

A CENTRE-PERIPHERY DIVIDE IN EU POLITICS AND ITS STRUCTURING EFFECT ON CITIZENS' WILLINGNESS TO SHOW SOLIDARITY WITH OTHER COUNTRIES

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Abstract

Is there a case to be made for a centre-periphery cleavage in European Union politics? I argue that the EU institutionalises a power imbalance between rich countries of the centre and poorer countries in the peripheries. My analysis investigates whether this centre-periphery divide structures individuals' willingness to show solidarity with other EU countries. I use a Heckman-style probit model with sample selection for survey data from 13 European countries by the European University Institute and YouGov (Genschel, Hemerijck et al., 2020). The results show that citizens in centre countries are more likely to show solidarity with other centre countries than with periphery countries, and vice versa. These findings suggest that there is a spatial-relational dimension to European fiscal solidarity, and that the characteristics of recipient countries matter for citizens willingness to show European solidarity.

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Introduction

If, tomorrow, a European country falls into a crisis that requires financial resources beyond the country's means, could it count on citizens of other countries to show solidarity? Based on existing research, a well-informed expert would answer that this country could hope for the support of, for instance, citizens who identify with Europe (Verhaegen, 2018) or who have a cosmopolitan outlook on the world (Kuhn et al., 2018), and that the willingness to show solidarity depends also on the policy design of the support for this country (Bremer et al., 2021).

In this paper, I argue that there is a spatial-relational dimension to European solidarity that so far has not been adequately taken account of. For instance, it would be naïve for the expert to assume that the country in crisis could count on as much solidarity from its neighbour countries as from those on the opposite side of Europe. Clearly, the attributes of the country in need and of the relation between a citizen's country and a recipient country matter for the individuals' willingness to show fiscal solidarity². More specifically, I claim here that there is a centre-periphery divide across EU countries that structures the relation of countries and their citizens in European, and polarises individuals' willingness to show solidarity with other EU countries. The cleavage pits countries of the centre against countries in the Eastern periphery and the Southern periphery. It makes their citizens more likely to show solidarity with other countries of their cleavage camp than of the opposite camp.

I apply a Heckman-style probit model with sample selection on survey data of 13 EU countries (Genschel, Hemerijck et al., 2020). A survey question in which respondents are asked to express their willingness to show fiscal

² To be clear, while the term fiscal solidarity is also used popularly used in federalism research (see, for instance, Duff & Treichel, 2014), I am solely interested and understand solidarity here as an individual level attitude. The empirical relation between the two concepts certainly merits its own paper

solidarity with other countries in crisis provides me with the opportunity to investigate the recipient country-specific variance in European solidarity. By use of a Heckman-style model, I take into account the concern that European solidarity is an issue with limited real-life relevance for most ordinary citizens. This is the first time that the salience of European solidarity is explicitly modelled and the potential selection bias accounted for.

I find strong support for my theoretical model. There seems to be indeed a centre-periphery divide in the EU that structures citizens willingness to show solidarity with other countries. Remarkably, the effect is relevant even when controlling for geographic and cultural proximity, economic performance, and whether countries are in the Eurozone. Further, I find that an individual's sociotropic political efficacy, that is, the belief that their country has a say in the EU, is a relevant predictor for European solidarity attitudes, and that this belief is mediated by the centre-periphery cleavage as well.

The article is structured as follows. The next section will discuss the importance of relational attributes for the formation of European fiscal solidarity attitudes. In section 3, I will discuss how the centre-periphery cleavage fits into this and derive my hypotheses. In section 4, I apply my empirical analysis and discuss results. The final section will conclude and discuss wider implications of these findings.

Beyond individual determinants: The importance of relation for European fiscal solidarity

Extant research has so far mostly focused on individual level attitudes to explain variations of European solidarity. Not without reason: There is ample evidence that suggests that an important share of variance can be attributed to individual level factors, including (sociotropic) notions of self-interest (Mariotto and Pellegata, 2022; Bobzien and Kalleitner, 2020),

identity (Nicoli et al., 2020; Kuhn et al., 2018), and political beliefs (Medrano et al., 2019).

An important feature of European solidarity attitudes is their sociotropic orientation. Most frequently, European solidarity is perceived as the solidarity of one country, or a community of countries (such as the EU), with another country in need. In national contexts, citizens often have well-established information of redistribution schemes that require solidarity. For instance, they can see on their pay slip at how much they contribute to, say, the national unemployment insurance scheme. On the contrary, much of the information needed to assess the individual costs of European solidarity is not available or costly (in the sense that, citizens need to actively make an effort to get the information). Benefits, in turn, are rarely framed in individual terms, but go to state funds or regionally administered projects. Citizens are known to be notoriously uncertain about their position on an income or wealth distribution in national contexts. To expect citizens to perform such an estimate on a European scale seems overly optimistic. Public discourse is often framed in macro terms, about which country gains most and pays less. This may explain why sociotropic self-interest is usually found to be a more important determinant of European solidarity than egotropic self-interest, and it may also explain the lower level of engagement with European solidarity.

Research has begun to acknowledge that part of the variance in European solidarity is not explained by the individuals, but by the spatial dimension of redistribution across Europe. Studies show that the macro-context, that is, factors attributed to the country of residence (or possibly, the nationality) explains some attitudes (Vasilopoulou and Talving, 2020; Bobzien and Kalleitner, 2020). For instance, in countries in which citizens expect to be contributing to European solidarity, they may be less willing to show solidarity. Others have found that national-level corruption may influence citizens' perspective on European solidarity. In countries with a low level of

perceived corruption, citizens who perceive corruption are less likely to support financial redistribution across Europe. In countries with higher levels of corruption, the inverse is the case (Bauhr and Charron, 2020). In a similar vein, further studies find that the national welfare institutions also shape the individual willingness to show European solidarity (Baute et al., 2019), as well as other context variables like the current level of national debt (Daniele and Geys, 2012).

The paper contributes to this line of research. My understanding of European fiscal solidarity follows the seminal work of (Stjernø, 2004): It is understood here as “preparedness to share financial resources” with people in other European countries who are worse-off or in need, through actions and funds mobilized by state institutions, including the European Union (EU). As such, I understand European fiscal solidarity not to be *supranational*, but *transnational*. It does not refer to an abstract EU-wide scheme or principle. Rather, as the definition emphasises, it is the willingness to support a concrete measure or action for people in one or more other European countries. The argument is not to deny the existence of a European solidarity space – the idea that Europeans are more willing to show solidarity with each other than with ‘outsiders’ (Gerhards et al., 2018) – but to underscore that, within Europe, recipient country attributes play a role.

European solidarity is often conceptualised and/or operationalised in reference to EU policy, not without reason: The EU does provide several examples of policies that rely on European solidarity. These policies – e.g., Eurobonds, a European Insurance Scheme, the EU Budget, NextGenerationEU, to name just a few - are often designed to be accessible to all EU member states. However, apparent benefits aren’t distributed evenly. Some countries benefit more than other from the EU budget or NextGenerationEU, in other cases, the activation of a policy is specifically

designed to help one country. In the end, the notion that some countries benefit more than others is always implicit at least.

European integration and the centre-periphery cleavage

The argument of this article is that European countries are also geographically and politically clustered along a centre-periphery cleavage. This cleavage is explained by economic and political dynamics and polarises individual attitudes and their identification of citizens according to their position on this cleavage.

The basic terminology of the centre-periphery divide is borrowed from cleavage theory. In their seminal article on the concept, Lipset and Rokkan (1967) seek to explain how political interests merged into societal groups and led to the creation of stable party systems. They establish four such cleavages: owner-worker, church-state, urban-rural, centre-periphery.

In the original idea, the relevance of cleavages comes from their long-term stability in influencing the structure of political party systems and votes. Since the 1970s, scholars have increasingly put in question the relevance of cleavages, given that modern societies become more individualised and less cohesive. Others argue that, while the original cleavages identified by Lipset and Rokkan (1967) are increasingly losing explanatory power for vote choices, new cleavages emerge (Franklin, 2010; Marks et al., 2021). For instance, the divide between cosmopolitans and communitarians (and green-alternative-libertarian and traditional-authoritarian-nationalist parties respectively) is gaining in popularity among scholars (De Vries, 2018; Hooghe and Marks, 2018).

Given that EU politics and international affairs remain low information environments, there is a case to be made that cleavages have an effect on individual attitudes as concerns these matters. As citizens rely more strongly on cues and heuristics than in local or national politics and are generally less informed (Rapeli, 2014), the signalling of cleavage groups can

still shape citizen attitudes. Concretely, I argue that the EU polity has induced a centre-periphery divide across Europe.

In the work of Lipset and Rokkan, the centre-periphery cleavage emerged in context of nation-building. As nations emerged and grew in territory, power become asymmetrically distributed, both in a spatial-geographical sense, as well as in the sense of group membership. Throughout the process of nation-building, power remains in the centre (again, both as a geographical idea as well as in the sense of a culturally or otherwise dominant social or ethnic group) and it exerts control over the periphery (or peripheries) that is geographically or culturally distant from the centre (Treib, 2021).

While not a nation, European integration can be understood as a process of state building (Genschel and Jachtenfuchs, 2016; Ignácz, 2021). What started in 1958 as an international organization of tightly defined thematic competences developed over the years to a governance system *sui generis*. The EU has taken competence over or is involved in policies associated to core state authorities, such as customs and borders, currency, and judicial oversight. In the same time, it has grown from a community of six countries to 27 countries. In applying cleavage theory to European politics, I share the admittedly optimistic interpretation of those who see the emergence of a European social space, such as Ignácz (2021). These scholars point out that both national and European processes are made up of social interactions on the basic level, and that national borders are merely “artificial, politically construed obstacles[s]” (ibid.: 9).

A key aspect of the centre-periphery divide comes from the way the EU extends its membership. In the EU, the process of accession requires countries to implement what is known as the *Acquis communitare*, that is, the collection of all legislation that the EU has adopted until the moment of accession. Rather than a compromise between legal traditions of two parties, this procedure is one-sided: either the country implements the rules, or it cannot join. In this sense, the EU does not expand its territory through

military force and conquering, but through dissemination of its legal system. The power asymmetry at time of accession suggests that benefits are distributed unevenly between those countries already members who can define terms of accession on the one side, and the country joining on the other side. It contributes to the emergences of polarisation between central and peripheral countries, including in economic terms. Countries in the centre have higher economic benefits from the institutional and economic structure of the EU (Gräbner and Hafele, 2020; Börzel and Langbein, 2019).

This “in-built” divide between long-term members and newcomers is exacerbated by political action. Lipset and Rokkan (1967) argued that parties are the product of these social cleavages, but that they also reinforce them through mobilisation in electoral campaigns. In the context of the EU, this interplay takes place between citizens and national governments, who function as the primary transmission belts between voters’ expectations and EU policy. The relevance of the centre-periphery divide in the political arena can be seen by the numerous country clubs among centre countries (e.g. Frugal Four, Hanseatic League) and peripheral countries (e.g. Visegrad, Club Med, Friends of Cohesion). These can be informal or formal, short-lived or long-term, policy-specific or more generally oriented, but remarkably, all too often, they relate to the centre-periphery divide. The theoretical assumption is that these coalitions and voter preference are bidirectionally associated. Voters’ expression feed into national government preferences and coalition-building, and the positioning of national governments informs voters’ preferences. Furthermore, this polarization cannot be explained by other divides.

The application of the centre-periphery divide on European solidarity attitudes can be seen as a “Most likely”-case. For instance, Hechter (1987) understands solidarity as the “groupness” of a group (ibid.: 8). Other underscore that leavages provide cohesion and belonging within the

opposing groups, which creates solidarity (Hooghe and Marks, 2018). If the centre-periphery cleavage really creates distinct social groups, it must have some effect on solidarity attitudes. The following hypothesis will be tested:

Hypothesis 1: Citizens in centre countries (peripheral countries) are more likely to show solidarity with centre countries (peripheral countries) than peripheral countries (centre countries).

The effect of the centre-periphery divide is to be distinguished from the effect of shared identification. While it is evidenced that a European identity has a positive effect on European solidarity (Nicoli et al., 2020), research begins to acknowledge the complexities of European identification. As Reese and Lauenstein (2014) discuss, citizens of European countries evaluate each other based on the degree with which they represent the “ideal European”. As the Ingroup Projection Model suggests (Mummendey and Wenzel, 1999), members of a group tend to project characteristics of their group on the superordinate group category. Consequently, ideas of the ideal European differ between countries: The Danish may consider the Swedish to be much more resembling to the ideal European than the Portuguese. Inversely, the Portuguese may consider the Spanish to be much more resembling to the ideal European than the Danish (see also Bianchi et al., 2010).

In as much as identity shapes the solidarity attitudes then, citizens of countries that are geographically and culturally close can be expected to be more likely to show solidarity with each other than with countries that are more distant, even in the absence of a centre-periphery divide. The solidarity as produced by the centre-periphery divide, however, comes from a shared set of political expectations and interests within cleavage groups and from the polarisation between groups.

Further, the centre-periphery divide also shapes ideas of influence. Given that the divide stems from an uneven distribution of power, it can be expected that an indirect effect of the cleavage is through perceptions of influence. Political efficacy is a well-researched topic, and usually broken down into internal and external political efficacy. Whereas Craig et al. (1990) refer to internal political efficacy as the belief that one is competent to participate in politics, external political efficacy is the belief that institutions are responsive to one's demands. Political efficacy has been shown to be relevant for attitudes on the EU (Mcevoy, 2016).

Given that the cleavage divides countries in the more influential centre and the less influential peripheries, another implication is that citizens do not only evaluate their own – individual – external efficacy, but also that of their country within the EU. Citizens of countries in the periphery are less likely to feel that their country has a say in EU politics, and consequently are more disenchanted with the EU project. As a lack of external political efficacy in particular is found to diminish policy support, it can be assumed that this 'sociotropic political efficacy' has the same effect. Where citizens think their country does not have influence over policy outcomes, they retract their support. Further, this effect is mediated by the position of their country on the divide:

Hypothesis 2.1: Individuals who consider their country to not be influential are less likely to show solidarity with other EU countries than individuals who consider their country to be influential.

Hypothesis 2.2: The marginal effect of sociotropic political efficacy is greater in centre countries than in periphery countries.

On the role of (political) knowledge

As outlined, due to the multi-layered design of European fiscal solidarity policies and a framing rarely revolving around individual costs and benefits, most citizens do not have a clear understanding of the personal costs and benefits attached to such policies (Armingeon, 2020). In general, it is well evidenced that matters of EU politics are of low salience, and citizens' knowledge of it is limited (Rapeli, 2014). It is overly optimistic to assume that citizens are capable of and interested in making assessments about their willingness to show solidarity with any given European country. In fact, part of the *raison d'être* of cleavage groups is that they provide cues for citizens, which allows them to make assessments about their utility, without having to engage extensively with the subject at hand. Whether citizens have an opinion depends both on attributes of the recipient country as well as of the individual.

Not all EU countries are equally present in citizens minds. Whether a country is member of the EU is not something all citizens know with certainty. For instance, Eurobarometer surveys regularly ask respondents whether they think Switzerland is a member of the EU (it is not). Relevant shares of respondents express the belief that they are (Commission, 2020). In specific crises, salience of recipient countries and relevant attributes may be high (e.g., Greece during the Eurocrisis). However, it is unlikely that respondents have readily stored assessments of other countries available. The centre-periphery cleavage suggests that not only the content of opinions is influenced, but also the salience of certain countries. Because of their favourable position within the EU, I will assume the following:

Hypothesis 3.1: Citizens are more likely to have a solidarity opinion on countries of the centre than on countries of the periphery.

To the best of my knowledge, there is no systematic research about citizens' familiarity with other (EU) countries that would allow the formulation of further directed hypotheses. Some factors are likely to have an influence,

such as the size of a country or its proximity to the respondent. I will include these in the model, but I refrain from formulating directed hypotheses.

There is a better-informed understanding of the individual attributes that explain salience of EU politics. Existing research suggests that knowledge about the EU is notably driven by motivation: It is those with an intrinsic interest in European politics that know more about it (Rapeli, 2014; Karp et al., 2003). European identification can be expected to have a positive effect on the salience of EU policies, as can be the individual political efficacy of respondents. Further, the satisfaction with national-level democracy has also been found to be positively associated (Rapeli, 2014; Karp et al., 2003). The following hypotheses will be tested:

Hypothesis 3.2: Citizens with a European identity, are more likely to have an opinion on solidarity with other countries than those without European identification.

Hypothesis 3.3: The higher the sense of external political efficacy of a citizen, the more likely they are to have an opinion on solidarity with other countries.

Hypothesis 3.4: The more satisfied a citizen is with their national democracy, the more likely they have an opinion on solidarity with other countries.

Methodology and data

The empirical analysis relies on the survey conducted by the research project Solidarity in Europe by the European University Institute and YouGov (Genschel et al., 2020). This survey was conducted in April 2020. It probed citizens in 13 member states of the EU as well as the United Kingdom with a respective sample size of either about 1000 or 2000 per country. For the purpose here, respondents of the United Kingdom are excluded from the analysis. The country sample includes member states

that reflect the theoretical diversity relevant to the topic. The total sample includes 19628 individual respondents.

The theoretical model makes assumptions both about the salience of solidarity as well as substantive opinions on solidarity with other countries. Importantly, the set of variables explaining the salience of solidarity differs from the set of variables that explains the substance. Satisfaction with national democracy, for instance, is expected to increase probability to express a solidarity opinion, but there are not theoretical reasons to assume that it affects the direction of this opinion. Ignoring this in the empirical analysis would lead to what Certo et al. (2016: 2640) label “sample-induced endogeneity”.

To correct for the sample selection bias, I opt to apply a Heckman-style probit model with sample selection (see Heckman, 1979; Van de Ven and Van Praag, 1981). This kind of model estimates first the propensity of an individual to have an opinion and uses these outputs to create a selection parameter to be included in the outcome model. The underlying assumption is that citizens go through a 2-step thought process when confronted with a survey question. First, they reflect whether they have an answer to the question. If that reflection brings an affirmative response, they, secondly, answer the question.

As each respondents indicated their willingness to show solidarity for up to nine countries, and as individual respondents’ attributes are expected to play an important role, I apply standard errors clustered on the level of the individual. Statistical analysis shows that the largest share of variance is due to variation between individuals rather than between recipient countries. However, unlike in previous research on European solidarity, variance to be explained by the respondent’s country is trivial.

I will first discuss the variables to be included in the outcome model and then the variables in the selection model.

Operationalization of variables

Dependent variable

The dependent variable is the individual European fiscal solidarity. The survey includes the following item that will be used as an operationalisation:

“Imagine a country suffered some kind of major crisis, and was looking for help from others. Do you think [country] should or should not be willing to offer financial help to each of the following countries?”

Respondents can answer “Should be willing to help”, “Should not be willing to help”, or “Don’t know”. The list of countries includes all 27 EU member states, the United Kingdom, and seven non-European countries. Each respondent gets to answer the question for nine randomly assigned countries. Since I reduce the dataset to EU countries only, the number of country items per respondent varies between two and nine (with a mean of 6.88 countries per respondent).

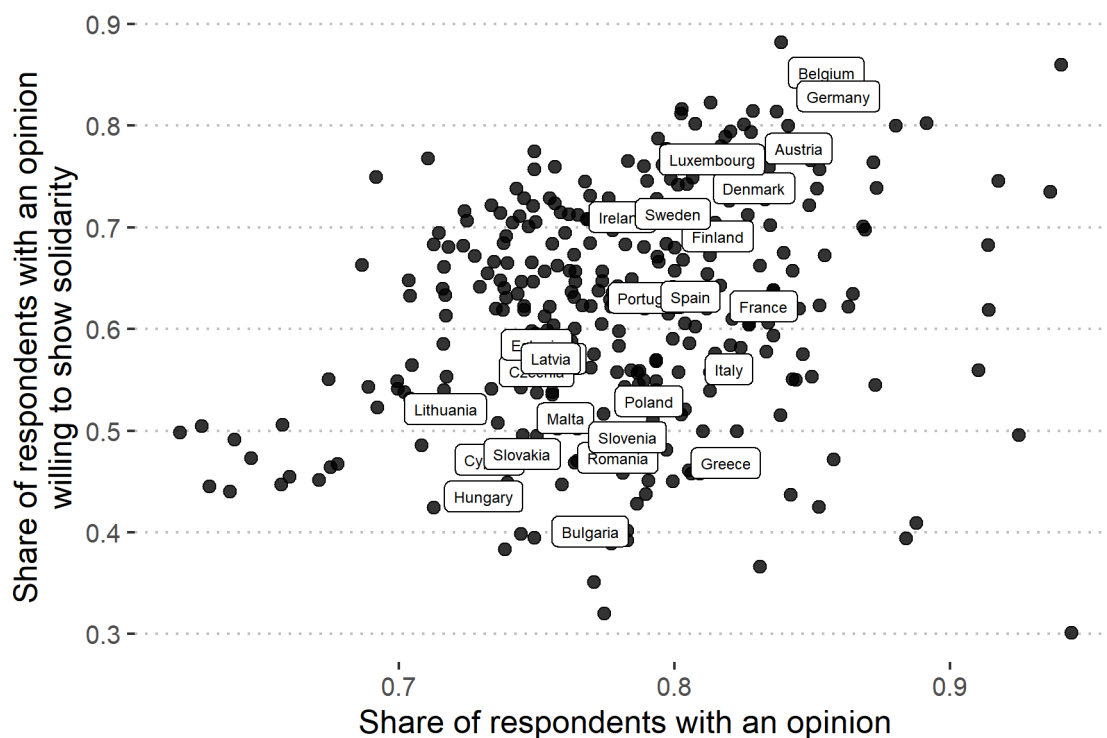


Figure 1. Countries that are more familiar to citizens in another country also tend to be more likely to receive solidarity. Labels indicate values for the Netherlands.

About 22% of the responses were Don't know. Of those with an opinion, about 64% expresses an affirmative opinion. Figure 1 plots the aggregated salience level of a recipient country on the x axis and the average level of solidarity among those recipients with an opinion. One dot represents one country-pair. The labels indicate the values for respondents in the Netherlands. The graph suggests that, on the macro-level, countries that are more familiar to citizens of a country tend to be more likely to receive solidarity from other countries.

Independent variables

The corner stone of this paper is the argument that the centre-periphery divide between countries shapes the attitudes of citizens. While the concept finds mention in several papers (Nicoli, 2019; Treib, 2021; Schweiger and Magone, 2014; Galgoczi, 2014), there is no consensus on how to categorize countries accordingly. For the empirical analysis, I categorize EU countries as shown in Table 1.

Table 1. Countries arranged by the centre-periphery cleavage

Cleavage group	Country
Centre	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Malta, Netherlands, Sweden
Southern periphery	Cyprus, Greece, Italy, Portugal, Spain
Eastern periphery	Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

As a starting point of my categorization, I refer to the taxonomy for a century-periphery structure by Gräbner and Hafele (2020), who, based on patterns of trade and economic development, develop four groups. For my

purposes, I merge their finance economy cluster (Ireland, Netherlands, Luxembourg, Malta) with the countries of the centre.³ While the underlying idea of Gräbner and Hafele (2020) of this grouping is that the economic model of these countries is particular and notably based on tax and regulatory competition, I assume that individual attitudes in this cluster are more closely aligned to the other centre countries.

For the two peripheral groups, I follow their categorization. I add Croatia to the latter groups, as it was not included in their analysis. The key difference between the two peripheral groups is that the Southern peripheral countries are members of the Eurozone who have been particularly hit by the economic crisis in the 2010s. While the Eastern periphery is marked by an economy that is catching up, the debt-financed economy of the Southern periphery has had difficulties recovering from this economic shock, and these countries had to cut drastically their social expenditure as a result.

As Gräbner and Hafele (2020) outline, there are three challenges to classify countries in such a way: the “challenge of ambiguity”, the “challenge of granularity”, and the “challenge of dynamics”. The first relates to the fact that some countries do not easily fit in either of the categories. France, for instance, is one of the richer countries of the EU, a founding member, but its economy has started to resemble more closely the debt-driven economies of the South rather than of the technology-driven economic model of the North. The challenge of granularity relates to the consideration that some countries are partly in the centre, and partly in the periphery. The primary example here is Italy, with its economically prosperous North and its economically weak South. Indeed, given the complex multi-layered governance structure of the EU, it is not entirely clear how to disentangle that some citizens may be in the European centre, but in the national periphery. Lastly, the challenge of dynamics highlights that, while the

³ Admittedly, Malta, given its recent accession history and geographical position, sits uneasy in the central group. All empirical results are robust to specifying Malta as a country of the Southern periphery.

centre-periphery divide has stable economic and trade implications, such classifications are not set in stone, and that countries can take different developmental path.

It is further necessary to include factors that may have a confounding effect on the cleavage effect. First, I include a dummy variable that captures whether a country is member of the Eurozone. Secondly, as the centre-periphery cleavage is based on unequal economic development, I will include the national GDP per capita in 2020 to ensure that the cleavage variable is not just an imperfect measurement of national wealth. Finally, the centre-periphery cleavage clusters countries that are geographically and culturally close. To be able to disentangle the effect of the cleavage, I will include a dummy variable that measures whether two countries share a common border. Further, I include the Social Connectedness Index that measures the intensity of social connections on Facebook between two locations (here, between countries) (Bailey et al., 2018; see also Afonso and Negash, 2021).

Further, individual level variables are to be included. It is hypothesised that the centre-periphery cleavage has an indirect effect on European fiscal solidarity through sociotropic political efficacy. The survey includes the following item:

Please tell us how far you agree or disagree with the following statement? [country] is influential in European affairs

Respondents answer on a fully-labelled four point-Likert scale (“Strongly agree”, “somewhat agree”, “somewhat disagree”, “Strongly disagree”) or “Don’t know”. Influence here can both be understood as in comparison to other countries – in the sense intended for my purposes – or as in comparison to EU institutions. This second interpretation may explain why, even among central countries, a large share of respondents believes their country is not influential. That being said, as expected, among citizens in

centre countries, 63.8% of respondents agree, compared to 49.7% and 34.6% in the Eastern and Southern periphery respectively.

As control variables, I include a survey item that probes the sense of European identity of an individual. European identity is believed to influence the willingness to show European solidarity. As it is likely that the sense of European identity is also correlated with the sociotropic political efficacy of an individual, it likely has a confounding effect. The survey item offers several answer options, namely "European", "nationality only", "European and national", "national and European" and "None of these". I have recoded these to a binary variable that captures whether a citizen has a predominant European identification (either "European" or "European and national") or not.

To grasp the idea that respondents consider their sociotropic benefits, I include the following item in the model:

If there was a large EU-wide emergency fund for EU countries to draw on when they faced a variety of different types of crisis. Do you think that, over a long period of time, [country] would ultimately be an overall...

Respondents have the following response options: "Winner: the help received from this fund by [country] would be higher than the resources put in by it (the national net-balance is positive)" or "Loser: the resources put into this fund by [country] would be higher than the help received by it (the national net-balance is negative)". They can also answer Don't know. This is a very strong item to measure the concept. It should however be noted that the item refers to an EU-wide emergency fund, whereas the dependent variable is about bilateral solidarity.

In addition, I will include socioeconomic variables, namely gender, age, subjective income, and political ideology (7-point scale recoded to three

categories “Left”, “Centre”, “Right”). Unfortunately, the survey does not include a variable to measure formal education.

Operationalization of variables of the selection model

The dependent variable for the selection model is based on the same survey item as the dependent variable of the outcome model. However, I encode respondents as either having expressed an opinion (‘1’) or as having used the “Don’t know” answer option (‘0’).

For the independent variables of the selection model, I include all independent variables of the outcome model. To reflect the theoretical expectations, I will include a variable on individual external political efficacy, and on satisfaction with the national democracy.

In the relevant survey item for political efficacy, respondents are confronted with the following statement: “People like me have a voice in the European Union.” They answer on a four-point Likert scale, or that they don’t know. As concerns satisfaction with national democracy, respondents are asked to evaluate how satisfied they are with the way democracy works in the respondent’s country on an end-labelled scale from 0 (“Extremely dissatisfied”) to 10 (“Extremely satisfied”). I have recoded this variable to three categories – “low”, “medium” and “high satisfaction”.

On the macro level, I include a variable to measure the population size of the country in addition to the macro variables of the outcome model.

Analysis

Table A1 in the Appendix shows the results of the probit models. Model 1 includes the main effects only. Model 2 includes the interaction effect of the cleavage variable for both respondent’s and recipient country. Model 3 includes the interaction effect of the cleavage variable with the variable for sociotropic political efficacy. Finally, model 4 includes both interaction effects.

I opted to keep Don't know answers in the independent variables in the model. While it is difficult to interpret the real-world meaning of the isolated coefficients of these Don't know answers, the rationale of this choice is that a strong correlation between these answers across different survey items is to be expected, as some survey respondents are likely to be unmotivated to respond in general. Applying list-wise deletion for all independent variables would lead to the reduction of the dataset to 74729 cases, about half of the original dataset. The results confirm that indeed, respondents who opt for a Don't know answer in any one of the independent variables are significantly more likely to opt for this answer in the dependent variable as well.

The measures of goodness-of-fit point in the desired direction and show that the inclusion of both interaction effects is sensible. One potential issue is the high correlation of the GDP variables and the cleavage variables, as centre countries tend to be richer than peripheral countries. Selection models are particularly vulnerable to multicollinearity problems, as multicollinearity may lead to misspecification (Lennox et al., 2012). As a robustness test, I have run the models without the GDP variables. The most notable difference is that the main effect of the cleavage group of the respondent's country becomes statistically significant, which was to be expected. As for the remaining variables, the differences are trivial. In the following, all numbers and figures refer to the full model 4. I will first discuss the selection model, before turning to the outcome model.

Hypothesis 3.1 stipulates that citizens are more likely to have an opinion on their willingness to show solidarity when a centre country is concerned than when a periphery country is concerned. Empirical results are not as clear-cut. Across all models, respondent's likelihood to express an opinion on countries of the centre is the highest, although the difference is only statistically significant at $p < 0.01$ in comparison with the Eastern periphery. Further, the interaction effect of the cleavage groups is statistically significant for the Eastern periphery, suggesting that citizens of the Eastern

periphery are also more likely to express an opinion on countries of the Eastern periphery. In substantive terms however, the effect of the cleavage on the salience of the question is limited. The values range from a probability of 80.6% for a citizen of a centre country to express an opinion on a country of the Eastern periphery, to 85.9% for a citizens of the Eastern periphery to express an opinion on a country of the centre. The evidence provides partial support to the hypothesis, although the effect is limited in size.

The positive and significant coefficient of the population size of the recipient country suggests that citizens are more likely to have an opinion on larger countries. Citizens also are more likely to have an opinion on countries with which their country shares a border and those that are culturally closer to them. On the contrary, there is no significant effect of the Euro on citizens ability to express a solidarity opinion on a country, nor of the GDP per capita of either the citizen's country or the recipient country.

Hypotheses 3.2, 3.3 and 3.4 suggest that individuals with a European identity, with a sense of individual political efficacy, and with satisfaction in the way democracy works in their country are also more likely to be knowledgeable than those individuals who do not share these attributes. Those individuals who think they have a say in the EU are more likely to have an opinion, as expected. Somewhat curiously though, those who think that their country has influence in the EU are *less* likely to have an opinion. The effect of satisfaction with the national democracy is positive, as expected. Identity is also found to be relevant, and those with a more European identification are more likely to express an opinion than those with a more national outlook. The hypotheses are strongly supported.

Furthermore, I find that citizens who consider themselves to be better off are also more likely to express an opinion. Finally, the effect of gender is also statistically significant and quite large. Women have a 79% probability to express an opinion, men are 6.7 percentage points more likely to express

an opinion. It should however be noted that I could not control for the effect of formal education. Political orientation and age do not have any effect.

I now turn to the outcome model. Hypotheses 2.1 and 2.2 postulate that citizens who consider their countries to be influential in the EU are more likely to show solidarity with other EU countries, and that this effect is particularly outspoken in centre countries. In the empirical analysis, I find support for these hypotheses. The coefficient has the expected sign and is statistically significant across all models. All else equal, citizens who believe their country is influential in the EU have an estimated probability to show solidarity with other countries of 75.4%, compared to 62.3% of those who do not.

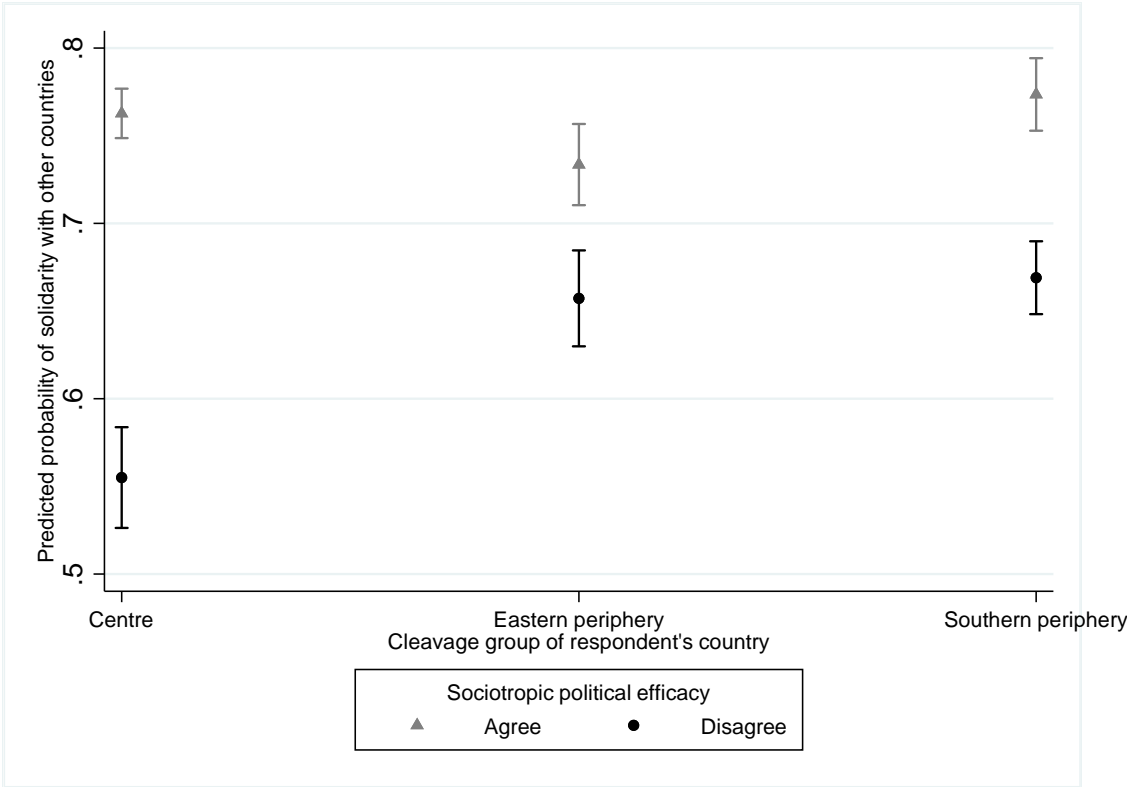


Figure 2. Citizens in the centre who think their country is not influential in the EU are considerably less likely to show solidarity with other countries. 99% Confidence intervals.

The inclusion of the interaction effect with the cleavage variable is also statistically significant. Figure 2 shows what this means in terms of predicted probability of showing solidarity with other countries. The x axis denotes the cleavage group of the respondent’s country. The y axis shows

the predicted probability of this individual to show solidarity with other countries, all else equal. In peripheral countries, the effect of sociotropic political efficacy is significant, but rather modest in terms of effect size. However, it is in the central countries where citizens who do not think their country is influential rather drastically reduce their willingness to show solidarity, compared to those who think their country is influential.

Lastly, hypothesis 1 suggests that citizens are more likely to show solidarity with countries in their own cleavage camp. I find strong support for this argument. Figure 3 shows the marginal effect of the interaction effect between the cleavage groups for respondent's country and recipient country. Again, the x axis denotes the cleavage group of the recipient country. The graph shows the point estimates and the 99-percent confidence intervals for the respective cleavage groups of the respondent's country. In all cases are citizens most likely to support other countries in their cleavage camp, although the difference between counties in the Eastern periphery and the centre is not significant for citizens in centre countries.

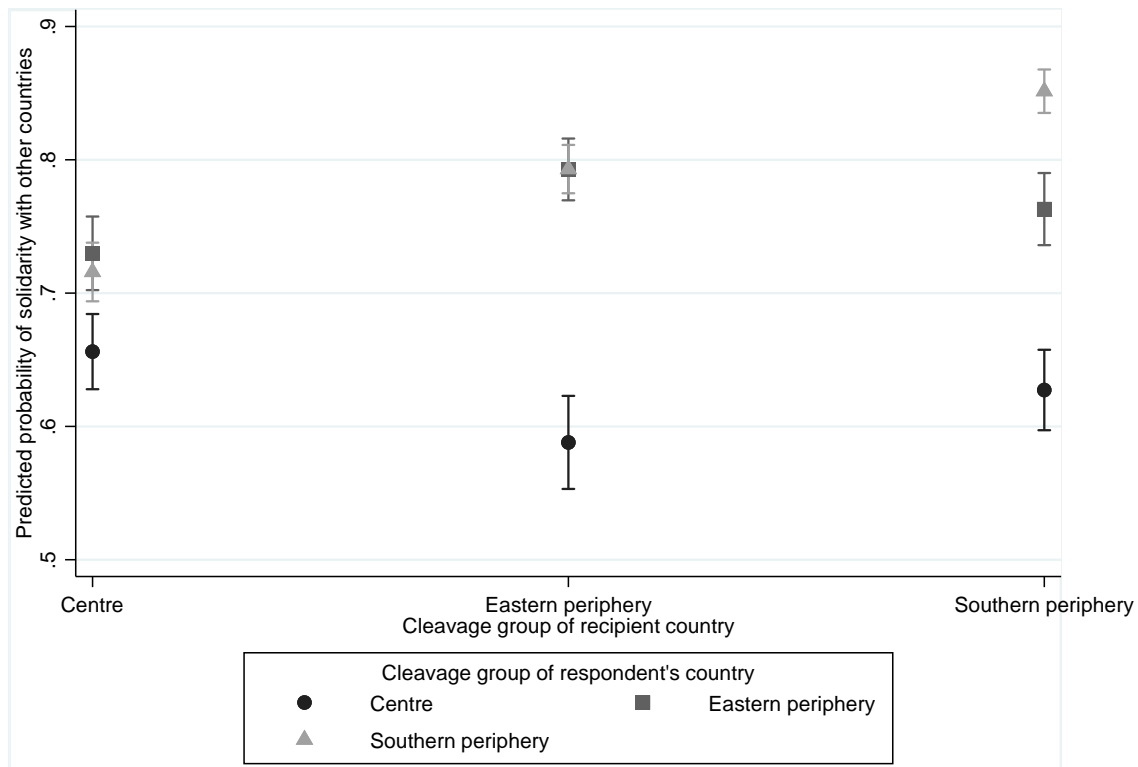


Figure 3. Citizens are more likely to be willing to show solidarity with countries in their cleavage group. 99% Confidence intervals.

It should be highlighted that this effect shows even when controlling for a wide range of variables with a confounding effect. The model considers the effect of a shared border and of cultural proximity (which are, unsurprisingly, positive) as well as the GDP per capita and whether either the respondent's or the recipient country is in the Eurozone.

Interestingly, citizens are more likely to show solidarity with countries in the Eurozone. This might suggest that citizens consider the interdependence that the common currency creates. On the contrary, being in the Eurozone does not increase citizens willingness to show solidarity with other countries. GDP per capita of the citizen's country has a strong positive effect which tends to rebalance the effect of being in the central cleavage group (as these are also the richest countries). However, the GDP per capita of the recipient country does not seem to have any relevance, and the coefficient is not significant.

That being said, the idea that sociotropic benefit considerations feed into the individual willingness to show solidarity finds support. The corresponding variable has a statistically significant effect in the expected direction. All else equal, citizens who think their country would benefit from European solidarity have a probability of 71.4% to show solidarity with other countries, compared to 65.9% probability for those who think their country would not be a net beneficiary of European solidarity.

Further, political orientation matters. The more right-leaning citizens are, the less likely they are to be willing to show solidarity with other EU countries. Citizens on the left have a predicted probability to show solidarity of 74%, compared to 64.9% for those on the right and 71.1% for those in the centre. Subjective income does not have any effect on the probability to show solidarity with other countries.

Finally, a striking finding are the insignificant effects of European identity and of the gender variable. This is surprising, given that previous research almost exclusively found that those with a European identity and men are more likely to show European solidarity. Given that both these variables show significant effects in the selection model, one explanation is that I was able to correct a selection bias present in previous studies. To investigate whether this is the case, I have also run a logistic regression with cluster-robust standard errors without taking into account the selection model. Indeed, such a model provides positive and statistically significant effects of gender, European identity, and subjective income, in contrary to the findings reported of the probit model with sample selection.

Conclusion

In the introduction of this paper, I've put a hypothetical European country in a crisis that would require the willingness of citizens in other European countries to show fiscal solidarity and wondered on which citizens the country could count. I argued that there is a spatial-relational dimension to

European solidarity, and that a centre-periphery divide polarises European citizens in those who belong to the centre and those who belong to a periphery. I posited that the divide structures individual attitudes on European solidarity.

The findings provide evidence for this structuring effect of the cleavage of European society. On whose solidarity the hypothetical country in the introduction can count depends, among other factors, whether it is a country of the European centre or of the periphery. My findings suggest that there is a cleavage-group based solidarity among Europeans, i.e. that citizens are more likely to show solidarity with those countries in the same cleavage group.

Furthermore, this paper adds to the canon of individual determinants of European fiscal solidarity. European citizens gauge how influential their country is within the EU, and adjust their willingness to show solidarity accordingly. The more influential they believe their country is, the more likely they are to be willing to show solidarity, particularly in those countries in the centre. The role of sociotropic self-interest merits further investigation. Once the explicit measure for sociotropic concern is included, the effect of the national GDP becomes positive, implying that in richer countries, citizens are more willing to show solidarity. This speaks to the argument that European solidarity is cosmopolitan in nature, that is, people are willing to show solidarity with other countries if they believe they (or their country) can afford it. In any case, the position that citizens in poorer countries are more willing to engage in solidarity is overly simplistic.

Other findings challenge previous research. European identity does not have a significant effect on European solidarity in any of the models. Given the intricate relationship of identity and solidarity, this is surprising. A possible explanation is that the survey item used for the dependent variable asks about a bilateral, rather than multilateral form of European solidarity. Another possibility is that, by explicitly modelling the propensity of citizens

to have an opinion, a selection bias is corrected that was not considered in previous research. In the same vein, the insignificant effect of gender in the outcome model is surprising, given that in most studies, men are more likely to show European solidarity. In any case, these findings merit further investigation. Overall, these findings suggest that selection models may be a choice worth considering when dealing with EU attitudes more generally.

Finally, more research needs to be done to understand the intricacies the centre-periphery cleavage. Further research could test whether it structures citizens attitudes beyond European solidarity, for instance of other more general issues, such as further integration or extension of the European Union. More research needs to be done as concerns the origins of the divide as well. One explanation for this divide is the intense discussion during the Eurocrisis in the early 2010s about the design and implementation of austerity measures that pitted 'creditor countries' of the centre against 'debtor countries' in the South.

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APPENDIX

Table A1. Probit model with sample selection, cluster-robust standard errors.

	Model 1 (only main effects)	Model 2 (interaction effect cleavage)	Model 3 (interaction effect sociotropic political efficacy)	Model 4 (both interaction effects)
<i>Outcome Model</i>				
Sociotropic political efficacy (Ref: Agree)				
Disagree	-0.375* (0.0179)	-0.379* (0.0181)	-0.509* (0.0261)	-0.516* (0.0263)
Sociotropic self-interest (Ref: Country would not benefit)				
Country would benefit	0.202* (0.0204)	0.204* (0.0206)	0.206* (0.0207)	0.208* (0.0209)
European identity (1: Yes)	0.00924 (0.0275)	0.00744 (0.0277)	0.00912 (0.0276)	0.00740 (0.0278)
Political self-placement (Ref: Left)				
Centre	-0.0867* (0.0226)	-0.0884* (0.0228)	-0.0893* (0.0227)	-0.0913* (0.0229)
Right	-0.281* (0.0284)	-0.284* (0.0286)	-0.270* (0.0288)	-0.273* (0.0290)
Gender (Ref: Female)				
Male	-0.0490* (0.0170)	-0.0494* (0.0173)	-0.0429 (0.0178)	-0.0429 (0.0180)
Age (Ref: 18-24)				

	Model 1 (only main effects)	Model 2 (interaction effect cleavage)	Model 3 (interaction effect sociotropic political efficacy)	Model 4 (both interaction effects)
25-34	-0.0538 (0.0327)	-0.0539 (0.0330)	-0.0509 (0.0329)	-0.0511 (0.0332)
35-44	-0.0660 (0.0327)	-0.0645 (0.0329)	-0.0637 (0.0329)	-0.0623 (0.0331)
45-54	-0.0575 (0.0322)	-0.0578 (0.0324)	-0.0558 (0.0324)	-0.0562 (0.0326)
55+	-0.108* (0.0291)	-0.108* (0.0293)	-0.107* (0.0292)	-0.107* (0.0294)
Subjective income (Ref: Better off)				
Not better nor worse off	0.0313 (0.0192)	0.0327 (0.0194)	0.0325 (0.0194)	0.0339 (0.0195)
Worse off	-0.0520 (0.0227)	-0.0516 (0.0229)	-0.0494 (0.0229)	-0.0490 (0.0231)
Cleavage group of recipient country (Ref: Centre)				
Eastern periphery	0.0334 (0.0140)	-0.185* (0.0178)	0.0310 (0.0143)	-0.194* (0.0190)
Southern periphery	0.111* (0.0143)	-0.0809* (0.0169)	0.113* (0.0146)	-0.0834* (0.0172)
Cleavage group of respondent's country (Ref: Centre)				
Eastern periphery	0.396* (0.0496)	0.205* (0.0512)	0.255* (0.0557)	0.0571 (0.0569)
Southern periphery	0.451* (0.0387)	0.172* (0.0401)	0.329* (0.0455)	0.0441 (0.0466)
GDP per capita of	-0.0004 (0.0007)	-0.0003 (0.0007)	-0.0003 (0.0007)	-0.0002 (0.0007)

	Model 1 (only main effects)		Model 2 (interaction effect cleavage)		Model 3 (interaction effect sociotropic political efficacy)		Model 4 (both interaction effects)	
recipient country								
GDP per capita of respondent's country	0.0266*	(0.00276)	0.0269*	(0.00280)	0.0269*	(0.00283)	0.0273*	(0.00287)
Social connectedness	0.0000*	(0.0000)	0.0000*	(0.0000)	0.0000*	(0.0000)	0.0000*	(0.0000)
Shared border (1: Yes)	0.198*	(0.0140)	0.125*	(0.0140)	0.196*	(0.0148)	0.122*	(0.0145)
Recipient country has Euro (1: Yes)	0.0404*	(0.0085)	0.0349*	(0.0085)	0.0401*	(0.0086)	0.0344*	(0.0086)
Respondent's country has Euro (1: Yes)	-0.0414	(0.0213)	-0.0372	(0.0214)	-0.0472	(0.0215)	-0.0432	(0.0216)
Interaction effect								
Cleavage								
Eastern periphery X Eastern periphery			0.398*	(0.0262)			0.407*	(0.0273)
Eastern periphery X Southern periphery			0.189*	(0.0272)			0.192*	(0.0273)
Southern periphery X Eastern periphery			0.446*	(0.0237)			0.454*	(0.0246)
Southern periphery X Southern periphery			0.576*	(0.0296)			0.581*	(0.0304)

	Model 1 (only main effects)		Model 2 (interaction effect cleavage)		Model 3 (interaction effect sociotropic political efficacy)		Model 4 (both interaction effects)		
Interaction effect									
Cleavage X Sociotropic Political Efficacy									
Eastern periphery X Disagree					0.313*	(0.0445)	0.319*	(0.0447)	
Southern periphery X Disagree					0.237*	(0.0408)	0.241*	(0.0412)	
<i>Selection Model</i>									
Sociotropic political efficacy (Ref: Agree)									
Disagree	0.0539	(0.0222)	0.0521	(0.0222)	0.0902*	(0.0301)	0.0883*	(0.0301)	
Satisfaction with democracy (Ref: High satisfaction)									
Medium satisfaction	-0.106*	(0.0298)	-0.106*	(0.0298)	-0.105*	(0.0300)	-0.105*	(0.0300)	
Low satisfaction	-0.171*	(0.0354)	-0.168*	(0.0354)	-0.167*	(0.0362)	-0.164*	(0.0361)	
Political efficacy (Ref: Agree)									

	Model 1 (only main effects)	Model 2 (interaction effect cleavage)	Model 3 (interaction effect sociotropic political efficacy)	Model 4 (both interaction effects)
Disagree	-0.0860* (0.0225)	-0.0857* (0.0226)	-0.0853* (0.0228)	-0.0848* (0.0230)
Sociotropic self-interest (Ref: Country would not benefit)				
Country would benefit	0.0485 (0.0252)	0.0492 (0.0252)	0.0490 (0.0254)	0.0496 (0.0254)
European identity (1: Yes)	0.0992* (0.0343)	0.0987* (0.0343)	0.100* (0.0343)	0.0999* (0.0343)
Political self-placement (Ref: Left)				
Centre	-0.0151 (0.0273)	-0.0150 (0.0273)	-0.0150 (0.0274)	-0.0149 (0.0274)
Right	0.0315 (0.0349)	0.0307 (0.0350)	0.0266 (0.0351)	0.0259 (0.0352)
Gender (Ref: Female)				
Male	0.306* (0.0194)	0.306* (0.0194)	0.305* (0.0195)	0.304* (0.0195)
Age (Ref: 18-24)				
25-34	-0.0081 (0.0392)	-0.0074 (0.0393)	-0.0079 (0.0393)	-0.0072 (0.0394)
35-44	-0.0845 (0.0386)	-0.0840 (0.0386)	-0.0848 (0.0387)	-0.0843 (0.0387)
45-54	-0.0765 (0.0385)	-0.0764 (0.0385)	-0.0753 (0.0386)	-0.0751 (0.0386)
55+	-0.0292 (0.0353)	-0.0294 (0.0353)	-0.0279 (0.0354)	-0.0280 (0.0355)
Subjective income (Ref:				

	Model 1 (only main effects)		Model 2 (interaction effect cleavage)		Model 3 (interaction effect sociotropic political efficacy)		Model 4 (both interaction effects)	
Better off)								
Not better nor worse off	-0.128*	(0.0236)	-0.128*	(0.0236)	-0.129*	(0.0236)	-0.129*	(0.0237)
Worse off	-0.118*	(0.0272)	-0.118*	(0.0273)	-0.120*	(0.0273)	-0.120*	(0.0274)
Cleavage group of recipient country (Ref: Centre)								
Eastern periphery	-0.0885*	(0.0145)	-0.0951*	(0.0164)	-0.0876*	(0.0146)	-0.0952*	(0.0164)
Southern periphery	-0.0290	(0.0150)	-0.0412	(0.0177)	-0.0281	(0.0150)	-0.0410	(0.0177)
Cleavage group of respondent's country (Ref: Centre)								
Eastern periphery	0.222*	(0.0554)	0.179*	(0.0573)	0.262*	(0.0626)	0.218*	(0.0643)
Southern periphery	0.0719	(0.0434)	0.0631	(0.0456)	0.0891	(0.0524)	0.0798	(0.0543)
Population size of recipient country	0.0025*	(0.0002)	0.0027*	(0.0002)	0.0026*	(0.0002)	0.0027*	(0.0002)
GDP per capita of recipient country	0.0015	(0.0007)	0.0017	(0.0007)	0.0015	(0.0007)	0.0017	(0.0007)
GDP per capita of respondent's country	0.0060	(0.0031)	0.0058	(0.0032)	0.0061	(0.0032)	0.0060	(0.0032)

	Model 1 (only main effects)		Model 2 (interaction effect cleavage)		Model 3 (interaction effect sociotropic political efficacy)		Model 4 (both interaction effects)	
Recipient country has Euro (1: Yes)	-0.0099	(0.0089)	-0.0097	(0.0089)	-0.0097	(0.0089)	-0.0096	(0.0089)
Respondent's country has Euro (1: Yes)	0.0589	(0.0246)	0.0593	(0.0246)	0.0586	(0.0246)	0.0590	(0.0247)
Social connectedness	0.0000*	(0.0000)	0.0000*	(0.0000)	0.0000*	(0.0000)	0.0000*	(0.0000)
Shared border (1: Yes)	0.114*	(0.0142)	0.0950*	(0.0149)	0.115*	(0.0142)	0.0966*	(0.0150)
Interaction effect								
Cleavage								
Eastern periphery X Eastern periphery			0.0867*	(0.0241)			0.0883*	(0.0240)
Eastern periphery X Southern periphery			0.0093	(0.0277)			0.0096	(0.0277)
Southern periphery X Eastern periphery			-0.0156	(0.0212)			-0.0145	(0.0212)
Southern periphery X Southern periphery			0.0662	(0.0268)			0.0678	(0.0269)
Interaction effect								
Cleavage X Sociotropic Political Efficacy								

	Model 1 (only main effects)		Model 2 (interaction effect cleavage)		Model 3 (interaction effect sociotropic political efficacy)		Model 4 (both interaction effects)	
Eastern periphery X Disagree					-0.113	(0.0523)	-0.113	(0.0522)
Southern periphery X Disagree					-0.0387	(0.0488)	-0.0386	(0.0489)
athrho	-1.092*	(0.179)	-1.056*	(0.174)	-0.987*	(0.196)	-0.952*	(0.187)
Observations	135047		135047		135047		135047	
<i>AIC</i>	255236.0		254272.6		254934.6		253963.1	
<i>BIC</i>	255834.6		254949.8		255611.7		254718.7	

Standard errors in parentheses. Coefficients of Don't know responses and Constant omitted. Statistically significant coefficients in bold.

* $p < 0.01$