into empirical models; it includes information on individual preferences for EU integration, citizen ideology, party platform perceptions (used to define national and EU policies), and individual economic status.¹⁷

Our analysis covers twelve EU member states (including the UK), which we selected based on integration waves and population size. Together, they account for over 80 percent of the EU population. We include five founding members that signed the Treaty of Rome (Belgium, France, Italy, the Netherlands, and Germany) along with seven that subsequently joined the EU: the UK in 1973, Greece in 1981, Spain and Portugal in 1986, Sweden in 1995, the Czech Republic and Poland in 2004.

3.1. Variables

Our dependent variable measures individual preferences for EU integration. Survey respondents stated their opinion on European unification using an 11-point scale, where 1 represents contra-EU integration preferences and 11 pro-EU integration preferences.¹⁸ Fig. 3 illustrates average integration preferences across all EU member states (with red labels marking those included in our empirical analysis). Darker shades represent stronger pro-integration preferences. Table 1 provides exact values for the countries in our sample. The data reveals considerable variation in preferences; citizens from Spain and Poland exhibit the highest pro-integration preferences (above 7.5), while those in the UK and the Czech Republic show the lowest (below 5.5).

The survey uses the 11-point left–right scale (1 left, 11 right) to measure citizens' ideological preferences and locate the national and EU policies. The respondents stated their most preferred position on this scale, representing the ideal ideology of citizen i , x_i .

¹⁷ Section B of the Online Appendix provides additional information on the data and variables.

¹⁸ Survey question: “Some say European unification should be pushed further. Others say it already has gone too far. What is your opinion?”; 1 “unification has already gone too far”, 11 “unification should be pushed further”. A similar 11-point scale is contained in the European Social Survey (Hatton, 2016). By contrast, the Eurobarometer includes two questions on approval and satisfaction with the EU, which are measured on four-point scales (see, e.g., Foster and Frieden, 2021; Kritzing, 2003).

Table 1
Descriptive statistics.

Member States Obs.	$\bar{\delta}$	\bar{x}	\bar{x}_n	\bar{x}_U	\bar{e}	age	female	pop. size	interest politics	un- developed
Belgium 643	6.25 (2.97)	6.67 (2.54)	6.70 (1.09)	5.03 (1.76)	4.16 (1.13)	49.26 (17.63)	0.47 (0.50)	1.68 (0.68)	2.49 (0.87)	0.30 (0.46)
France 712	5.89 (3.17)	6.49 (2.77)	7.18 (2.44)	6.16 (1.57)	4.03 (1.23)	48.97 (17.05)	0.47 (0.50)	1.97 (0.75)	2.83 (0.83)	0.23 (0.42)
Italy 720	6.74 (3.12)	6.45 (2.96)	7.16 (1.67)	6.31 (1.82)	4.18 (1.03)	50.05 (16.06)	0.50 (0.50)	2.18 (0.66)	2.91 (0.74)	0.34 (0.47)
Netherlands 783	5.67 (2.79)	6.54 (2.44)	6.70 (1.91)	5.65 (1.72)	4.69 (1.20)	48.87 (17.58)	0.43 (0.50)	1.96 (0.75)	2.45 (0.74)	0.10 (0.29)
Germany 780	6.95 (3.13)	5.89 (2.06)	6.09 (1.82)	5.87 (1.77)	4.01 (1.22)	49.84 (16.64)	0.47 (0.50)	2.08 (0.77)	3.01 (0.75)	0.11 (0.32)
UK 664	5.04 (3.07)	6.60 (2.26)	8.16 (2.49)	6.10 (1.58)	4.20 (1.22)	48.35 (17.69)	0.43 (0.50)	2.10 (0.78)	2.87 (0.84)	0.24 (0.43)
Greece 760	6.64 (2.96)	5.89 (2.56)	9.04 (2.13)	7.70 (1.76)	3.60 (1.07)	42.18 (13.06)	0.47 (0.50)	2.51 (0.65)	2.85 (0.82)	0.63 (0.48)
Portugal 806	7.46 (2.50)	5.63 (2.49)	5.34 (2.46)	6.70 (1.69)	3.97 (1.07)	46.59 (15.85)	0.46 (0.50)	2.22 (0.68)	2.68 (0.77)	0.70 (0.46)
Spain 854	7.88 (2.45)	5.52 (2.81)	4.46 (2.41)	6.76 (1.42)	4.21 (1.01)	48.30 (16.40)	0.48 (0.50)	2.26 (0.71)	2.83 (0.80)	0.32 (0.47)
Sweden 726	5.61 (2.81)	6.49 (2.58)	4.59 (2.23)	6.64 (1.55)	4.31 (1.26)	48.02 (17.60)	0.40 (0.49)	2.21 (0.72)	2.87 (0.84)	0.06 (0.24)
Czech Republic 678	5.37 (3.00)	6.61 (2.47)	6.17 (2.27)	5.17 (1.92)	4.12 (1.12)	48.58 (16.43)	0.47 (0.50)	2.04 (0.74)	2.76 (0.73)	0.86 (0.34)
Poland 769	7.63 (2.90)	6.76 (2.66)	8.70 (2.92)	4.41 (2.05)	4.39 (1.05)	46.13 (15.85)	0.49 (0.50)	2.25 (0.72)	3.08 (0.71)	0.81 (0.39)

Note: $\bar{\delta}$ is the average preference for integration (1 contra EU, 11 pro EU). \bar{x} is the average ideal citizen ideology, \bar{x}_n the average perceived national policy and \bar{x}_U the average perceived EU policy, all measured on 11-point scales (1 left, 11 right). \bar{e} is the average economic status, measured on a 7-point scale. Right part gives the average values of the control variables: age in years, female (binary), population size (1 rural, 2 small or middle-sized, 3 large town), interest in politics (1 not at all, 2 little, 3 somewhat, 4 very), undeveloped (binary). Standard deviations in parentheses. See Table A3 in Online Appendix for further descriptive statistics on multicategorical control variables.

As reported in Table 1, citizens from Poland, Belgium, and the Czech Republic identify themselves as the most right-wing (with average ideologies around 6.5), while those from Spain and Portugal are the most left-wing (with averages near 5.5).

The survey also provides information on where each respondent perceives the parties¹⁹ on the left–right scale, which we use to measure the national policies x_{in} and the EU policies x_{iU} . To compute national policies x_{in} , we consider the governing parties in national parliaments before the 2019 EP election. The data come from ParlGov (Döring et al., 2022). In the case of multi-party governments, we apply weights proportionally to the seat shares gained at the previous national elections to these party positions. For example, in Germany, the Christian Democratic Union (CDU) and the Social Democratic Party (SPD) formed the national government. The CDU gained 34.69 percent of the seats and the SPD 21.57 percent, meaning that their weights in the national policy are 61.66 and 38.34. Half of the analyzed countries have multi-party governments, while the other half have single-party governments (e.g., France, the UK, Spain, or Poland).²⁰ As shown in Table 1, on average, the national governments in Greece and Poland are perceived as the most right-wing with policies above 8. In contrast, the governments in Spain and Sweden are perceived as the most left-wing, with policies below 5.

We calculate EU policies x_{iU} using respondents' perceived positions of the governing parties in the European Parliament (EP), weighted by their governing period according to the 2014 EP election results. During this term, the European Peoples' Party (EPP) and the Progressive Alliance of Socialists and Democrats (S&D) shared the presidency for half of the five-year term. Each political family, EPP and S&D, comprises distinct national parties. Take, for example, Spain, where the Peoples' Party (PP) represented the EPP and the Spanish Socialist Workers' Party (PSOE) the S&D. We calculate x_{iU} for Spain by equally weighting the perceived positions of PP and PSOE. On average, citizens across all countries perceive the EU policies as being below 8 in the left–right scale. Greece perceives the EU above 7.5, while Poland places it below 4.5 (see Table 1).²¹ Compared to average ideal citizen ideologies and national policies, EU policies show lower standard deviations.

¹⁹ Several contributions show that party placement perceptions can be affected by ideological preferences and group attachments, such as partisanship or socioeconomic identities (see, e.g., Iyengar et al., 2012; Maurer and Puy, 2024; Meyer and Wagner, 2020). These considerations are implicitly incorporated because political cost functions measure distances based on individual perceptions instead of average perceptions.

²⁰ Table A2 in Online Appendix B reports the governing parties, their seat shares, and the resulting weights at the national and EP levels for all countries.

²¹ Using the governing parties in the EP is not the only way to define the EU policies. Another possibility is to use the European Commission. We performed a robustness check in the empirical results section to account for this alternative definition.

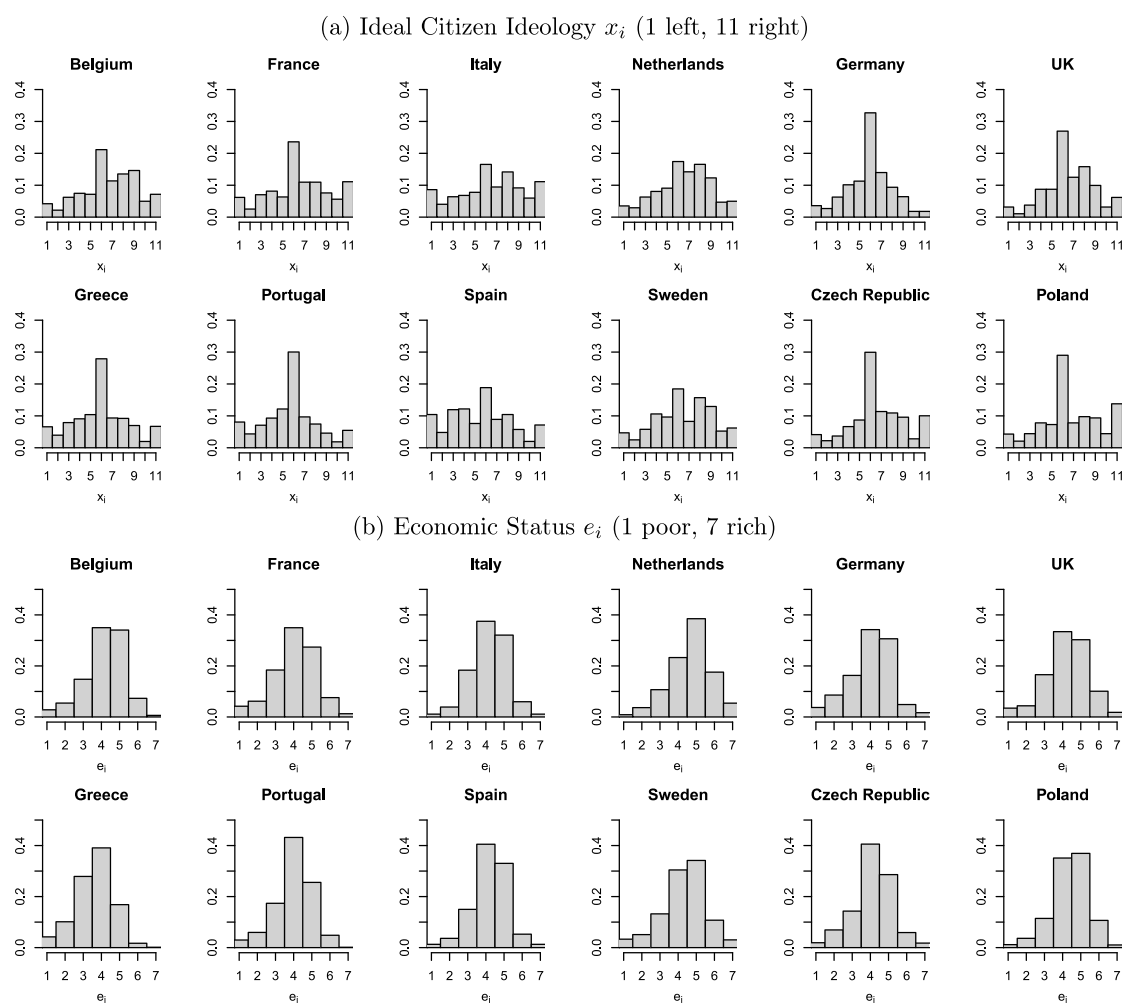


Fig. 4. Distribution of ideal citizen ideology and economic status. Note: Histograms depict the probability densities on the y-axis.

We use respondents' self-stated family standard of living (1 poor, 7 rich) as a proxy to individual economic position e_i . We emphasize the subjective nature of the variable, which may not fully align with objective individual economic indicators. However, [Foster and Frieden \(2021\)](#) consider education level and the effect they find is similar to the one we obtain for the economic status. In the empirical results section, we will study the model fit and the effects when using the education level instead. Respondents from the Netherlands report the highest average economic status (4.69), and those in Greece the lowest (3.60) (see [Table 1](#)).

Citizens ideologies and economic status are the two main variables that define the ideological and economic effects in our theoretical framework. We depict the distributions of these variables in [Fig. 4](#). Extreme-right ideologies are more frequent in France, Italy, the Czech Republic, and Poland. Overall, the distributions of ideologies are either inverted U-shaped or more uniform, and those of economic status are consistently inverted U-shaped.

Our set of control variables includes interest in politics ([Karp et al., 2003](#); [Kritzinger, 2003](#)) and standard demographics such as age, gender, and urban/rural residence. Interest in politics is measured on a 4-point scale (1 not at all, 2 little, 3 somewhat, 4 very; with reference category 1), age is centered around the sample means and measured in decades, gender is binary (1 female, 0 male), and urban/rural residence is three-categorical (1 rural, 2 small or middle-sized, 3 large town; with reference category 1). Additionally, we include a binary variable on regional development (1 undeveloped, 0 developed) to capture income redistribution within a country and further access to European funds.²² As reported in [Table 1](#), about 80 percent of respondents in Poland belong to undeveloped regions; in contrast, only 6 percent in Sweden.

²² The classification is available in the Official Journal of the European Union, Commission Implementing Decision of 18 February 2014. Document 32014D0099. We merged the regions classified as 'less developed' or 'transition regions' under the undeveloped category; the remaining regions keep the developed category.

Table 2
Summary of empirical specifications and expected ideological effects.

Setting	$ideo_i^j$	Expected effects on EU integration
Low sophistication	x_i	Increasing in $ideo_i^L$ (EU perceived as right-wing)
		Decreasing in $ideo_i^L$ (EU perceived as left-wing)
Moderate sophistication	$ x_i - x_{iU} $	Decreasing in $ideo_i^M$
High sophistication	$sgn(x_{iU} - x_{in}) \times (x_i - x_{in})$	Increasing in $ideo_i^H$

Note: x_i is ideal citizen ideology, x_{in} and x_{iU} are perceived national and EU policies, $|\cdot|$ is the absolute value, and $sgn(\cdot)$ is a sign function.

3.2. Empirical specifications of the ideological effects

The empirical specifications of the ideological effects we use to test the three settings are summarized in Table 2. Let $ideo_i^j$ denote the ideological variable, where $j \in \{L, M, H\}$ captures the three sophistication settings, low (L), moderate (M), and high (H).

In the low-sophistication setting, ideal ideologies x_i determine preferences for integration. Pro-EU preferences are expected to increase in x_i when the EU is perceived as right-wing, and decrease in x_i when the EU is perceived as left-wing.²³ In the moderate-sophistication setting, the absolute distance $|x_i - x_{iU}|$ determines preferences for integration; closeness to EU policy is expected to induce pro-EU preferences and large distances to produce contra-EU preferences. Thus, preferences for integration are expected to decrease in $|x_i - x_{iU}|$. Finally, in the high-sophistication setting, more right-wing (more left-wing) ideologies yield pro-EU (contra-EU) preferences when $x_{in} < x_{iU}$, and contra-EU (pro-EU) preferences when $x_{in} > x_{iU}$. To operationalize this effect, we define a sign function that assigns a positive value to individuals who perceive EU policy as more right-wing than their national policy (as in the left panel of Fig. 1), a negative value to those who perceive EU policy as more left-wing than the national one (as in the right panel of Fig. 1), and zero value to those who perceive both as ideologically equivalent,

$$sgn(x_{iU} - x_{in}) = \begin{cases} 1 & \text{if } x_{in} < x_{iU} \\ 0 & \text{if } x_{in} = x_{iU} \\ -1 & \text{if } x_{in} > x_{iU} \end{cases}$$

We then construct the ideological variable as the product term $sgn(x_{iU} - x_{in}) \times (x_i - x_{in}) \in [-10, 10]$. Small negative values correspond to citizens in the ideological intervals of Fig. 1 where low integration preferences are predicted, indicating a preference for national over European policy. Conversely, large positive values correspond to individuals in the intervals where high integration preferences are expected, implying a preference for European over national policy. The variable equals 0 when national and EU policies are perceived as ideologically equivalent, producing no effect. Consequently, preferences for integration are expected to increase in $sgn(x_{iU} - x_{in}) \times (x_i - x_{in})$.

3.3. Statistical model

Our empirical specifications suggest increasing or decreasing relationships between variables but do not imply a specific functional form. Thus, we use non-parametric estimation (see, e.g., DiNardo and Tobias, 2001; Yatchew, 1998) for the ideological component. To detect which functional form can describe the effects, we adopt a semiparametric model, the Structured Additive Linear Regression. In addition to explanatory variables whose effects can be modeled through a linear predictor η_i^{lin} , the model allows estimating effects nonparametrically (detailed model discussions are provided, e.g., by Fahrmeir et al., 2013; Hastie and Tibshirani, 2014). We apply this flexibility to the ideological considerations by modeling their effects as functions $f(ideo_i)$ with $ideo_i$ as defined in Table 2.²⁴ Let y_i denote individual preferences for EU integration (previously denoted as δ_i in the theoretical model),

$$y_i = f(ideo_i) + \eta_i^{lin} + \varepsilon_i, \text{ where } \eta_i^{lin} = \beta_0 + \beta_1 e_i + \mathbf{w}_i^T \boldsymbol{\beta}, \tag{9}$$

where ε_i is the error term, β_0 is the intercept, e_i denotes the economic status with coefficient β_1 and \mathbf{w}_i contains control variables with associated coefficients $\boldsymbol{\beta}$. The functions $f(ideo_i)$ are approximated by base functions B_l ,

$$f(ideo_i) = \sum_{l=1}^d \gamma_l B_l(ideo_i),$$

²³ Alternative theories assert that the issue of European integration has emancipated from the left–right dimension (Toshkov and Krouwel, 2022), or that the relation between these dimensions is increasingly messy (Jackson and Jolly, 2021; Rabin and Schrag, 1999).

²⁴ For simplicity, we omit the superscript j when referring to each setting in what follows.

where $\gamma_1, \dots, \gamma_d$ are regression coefficients. The base functions B_j can represent TP- or B-spline bases of polynomial splines or kriging methods. We employ smoothing splines, evaluated at observed values of the ideological considerations $ideo_i$, to represent the base functions.²⁵

4. Empirical results

We begin by identifying the best covariate specification across sophistication settings and countries. Second, we discuss the estimates for economic and ideological effects, followed by a summary of the control variables results. Finally, we compare the settings through model fit and conduct robustness checks.

4.1. Comparison of covariate specifications

We estimate four model specifications for each country and sophistication setting. Model 1 (M1) includes control variables w_i and ideological effects $f(ideo_i)$. Model 2 (M2) extends M1 by incorporating the economic status e_i . Model 3 (M3) uses the more objective education level instead to capture the economic effect.²⁶ Model 4 (M4) includes both economic status and education level as covariates as their correlation is very low (see Table A4 in Online Appendix B). Similarly, we inspect the correlation between education level and interest in politics finding it to be low, which justifies including both covariates in the same model.

We examine model fit using the Bayesian Information Criterion (BIC) as a performance measure.²⁷ Table 3 compares the performance of these 144 estimated models. For each country and sophistication setting, the best-fitting model is highlighted in bold; entries should be read column-wise. M2, which considers the ideological effects and the economic status, achieves the best model fit in most countries and sophistication settings. In the low and moderate sophistication settings, M2 provides the best performance in seven out of twelve countries, while in the high sophistication setting, it performs best in nine out of twelve countries. However, there are three notable exceptions. Portugal is the only country in our sample where the model without economic effects (M1) outperforms all three settings. In Germany and Spain, M4, which includes both economic status and education level performs best in all sophistication settings.

To further identify the best covariate specification, we explore whether reasonable interaction terms improve the model fit compared to main-effects models. We consider interactions between (1) ideological considerations and economic status, (2) ideological considerations and interest in politics, and (3) ideological considerations and education level. Tables A5 and A6 in Online Appendix C report the BIC values for the main-effects model (M2) compared to the models that include interactions (1) and (2). We also use the education level instead of economic status (M3) and compare it to the model that contains interaction (3). Comparing the performance measures of the main-effects models and the interaction models reveals that accounting for interactions improves the model fit only in very few cases (in six out of 108 interaction models). Among the founding member states, only the interaction between ideological considerations and interest in politics improves the high-sophistication model in Germany. Regarding the non-founding member states, five interaction models improve the model fit for two countries, the UK and Greece.²⁸

We conclude that a parsimonious specification without interactions appears to capture the underlying data structure best. For consistency, we stick to M2 to base our result discussion on the same ceteris-paribus condition, allowing us to compare the effects within countries and across settings.

4.2. Estimates and model results

We now present the estimates for M2, which includes both ideological and economic effects. For each setting, Table 4 gives the effective degrees of freedom (edf) of the smooth terms for the ideological effects $s(ideo_i)$, followed by the parametric coefficients for the economic effects e_i . When the edf is 1, the smooth term equals a simple linear effect; the more edf, the more complex the relation between ideological considerations and EU integration preferences (Table A7 in Online Appendix D provides further details on the approximate significance of the smooth terms).

In the low-sophistication model, ideology influences EU integration preferences in all countries except Greece and Spain. In the moderate-sophistication setting, ideology does not affect integration preferences in Greece and Portugal. In the high-sophistication setting, ideological effects are absent in Portugal and the Czech Republic. Overall, ideological considerations influence integration preferences in every country in our sample. We also find that all empirical estimates for the economic effects are positive, suggesting that a higher economic status induces pro-EU preferences and lower economic status contra-EU preferences. This pattern holds across

²⁵ Eq. (9) specifies a pure main-effects model. However, several interactions are reasonable, such as between the ideological considerations $f(ideo_i)$ and the economic status e_i . We will revisit this in the empirical results section, where we test interactions of the form: $y_i = f_1(ideo_i) + f_2(ideo_i \times e_i) + \eta_i^{lin} + e_i$, where $\eta_i^{lin} = \beta_0 + \beta_1 e_i + w_i^T \beta$.

²⁶ Several studies (e.g., Foster and Frieden, 2021; Hakhverdian et al., 2013; Hobolt et al., 2022) highlight the importance of the variable education in the public support for European integration, employing different operationalizations. Foster and Frieden (2021) use four categories (low, medium, high, advanced), while Hobolt et al. (2022) rely on three categories (low, medium, high). We follow one of the categorizations in Hakhverdian et al. (2013), who employ nine categories to closely proxy our economic status variable, which is measured on a seven-point scale (see Online Appendix B for details).

²⁷ BIC is chosen as it accounts for differences in the number of covariates across model specifications. The Akaike Information Criterion (AIC) yields similar results that are available upon request. All models are estimated on the same set of observations.

²⁸ In the UK, interactions between ideological considerations and either economic status or education level improve model fit in the moderate-sophistication setting. For Greece, there seems to be an interaction effect between ideological considerations and economic status for the low and moderate settings.

Table 3
Explaining individual preferences for EU integration: Model comparisons.

	Sophistication setting:	Low	Moderate	High
Belgium	M1: Controls $w_i + f(ideo_i)$	3260.02	3218.40	3200.60
	M2: M1 + e_i	3239.97	3210.25	3191.34
	M3: M1 + $education_i$	3253.09	3213.95	3199.89
	M4: M1 + $e_i + education_i$	3237.35	3208.75	3192.89
France	M1: Controls $w_i + f(ideo_i)$	3706.16	3687.25	3718.06
	M2: M1 + e_i	3703.13	3688.09	3714.28
	M3: M1 + $education_i$	3704.23	3685.27	3715.58
	M4: M1 + $e_i + education_i$	3703.94	3688.39	3714.91
Italy	M1: Controls $w_i + f(ideo_i)$	3686.47	3739.64	3686.67
	M2: M1 + e_i	3672.11	3732.02	3680.42
	M3: M1 + $education_i$	3692.39	3743.79	3692.57
	M4: M1 + $e_i + education_i$	3678.68	3737.42	3686.89
Netherlands	M1: Controls $w_i + f(ideo_i)$	3343.02	3308.78	3332.07
	M2: M1 + e_i	3289.64	3273.90	3294.77
	M3: M1 + $education_i$	3344.13	3309.64	3332.99
	M4: M1 + $e_i + education_i$	3293.97	3277.41	3298.92
Germany	M1: Controls $w_i + f(ideo_i)$	3977.59	4026.76	3957.64
	M2: M1 + e_i	3962.60	4021.37	3943.68
	M3: M1 + $education_i$	3961.29	4006.85	3939.79
	M4: M1 + $e_i + education_i$	3953.60	4006.66	3932.72
UK	M1: Controls $w_i + f(ideo_i)$	3309.84	3332.54	3281.20
	M2: M1 + e_i	3302.57	3333.11	3277.40
	M3: M1 + $education_i$	3307.55	3329.98	3281.66
	M4: M1 + $e_i + education_i$	3304.30	3332.38	3280.31
Greece	M1: Controls $w_i + f(ideo_i)$	3859.84	3843.62	3846.43
	M2: M1 + e_i	3851.81	3837.05	3838.87
	M3: M1 + $education_i$	3866.44	3850.25	3853.05
	M4: M1 + $e_i + education_i$	3858.15	3843.56	3845.31
Portugal	M1: Controls $w_i + f(ideo_i)$	3844.59	3825.03	3825.42
	M2: M1 + e_i	3848.94	3829.36	3829.88
	M3: M1 + $education_i$	3851.27	3831.71	3832.11
	M4: M1 + $e_i + education_i$	3855.58	3836.05	3836.56
Spain	M1: Controls $w_i + f(ideo_i)$	3970.73	3972.33	3992.13
	M2: M1 + e_i	3963.82	3968.69	3983.53
	M3: M1 + $education_i$	3961.43	3965.88	3984.56
	M4: M1 + $e_i + education_i$	3957.66	3964.84	3980.17
Sweden	M1: Controls $w_i + f(ideo_i)$	3622.71	3613.09	3605.42
	M2: M1 + e_i	3605.95	3605.63	3593.87
	M3: M1 + $education_i$	3621.26	3612.40	3608.09
	M4: M1 + $e_i + education_i$	3593.02	3606.25	3597.23
Czech Republic	M1: Controls $w_i + f(ideo_i)$	3448.22	3462.79	3451.29
	M2: M1 + e_i	3436.47	3444.70	3433.67
	M3: M1 + $education_i$	3450.70	3450.85	3452.67
	M4: M1 + $e_i + education_i$	3441.06	3448.22	3437.79
Poland	M1: Controls $w_i + f(ideo_i)$	3821.34	3796.49	3777.20
	M2: M1 + e_i	3811.81	3787.52	3767.32
	M3: M1 + $education_i$	3827.99	3803.11	3783.76
	M4: M1 + $e_i + education_i$	3818.61	3793.60	3773.76

Note: M1 contains controls and ideological effects; M2 adds economic status to M1; M3 adds education level to M1; M4 adds economic status and education level to M1. Table reports BIC. Best model in bold.

all countries except Portugal.²⁹ The economic effects are similar in magnitude across countries, suggesting that the EU's redistributive role does not impact individual integration preferences. For example, the estimates are about the same in Germany, Sweden or France (net contributors of EU transfers) and Poland or Greece (net receivers).³⁰ When education level is used instead of economic status

²⁹ This result is related to Gabel (1998a,b), who posits that support for membership in the EU is associated with differences in occupation-based economic interests; skilled and unskilled workers' support for EU membership differ because the former benefit more from global markets. In a similar vein, Vlachos (2004)'s study of the Swedish 1994 EU referendum demonstrates that economic security played a crucial role in attitudes toward integration.

³⁰ According to publicly available information 'EU spending and revenue 2014-2020' by the European Commission, France, Italy, the Netherlands, Germany, the UK, and Sweden are net contributors, and the remaining member states in our sample are net receivers.

Table 4
Ideological effects $s(ideo_i)$ and economic effects e_i using M2.

Sophistication setting:	Low		Moderate		High	
	$s(ideo_i)$ edf	e_i coef.	$s(ideo_i)$ edf	e_i coef.	$s(ideo_i)$ edf	e_i coef.
Belgium	3.23*	0.52*	2.48*	0.38*	6.37*	0.39*
France	6.17*	0.29*	3.27*	0.23*	8.72*	0.31*
Italy	1.14*	0.49*	4.77*	0.41*	2.86*	0.39*
Netherlands	2.42*	0.66*	1*	0.54*	3.57*	0.57*
Germany	2.38*	0.42*	1*	0.32*	2.70*	0.39*
UK	2.11*	0.32*	4.23*	0.20*	1*	0.28*
Greece	4.45	0.38*	1	0.36*	3.30*	0.39*
Portugal	7.30*	0.12	1	0.13	1	0.12
Spain	1.27	0.31*	3.88*	0.27*	6.93*	0.28*
Sweden	3.84*	0.38*	1.40*	0.30*	4.64*	0.36*
Czech Republic	4.69*	0.43*	4.98*	0.51*	2.15	0.50*
Poland	1.13*	0.40*	3.60*	0.39*	3.23*	0.38*

Note: Dependent variable is individual preferences for EU integration. Entries give effective degrees of freedom (edf) of smooth terms for the ideological effects $s(ideo_i)$ in the three sophistication settings (low, moderate, high, as defined in Table 2), followed by parametric coefficients for economic effects e_i . edf=1 indicates a simple linear effect; the more edf, the more complex the relation between ideological considerations and EU integration preferences. All models contain control variables, see Online Appendix D.

* Indicates p-val.< 0.05.

(M3), results for ideological effects remain consistent, though education effects are less significant (reported in Section E.1 in the Online Appendix), with higher education levels inducing pro-EU preferences and lower education contra-EU preferences.

Fig. 5 depicts the smooth terms for the ideological effects $s(ideo_i)$ for those countries where they are statistically different from zero at the 5% significance level. The plots are ordered by edf, from more linear to less. To ensure identifiability, smooth terms are centered around zero, allowing only the function's shape to be interpreted. The histograms describe the distribution of the ideological variables across the citizens of the sample in each country.

Panel (a) shows the low-sophistication setting where our theory predicts a positive slope when the EU is perceived as right-wing and a negative one when the EU is perceived as left-wing. Such monotonic relationships are observed in the vast majority of countries except the Czech Republic, France, and Portugal. The predominance of negative slopes suggests that the EU is generally perceived as left-leaning. As a result, left-wing individuals tend to support EU integration, while right-wing individuals exhibit higher Euroscepticism.³¹

Panel (b) depicts the moderate-sophistication setting. Theoretically, we predict that small distances between citizens' ideal ideology and perceived EU policy induce pro-EU preferences, while large distances yield contra-EU preferences. Thus, we expect the ideological component to produce negative slopes. The empirical estimates align with our theoretical expectations: larger distances to EU policies are generally associated with contra-EU preferences. The estimates support the inverted U-shaped relationship between left-right ideologies and Euroscepticism by which left and right ideological extremes are more contra-EU than centrist citizens.³²

Panel (c) depicts the high-sophistication setting where we expect positive slopes. The estimates reveal such slopes in most countries. In this setting, pro-EU preferences are associated with the possibility of EU policy amending national policies. Conversely, contra-EU preferences emerge among citizens who feel closer to their national policy than the EU. No clear pattern emerges in Sweden and France.³³

We briefly summarize the results of the control variables. Table 5 reports the significant effects of demographic and socio-political variables on EU integration preferences. A positive sign indicates a tendency to pro-EU preferences and a negative contra-EU preferences. Unlike ideological and economic effects, our estimates on the controls exhibit no systematic pattern.

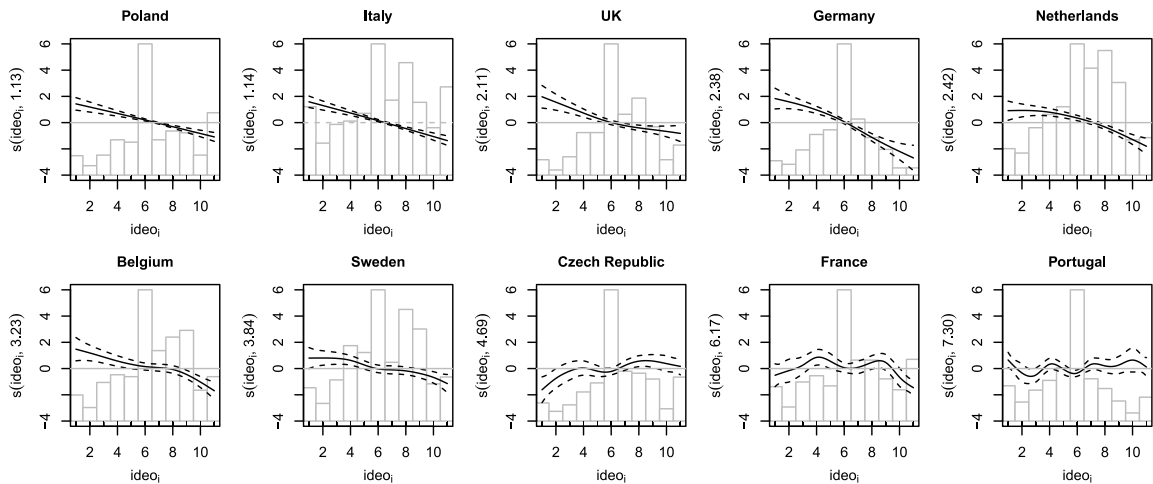
Age has an effect in seven out of twelve countries, although in different directions; in France, the Netherlands, the UK, and the Czech Republic, elderly citizens are less favorable toward EU integration, while the opposite pattern is observed in Greece, Spain, and Poland. Gender differences are significant in three out of twelve countries. Women exhibit contra-EU preferences in Germany and Greece, whereas men do so in the UK. A rural-urban divide in EU integration preferences is evident in only two countries. Citizens residing in small or middle-sized towns in Portugal and Poland consistently exhibit more pro-EU preferences than those in rural areas. Interest in politics has an effect in France, the Netherlands, Portugal, Spain and Poland, where citizens

³¹ This finding is in line with Hobolt (2016) and Clark and Rohrschneider (2019).

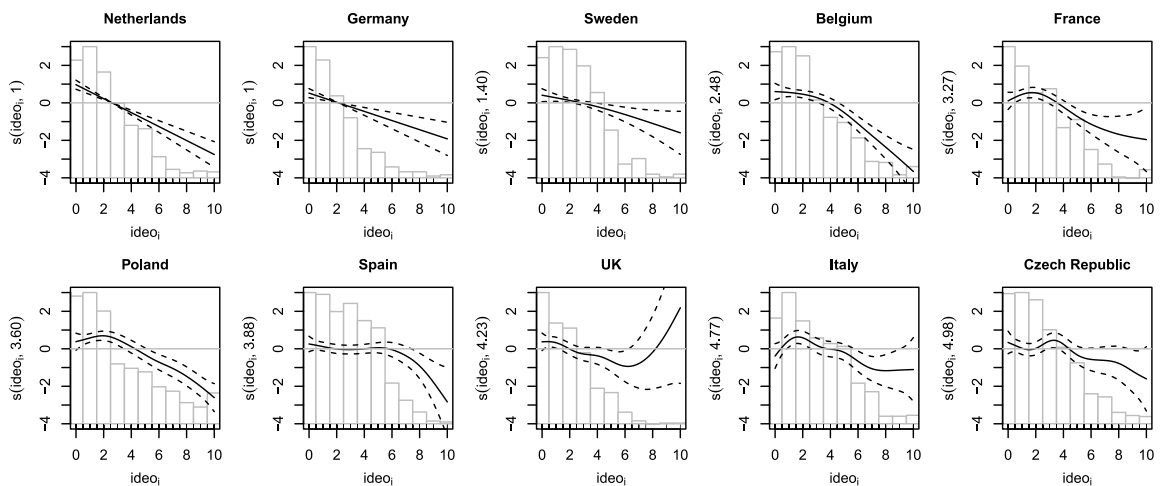
³² This result is in accord with the inverted U-shaped Euroscepticism curve (e.g., Halikiopoulou et al., 2012; König et al., 2017; van Elsas and van der Brug, 2015).

³³ On average, citizens in Sweden perceive the EU more to the right than their national government. Thus, we would expect contra-EU preferences among left-wing citizens and pro-EU preferences among right-wing citizens. However, we observe the opposite that might be due to other non-observed variables, such as anti-immigration attitudes among extreme right individuals (Bó et al., 2023). In France, right-wing citizens are expected to be contra-EU because they mostly perceive their national policies as more to the right than the European ones. This is the case for a large fraction of respondents but not for all, possibly due to the strong pro-European stance of the national governing party led by Emmanuel Macron.

(a) Low Sophistication $ideo_i = x_i$



(b) Moderate Sophistication $ideo_i = |x_i - x_{iU}|$



(c) High Sophistication $ideo_i = \text{sgn}(x_{iU} - x_{in}) \times (x_i - x_{in})$

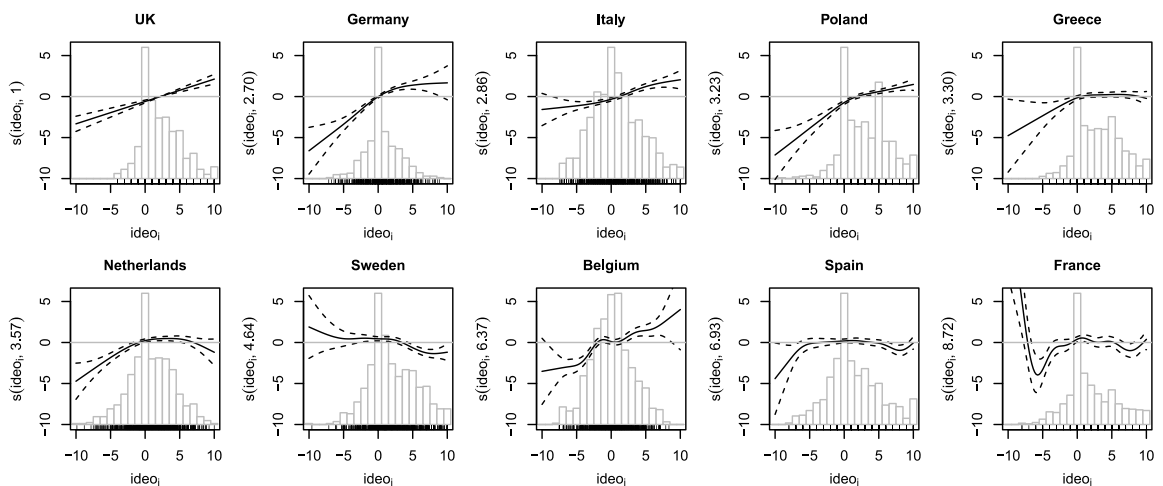


Fig. 5. Smooth terms for ideological considerations in the three settings (M2).

Note: Figures show smooth terms with approximated 95% confidence intervals for ideological effects $s(ideo_i)$, which are centered around zero to ensure identifiability. Numbers in parentheses give effective degrees of freedom. Curves indicate the increasing or decreasing relation between ideology and EU integration preferences. Histograms depict distribution of ideological variables.

Table 5
Identified effects for control variables across sophistication settings (M2).

	Age	Female	Pop. size	Interest politics	Undeveloped
Belgium					-
France	-			+	
Italy					
Netherlands	-			+	
Germany		-			
UK	-	+			
Greece	+	-			
Portugal			+	+	
Spain	+			+	
Sweden					
Czech Republic	-				
Poland	+		+	+	

Note: Dependent variable is the individual preferences for EU integration. Entries summarize the significant effects ($p\text{-val.} < 0.05$) of demographic and socio-political variables on EU integration preferences across the three sophistication settings. Positive sign means pro-EU integration preferences, negative sign means contra-EU tendencies. Online Appendix D reports complete estimation tables.

who reported higher levels of political interest show pro-EU integration preferences compared to those reporting no interest at all. Finally, the undeveloped variable has a significant effect only in Belgium, where citizens in less developed regions exhibit lower pro-EU preferences.

4.3. Comparing settings through model fit and robustness checks

We compare the three settings based on model fit and provide further robustness checks. Since our selected models (M2) for the three sophistication settings are based on the same number of observations for each country and covariates (i.e., only differ in the variable capturing the ideological component) we can determine what setting best predicts EU integration preferences in each country based on the explained deviance ($-2 \times \log\text{likelihood}$).

Panel (a) of Table 6 summarizes the already presented ideological and economic effects and reports the explained deviance (in percent) for each setting. Overall, it appears that the longer a country is a member of the EU, the more systematic are the ideological and economic effects in determining integration preferences.³⁴ Regarding the explained deviance, bolds indicate the best model fit for each member state. We observe considerable variation across countries. For example, preferences for EU integration are much better explained in the UK, where the explained deviance is 22.99 percent, whereas it is only 4.61 percent in Portugal. As indicated by the bolds, accounting for the high-sophisticated rationale best predicts EU integration preferences in nine out of twelve countries (and this corroborates the comparison with BIC in Table 3). In Belgium and Germany, the explained deviance of the high-sophistication setting compared to the moderate-sophistication setting increases by six and ten percentage points, respectively.

We account for two variations of the presented models to assess the robustness of our findings. First, we measured the EU policies by the party ruling the European Commission instead of the governing parties in the EP for the moderate and high-sophistication settings. The Commission was ruled by Jean-Claude Juncker, affiliated with the Christian Social People's Party, which is included in the European People's Party (EPP). Thus, for every country, we used the perceived position of the corresponding national party in the EPP (see Table A12 Online Appendix E.2). The results are reported in Panel (b) in Table 6.³⁵ In the UK and Greece, the high-sophistication setting does not capture divergence between national and European policies. In Germany, Portugal, and Spain, the results for the high-sophistication setting remain the same.³⁶ Changes in estimated coefficients appear in the remaining countries.³⁷ We observe that this alternative definition does not outperform the previous one; the ideology is not significant in more cases, and the model fit diminishes compared to Panel (a).

Second, to further strengthen the empirical evidence for the high-sophistication rationale, we conduct an additional robustness check using the absolute distance between citizens' ideal ideology and their perception of national policy, represented as $|x_i - x_{in}|$. This approach allows us to eliminate the interaction term between EU and national policies, which is a crucial component of the high-sophistication setting. The effects and the model fit are summarized in Panel (c) of Table 6 (Section E.3 in the Online Appendix provides details). The model fit substantially diminishes compared to the high-sophistication setting in all countries except Spain and Sweden, where it increases slightly by less than one percentage point. The comparison again highlights the crucial interplay

³⁴ Greece and Portugal received an EU bailout during the European sovereign debt crisis in 2010–2014 and applied austerity fiscal measures required by the EU. These unpopular measures produced a mixed effect on citizens, and we do not find systematic patterns to explain preferences for integration in these nations. While the effect of EU funds has been shown to decrease populism (Albanese et al., 2022), no similar contribution studies the individual response to fiscal restriction measures.

³⁵ Section E.2 in the Online Appendix reports smooth terms and parametric coefficients.

³⁶ For instance, in Spain, every citizen who perceives the policy of the EP (midpoint between PSOE and PP) to the right of the national policy (PSOE), also perceives the policy of the European Commission (PP) to the right of the national policy (PSOE).

³⁷ For instance, in France, the national governing party (REM) is distinct from the two parties that determine European policies (the UMP and PS).

Table 6

Summary of effects, model fit and further robustness checks.

(a) Summary of Effects and Model Fit (M2)									
	Low			Moderate			High		
	Ideo. Effect	Econ. Effect	Dev.	Ideo. Effect	Econ. Effect	Dev.	Ideo. Effect	Econ. Effect	Dev.
Belgium	Yes	Yes	10.97	Yes	Yes	14.35	Yes	Yes	20.02
France	Yes	Yes	9.64	Yes	Yes	9.13	Yes	Yes	10.35
Italy	Yes	Yes	11.64	Yes	Yes	7.11	Yes	Yes	12.01
Netherlands	Yes	Yes	18.19	Yes	Yes	18.95	Yes	Yes	18.46
Germany	Yes	Yes	14.31	Yes	Yes	6.51	Yes	Yes	16.59
UK	Yes	Yes	20.88	Yes	Yes	18.85	Yes	Yes	22.99
Greece	No	Yes	7.09	No	Yes	6.09	Yes	Yes	7.73
Portugal	Yes	No	4.61	No	No	1.90	No	No	1.84
Spain	No	Yes	8.39	Yes	Yes	9.75	Yes	Yes	10.36
Sweden	Yes	Yes	6.76	Yes	Yes	4.72	Yes	Yes	8.96
Czech Republic	Yes	Yes	10.91	Yes	Yes	10.07	No	Yes	9.08
Poland	Yes	Yes	10.70	Yes	Yes	15.30	Yes	Yes	17.23

(b) Measuring EU Policies by Governing Parties in the European Commission (M2)									
	Moderate			High					
	Ideo. Effect	Econ. Effect	Dev.	Ideo. Effect	Econ. Effect	Dev.			
Belgium	Yes	Yes	10.12	Yes	Yes	10.73			
France	No	Yes	5.50	Yes	Yes	7.69			
Italy	Yes	Yes	6.19	Yes	Yes	6.70			
Netherlands	Yes	Yes	13.75	Yes	Yes	13.15			
Germany	No	Yes	4.40	Yes	Yes	16.59			
UK	Yes	Yes	21.53						
Greece	No	Yes	5.85						
Portugal	No	No	1.95	No	No	1.84			
Spain	No	Yes	8.45	Yes	Yes	10.36			
Sweden	No	Yes	5.11	Yes	Yes	8.95			
Czech Republic	Yes	Yes	10.44	Yes	Yes	10.08			
Poland	Yes	Yes	12.69	Yes	Yes	16.80			

(c) Model with $ideo_i = x_i - x_{in} $ (M2)				
	Ideo. Effect	Econ. Effect	Dev.	
Belgium	No	Yes	5.54	
France	Yes	Yes	7.98	
Italy	Yes	Yes	6.42	
Netherlands	Yes	Yes	12.91	
Germany	Yes	Yes	5.27	
UK	Yes	Yes	21.53	
Greece	No	Yes	5.85	
Portugal	No	No	1.84	
Spain	Yes	Yes	10.93	
Sweden	Yes	Yes	9.61	
Czech Republic	No	Yes	8.11	
Poland	Yes	Yes	8.55	

Note: Dependent variable is individual preferences for EU integration. Summary of ideological (Ideo.) and economic (Econ.) effects on EU integration preferences. 'Yes' indicates a significant effect (p-val.< 0.05) and 'No' otherwise. Dev. is the explained deviance ($-2 \times \log\text{likelihood}$) in percent. For each country, bolds indicate best model fit across settings. Entries are to be read row-wise.

between perceived EU and national policies in explaining preferences for integration which is captured by the high-sophistication setting.

5. Discussion

Previous studies emphasize that right-wing populism produces Euroscepticism or left and right ideological extremes are more Eurosceptical.³⁸ These contributions neglect the interplay between national and European policies, which is at the core of our study.

³⁸ See Halikiopoulou et al. (2012), Hatton (2016), König et al. (2017), van Elsas and van der Brug (2015).

Multi-level governments overlap, and we demonstrate that European citizens tend to be aware of the influence of EU laws on national politics. We posit that European politics is viewed as an ideological counterweight to perceived left or right-biased national politics; the high-sophistication setting incorporates this feature.

Our findings have both positive and negative implications. On the positive side, we may not encounter a consensus among European left or right-extremist political families opposing integration, as preferences for EU integration depend on national contexts.³⁹ The negative aspect lies in the anticipated unstable preferences for EU integration, as government turnover at national levels may directly influence support for EU membership.

6. Concluding remarks

After Brexit, other threats such as Poxit or Nexit, which refer to Poland and the Netherlands, loom over the integrity of the European Union. Such developments challenge the EU's objectives of expanding membership and strengthening its global influence. Using a model that assesses the benefits and costs of integration, we present a new theory in which the ideological costs of EU membership reflect citizens' awareness of the influence of EU legislation. There are, essentially, two competing models: one focuses on how citizens perceive EU policies directly, and the other examines how EU legislation shapes national policies.

The empirical results indicate that two effects systematically determine preferences for EU integration. First, the economic effect unequivocally demonstrates that higher economic status strengthens pro-integration preferences. This effect is similar but more systematic than that of education levels by which more educated citizens support further integration.⁴⁰ Second, the newly incorporated ideological effect. Citizens' perceptions of EU policy as being to the right or left of their governing national party significantly influence their support for EU integration. That is, citizens assess the potential amendment or interference of European legislation in their national contexts. Citizens for whom the EU legislation adjusts domestic politics toward their preferred ideology defend the advancement of EU integration, and detractors or Eurosceptics emerge among citizens who believe the EU interferes with their national policies. We observe this pattern in most countries analyzed.

Future research could explore the dynamics of EU integration preferences and assess the external validity of our framework for other global supranational unions. Additionally, the influence of immigration preferences is an important factor not covered in our analysis. This contribution demonstrates that European citizens view EU legislation as a counterbalance to domestic politics, and support for the EU's advancement comes from those who believe that European laws amend national policies.

Ethics approval

The research does not involve human participants. The research does not involve animals.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary material

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.eurocorev.2025.105038>.

³⁹ See also Hobolt and De Vries (2016), Sánchez-Cuenca (2000), Rohrschneider (2002).

⁴⁰ The economic effect we obtain is in line with previous studies by Colantone and Stanig (2018), Foster and Frieden (2021), Gabel (1998a,b), or Vlachos (2004).

Data availability

We use publicly available data provided by GESIS and Harvard Dataverse. The data (including doi) is cited in the manuscript and the reference list.

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