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Forced migration and the welfare state: a new perspective on the Progressive's Dilemma

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ABSTRACT

The relationship between ethnic heterogeneity and redistributive preferences remains a contested issue at both the theoretical and empirical levels. This paper contributes to the literature by examining the causal effect of immigration from culturally distant origin countries on the native population's preferences for redistribution, employing a difference-in-differences identification strategy. We exploit the European refugee crisis of 2015–2016 as a natural experiment, leveraging cross-regional variation in asylum seeker inflows to identify whether exposure to large-scale forced migration attenuated native support for redistributive policies. Under the Progressive's Dilemma hypothesis, one would expect a significant erosion of redistributive preferences in regions experiencing pronounced migration inflows. Our estimates, however, provide no support for this prediction: the estimated coefficients are either statistically indistinguishable from zero or marginally positive. These findings are robust across a range of alternative specifications. Taken together, our results challenge the Progressive's Dilemma hypothesis and suggest that ethnic homogeneity does not constitute a necessary precondition for the sustainability of European-style welfare state arrangements.

1. Introduction

“Why doesn't the US have a European-style welfare system?”. This pointed formulation by Alesina et al. (2001) opened an ongoing debate on the cultural reasons for American exceptionalism in terms of welfare provision, and especially the impact of immigration and ethnic fractionalization on the willingness to redistribute from rich to poor. According to estimates by Alesina and Glaeser (2004, p. 146), about one-half of the difference in social spending between Europe and the US can be explained by the higher share of ethnic fractionalization in the melting pot that is the US, compared to rather ethnically homogeneous European countries. The assumption is that ethnic heterogeneity decreases trust in society and welfare solidarity, especially if immigration takes place from countries with a different cultural heritage. Alesina and Giuliano (2011) summarize the vast literature on this issue. These findings support the widespread perception that generous welfare arrangements are incompatible with open borders (Freeman, 1986), a view that British journalist David Goodhart (2004) labeled the “Progressive's Dilemma.” The evidence on this issue is, however, equivocal and highly controversial.

To contribute to this debate, we exploit the 2015/16 European refugee crisis as a natural experiment. This unprecedented inflow of asylum seekers sharply increased ethnic heterogeneity across European societies within a short time frame. Furthermore, given the considerable cross-regional variation in refugee acceptance rates across Europe, we are able to construct well-defined treatment and control groups to provide a rigorous empirical test of the Progressive's Dilemma. The treatment group comprises regions that received

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a substantive influx of refugees, whereas the control group consists of regions in which refugee settlement remained negligible. Under the Progressive's Dilemma hypothesis, the European refugee crisis is expected to exert a negative effect on redistribution preferences in treatment regions. Conversely, redistributive preferences in control regions should remain unaffected, as the absence of meaningful refugee settlement precludes the ethnocultural heterogeneity channel through which solidarity is theorized to erode.

This paper makes three distinct contributions to the growing literature on the relationship between migration and welfare state support. First, it utilizes the asylum crisis as a unique and underexplored natural experiment to test the effects of sudden ethnic diversification. Second, it leverages an innovative set of regional asylum data to analyze heterogeneity in migrant inflows at a granular level. Third, it employs a difference-in-differences (DiD) strategy to estimate the causal impact of the crisis on natives' preferences for redistribution.

The paper is organized as follows. [Section 2](#) reviews the literature and outlines the inconsistent empirical findings related to the Progressive's Dilemma. [Section 3](#) describes the empirical strategy and the datasets employed. [Section 4](#) presents our main results and robustness tests. Contrary to the predictions of the Progressive's Dilemma, our estimates reveal that the asylum crisis induced a sharper decline in redistributive preferences in regions characterized by minimal asylum seeker inflows relative to those experiencing substantial asylum seeker inflows. These findings remain robust across a comprehensive set of alternative specifications and sensitivity analyses, suggesting that ethnic heterogeneity per se does not erode the institutional foundations of the European welfare state. [Section 5](#) concludes with a discussion of the broader policy implications.

2. Support for welfare, solidarity, and migration: a survey of the literature

To be sustainable, the welfare state depends on all its members' long-term support. This requires, above all, the net payers' willingness to finance the safety net so as not to be overstretched by the number of recipients or the social programs' generosity. Migration eventually jeopardizes this willingness to support welfare arrangements in several ways.¹ First, due to migration-specific losses in human capital and language barriers, forced migrants are more dependent on welfare assistance than the average member of the native population. Thus, immigration inflates the social budget, taxes, and contribution rates, presumably reducing the overall willingness to support public redistribution (Borjas, 1999; Rueda, 2018). Razin et al. (2002) shows that an inflow of low-skilled migrants reduces the equilibrium tax rate—and hence per-capita transfers—because redistribution financed by distortionary taxation partly accrues to immigrants, lowering natives' net return to taxation. Sánchez-Pagés and Solano García (2016) demonstrate that a similar fiscal-feedback effect can arise even when immigrants' eligibility for benefits is endogenously determined and immigrants lack formal voting rights, provided they can nonetheless influence the allocation of income through contestation or bargaining over their share.

This immediate effect of low-income migration on the willingness to support welfare programs is eventually reinforced by various factors summarized under the generic term 'welfare chauvinism' (Careja and Harris, 2022). According to social identity theory, cooperativeness and the willingness to provide mutual assistance are strongest among individuals sharing a common social background, cultural heritage, or ethnic affiliation (Tajfel and Turner, 2004). Since migrants from the global south share neither of these characteristics in their countries of destination, migration deepens the social cleavage and reduces pro-social behavior based on nativism and in-group favoritism. Xenophobia may even cause locals to vote against their own material interests. Lee et al. (2006) develop a political-economy model in which voters are positioned in a multidimensional policy space but face a bundled choice at the ballot box. If right-wing parties credibly commit to a platform combining restrictive immigration policy with relatively low redistribution, whereas left-wing parties offer a platform combining liberal immigration policy with relatively high redistribution, then sufficiently xenophobic voters with below-median incomes may rationally select the right-wing bundle. They do so despite the fact that this choice is not aligned with their distributive preferences, reflecting a trade-off induced by policy bundling under party platform differentiation.

This goes hand in hand with anti-foreigner sentiments of prejudice and discriminatory attitudes framing minorities as a threat to the autochthon population's collective identity. Ford (2016) observes a mutually reinforcing effect of racial heterogeneity and migrant status. Thus, a Muslim from the global South "suffers a 'double disadvantage'" (p.630) when migrating to a country of the global North. This is especially true if migrants are perceived as a social group competing for welfare benefits. Besides the mere level of redistribution, the alleged deservingness of the beneficiaries plays a major role in the acceptance of social programs. The willingness to redistribute increases if the net payers can be confident that only people in need will receive public benefits. However, since asylum seekers are predominantly young, male, and in good health, they are considered to be the least eligible for assistance (van Oorschot, 2006; Bettin and Sacchi, 2020). The sociodemographic composition of forced migrants thus lowers the level of generosity toward this particular group even further.

However, these arguments have not gone undisputed and have received criticism both from a theoretical and an empirical point of view. As early as the 1950s, Allport (1954) argued that, under favorable conditions, inter-group contact may reduce prejudices between majority group members and minorities, thereby improving inter-group relations and social cohesion (Dirksmeier, 2014). Coninck et al. (2021) and Golin and Romarri (2024) report evidence showing that direct inter-group contact as well as indirect contact via public broadcasting and social media correlates with positive attitudes toward Muslim refugees. This finding is supported by the empirical study of Gallegos Torres (2023) on the refugee crisis in Germany. Semyonov et al. (2006) find that the increase in anti-foreigner sentiments is largely independent of the actual share of foreign-born individuals in a society. Concerning xenophobia,

¹ For a comprehensive review of recent studies on the topic, see (Crepaz, 2022).

what is relevant is not the sheer number of foreigners but the public perception of migration and the social status of migrants. Numerous controversies center around measurement issues and the adequate empirical conceptualization of ethnic heterogeneity. Both ethnicity and cultural affiliation are ambivalent concepts, and the extent of heterogeneity in a society depends largely on the data used to measure them. Measures of ethnic diversity based on citizenship, however, are strongly shaped by a country's naturalization policy. The foreign-born percentage of a population, a common measure of ethnic fractionalization in applied work, is also criticized as being a poor indicator of a society's ethnic diversity as it ignores the cultural proximity between migrants and the native population (Steele et al., 2022). For example, Luxembourg shows a ratio of foreign-born individuals of nearly 50% but has one of the lowest ratios of non-EU foreigners since most migrants originate from neighboring European countries (Eurostat, 2024). A special problem particularly relevant for Europe arises if the host country has a colonial history. The stricter a nation's rules for maintaining citizenship, the higher *ceteris paribus* the number of foreigners. For example, migrants from French Overseas Territories (*France d'outre-mer*) do not count as foreign-born in France. Using the foreign-born population as the indicator of fractionalization underestimates the true extent of ethnic heterogeneity in this country. Finally, measuring ethnic fractionalization using racial, linguistic, or cultural categories comes with severe problems of its own since ethnicity is generally accepted to be a social rather than a primordial construct (Brown and Langer, 2010). Taking racial, linguistic, and religious cleavages into account, Patsiurko et al. (2011) even question the insinuated higher degree of ethnic fractionalization in the US compared to Europe.

Besides these conceptual issues, a further question concerns the appropriate regional level of analysis. Cross-country studies typically use the national level as their unit of observation. However, since social preferences are shaped through interpersonal contact, it is generally acknowledged that more granular data are required to address this issue (Eger, 2010). In a comparative study for Germany, Auspurg et al. (2019) found a negative impact of the proportion of foreigners on redistribution preferences for Germany as a whole. However, this effect vanishes once heterogeneous trends in East and West Germany are accounted for. To obtain more meaningful results, the more recent literature therefore increasingly relies on more granular subnational data.

There is also an ongoing debate about whether the appropriate explanatory variable is a country's stock of foreign citizens at a specific point in time or rather the influx of migrants in a period. Since the canonical model of the Progressive's Dilemma refers to the long-run socio-psychological impact on nativism-based solidarity, the total number of foreigners seems to be the natural candidate to test this hypothesis. However, empirical research shows that subjective attitudes react most sensitively to short-run fluctuations in immigration, especially if these fluctuations are highly volatile.

Taking these theoretical and empirical considerations into account, it is not surprising that the evidence on the Progressive's Dilemma is mixed and inconsistent. A summary of the literature supporting the dilemma hypothesis can be found in Alesina and Tabellini (2024). Supporting evidence for Europe is reported by Mau and Burkhardt (2009) and Schmidt-Catran and Spies (2016). Contrary to the findings mentioned above, Steele (2016) reports insignificant results for fractionalization measures on redistribution preferences. His findings are supported by Brady and Finnigan (2014) who even report a positive impact of net migration on welfare attitudes. A stunning contribution to this discussion is given by Breznau et al. (2022). The authors coordinated 73 research teams and asked them to analyze the Progressive's Dilemma using an identical data set. A total of 1253 different model specifications were evaluated and the research process of every team was closely monitored. The results are inconclusive: the reported marginal effects on the impact of immigration on the support of welfare policies range from negative to positive, with the majority of the studies reporting insignificant effects. Thus, the validity of the Progressive's Dilemma hypothesis is still open to debate.

3. Identification strategy and data

To examine the effect of increased ethnic fractionalization on welfare attitudes more rigorously, we exploit the European refugee crisis as a natural experiment. The crisis is characterized by an unanticipated and abrupt surge in forced migration to the European Union in 2015–2016, reaching its peak in 2015 with more than 1.3 million first-time asylum applications (Eurostat, 2023). As Fig. A1 (page 13 in the Appendix) illustrates, asylum applications in Europe increased sharply over the 2015–2016 period. The majority of applicants originated from Syria, Afghanistan, and Iraq (Eurostat, 2023), where civil conflict, insurgency, and institutional breakdown precipitated large-scale displacement. The abruptness of these inflows, compounded by uneven burden-sharing across EU member states and the limited absorptive capacity of national asylum systems, constituted the defining structural features of the crisis.

We consider this episode particularly well-suited to testing the Progressive's Dilemma hypothesis for several reasons. First, the large-scale influx of forced migrants was largely unanticipated by both the general public and political decision-makers. Although migration to Europe had been gradually increasing since 2010, the abrupt peak in asylum applications in 2015–2016 remained largely unforeseen, rendering anticipatory behavioral responses or temporal spillovers unlikely. Second, forced migrants originating from the Global South constitute a distinct minority in ethnic, linguistic, religious, and cultural terms relative to the native populations of industrialized Western societies. The arrival of a substantial number of individuals with markedly different cultural backgrounds measurably increased perceived ethnic heterogeneity in destination regions (Giesselmann et al., 2024).

Cultural distance, commonly conceptualized as differences in religion, language, gender norms, and institutional traditions (Hofstede, 2001) became politically salient during this period. Given that most applicants originated from predominantly Muslim societies in the Middle East and parts of South Asia, perceived differences in social norms and governance structures relative to Western European host societies were widely emphasized in public and political discourse. It is analytically important to distinguish between objective cross-national variation and perceived cultural distance, as the latter is more directly linked to attitudinal reactions. These contextual features interacted with mechanisms described in group threat theory. According to this framework, hostility toward minority groups increases when majority populations perceive economic competition or symbolic challenges to collective identity (Quillian, 1995). Large-scale and geographically concentrated inflows may intensify such perceptions by increasing the visibility of

out-group members and amplifying concerns about resource allocation. Furthermore, in the period immediately after their arrival in the host country, asylum seekers typically depend on public assistance. Burgoon and Rooduijn (2021) show that the migrants' poor social status and their dependency on public support strengthen the anti-immigrant attitudes of the native population and reduce their support for redistributive public policy. Thus, asylum seekers combine multiple burdening factors, which we would expect to manifest in a declining willingness to support public assistance programs if the Progressive's Dilemma hypothesis holds.

Using the number of forced migrants from the global South as a measure of increased ethnic heterogeneity allows us to avoid controversial indicators of ethnic stratification, such as the percentage of the foreign-born population. A related strand of the literature has exploited the sudden and large-scale influx of asylum seekers as a natural experiment, predominantly at the national level. Notable examples include studies for Germany examining the effects on labor market outcomes (Gehrsitz and Ungerer, 2022), criminal activity (Lange and Sommerfeld, 2024), and anti-immigrant sentiment (Riaz, 2024). At the cross-national level, Lutz (2024) draws on Eurobarometer data to demonstrate that countries absorbing larger asylum seeker populations exhibit systematically stronger support for EU migration policies relative to those with more limited inflows.

Finally, we exploit the substantial geographic variation in asylum seeker settlement patterns across European regions. Whereas some areas received a disproportionately large number of asylum seekers, others remained largely unaffected. Under the Progressive's Dilemma hypothesis, regions with elevated refugee exposure would be expected to exhibit a more pronounced decline in redistributive preferences relative to those with limited inflows. To test this prediction, we employ a difference-in-differences framework that leverages cross-regional variation in refugee settlement patterns to compare trends in redistributive preferences between high- and low-exposure regions. To address concerns regarding the source of identifying variation, we evaluate the robustness of our estimates across specifications that differ in the extent to which identification relies on within-country as opposed to cross-country variation.

Data

We use an innovative data set to address the impact of ethnic heterogeneity on distribution preferences. Our main source of information is the European Social Survey (ESS), a biennial survey that provides information on individuals' economic and social status, attitudes, and values (for question wording and coding of ESS variables used in this paper, see Table A.1, page 15 in the Appendix). As Fig. A2 (page 14 in the Appendix) shows, the number of refugees peaked in the second half of 2015 and the first half of 2016 and dropped sharply afterward. Fieldwork for the seventh wave of the European Social Survey was conducted between September 2014 and February 2015, whereas interviews for the eighth wave commenced in September 2016. These two survey waves therefore provide distinct observation periods capturing attitudes before and after the onset of the refugee crisis.

We start in 2010 with wave 5 of the ESS, as this excludes short-run distortions caused by the financial crisis in 2008. We end the study period in 2018, as the 2020 wave is not comparable with previous waves due to the COVID-19 pandemic. While the ESS covers a total of 31 European countries using a repeated cross-section design, we restrict our analysis to those countries that participated continuously in all survey waves. This ensures a continuous data series, as several countries failed to participate in one or more survey waves, resulting in incomplete longitudinal coverage.

Our panel comprises 16 European countries, the majority of which are members of both the European Union and the Eurozone.² The resulting dataset contains 143,729 observations. Weighted descriptive statistics are reported in Table A.2.

We take the number of asylum seekers from official statistics by Eurostat. These data show that the vast majority of asylum seekers settled in Sweden, Germany, and Hungary (see Figs. A1, page 13, and Fig. A2, page 14, in the Appendix). Since Eurostat statistics provide data on the number of asylum seekers only at the national level, we merge this dataset with information on the regional distribution of asylum seekers collected by the *European Observation Network for Territorial Development and Cohesion* (ESPON) in 2016. The ESPON MIGRARE project (ESPON, 2019) provides disaggregated information on the regional distribution of asylum seekers at the NUTS-2 level. However, the data were collected in a single cross-sectional wave only. To approximate the regional asylum rates for the years 2010 to 2015 and for 2017 to 2018, we take the regional distribution of asylum seekers in 2016 and apply this distribution to the remaining time span.

Let $A_{n,2016}$ denote the total number of asylum seekers in country n and $A_{r,2016}$ the number of asylum seekers in a specific region r in 2016. Then $\rho_{r,2016}$ is the regional fraction of asylum seekers for region r in this year. We calculate the number of asylum seekers in region r for any year t by

$$A_{r,t} = A_{n,t} \cdot \rho_{r,2016} \quad (1)$$

The assumption of holding the regional allocation of asylum seekers ($\rho_{r,2016}$) constant over time is central to our empirical approach and is grounded in several considerations. While asylum seekers' settlement policies vary considerably *between* countries—ranging from unrestricted settlement options (e.g., Sweden until January 2020) to stricter quota systems (e.g., Germany's "Königsteiner Schlüssel")—the allocation of asylum seekers *within* one specific country has remained relatively stable over the study period (Proietti and Veneri, 2021). In countries applying a quota system, the allocation of asylum seekers is predetermined by this specific allocation mechanism. But even in countries with liberal policies, asylum seekers' final settlement is mainly driven by migration network effects and labor market prospects, leading to predictable allocation patterns over time (Edin et al., 2003; Dustmann et al., 2017). To further validate our assumption, we compared our regional asylum rate predictions for 2018 against the official regional data published for

² The dataset comprises Belgium (BE), Czechia (CZ), Germany (DE), Estonia (EE), Spain (ES), Finland (FI), France (FR), United Kingdom (UK), Hungary (HU), Lithuania (LT), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Sweden (SE) and Slovenia (SI).

Germany, Sweden and Spain for the same year. These three countries represent the main types of dispersal policy regimes found across Europe: mandatory quota systems (Germany), liberal settlement policies (Sweden), and negotiated dispersal models (Spain) (Bartl and Lutz, 2025). Our results (see Table A.3, page 17, and Table A.4, page 18) show a rather high accuracy, with a maximum deviation of 6% and an average deviation of less than 1.7% for the two treatment countries and an average deviation for Spain of less than 1.4%. We take this as evidence that our assumption on the regional allocation of forced migrants holds for the time frame under consideration. For Germany, the European Social Survey doesn't provide information on the NUTS-2 level. In these cases, we use NUTS-1 instead (= "Bundesländer"). In the rare cases where asylum data is unavailable for a specific region, we imputed the missing information using national asylum rates.³

Dependent variable

We use stated subjective redistribution preferences as the dependent variable (Kulin et al., 2016; Rehm, 2009; Rueda, 2018). The question the respondents were asked to answer reads: "Please say to what extent you agree or disagree with [...] the following statement: The government should take measures to reduce differences in income levels." Redistribution preferences are reported on a five-point Likert scale (1 = Agree strongly, ...5 = Disagree strongly). We re-coded the values 7 (Refusal), 8 (Don't know), and 9 (No answer) to NA and reversed the scale for a more intuitive interpretation of the coefficients. Lower values indicate opposition to redistribution, whereas higher values indicate support.

Control variables

To control for confounding factors, we use a set of individual, regional, and country-specific control variables.

Relative income and perceived income. According to economic theory, the willingness to support welfare schemes depends primarily on the respondent's material well-being. We follow Rueda (2018) and use the individual's income relative to a nation's median income to measure the influence of material self-interest on welfare state support. The idea is that households with a lower (higher) income than the national median income benefit (are burdened) from social policy measures and are thus expected to support (reject) welfare arrangements. Since the European Social Survey does not report absolute household income but merely the income decile to which a household belongs, we use the midpoint of each income category as a proxy for household income. The midpoint for the open-ended top category was calculated using Hout's formula for extrapolation from the "next-to-last category's midpoint using the frequencies of both the next-to-last and open-ended categories" (Hout, 2004, p. 4). Household income is adjusted to household size by using the modified OECD equivalence scale. It is subsequently adjusted using the OECD consumer price index for 2015 and the 2017 purchasing power parity index (OECD, 2020). In a final step, we compute each individual's deviation from the median income in their respective country, which serves as our measure of relative economic well-being.

A problem insufficiently addressed in the literature is the high share of non-responses on income in the European Social Survey. More than 16% of the respondents refuse or are unable to provide information on household income. Moreover, the share of non-respondents varies considerably between countries. Therefore, besides stated household income, we run multiple regression models where we replace the relative income variable with the respondent's perceived income as the indicator of economic well-being. Perceived household income is retrieved on a four-point Likert scale. We take households who respond living "comfortably on present income" or "cope on present income" as the well-off and those who report "difficulties" or "severe difficulties" on present income as the worse-off in society.

Personal characteristics. We control for the respondent's age, gender, years of education, political attitudes, union membership, and religion. The ESS targets private households with individuals aged 15 or older (regardless of their language, nationality, or legal status). We excluded all underage respondents and those with missing age information. Gender is a binary variable with 1 indicating female gender. Self-assessed political attitudes are measured on a 10-point scale ranging from extreme left (0) to extreme right (10). This measure allows us to account for large-scale political trends at the individual level across countries and to control for their effects. A person's interpersonal solidarity is assessed by asking how important they consider helping others to be. This item captures generalized prosocial values rather than institutional support for the welfare state, and should thus be interpreted as a measure of the solidaristic dispositions that underpin, but are conceptually distinct from, preferences for state-administered redistribution. We use probability weights to control for differential selection probabilities within each country (sample design, nonresponse, noncoverage, post-stratification and sampling errors) (ESS, 2021b).

Regional level covariates. A possible confounder in any study on immigration and redistribution preferences is the problem that migrants self-select into countries with generous welfare arrangements, less restricted access to public benefits for migrants, and regions with high per capita income and a low unemployment rate (Alesina et al., 2021; Mau and Burkhardt, 2009). This 'welfare magnet' bias is particularly relevant for our study, since after the *de facto* suspension of the Dublin III regulation, asylum seekers were largely free to determine their final country of destination. The data show that in 2016 the vast majority of migrants applied for asylum in Sweden, Germany, and Hungary (see Fig. A4, page 17). We therefore include the NUTS-2 unemployment rate, the NUTS-2 gross domestic product, and the hospital beds per 1000 inhabitants on the NUTS-2 level which we take as a proxy for local social spending (Alesina et al., 2021). Additionally, we control for regional and time fixed effects in all regressions to address endogeneity issues (Tables A.14 and A.16).

³ This affects 17 of the 172 regions: CZ (4), FI (2), UK (3), HU (6), and PT (2).

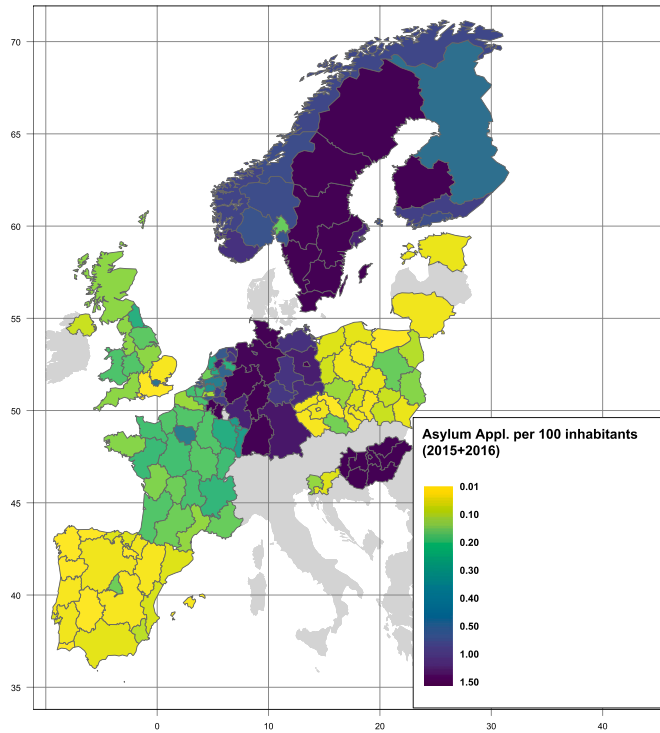


Fig. 1. Asylum applicants per 100 inhabitants in 2015 + 2016. Notes: The figure shows the cumulative regional distribution of asylum seekers per 100 inhabitants in 2015 + 2016 (e.g., 0.1 stands for one asylum seeker per 1000 inhabitants). Source: Own calculations (see formula 1) based on (ESPON, 2019; Eurostat, 2021).

Identification Strategy

The ratio of regional asylum applicants to the native population serves as the basis for distinguishing treatment from control regions. Regions in which this ratio exceeded the threshold of three migrants per 1000 inhabitants are classified as the treatment group, comprising areas that absorbed a comparatively large number of asylum seekers relative to their native population. The control group correspondingly consists of regions in which asylum seeker inflows remained below this threshold (see Fig. 1 below and Fig. A5, page 41). We use this threshold as it indicates a high level of separation precision. However, as the robustness checks show, the qualitative results of our model are largely independent of the specific classification rule (see Section 4.2 and Tables A.12 and A.13, pages 49 and 50).

4. Results

4.1. Descriptive results

The full descriptive statistics can be found in Table A.2, page 16. For a visualization of the relationship between regional shares of asylum seekers and redistribution preferences, see the scatter plot in the appendix (Fig. A3, page 16).

In the following figure, we present the sample's mean of the dependent variable across time.

We begin by examining changes in average redistribution preferences over time. The barplot presented in Fig. 2 provides preliminary evidence of a decline in public support for redistributive policies following the asylum crisis of 2015/2016. On average, individuals reported lower support for government redistribution programs in the post-crisis period, with mean values decreasing from 3.92 to 3.86. For a more nuanced analysis, we apply an OLS regression with two-way fixed effects to control for general confounding factors. This enables us to determine whether the observed change in means persists after accounting for individual characteristics and regional differences. The model is specified as:

$$Y_{irt} = \beta_0 + \beta_1 Post_t + \gamma X_{irt} + \delta Z_{rt} + \mu_r + \theta_t + \epsilon_{irt}, \quad (2)$$

where Y_{irt} represents the distributive preferences of individual i living in (NUTS-2) region r at time t . The variable $Post_t$ is a dummy variable for the period after the refugee crisis, taking the value 1 for the period after 2016 and 0 otherwise. X_{irt} is a vector of individual-specific characteristics such as age, education, gender, union membership, religion, and political attitude. This vector also includes the income of individual i , measured either as their relative income to the country's median (Model I) or as their perceived income (Model II). Vector Z_{rt} comprises region-specific control variables such as the regional unemployment rate, regional GDP, and hospital beds per capita. We include regional fixed effects (μ_r) to control for unobserved time-invariant factors at the regional level and year fixed

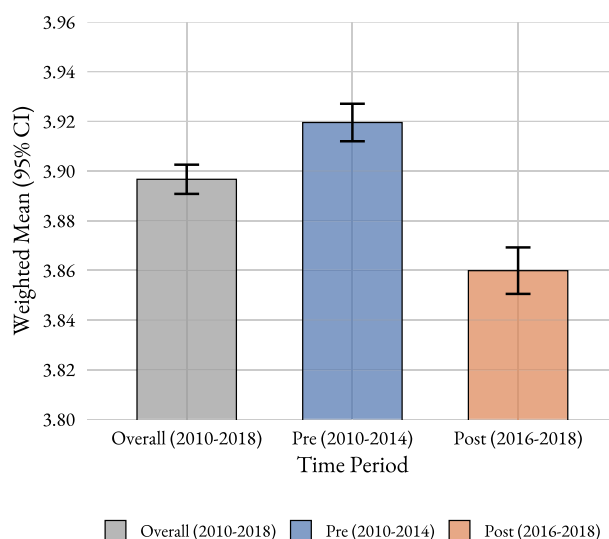


Fig. 2. Support for redistribution over time. *Notes:* The figure illustrates the overall sample mean and confidence intervals alongside the means and confidence intervals for the pre-crisis years (2010–2014) and the post-crisis period (2016–2018). A response of 5 corresponds to “Strongly agreeing” with the statement: “The government should take measures to reduce differences in income levels.”

Source: European Social Survey. Reversed and weighted variable of “ginclif” (ESS, 2021a).

Table 1

Correlation asylum crisis (as time dummy) and public support for redistribution.

	Model I (1)	Model II (2)
Post Asylum Crisis (= 1)	−0.044 (0.052)	−0.096** (0.048)
Adj. R^2	0.122	0.134
Observations	77,598	91,552

Note: Two-way Fixed Effects OLS estimation. Dependent variable: Five-point Likert scale. 1 = “Strongly Disagree” to the following statement: “The government should take measures to reduce differences in income levels.” to 5 = “Strongly Agree...”. Material well-being is measured by the individual’s income distance to a country’s median income (Model I) and perceived income (Model II). The covariate of interest is a time dummy for post asylum crisis (ESS round 8 and 9). Other covariates include age, age², gender, years of education, political spectrum, religion, union membership, importance of helping others, regional hospital bed rate, regional unemployment rate, and regional GDP. The full table with covariates can be found in Table A.5, page 18 in the appendix. Regional and Time Fixed Effects are included. Standard errors are clustered at the regional level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *Source:* ESS wave 5 to 9.

effects (θ_t) to control for unobserved factors affecting all respondents in year t . All standard errors are clustered at the regional level. The control variables exhibit the expected signs, consistent with the literature. Union membership, a left-wing political orientation, female gender, and a higher regional unemployment rate are associated with greater support for public redistribution (Alesina and Giuliano, 2011; Rueda and Stegmueller, 2019; Bozzano and Scabrosetti, 2024). Individuals who place greater importance on helping others are also more likely to support income redistribution. The number of hospital beds, serving as a proxy for the size of the welfare state, correlates positively with attitudes toward the welfare state. We interpret this as evidence that welfare policy responds to voters’ preferences. As anticipated, an individual’s economic well-being is negatively correlated with support for the welfare state, regardless of whether material prosperity is measured by an individual’s deviation from the national median income (Model I) or by their reported subjective income satisfaction (Model II). Our findings suggest that higher education levels are associated with lower preferences for redistribution, likely due to their correlation with (expected) income. The main regression results in Table 1 show a negative coefficient on the post-crisis indicator, which becomes statistically significant in specification II. Taking at face value, this finding suggests that public support for redistribution declined after the refugee crisis, supporting the Progressive’s Dilemma hypothesis. The full results are presented in Table A.5, on page 18.

4.2. Causality analysis

To identify the causal effect of forced migration on welfare state attitudes, we employ a two-way fixed effects difference-in-differences estimator. The baseline specification takes the form:

$$Y_{irt} = \beta_0 + \beta_1 Treatment_r + \beta_2 Post_t + \beta_3 (Treatment_r \cdot Post_t) + \gamma X_{irt} + \delta Z_{rt} + \mu_r + \theta_t + \epsilon_{irt}, \quad (3)$$

Treatment is a binary variable that equals 1 if the number of asylum seekers per capita exceeds the specified threshold in the years 2015/2016. As above, the variable *Post_t* is the dummy for the time after the refugee crisis and takes the value 1 for the period after 2016 and 0 otherwise. The DiD coefficient β_3 captures the differential impact of the influx of refugees on the willingness to support public redistribution measures between the treatment and control groups.

A key challenge for identification is that the regional degree of within-country variation in treatment exposure differs substantially across countries. In particular, countries such as Germany, Hungary, Sweden, and Finland exhibit virtually no within-country variation under the 0.3% threshold, as regions are uniformly classified as treated (see Table A.18, page 26). As a result, the two-way fixed effects specification with region and year fixed effects ($\mu_r + \theta_t$) partly relies on cross-country differences in exposure over time. To address this concern, we estimate a second, more restrictive, specification that includes country-by-year fixed effects instead of regional and time fixed effects:

$$Y_{irt} = \beta_0 + \beta_1 Treatment_r + \beta_2 Post_t + \beta_3 (Treatment_r \cdot Post_t) + \gamma X_{irt} + \delta Z_{rt} + \mu_c \cdot \theta_t + \epsilon_{irt}, \quad (4)$$

This model absorbs all time-varying national-level factors such as macroeconomic conditions, institutional changes, national asylum policies, and media coverage and identifies the treatment effect exclusively from within-country regional variation over time. It therefore constitutes the most conservative specification in terms of identification. Comparing the results across specifications allows us to assess the extent to which the estimated effects depend on the level of variation used for identification. The specification with country-by-year fixed effects provides the most conservative identification by relying exclusively on within-country variation. By contrast, the two-way fixed effects specifications (Eq. (3)) with region and year fixed effects allow cross-country variation over time.

Columns (1) and (2) of Table 2 report the standard two-way fixed effects specification with region and year fixed effects. Under this specification, the estimated coefficients show a positive effect, substantial in magnitude, attaining statistical significance at the one percent level, with point estimates ranging from 0.168 to 0.190 across specifications. Columns (3 and 4) of Table 2 report estimates from the more restrictive specification, incorporating country-by-year fixed effects, which absorb any time-varying shocks at the country level and thereby limit identification to within-country variation across regions. Using income distance as the measure of economic well-being, the estimated coefficient is positive and statistically significant at the 10 percent level, suggesting a slightly smaller decrease in redistributive preferences in regions with higher exposure to asylum seekers. The estimated effects are modest in magnitude. Under the most restrictive specification with country-by-year fixed effects, the coefficients are small, reflecting the limited within-country variation in treatment exposure. However, the estimates remain consistently non-negative across all specifications, providing no evidence for a decline in redistributive preferences in response to higher exposure to asylum seekers. Column (4) replaces income distance with perceived household income adequacy as an alternative measure of economic well-being. The estimated treatment effect remains positive and statistically significant at the 10 percent level and is of similar magnitude, indicating that the result is not sensitive to the choice of income measure. This pattern suggests that part of the identifying variation in the specification stems

Table 2
Causal influence of immigration on redistributive preferences.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
ATT	0.168*** (0.039)	0.190*** (0.039)	0.053* (0.028)	0.049* (0.027)
Adj. <i>R</i> ²	0.123	0.135	0.124	0.135
Observations	77,598	91,552	77,598	91,552

Notes: DiD estimates of regions that accommodated more than 3 asylum seekers per 1,000 inhabitants. Dependent variable: Likert scale, between 1 (=“Strongly Disagree” to the following statement: “The government should take measures to reduce differences in income levels.”) and 5 (=“Strongly Agree...”). Columns (1)–(2) report a two-way fixed effects specification with region and year fixed effects. Columns (3)–(4) report the specification with country-by-year fixed effects, which identifies the effect exclusively from within-country variation. Individual covariates with Income Distance (specification (1 and 3) / Model I) or Perceived Income (specification (2 and 4) / Model II). The estimation coefficients for further covariates can be found in table A.6, page 19 in the appendix. Standard errors clustered at the regional level in parentheses, ****p* < 0.01, ***p* < 0.05, **p* < 0.1. Source: ESS wave 5 to 9; Asylum data for treatment classification by EUROSTAT and ESPON MIGRARE.

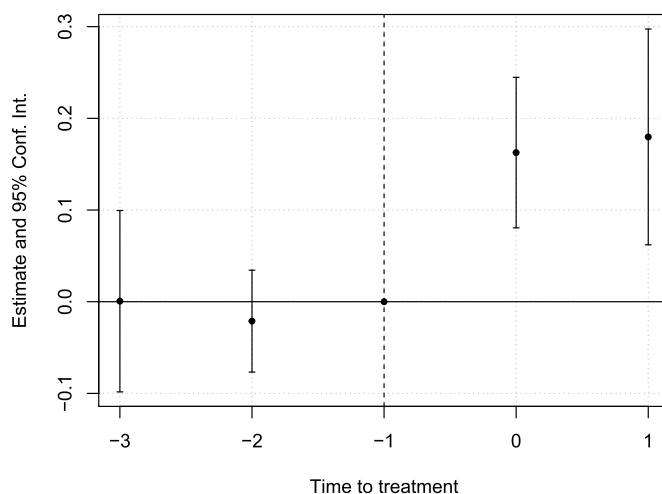


Fig. 3. Event study model 1. *Note:* Event-study estimates and 95% confidence intervals from the two-way fixed effects DiD regression (Model 1). Standard errors are clustered at the regional level. 2014 (wave 7 of ESS) is used as a reference period. The data show no evidence of systematic deviations prior to the asylum crisis in 2016.

Source: ESS waves 5 to 9; Asylum data for treatment classification by EUROSTAT and ESPON MIGRARE.

from cross-country differences in asylum exposure, which are not available under the more restrictive country-by-year fixed effects model. Accordingly, the Country x Year Fixed Effect specification can be interpreted as a conservative lower-bound estimate based solely on within-country variation, while the other model reflects a broader set of variation across countries and regions. Notably, the estimated coefficient remains consistently positive across all specifications. Although the magnitude of the estimated effect varies with the identifying assumptions imposed, no specification yields evidence of a negative relationship between asylum inflows and redistributive preferences. This conclusion proves robust to alternative measures of economic well-being and across varying fixed effects structures. The results indicate that exposure to asylum seekers is either weakly positive or neutral in its association with redistributive preferences, with stronger effects emerging when cross-country variation is additionally exploited. Taken together, the evidence indicates that greater exposure to asylum seekers did not precipitate a decline in redistributive preferences. While the magnitude of the estimated effects varies across specifications and becomes smaller under more restrictive identification strategies, the coefficients remain consistently non-negative throughout. This pattern indicates that the observed decline in redistributive preferences over time cannot be attributed to regions that experienced higher levels of asylum seekers. Instead, the results point to a broadly stable relationship between exposure to asylum seekers and redistributive attitudes. Overall, our findings do not support the central prediction of the Progressive's Dilemma, which posits a negative effect of immigration on the willingness to support redistribution. Rather, the evidence suggests that increased exposure to asylum seekers is, at most, weakly positively associated with redistributive preferences, and never negatively related in a statistically meaningful way.

Event Study and Parallel Trends Assumption

To address the validity of the DiD model in more detail, we perform an event study design. This allows us to determine whether the common trend assumption holds and provides further evidence concerning the reliability of the DiD estimator (Roth et al., 2023).

Fig. 3 presents the results of the event study using the specifications of Model 1, with the treatment occurring in wave 8 (2016). We use wave 7 (2014) as the reference period, i.e., we dropped these observations to avoid multicollinearity. The confidence intervals for the coefficients in the pre-treatment periods (waves 5 and 6) cover the zero value, indicating no statistically significant difference between the treatment and control groups during these periods. Thus, prior to treatment, the trends in the dependent variable were not significantly different between the treated and control groups. After the asylum crisis in 2016, the point estimates for the treatment effect turn out to be positive, with confidence intervals ranging from 0.062 to 0.297, indicating a significant treatment effect in both post-treatment waves. The event study for Model (2), which uses perceived income instead, is reported in Fig. A6, page 20.

In addition, we present a parallel trends plot (Fig. 4). Both treatment and control groups start at the same baseline in 2010, and the trajectories of the standardized outcome remain closely aligned through 2014. This visual evidence reinforces the validity of the common trends assumption, showing no systematic deviations prior to the treatment and supporting the reliability of the event studies.

Alternative Hypotheses and Robustness

Increased migration may influence the domestic population's attitude toward public redistribution in several ways, some of which might overlap and distort the primary effect. For example, domestic net beneficiaries of welfare programs may perceive migrants as additional competitors for scarce welfare benefits, jeopardizing their welfare entitlements and, thus, their social position. This eventually causes a higher demand for public policies by natives with below-average incomes, who depend on social benefits, which

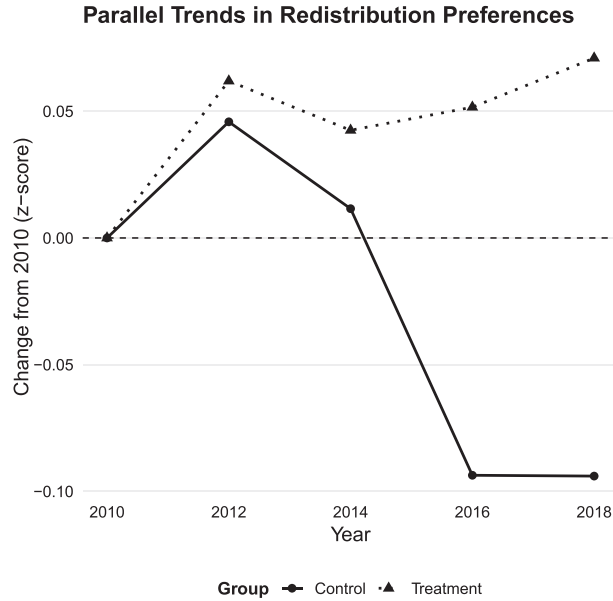


Fig. 4. Parallel trends in redistribution preferences, z-standardized to the 2010 baseline. *Note:* The figure shows weighted, z-standardized outcomes for redistribution preferences. Both series start at the same baseline in 2010, illustrating closely aligned trajectories between 2010 and 2014. This visual evidence supports the common trend assumption required for the DiD analysis.

in turn might counteract a potential solidarity/diversity trade-off. To rule out this possibility, we reran the regressions under two qualifications. First, we restricted our sample to households with an equivalized income above a country's mean, i.e., to the more affluent part of society. Second, we excluded respondents from our sample who stated that they lived mainly on social benefits. The results are shown in Tables A.7 and A.8, pages 20 and 21 in the appendix. The results remain robust.

In line with the theoretical expectation that economically disadvantaged natives should be most opposed to refugee inflows, we also conduct a robustness check restricting the sample to respondents with household incomes below the country median (see Table A.9, page 21). Under these specifications, the ATT remains positive and significant. This finding contradicts the welfare competition hypothesis and confirms our previous findings.

A further robustness check addresses concerns that the results may be driven by a single large receiving country. We therefore re-estimate the DiD specification excluding all regions in Germany. The estimated ATT remains positive, confirming that our results are not driven by the German case (see Table A.10 on page 22 in the appendix).

As an additional robustness check, we address concerns that our results may be affected by missing regional asylum data. For 17 out of 172 regions, regional asylum information is unavailable and we impute exposure using national asylum rates. We therefore re-estimate the baseline DiD specification excluding these regions and restricting the sample to observations with full ESPON regional information. The estimated ATT remains positive and statistically significant (see Table A.11 on page 22 in the appendix).

Another potential source of bias is the assignment of regions to the control and treatment groups, respectively. We separated the treatment and control groups by the number of asylum seekers per capita in a region's domestic population. In the baseline specification, the threshold level was set to 0.3. While increasing the threshold to 0.4 does not affect the results (see Table A.13 in the Appendix, page 23), lowering the threshold to 0.2 reduces the estimated effects in the country-by-year fixed effects specifications (models 3 and 4) from 0.053* and 0.049* to -0.012 and -0.019 (see Table A.12, page 23, respectively). Importantly, the country-by-year fixed effects specification should be considered the preferred empirical model, as it most effectively accounts for unobserved heterogeneity at the country level and exploits within-country variation over time. In this specification, the estimated effects are small in magnitude, economically weak and insignificant. Overall, the results do not provide robust evidence of a negative effect of refugee inflows on support for redistribution. Varying the separation rule did not lead to convincing evidence for the Progressive's Dilemma. At most, the findings suggest weak and specification-dependent positive effects, which are not stable across alternative definitions of treatment intensity. To further validate our results, we estimate a two-way fixed effects OLS regression using the continuous share of asylum seekers at the regional level, thereby avoiding the binary treatment/control distinction altogether. The model is specified as:

$$Y_{irt} = \alpha_0 + \alpha_1 X_{irt} + \alpha_2 Z_{rt} + \alpha_3 Asylum_{rt} + \mu_r + \theta_t + \epsilon_{irt}, \quad (5a)$$

$$Y_{irt} = \alpha_0 + \alpha_1 X_{irt} + \alpha_2 Z_{rt} + \alpha_3 Asylum_{rt} + \mu_c \times \theta_t + \epsilon_{irt}. \quad (5b)$$

Eq. (5a) corresponds to the standard two-way fixed effects specification with region and year fixed effects, which partly relies on cross-country variation in exposure over time. Eq. (5b) replaces these with country-by-year fixed effects, restricting identification to within-country variation across regions and thereby constituting the more conservative specification of Columns 3 and 4 in Table 3.

Table 3

Correlation between the number of asylum seekers and public support for redistributive programs.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Asylum Seekers per capita	0.084*** (0.026)	0.044 (0.049)	0.032 (0.050)	−0.044 (0.057)
Adj. R^2	0.122	0.134	0.124	0.135
Observations	77,598	91,552	77,598	91,552

Note: Two-way fixed effects OLS estimation. The dependent variable is a five-point Likert scale measuring support for redistribution (1 = “Strongly disagree” to 5 = “Strongly agree”). The main explanatory variable is the number of asylum seekers per capita at the regional level. Additional covariates include age, age², gender, education, political ideology, religion, union membership, importance of helping others and regional economic controls (hospital beds, unemployment rate, and GDP). The full specification of covariates is reported in Table A.15 in the Appendix. Standard errors are clustered at the regional level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: ESS wave 5 to 9; Asylum data by EUROSTAT and ESPON MIGRARE.

In specifications with regional and year fixed effects (Column 1 and 2), asylum seeker inflows are positively associated with support for redistribution. This positive relationship, however, does not hold across more demanding specifications. In particular, when employing country-by-year fixed effects, which constitute the preferred specification for addressing unobserved country-level heterogeneity and exploiting within-country variation over time, the estimated effects are substantially smaller in magnitude, statistically insignificant and show no robust relation between asylum seekers per capita and redistribution preferences. At most, the results are consistent with weak, specification-dependent positive associations. These findings therefore do not support the existence of a systematic impact from asylum seekers.

Overall, we use ESS data over five waves (three of which are pre-treatment waves). Given this limited number of pre-treatment ESS waves, we additionally implement a placebo (“pseudo-treatment”) test to assess whether our DiD specification detects spurious effects already *before* the 2015/2016 asylum crisis. As shown in Fig. A1, we do observe a slight increase during the fieldwork of ESS 7 (our last pre-treatment wave) in Germany and Hungary. However, this increase is limited in magnitude, remaining below 0.05 asylum seekers per capita in Germany and around 0.10 in Hungary. Therefore, we restrict the sample to the pre-crisis period and re-estimate the baseline DiD model treating ESS Round 7 (2014) as the only pseudo post-treatment wave. Under this placebo timing, the estimated “treatment” effect is not statistically different from zero in Models (2,3 and 4). In Model (1), the placebo estimate is statistically significant at the 5% level, but the magnitude is very small (on the order of 0.07). This placebo test provides no evidence of a substantively meaningful pre-trend divergence between treated and control regions (see Table A.17, page 25 in the Appendix).

Again, over all these different model specifications we do not find supporting evidence for an increasing redistribution preference caused by asylum seekers and therefore we continue to reject the Progressive’s Dilemma hypothesis.

5. Conclusion

The asylum crisis of 2015–2016 placed considerable strain on the social protection systems of receiving societies. Within a compressed time frame, host countries were confronted with the task of integrating large numbers of individuals with limited formal education and no proficiency in the host-country language. Beyond the attendant fiscal pressures, integration prospects were further complicated by the pronounced cultural distance between the incoming population and the native residents. If, as posited by the Progressive’s Dilemma hypothesis, ethnic homogeneity constitutes a prerequisite for social solidarity and redistributive preferences, then the ethnic fragmentation induced by the refugee influx would be expected to exert a negative effect on support for redistributive policies. This paper uses the European asylum crisis as a natural experiment to examine the trade-off between redistributive solidarity and ethno-cultural diversity. The identification strategy exploits the fact that the sudden influx of asylum seekers was largely unanticipated by both policymakers and the general public. Additionally, asylum seekers did not disperse uniformly across Europe but rather concentrated in specific regions of the European Union. This variation enables a clear distinction between regions heavily exposed to migration flows and those that remained largely unaffected by the crisis. The empirical strategy exploits variation in exposure to asylum seekers across regions within European countries in a difference-in-differences framework. The main finding is that hosting higher numbers of asylum seekers did not lead to a decline in support for redistribution. Across specifications, there is no evidence of a systematic negative effect of ethnic heterogeneity on redistributive preferences.

From a policy perspective, distinguishing between fiscal and xenophobic motives underlying a decline in redistributive preferences is of considerable importance. If the willingness to finance social policy programs is constrained by the fiscal pressures attendant on migration, targeted adjustments to economic policy may serve to counteract this effect. In particular, measures aimed at facilitating labor market integration and strengthening work incentives for migrants hold the potential to alleviate the fiscal burden

while simultaneously broadening societal acceptance of the incoming population. A robust system of social protection and redistribution, characteristic of the European welfare state, may thus prove sustainable even under conditions of increasing ethnic diversity. If, however, solidarity and redistributive preferences are contingent on in-group identification, and if ethno-cultural heterogeneity is perceived as a threat to social cohesion, sustained immigration from culturally distant origins would be expected to erode the institutional foundations of the European social model.

Were nativism a prerequisite for welfare support, one would expect to observe a pronounced relative decline in redistributive preferences in regions that experienced substantial migration inflows. The data, however, do not support this prediction. On the contrary, the estimated effects indicate a comparatively smaller decline in redistributive preferences precisely in those regions characterized by elevated exposure to immigration. The mechanisms underlying this result remain a matter of conjecture. One plausible explanation is that in societies with limited migrant presence, native attitudes toward immigrants are shaped not primarily by the factual impact of migration on welfare and living standards, but rather by media-mediated narratives that may systematically distort risk perceptions and reinforce negative stereotypes. In the absence of direct inter-group contact, such narrative-driven beliefs are likely to predominate. Sustained interaction across ethnic lines, by contrast, has been shown to attenuate prejudice and diminish exclusionary attitudes, consistent with the predictions of inter-group contact theory. Across all specifications, the data yield no empirical evidence that xenophobic attitudes translate into reduced redistributive preferences—a finding that stands in direct contradiction to the predictions of the Progressive's Dilemma.

CRedit authorship contribution statement

Jakob Schäuble: Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Conceptualization. **Martin Mehl:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Methodology, Data curation. **Jörg Althammer:** Writing – review & editing, Validation, Supervision, Conceptualization.

Statements

The ESS data used in this research subscribes to the Declaration on Professional Ethics of the International Statistical Institute. The ESS data is available free of charge for non-commercial use and can be downloaded from the ESS Data Portal after a short registration. The asylum data used in this dataset is published by EUROSTAT and the MIGRARE project of the EU and is also free of charge for non-commercial use.

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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

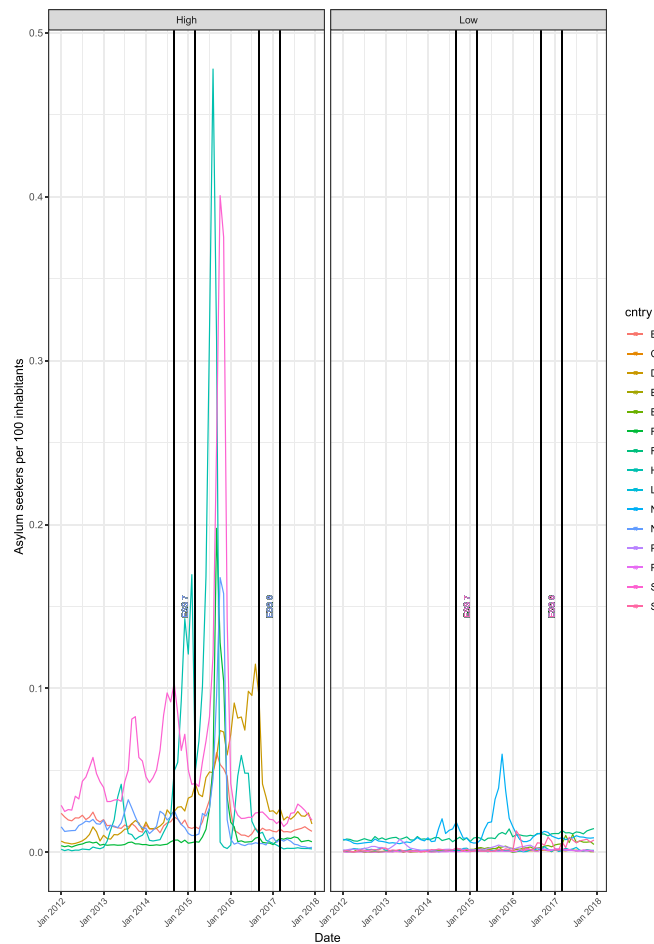


Fig. A1. Asylum seekers per 100 inhabitants (Eurostat, 2023). *Note:* The figure plots monthly asylum applicants at the national level. Additionally the time of fieldwork for ESS wave 7 and 8 is plotted with vertical lines (The ESS fieldwork for wave 7 took place from October 2014 until March 2015). The high influx started in the autumn 2015 and the EU-Turkey asylum deal of March 2016 sharply reduced the incoming numbers of asylum seekers. This figure underlines that the time of fieldwork did not overlap with the critical phase of the asylum crisis in 2015/16. The classification into high and low does not represent the treatment-control classification of the DiD, since the monthly number of asylum seekers is not published at the regional level.

Source: Time of fieldwork by ESS. National asylum data by Eurostat (2023). UK data are excluded from this figure due to the absence of monthly disaggregation but are included in the main analysis.

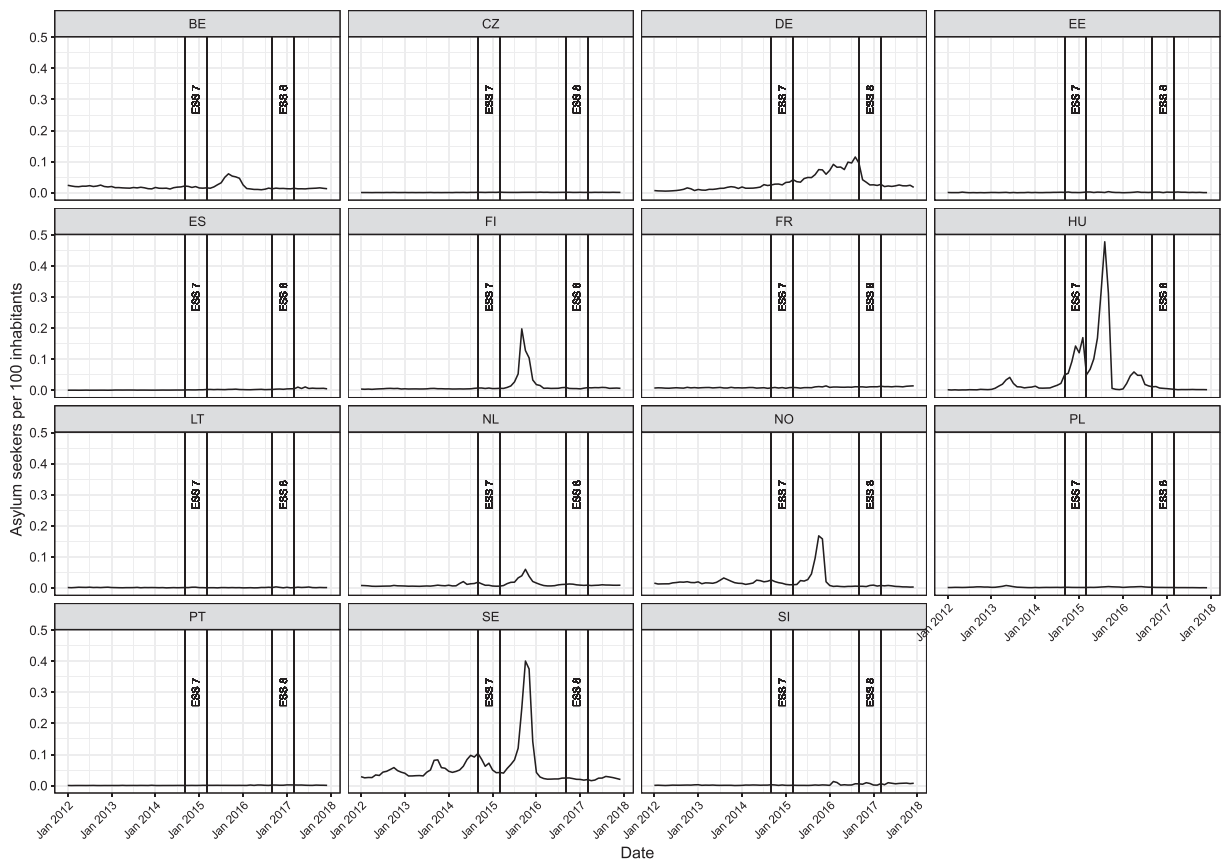


Fig. A2. Total number of asylum seekers per 100 inhabitants. Time of ESS Fieldwork ESS7 and 8 (Eurostat, 2023). *Note:* The figure plots monthly asylum applicants, separately for every nation stated in chapter data. Additionally the time of fieldwork of ESS wave 7 and 8 is plotted with vertical lines. The ESS fieldwork of wave 7 took place from October 2014 until March 2015). The high influx started in the autumn of 2015 and the EU-Turkey asylum deal of March 2016 reduced the incoming numbers of asylum seekers sharply. This figure underlines that the time of fieldwork did not overlap with the critical phase of the asylum crisis 2015/16. *Source:* Time of fieldwork by ESS. National asylum data by (Eurostat, 2023). UK data are excluded from this figure due to the absence of monthly disaggregation but yearly are included in the main analysis.

Table A.1
ESS codebook.

Variable	ESS codebook
essround	ESS5 (fieldwork starting in Oct 2010 until Mar 2011) [...] ESS9 (fieldwork starting in Oct 2018 until Apr 2019).
cntry	Country code (countries included in our dataset): BE Belgium; CZ Czechia; DE Germany; EE Estonia; ES Spain; FI Finland; FR France; GB United Kingdom; HU Hungary; LT Lithuania; NL Netherlands; NO Norway; PL Poland; PT Portugal; SE Sweden; SI Slovenia.
cregion	Common region variable for all participating countries, with NUTS units for countries included in the Nomenclature of Territorial Units for Statistics (NUTS), and nationally defined units for others. (Additionally we used regunit which gives information about the available NUTS level (1, 2 or 3).
gincdif	Original item: "Using this card, please say to what extent you agree or disagree with each of the following statements: The government should take measures to reduce differences in income levels." We reverse the scale (<i>gincdifr</i>) so that 5 = Agree strongly (higher values indicate stronger support for redistribution); NA = Refusal/Don't know/No answer.
hinctnta	Original item: "Please tell me which letter describes your household's total income, after tax and compulsory deductions, from all sources? If you don't know the exact figure, please give an estimate. Use the part of the card that you know best: weekly, monthly or annual income.". As described in the text we calculate the Income Distance (AE) to the median by combining this income decil category of hinctnta with additional ESS information (household size, ESS income appendix, PPP information, ...).
hincfel	Original item: "Which of the descriptions on this card comes closest to how you feel about your household's income nowadays?" We reverse the scale (<i>hincfelr</i>) so that 4 = Living comfortably on present income – 1 = Very difficult on present income; NA = Refusal/Don't know/No answer.
agea	Age of respondent, calculated.
gndr	Gender of respondent. Recoded to 0 = Male, 1 = Female; NA = No answer/missing.
eduyrs	About how many years of education have you completed, whether full-time or part-time? Please report these in full-time equivalents and include compulsory years of schooling.
lrscale	In politics people sometimes talk of 'left' and 'right'. Using this card, where would you place yourself on this scale, where 0 means the left and 10 means the right?
rlgdgr	Regardless of whether you belong to a particular religion, how religious would you say you are? 0 = Not at all religious – 10 = Very religious; NA = Refusal/Don't know/No answer.
mbtru	Are you or have you ever been a member of a trade union or similar organisation? Recoded to 1 = Yes (currently/previously), 0 = No; NA = Refusal/Don't know/No answer.
iphlppl	Original Item: [...] Tell me how much a person is or is not like you. It's very important to her/him to help the people around her/him. She/he wants to care for their well-being.? Recoded to 6 = Very much like me, 1 = Not like me at all; NA = Refusal/Don't know/No answer.
hincsrca	Please consider the income of all household members and any income which may be received by the household as a whole. What is the main source of income in your household? 1 = Wages or salaries; 2 = Income from self-employment (except farming) 3 = Income from farming; 4 = Pensions; 5 = Unemployment/redundancy benefit; 6 = Any other social benefits or grants; 7 = Income from investments, savings etc.; 8 = Income from other sources; NA = Refusal/Don't know/No answer.

Table A.2
Summary statistics of key variables.

	Overall (ESS5-9)	Overall pre (ESS5-7)	Overall post (ESS8-9)	Control (ESS5-9)	Treatment (ESS5-9)
Redistribution Preference	3.90 (1.02)	3.92 (1.02)	3.86 (1.01)	3.92 (1.02)	3.86 (1.00)
Income Distance (AE)	−0.02 (1.16)	−0.01 (1.07)	−0.02 (1.27)	−0.01 (1.09)	−0.02 (1.24)
Perceived Income	3.01 (0.82)	2.96 (0.84)	3.09 (0.79)	2.92 (0.82)	3.14 (0.80)
Age	49.21 (17.78)	48.90 (17.77)	49.69 (17.79)	48.97 (17.68)	49.56 (17.92)
Age 2	27.37 (18.27)	27.07 (18.23)	27.86 (18.36)	27.12 (18.14)	27.77 (18.48)
Gender	0.52 (0.50)	0.52 (0.50)	0.52 (0.50)	0.53 (0.50)	0.51 (0.50)
Years of Education	12.89 (4.03)	12.70 (4.06)	13.20 (3.98)	12.66 (4.15)	13.25 (3.83)
Polit. Spectrum (10 = Right)	5.11 (2.18)	5.12 (2.18)	5.10 (2.20)	5.08 (2.22)	5.16 (2.15)
Religion	4.28 (3.09)	4.33 (3.06)	4.21 (3.15)	4.31 (3.13)	4.23 (3.05)
Union Membership (1 = yes)	0.41 (0.49)	0.41 (0.49)	0.40 (0.49)	0.34 (0.75)	0.51 (0.50)
Beds NUTS-2 (1.000)	0.55 (0.20)	0.56 (0.20)	0.53 (0.20)	0.53 (0.17)	0.57 (0.23)
Unemployment NUTS-2	8.49 (5.13)	9.54 (5.30)	6.67 (4.26)	9.62 (5.90)	6.79 (2.99)
GDP Regional	2.71 (1.38)	2.58 (1.35)	2.91 (1.42)	2.09 (0.99)	3.51 (1.41)
Observations	143,729	59,505	84,224	87,817	55,912

Note: The table presents means and standard deviations for key variables across the full sample (ESS5-9), pre-treatment (ESS5-7), post-treatment (ESS8-9), and by control and treatment groups. Redistribution preference remains stable, with a slight decline post-treatment (3.86 vs. 3.92 pre-treatment) and slightly lower values in the treatment group (3.86) compared to controls (3.92). Descriptive statistics show that treatment regions have a higher GDP (3.51 vs. 2.09) and lower unemployment (6.79% vs. 9.62%). The sample comprises 143,729 observations, split into 59,505 pre-treatment and 84,224 post-treatment, with 87,817 in the control group and 55,912 in the treatment group. We use probability weights to control for differential selection probabilities within each country (sample design, nonresponse, noncoverage, post-stratification and sampling errors) (ESS, 2021b). *Source:* ESS



Fig. A3. Asylum applicants per 100 inhabitants in 2015/16 and regional weighted mean preference for redistribution. *Notes:* The figure shows a scatter plot of the regional distribution of asylum seekers per 100 inhabitants (e.g., 0.1 represents one asylum seeker per 1000 inhabitants), averaged over 2015–2016, and the weighted mean preference for redistribution on the y-axis. The size of each dot indicates the number of respondents in ESS Round 7. Six outliers with more than 2.5 asylum seekers per 1000 inhabitants are not shown: Hungary (Budapest, Pest, Győr-Moson-Sopron), Sweden (Västra Götaland, Stockholm), and Belgium (Brabant Wallon). *Source:* (ESPON, 2019)

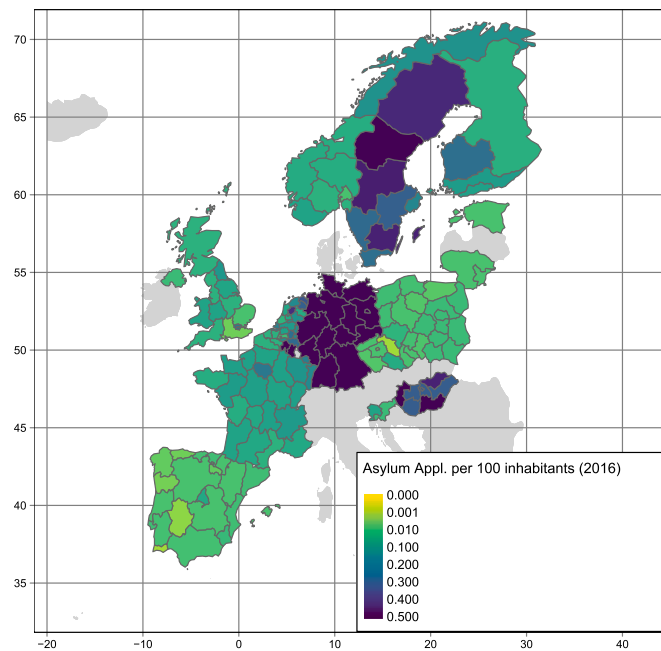


Fig. A4. Asylum applicants per 100 inhabitants in 2016. *Notes:* The figure shows the regional distribution of asylum seekers per 100 inhabitants (e.g., 0.1 stands for one asylum seeker per 1000 inhabitants) as raw data as reported by ESPON's MIGRARE project for the year 2016 only. The treatment classification took place in both years 2015 (calculated) and 2016 as shown in Fig. 1 (page 6).

Source: (ESPON, 2019)

Table A.3

Comparison of calculated and official regional asylum data for Germany and Sweden (2018).

Region	Calculated applications	Calculated share	Official applications	Official share	Deviation (%)
Baden-Württemberg	24,392	13.24%	16,062	9.93%	-3.32
North Rhine-Westphalia	51,095	27.74%	39,579	24.46%	-3.28
Lower Saxony	17,283	9.38%	16,848	10.41%	1.03
Bavaria	24,264	13.17%	21,911	13.54%	0.37
Berlin	8961	4.87%	8216	5.08%	0.21
Saarland	478	0.26%	2685	1.66%	1.40
Saxony-Anhalt	3196	1.74%	4283	2.65%	0.91
Hesse	16,330	8.87%	12,865	7.95%	-0.92
Schleswig-Holstein	8258	4.48%	6475	4.00%	-0.48
Bremen	1233	0.67%	1880	1.16%	0.49
Brandenburg	4428	2.40%	4679	2.89%	0.49
Hamburg	5247	2.85%	4139	2.56%	-0.29
Mecklenburg-Vorpommern	2407	1.31%	2828	1.75%	0.44
Saxony	6424	3.49%	7561	4.67%	1.19
Thuringia	3025	1.64%	4169	2.58%	0.93
Rhineland-Palatinate	7151	3.88%	7622	4.71%	0.83
Total	184,180	100%	161,802	100%	-
Stockholm	3845	13.29%	6851	18.78%	5.49
Östra Mellansverige	4719	16.31%	6972	19.11%	2.80
Småland och öarna	3647	12.60%	4842	13.27%	1.03
Sydsverige	3648	12.61%	5753	15.77%	3.16
Västsverige	5198	17.96%	5900	16.17%	-1.79
Norra Mellansverige	3724	12.87%	3154	8.64%	-4.23
Mellersta Norrland	2014	6.96%	1396	3.83%	-3.13
Övre Norrland	2140	7.40%	1620	4.44%	-2.96
Total	28,935	100%	36,488	100%	-

Note: This table shows the calculated regional asylum distributions for 2018/19 based on the reference year of 2016. The discrepancy between the predicted regional asylum seekers and the reported ones by Germany and Sweden show only minimal deviations of less than 6% and an average deviation of under 1.7%. Germany and Sweden are two of the few countries that published regional asylum data at all (besides the ESPON project). The regional distribution factor multiplies the 2018 national numbers delivered by Eurostat. The total numbers differ because of inconsistent classifications of asylum seekers between Eurostat (Eurostat, 2021) and the national asylum agencies of Germany and Sweden (First time asylum seekers vs. asylum seekers). However, we assume that the classification of asylum seekers does not influence the regional distribution. Source: (BAMF, 2018; Migrationsverket, 2019)

Table A.4

Comparison of calculated and official regional asylum data for Spain (2018).

Region	Calculated applications	Calculated share	Official applications	Official share	Deviation (%)
Galicia	668	1,236%	1408	2,592%	1,24
Asturias, Principado de	227	0,420%	531	0,977%	0,56
Cantabria	437	0,809%	419	0,771%	−0,04
País Vasco	1721	3,185%	1596	2,938%	−0,25
Navarra, Comunidad Foral de	272	0,503%	325	0,598%	0,09
Rioja, La	75	0,139%	142	0,261%	0,12
Aragón	475	0,879%	975	1,795%	0,92
Madrid, Comunidad de	18,043	33,387%	20,731	38,162%	4,77
Castilla y León	998	1,847%	1309	2,410%	0,56
Castilla-La Mancha	754	1,395%	806	1,484%	0,09
Extremadura	120	0,222%	240	0,442%	0,22
Cataluña	6315	11,685%	8047	14,813%	3,13
Comunitat Valenciana	4707	8,710%	4329	7,969%	−0,74
Balears, Illes	437	0,809%	494	0,909%	0,10
Andalucía	6142	11,365%	5414	9,966%	−1,40
Murcia, Región de	1945	3,599%	1642	3,023%	−0,58
Ceuta	760	1,406%	348	0,641%	−0,77
Melilla	8456	15,647%	3475	6,397%	−9,25
Canarias	1490	2,757%	2093	3,853%	1,10
Total	54,042	100%	54,324	100%	−

Note: This table shows the calculated regional asylum distributions for 2018/19 based on the reference year of 2016. The discrepancy between the predicted regional asylum seekers and the reported ones by Spain show only minimal deviations of less than 10% (Melilla) and an average deviation of under 1.4%. While Germany and Sweden show only small deviations as countries of the treatment group, Spain is one of the few countries in the control group that published regional asylum data for 2018 (besides the ESPON project). The regional distribution factor multiplies the 2018 national numbers delivered by Eurostat. The total numbers differ because of inconsistent classifications of asylum seekers between Eurostat (Eurostat, 2021) and the national asylum agencies of Spain (First time asylum seekers vs. asylum seekers). However, we assume that the classification of asylum seekers does not influence the regional distribution. In this case of Spain, the difference is only 282 asylum seekers. *Source:* (Ministerio del Interior, 2019)

Table A.5

Descriptive results pre/post crisis (2-way FE OLS with region fixed effects).

	Model I (1)	Model II (2)
Income Distance (AE)	−0.066*** (0.007)	
Perceived Income		−0.154*** (0.008)
Post Asylum Crisis (= 1)	−0.044 (0.052)	−0.096** (0.048)
Age	0.007*** (0.002)	0.003* (0.002)
Age ²	−0.004** (0.002)	−0.001 (0.002)
Gender (1 = Female)	0.103*** (0.009)	0.097*** (0.008)
Years of Education	−0.022*** (0.002)	−0.019*** (0.002)
Polit. Spectrum (10 = Right)	−0.085*** (0.007)	−0.081*** (0.006)
Religiosity	−0.004* (0.002)	−0.004* (0.002)
Union Membership (1 = yes)	0.104*** (0.009)	0.104*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.006)	0.069*** (0.006)
Beds NUTS-2 (1.000)	0.801** (0.280)	0.593** (0.233)
Regional Unemployment	0.021*** (0.005)	0.010* (0.006)
Regional GDP	0.199*** (0.063)	0.216*** (0.067)
Observations	77,598	91,552
R ²	0.123	0.135
Adjusted R ²	0.122	0.134

Regional and Time Fixed Effects; Clustered Standard Errors at regional level.

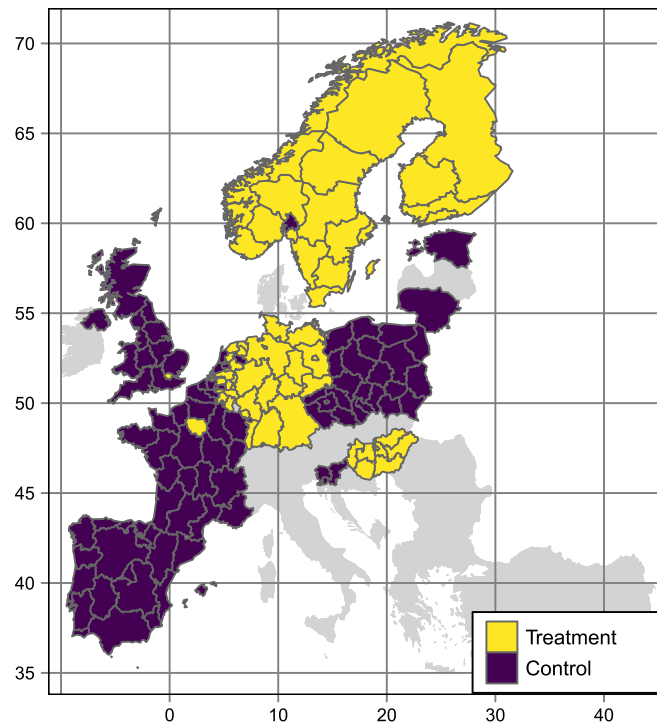


Fig. A5. Control and treatment group. *Note:* Figure shows the treatment classification of regions. A region is classified as treatment if it accommodated more than 0.3 asylum seekers per 100 inhabitants in the years 2015 and 2016. *Source:* (ESPON, 2019) and (Eurostat, 2021).

Table A.6
Results DiD.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.065*** (0.007)		−0.067*** (0.007)	
Perceived Income		−0.153*** (0.008)		−0.155*** (0.008)
Average Treatment Effect	0.164*** (0.039)	0.189*** (0.039)	0.053* (0.028)	0.049* (0.027)
Age	0.007*** (0.002)	0.004* (0.002)	0.008*** (0.002)	0.004*** (0.002)
Age ²	−0.004** (0.002)	−0.001 (0.002)	−0.005** (0.002)	−0.001 (0.002)
Gender (1 = Female)	0.119*** (0.009)	0.111*** (0.008)	0.103*** (0.009)	0.097*** (0.008)
Years of Education	−0.022*** (0.002)	−0.019*** (0.002)	−0.022*** (0.002)	−0.019*** (0.002)
Political Spectrum (10 = Right)	−0.085*** (0.007)	−0.081*** (0.006)	−0.086*** (0.007)	−0.081*** (0.007)
Religion	−0.004* (0.002)	−0.004* (0.002)	−0.005* (0.002)	−0.005** (0.002)
Union Membership (1 = yes)	0.103*** (0.009)	0.104*** (0.009)	0.104*** (0.009)	0.106*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.006)	0.069*** (0.006)	0.068*** (0.006)	0.069*** (0.006)
Beds NUTS-2 (1.000)	0.962*** (0.232)	0.839*** (0.195)	0.078 (0.075)	0.134* (0.075)
Unemployment NUTS-2	0.011* (0.006)	0.002 (0.006)	0.007* (0.004)	0.007* (0.004)
GDP Regional (10,000)	0.142*** (0.055)	0.136** (0.057)	−0.046*** (0.0055)	−0.049*** (0.010)
R ²	0.125	0.137	0.125	0.136
R ² Adj.	0.123	0.135	0.124	0.135
Observations	77,598	91,552	77,598	91,552

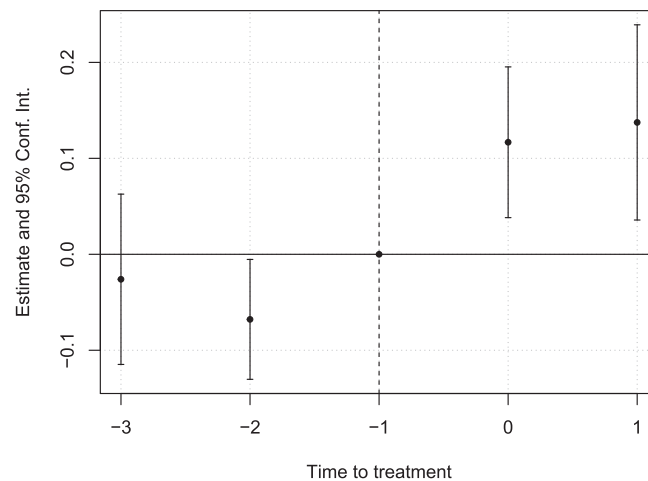


Fig. A6. Event study model I. *Note:* The figure plots event-study estimates and 95% confidence intervals from the two-way fixed effects DiD regression model 2 (specifications as in Eq. (3) with perceived income instead of income distance). This supports the common pre-trend assumption before the treatment occurred in 0, when the asylum crisis of 2015/16 took place (wave 8). Standard errors are clustered at the regional level. Wave 7 is used as a reference period (i.e., dropped from the analysis to avoid multicollinearity).

Source: ESS wave 5 to 9; Asylum data for treatment classification by Eurostat and ESPON as described earlier.

Table A.7

Results DiD with restricted data: only if household income > country median income.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.045*** (0.009)		−0.045*** (0.009)	
Perceived Income		−0.179*** (0.012)		−0.177*** (0.011)
Average Treatment Effect	0.178*** (0.047)	0.180*** (0.048)	0.011 (0.043)	0.002 (0.040)
Age	−0.003 (0.003)	−0.005** (0.003)	−0.002 (0.002)	−0.004* (0.002)
Age ²	0.005** (0.003)	0.008*** (0.002)	0.005* (0.002)	0.007*** (0.002)
Gender (1 = Female)	0.110*** (0.011)	0.111*** (0.011)	0.110*** (0.011)	0.112*** (0.012)
Years of Education	−0.028*** (0.002)	−0.024*** (0.002)	−0.028*** (0.002)	−0.025*** (0.002)
Political Spectrum (10 = Right)	−0.112*** (0.008)	−0.109*** (0.007)	−0.113*** (0.008)	−0.110*** (0.007)
Religion	0.0003 (0.003)	−0.001 (0.003)	−0.0001 (0.003)	−0.001 (0.003)
Union Membership (1 = yes)	0.125*** (0.012)	0.121*** (0.012)	0.123*** (0.013)	0.120*** (0.012)
Helping Others (6 = very imp.)	0.073*** (0.008)	0.075*** (0.008)	0.071*** (0.008)	0.073*** (0.008)
Beds NUTS-2 (1,000)	1.108*** (0.295)	1.057*** (0.286)	−0.013 (0.078)	0.014 (0.078)
Unemployment NUTS-2	0.012** (0.006)	0.008 (0.007)	0.009** (0.004)	0.005 (0.004)
GDP Regional (10,000)	0.136* (0.079)	0.121 (0.083)	−0.043*** (0.010)	−0.046*** (0.009)
R ²	0.141	0.148	0.141	0.148
R ² Adj.	0.137	0.144	0.140	0.147
Num. Obs.	38,939	38,899	38,939	38,899

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors at regional level.

Table A.8

Results DiD with restricted data: only if main source of household income is not from social benefits (*hincsrca* ≠ 5 | 6, see ESS codebook Table A.1).

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.065*** (0.007)		−0.066*** (0.007)	
Perceived Income		−0.157*** (0.008)		−0.157*** (0.008)
Average Treatment Effect	0.170*** (0.039)	0.191*** (0.040)	0.060** (0.028)	0.047* (0.026)
Age	0.005*** (0.002)	0.002 (0.002)	0.006*** (0.002)	0.002 (0.002)
Age ²	−0.003 (0.002)	0.0001 (0.002)	−0.003 (0.002)	−0.0001 (0.002)
Gender (1 = Female)	0.101*** (0.009)	0.096*** (0.008)	0.101*** (0.009)	0.096*** (0.008)
Years of Education	−0.022*** (0.002)	−0.020*** (0.002)	−0.022*** (0.002)	−0.020*** (0.002)
Political Spectrum (10 = Right)	−0.085*** (0.007)	−0.081*** (0.006)	−0.086*** (0.007)	−0.081*** (0.006)
Religion	−0.003 (0.002)	−0.003 (0.002)	−0.004 (0.002)	−0.004* (0.002)
Union Membership (1 = yes)	0.107*** (0.009)	0.106*** (0.009)	0.107*** (0.009)	0.107*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.007)	0.068*** (0.006)	0.067*** (0.006)	0.067*** (0.006)
Beds NUTS-2 (1.000)	0.965*** (0.222)	0.811*** (0.178)	0.079 (0.075)	0.137* (0.077)
Unemployment NUTS-2	0.010* (0.006)	0.001 (0.007)	0.006 (0.004)	0.003 (0.003)
GDP Regional (10,000)	0.131** (0.057)	0.132** (0.058)	−0.049*** (0.009)	−0.051*** (0.008)
R ²	0.127	0.138	0.127	0.137
R ² Adj.	0.125	0.137	0.126	0.137
Num. Obs.	72,789	85,682	72,789	85,682

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors at regional level.

Table A.9

Results DiD with restricted data: only if household income < country median income.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.005 (0.013)		−0.017 (0.013)	
Perceived Income		−0.101*** (0.009)		−0.103*** (0.008)
Average Treatment Effect	0.173*** (0.039)	0.180*** (0.038)	0.133*** (0.035)	0.137*** (0.035)
Age	0.020*** (0.002)	0.017*** (0.002)	0.020*** (0.002)	0.017*** (0.002)
Age ²	−0.016*** (0.002)	−0.013*** (0.002)	−0.016*** (0.002)	−0.013*** (0.002)
Gender (1 = Female)	0.086*** (0.013)	0.080*** (0.013)	0.085*** (0.013)	0.079*** (0.013)
Years of Education	−0.009*** (0.002)	−0.006*** (0.002)	−0.009*** (0.002)	−0.006*** (0.002)
Political Spectrum (10 = Right)	−0.055*** (0.006)	−0.053*** (0.006)	−0.056*** (0.006)	−0.054*** (0.006)
Religion	−0.009*** (0.003)	−0.010*** (0.003)	−0.010*** (0.003)	−0.010*** (0.003)
Union Membership (1 = yes)	0.053*** (0.014)	0.055*** (0.014)	0.061*** (0.015)	0.062*** (0.014)
Helping Others (6 = very imp.)	0.070*** (0.007)	0.070*** (0.007)	0.069*** (0.007)	0.069*** (0.007)
Beds NUTS-2 (1000)	0.866*** (0.250)	0.908*** (0.253)	0.154* (0.082)	0.165** (0.080)
Unemployment NUTS-2	0.013* (0.007)	0.011 (0.007)	0.006* (0.004)	0.003 (0.004)
GDP Regional (10,000)	0.190** (0.076)	0.173** (0.076)	−0.043*** (0.013)	−0.047*** (0.013)
R ²	0.087	0.094	0.085	0.091
R ² Adj.	0.083	0.089	0.082	0.089
Num. Obs.	30,012	29,977	30,012	29,977

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors at regional level.

Table A.10
Results DiD: without Germany.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.064*** (0.009)		−0.064*** (0.009)	
Perceived Income		−0.150*** (0.009)		−0.149*** (0.009)
Average Treatment Effect	0.153*** (0.045)	0.173*** (0.044)	0.041 (0.028)	0.037 (0.025)
Age	0.009*** (0.002)	0.005** (0.002)	0.009*** (0.002)	0.005** (0.002)
Age ²	−0.005*** (0.002)	−0.002 (0.002)	−0.006*** (0.002)	−0.003 (0.002)
Gender (1 = Female)	0.108*** (0.010)	0.099*** (0.009)	0.107*** (0.010)	0.099*** (0.009)
Years of Education	−0.023*** (0.002)	−0.019*** (0.002)	−0.023*** (0.002)	−0.020*** (0.002)
Political Spectrum (10 = Right)	−0.087*** (0.008)	−0.082*** (0.007)	−0.087*** (0.008)	−0.082*** (0.007)
Religion	−0.002 (0.003)	−0.002 (0.002)	−0.001 (0.003)	−0.001 (0.002)
Union Membership (1 = yes)	0.100*** (0.010)	0.102*** (0.010)	0.096*** (0.010)	0.100*** (0.010)
Helping Others (6 = very imp.)	0.070*** (0.007)	0.069*** (0.006)	0.068*** (0.007)	0.068*** (0.006)
Beds NUTS-2 (1000)	0.922*** (0.248)	0.764*** (0.208)	0.006 (0.079)	0.073 (0.081)
Unemployment NUTS-2	0.012* (0.007)	0.003 (0.008)	0.005 (0.004)	0.004 (0.003)
GDP Regional (10,000)	0.138** (0.060)	0.116* (0.060)	−0.039*** (0.011)	−0.041*** (0.009)
R ²	0.132	0.144	0.133	0.145
R ² Adj.	0.130	0.143	0.132	0.144
Num. Obs.	66,240	78,884	66,240	78,884

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors at regional level.

Table A.11
Results DiD: using only data where ESPON is available.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.071*** (0.005)		−0.072*** (0.006)	
Perceived Income		−0.149*** (0.008)		−0.150*** (0.008)
Average Treatment Effect	0.145*** (0.038)	0.184*** (0.041)	0.052* (0.028)	0.047* (0.027)
Age	0.008*** (0.002)	0.004* (0.002)	0.008*** (0.002)	0.004* (0.002)
Age ²	−0.005** (0.002)	−0.001 (0.002)	−0.005** (0.002)	−0.001 (0.002)
Gender (1 = Female)	0.102*** (0.008)	0.099*** (0.008)	0.102*** (0.008)	0.099*** (0.007)
Years of Education	−0.020*** (0.002)	−0.017*** (0.002)	−0.020*** (0.002)	−0.017*** (0.002)
Political Spectrum (10 = Right)	−0.083*** (0.007)	−0.080*** (0.007)	−0.084*** (0.007)	−0.080*** (0.007)
Religion	−0.006** (0.002)	−0.005** (0.002)	−0.006** (0.002)	−0.006*** (0.002)
Union Membership (1 = yes)	0.112*** (0.009)	0.113*** (0.009)	0.112*** (0.010)	0.115*** (0.009)
Helping Others (6 = very imp.)	0.070*** (0.007)	0.069*** (0.006)	0.069*** (0.007)	0.068*** (0.006)
Beds NUTS-2 (1000)	0.834*** (0.198)	0.713*** (0.155)	0.044 (0.105)	0.055 (0.104)
Unemployment NUTS-2	0.010* (0.005)	−0.0004 (0.006)	0.008* (0.004)	0.004 (0.004)
GDP Regional (10,000)	0.114* (0.060)	0.106* (0.062)	−0.047*** (0.012)	−0.051*** (0.010)
R ²	0.117	0.126	0.116	0.125
R ² Adj.	0.115	0.124	0.115	0.124
Num. Obs.	68,115	79,956	68,115	79,956

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors on regional level.

Table A.12

Results DiD: treatment if 0.2% asylum p.c.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.065*** (0.007)		−0.066*** (0.007)	
Perceived Income		−0.155*** (0.008)		−0.155*** (0.008)
Average Treatment Effect	0.189*** (0.039)	0.209*** (0.038)	−0.012 (0.031)	−0.019 (0.032)
Age	0.007*** (0.002)	0.004* (0.002)	0.008*** (0.002)	0.004** (0.002)
Age ²	−0.004** (0.002)	−0.001 (0.002)	−0.005** (0.002)	−0.001 (0.002)
Gender (1 = Female)	0.103*** (0.009)	0.097*** (0.008)	0.103*** (0.009)	0.097*** (0.008)
Years of Education	−0.022*** (0.002)	−0.019*** (0.002)	−0.022*** (0.002)	−0.019*** (0.002)
Political Spectrum (10 = Right)	−0.085*** (0.007)	−0.081*** (0.006)	−0.086*** (0.007)	−0.081*** (0.006)
Religion	−0.004* (0.002)	−0.004* (0.002)	−0.005* (0.002)	−0.005** (0.002)
Union Membership (1 = yes)	0.103*** (0.009)	0.104*** (0.009)	0.104*** (0.009)	0.106*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.006)	0.069*** (0.006)	0.067*** (0.006)	0.069*** (0.006)
Beds NUTS-2 (1000)	0.927*** (0.222)	0.812*** (0.191)	0.071 (0.075)	0.128* (0.075)
Unemployment NUTS-2	0.008 (0.006)	0.00004 (0.006)	0.008* (0.004)	0.003 (0.003)
GDP Regional (10,000)	0.127** (0.053)	0.118** (0.055)	−0.043*** (0.010)	−0.046*** (0.008)
R ²	0.125	0.137	0.125	0.136
R ² Adj.	0.123	0.135	0.124	0.135
Num. Obs.	77,598	91,552	77,598	91,552

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors on regional level.

Table A.13

Results DiD: treatment if 0.4% asylum p.c.

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.065*** (0.007)		−0.067*** (0.007)	
Perceived Income		−0.155*** (0.008)		−0.155*** (0.008)
Average Treatment Effect	0.159*** (0.037)	0.184*** (0.038)	0.080** (0.035)	0.061* (0.033)
Age	0.007*** (0.002)	0.004* (0.002)	0.008*** (0.002)	0.004** (0.002)
Age ²	−0.004** (0.002)	−0.001 (0.002)	−0.005** (0.002)	−0.001 (0.002)
Gender (1 = Female)	0.103*** (0.009)	0.097*** (0.008)	0.103*** (0.009)	0.097*** (0.008)
Years of Education	−0.022*** (0.002)	−0.019*** (0.002)	−0.022*** (0.002)	−0.019*** (0.002)
Political Spectrum (10 = Right)	−0.085*** (0.007)	−0.081*** (0.006)	−0.086*** (0.007)	−0.081*** (0.006)
Religion	−0.004* (0.002)	−0.004* (0.002)	−0.005* (0.002)	−0.005** (0.002)
Union Membership (1 = yes)	0.103*** (0.009)	0.104*** (0.009)	0.104*** (0.009)	0.106*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.006)	0.069*** (0.006)	0.068*** (0.006)	0.069*** (0.006)
Beds NUTS-2 (1000)	0.990*** (0.238)	0.865*** (0.201)	0.081 (0.075)	0.135* (0.075)
Unemployment NUTS-2	0.012** (0.006)	0.003 (0.006)	0.007* (0.004)	0.003 (0.003)
GDP Regional (10,000)	0.156*** (0.056)	0.152*** (0.058)	−0.047*** (0.010)	−0.049*** (0.008)
R ²	0.125	0.137	0.125	0.136
R ² Adj.	0.123	0.135	0.124	0.135
Observations	77,598	91,552	77,598	91,552

Note: *p<0.1; **p<0.05; ***p<0.01. Clustered-Standard Errors at regional level.

Table A.14
Robustness results pooled regression (2-way FE OLS with regional fixed effects).

	Model I	Model II	Model I	Model II
	(1)	(2)	(3)	(4)
Income Distance (AE)	-0.066*** (0.007)		-0.065*** (0.007)	
Perceived Income		-0.154*** (0.008)		-0.153*** (0.008)
Asylum Seekers per capita	0.084*** (0.026)	0.044 (0.049)		
Asylum Seekers cumulated (2010-2018)			0.076*** (0.025)	0.087*** (0.026)
Age	0.007*** (0.002)	0.003* (0.002)	0.007*** (0.002)	0.004** (0.002)
Age ²	-0.004** (0.002)	-0.001 (0.002)	-0.004** (0.002)	-0.002 (0.002)
Gender (1 = Female)	0.103*** (0.009)	0.096*** (0.008)	0.103*** (0.009)	0.111*** (0.008)
Years of Education	-0.022*** (0.002)	-0.019*** (0.002)	-0.022*** (0.002)	-0.019*** (0.002)
Polit. Spectrum (10 = Right)	-0.085*** (0.007)	-0.081*** (0.006)	-0.085*** (0.007)	-0.081*** (0.007)
Religion	-0.004* (0.002)	-0.004* (0.002)	-0.004* (0.002)	-0.002 (0.002)
Union Membership (1 = yes)	0.104*** (0.009)	0.104*** (0.009)	0.104*** (0.009)	0.107*** (0.009)
Helping Others (6 = very imp.)	0.069*** (0.006)	0.069*** (0.006)	0.069*** (0.006)	
Beds NUTS-2 (1.000)	0.769*** (0.262)	0.573** (0.225)	0.627** (0.247)	0.358* (0.207)
Unemployment NUTS-2	0.022*** (0.005)	0.011* (0.006)	0.018*** (0.006)	0.009 (0.006)
GDP Regional (10.000)	0.171*** (0.060)	0.202*** (0.066)	0.160*** (0.057)	0.166*** (0.063)
R ²	0.124	0.135	0.124	0.131
Adjusted R ²	0.122	0.134	0.122	0.130
Num. Obs.	77,598	91,552	77,598	92,698

Regional and Time Fixed Effects; Clustered-Standard Errors on regional level.

Table A.15
Robustness results pooled regression (2-way FE OLS with country x year fixed effects).

	Model I	Model II	Model I	Model II
	(1)	(2)	(3)	(4)
Income Distance (AE)	-0.067*** (0.007)		-0.067*** (0.007)	
Perceived Income		-0.155*** (0.008)		-0.155*** (0.008)
Asylum Seekers per capita	0.032 (0.050)	-0.044 (0.057)		
Asylum Seekers cumulated (2010-2018)			0.020 (0.017)	0.002 (0.019)
Age	0.008*** (0.002)	0.004** (0.002)	0.008*** (0.002)	0.004** (0.002)
Age ²	-0.005** (0.002)	-0.001 (0.002)	-0.005** (0.002)	-0.001 (0.002)
Gender (1 = Female)	0.103*** (0.009)	0.097*** (0.008)	0.104*** (0.009)	0.097*** (0.008)
Years of Education	-0.022*** (0.002)	-0.019*** (0.002)	-0.022*** (0.002)	-0.019*** (0.002)
Political Spectrum (10 = Right)	-0.086*** (0.007)	-0.081*** (0.006)	-0.086*** (0.007)	-0.081*** (0.006)
Religion	-0.005* (0.002)	-0.005** (0.002)	-0.005* (0.002)	-0.005** (0.002)
Union Membership (1 = yes)	0.105*** (0.009)	0.106*** (0.009)	0.105*** (0.009)	0.106*** (0.009)
Helping Others (6 = very imp.)	0.067*** (0.006)	0.069*** (0.006)	0.068*** (0.006)	0.069*** (0.006)
Beds NUTS-2 (1.000)	0.075 (0.075)	0.124* (0.074)	0.079 (0.076)	0.129* (0.075)
Unemployment NUTS-2	0.008* (0.004)	0.003 (0.004)	0.007* (0.004)	0.003 (0.003)
GDP Regional (10.000)	-0.043*** (0.010)	-0.047*** (0.009)	-0.043*** (0.010)	-0.046*** (0.008)
R ²	0.125	0.136	0.125	0.136
Adjusted R ²	0.124	0.135	0.124	0.135
Num. Obs.	77,598	91,552	77,598	91,552

Country x Year Fixed Effects; Clustered-Standard Errors on regional level.

Table A.16

Robustness results pooled regression (2-way FE OLS with country fixed effects).

	Model I	Model II	Model I	Model II
	(1)	(2)	(3)	(4)
Income Distance (AE)	−0.068*** (0.003)		−0.068*** (0.003)	
Perceived Income		−0.155*** (0.004)		−0.155*** (0.004)
Asylum Seekers per capita	0.104*** (0.017)	0.068*** (0.016)		
Asylum Seekers cumulated (2010-2018)			0.057*** (0.007)	0.049*** (0.007)
Age	0.008*** (0.001)	0.004*** (0.001)	0.008*** (0.001)	0.004*** (0.001)
Age ²	−0.005*** (0.001)	−0.002 (0.001)	−0.005*** (0.001)	−0.002 (0.001)
Gender (1 = Female)	0.119*** (0.007)	0.111*** (0.006)	0.119*** (0.007)	0.111*** (0.006)
Years of Education	−0.022*** (0.001)	−0.019*** (0.001)	−0.022*** (0.001)	−0.019*** (0.001)
Polit. Spectrum (10 = Right)	−0.086*** (0.002)	−0.081*** (0.001)	−0.086*** (0.002)	−0.081*** (0.001)
Religion	−0.003*** (0.001)	−0.003*** (0.001)	−0.003*** (0.001)	−0.003*** (0.001)
Union Membership (1 = yes)	0.109*** (0.008)	0.111*** (0.007)	0.109*** (0.008)	0.111*** (0.007)
Beds NUTS-2 (1.000)	0.122*** (0.038)	0.165*** (0.034)	0.123*** (0.038)	0.168*** (0.034)
Unemployment NUTS-2	0.012*** (0.001)	0.006*** (0.001)	0.012*** (0.001)	0.006*** (0.001)
GDP Regional (10.000)	−0.036*** (0.005)	−0.038*** (0.004)	−0.035*** (0.005)	−0.038*** (0.004)
Observations	78,418	92,698	78,418	92,698
R ²	0.113	0.124	0.113	0.124
Adjusted R ²	0.112	0.124	0.113	0.124

Note: *p<0.1; **p<0.05; ***p<0.01. Country and Time Fixed Effects; Non-Clustered-Standard Errors.

Table A.17

Placebo DiD (pre-crisis sample): pseudo-treatment in ESS round 7 (2014).

	(Region + Year FE)		(Country×Year FE)	
	I (1)	II (2)	I (3)	II (4)
Income Distance (AE)	−0.069*** (0.008)		−0.071*** (0.008)	
Perceived Income		−0.161*** (0.009)		−0.163*** (0.009)
Average Treatment Effect	0.071** (0.031)	0.018 (0.032)	0.038 (0.062)	0.034 (0.060)
Age	0.009*** (0.002)	0.005** (0.002)	0.008*** (0.002)	0.005** (0.002)
Age ²	−0.005** (0.002)	−0.002 (0.002)	−0.005** (0.002)	−0.002 (0.002)
Gender (1 = Female)	0.105*** (0.010)	0.097*** (0.009)	0.106*** (0.010)	0.098*** (0.009)
Years of Education	−0.027*** (0.002)	−0.022*** (0.002)	−0.027*** (0.002)	−0.021*** (0.002)
Political Spectrum (10 = Right)	−0.085*** (0.007)	−0.079*** (0.007)	−0.086*** (0.007)	−0.080*** (0.006)
Religion	−0.003 (0.003)	−0.003 (0.003)	−0.004 (0.003)	−0.004 (0.003)
Union Membership (1 = yes)	0.087*** (0.014)	0.088*** (0.011)	0.089*** (0.014)	0.092*** (0.012)
Helping Others (6 = very imp.)	0.066*** (0.006)	0.067*** (0.005)	0.066*** (0.006)	0.068*** (0.005)
Beds NUTS-2 (1000)	1.423*** (0.505)	0.843** (0.383)	0.013 (0.091)	0.097 (0.094)
Unemployment NUTS-2	0.003 (0.009)	−0.008 (0.007)	0.008** (0.004)	0.003 (0.003)
GDP Regional (10,000)	0.005 (0.074)	0.075 (0.072)	−0.053*** (0.011)	−0.055*** (0.009)
R ²	0.117	0.130	0.113	0.127
R ² Adj.	0.114	0.128	0.112	0.126
Num. Obs.	45,289	55,082	45,289	55,082

Note: *p<0.1; **p<0.05; ***p<0.01. standard errors clustered at the regional level. Placebo setting: sample restricted to the pre-crisis period; ESS Round 7 (2014) treated as pseudo post-treatment.

Table A.18
Within-country variation.

Country	# Regions	# Treated regions	# Control regions	# Obs. treated	# Obs. control
FR	41	3	38	1636	7718
ES	19	2	17	33	8930
DE	16	16	0	13,437	0
PL	16	0	16	0	7990
NL	12	8	4	4330	4296
UK	12	1	11	986	9745
BE	11	7	4	4563	3799
CZ	8	0	8	0	10,693
HU	8	8	0	8264	0
SE	8	8	0	7855	0
NO	7	6	1	5449	1619
FI	5	5	0	9359	0
PT	5	0	5	0	7662
SI	2	0	2	0	6195
EE	1	0	1	0	9706
LT	1	0	1	0	9464

Note: The table shows the number of regions per country and how treatment varied within countries. Treated regions refer to those assigned to the treatment condition. A region is stated as treated if it accommodated more than 0.3 asylum seekers per 100 inhabitants in the years 2015 and 2016. *Source:* (ESPON, 2019) and (Eurostat, 2021)

Data availability

Data will be made available on request.

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