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ABSTRACT

PAYING OFF POPULISM: HOW REGIONAL POLICIES AFFECT VOTING BEHAVIOR*

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This paper shows that regional policies can decrease populist support. We focus on the "development objective" (Objective-1) of the European Regional Development Fund (ERDF), meant to support lagging-behind regions. For causal inference, we exploit three sources of quasi-exogenous variation in a Regression-Discontinuity-Design (RDD), a Difference-in-Differences framework (DiD), and with matching techniques. Using NUTS3-level panel data on the outcomes of elections to the EU parliament, observed over the period 1999-2019, we consistently find that Objective-1 transfers reduces the vote share of right-fringe parties by about 2.5 pp. Left-fringe party support is not affected. Complementary analyses of individual-level survey data from the Eurobarometer show that the European Regional Policy increases trust in democratic institutions and decreases discontent with the EU.

Keywords: Populism, Regional Policies, European Integration, Regression Discontinuity Design

JEL classification: D72, H54, R11, R58

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1 Introduction

Support for populist parties from the far-right of the political spectrum, such as the French Rassemblement National, the Fratelli d'Italia or the Alternative for Germany, has been on a constant rise across Western democracies over the previous years. In the UK, the populist surge flushed the country out of the European Union. Populism also casts a shadow on the future development of the EU, since populist leaders often pursue short-time oriented, nationalist policies that hamper international cooperation and bar the way to furthering European integration.

Against this background, recent research on the economic causes of populism has revealed stark regional heterogeneities in populist support, with lagging-behind regions becoming strongholds of populist parties and candidates, see Guriev and Papaioannou (2022) for an extensive overview. Consequently, regional policies supporting the development of such regions could help to decrease populist support. Indeed, the European Union has a longstanding history of supporting lagging-behind regions and promoting convergence. Via its structural funds, the EU devotes approximately one-third of its budget (the so-called multi-annual financial framework) to regional and cohesion policy. However, it is often regions benefiting from EU-transfers where support of populist parties is comparatively strong.

In this paper, we evaluate the impact of EU regional policy on support for populist parties (left-fringe and right-fringe) throughout Europe. While many studies analyze the causes and drivers of populism, little is known about potential remedies. Only a few papers have analyzed the effect of the EU's regional policy on voting in single-country-single-election settings. The evidence is still mixed, though. Based on a spatial Regression-Discontinuity-Design (RDD) along bordering NUTS2 regions in Wales and South-West England, Crescenzi et al. (2020) find no effect of regional funds on voting behavior in the Brexit referendum. In contrast, Albanese et al. (2022), who also apply a spatial RDD, find that EU transfers reduced votes for populist parties in the 2013 national election in Italy by approximately 10%.

The main contribution of our paper lies in evaluating the impact of the EU's regional policy on populist support in a pan-European setting, using regional-level panel data on the results of elections for the European Parliament. While previous case studies yield valuable insights into specific and context-dependent impacts of regional policy on populism, we identify the average effect across time and space. Results from the elections to the European Parliament are particularly suitable for this purpose. These elections are held simultaneously all across Europe, and tactical voting to achieve some domestic objective is less likely to disguise voter's revealed

preferences. Moreover, the institutional framework of the European Regional Policy generates three sources of quasi-exogenous variation in the allocation of funds that can be used for causal inference.

Our empirical analysis employs a unique dataset on the regional outcomes of European Parliamentary elections, all observed at the fine-grain NUTS3-level between 1999 and 2019. We observe election outcomes for up to 27 countries, depending on the contemporary state of European unification. To assess treatment effects, we combine regional-level election data with data on regional transfers from the EU's structural funds. Our focus is on the main funding line of the European Regional Development Funds (ERDF), the "development-objective", also known as "Objective-1", that supports lagging-behind regions.[1] While most European regions receive some support by any funding line of the European Structural Funds, the main share of ERDF funds is devoted to this development objective – and eligibility for "Objective-1" follows clearly defined criteria.

Generally, a European region is eligible for transfers under Objective-1 if its GDP per capita does not exceed 75 percent of the EU average. First, this institutional setup gives rise to a regression discontinuity design (RDD), which compares similarly underdeveloped regions around the 75 percent threshold that differ in just one aspect: whether they receive support under the development objective, or not (cf. Becker et al., 2018). Second, the Eastern Enlargement in 2004 generates quasi-exogenous variation in some regions' treatment status, which we exploit in a difference-in-differences setting (DiD). Because of the Eastern Enlargement, some comparatively underdeveloped Western European regions dropped out of Objective-1 treatment not because they prospered economically, but just because the EU's average GDP per capita declined. Eventually, in a third step, we exploit the spatial structure of our data, where outcomes are observed on the NUTS3-level but treatment is defined on the NUTS2-level. Thus, some comparatively poor NUTS3-regions do not receive Objective-1 funding just because they are nested in a rich NUTS2 region. Conversely, some relatively rich NUTS3 regions receive treatment just because they have poor neighbors decreasing the NUTS2-average GDP per capita. We match these quasi-exogenously (un-)treated "nested abberants" to comparable NUTS3-regions with the same GDP per capita, but opposing treatment status.

We first document a negative correlation—conditional on country- and time-fixed-effects—between the vote share received by right-fringe parties and per-capita transfers of the EU's

[1] The funding landscape defined by "Objective-1" affects the regional allocation of structural funds more broadly. For instance, funding rates of the European Social Funds (ESF) may be higher in Objective-1 regions. The central goals of regional convergence and development are spelled out in the ERDF program.

structural funds, as well as a positive correlation between transfer intensity and vote shares for left-fringe parties. Our identification approaches extract the exogenous variation from this correlation. We provide evidence for a causal relationship between EU transfers and vote shares for far-right parties but not for far-left parties. Our RDD analysis shows that Objective-1 treatment decreases support for populist parties from the right fringe of the political spectrum by $\approx$ 2.8 pp, which implies a decline of populist support by around 20% for the average region. Difference-in-differences estimates based on regions dropping out of the Objective-1 funding line in 2007 confirm these results. Eventually, an analysis of matched "nested abberants", i.e. NUTS3-regions on the other side of the threshold than the NUTS2-region they belong to, finds a similar effect.

The regional-level results are mirrored in an individual-level analysis, using EU-wide survey data from Eurobarometer. Employing the same RDD-setup as for the regional data, it turns out that Objective-1 transfers increase trust in democratic institutions, and decreases dis-satisfaction with the EU in the treated regions. The attitudes affected by EU Regional Policy are particularly strongly correlated with voting support of far-right parties in elections to the European Parliament.

Our paper adds to three related strands of the literature. First, it contributes to an emerging literature looking into the political impacts of public spending and redistributive policies. Most closely, it relates to the two papers cited above (Albanese et al., 2022; Crescenzi et al., 2020), that study the effect of EU regional policy on populist support in the 2013 general election in Italy and the support for the Brexit referendum in 2016, respectively. While EU transfers negatively affected the share of votes for far-right parties in the general election in Italy in 2013, Crescenzi et al. (2020) find that the average effect of EU funds on the Brexit referendum was zero. However, when EU funds led to improved labor market conditions, they reduced Euroscepticism. Fetzer (2019) also focuses on the Brexit referendum and documents that fiscal austerity led to a higher share of votes for the "Leave"-campaign.[2] Our paper complements this result by showing that public spending can counter populism.

Second, our paper adds to the literature on the economic effects of regional policies (Becker et al., 2012; Ehrlich and Seidel, 2018; Brachert et al., 2019; Criscuolo et al., 2019; Siegloch et al., 2021) by looking into their political consequences. Methodically, our study closely relates to a series

[2]Further papers studying voting behavior in the Brexit referendum include Fidrmuc et al. (2019) and Becker et al. (2017). The former does not find that EU regional policy correlates with the leave share. The latter identifies structural factors such as socioeconomic profiles and regional characteristics, e.g. the economic structure as primary drivers of voting behavior.

of papers also employing RDD to identify economic impacts of the EU structural funds (Becker et al., 2010; Becker et al., 2013; Becker et al., 2018). These studies find that overall, EU regional policy successfully delivers on its primary objective, i.e. improve the economic development of left-behind regions to foster convergence. Lang et al. (2022) confirm positive growth and income effects based on individual-level survey data and further investigate distributional effects of the policy. Against this background, the decrease in populist support we measure comes as a —arguably unintended— consequence of regional policy.

Third, our paper complements the literature on the causes of populism by looking into possible remedies. This literature has analyzed the political consequences of international migration (Halla et al., 2017;Dustmann et al., 2019; Steinmayr, 2021; Gallegos Torres, 2023), macroeconomic "shocks" like financial crises (Funke et al., 2016; Gyöngyösi and Verner, 2022), increasing international trade (Autor et al., 2020; Dippel et al., 2022) or technological change (Frey et al., 2018, Rodríguez-Pose, 2018; Anelli et al., 2019). The latter literature shows that regional sub-units of developed economies are very differently affected by macroeconomic developments. While some regions benefit from the changing economic environment, others are left behind in structural change. Regions on the losing side of this process are more likely to support populist parties and candidates. We show that regional policies aimed at improving the development perspectives of left-behind regions reduce the "populist backlash" to economic change.

Moreover, our individual-level results speak to a broader literature related to the effects of economic developments on trust in democratic institutions and governments (Algan et al., 2017; Dustmann et al., 2017). Against this background, our individual-level results do not only confirm our regional-level findings. They also indicate that regional policies, by addressing the economic roots of populism, affect the psychological channels that translate discontent with economic developments into populist support.

The remainder of this paper is organized as follows. Section 2 introduces our data and presents some initial correlates. Section 3 lays out the empirical strategy. Section 4 presents our regional-level results and reports treatment-effects derived from a RDD, a DiD, and a matched sample. Section 5 adds our individual-level analysis. Section 6 concludes.

2 Data

2.1 Data on EU Regional Policy

Since 1994, the EU's regional policy, specifically the ERDF program, has followed programming periods of 6-7 years. The EU Commission defines overarching goals and budgets, while national and regional governments define concrete projects and measures. As a matter of principle, almost all measures require co-funding by the national or regional governments. While the funding lines and policy instruments of the ERDF have frequently changed over time, there has been one constant, i.e. the goal to support the economic development of lagging-behind regions. We focus on this specific policy goal and the respective funding line within the ERDF program, which we call "Objective-1".[3] Funds supporting this development objective have consistently been assigned according to a simple rule. All European NUTS2-regions with a GDP per capita below 75 percent of the EU average have been eligible for Objective-1 funding. This arbitrarily set threshold is a source of quasi-exogenous variation that we exploit empirically to identify policy effects.

Our empirical analysis concentrates on funding under Objective-1 for the three recent programming periods 2000-2006, 2007-2013, and 2014-2020. For each period, we identify the NUTS2-regions eligible (and receiving) funding from the *Official Journal of the European Communities*.[4] We also collect data on actual transfers from various sources. At the NUTS2 level, the European Commission (DG Regional Policy) provides regionalized information on annual expenditures from EU structural funds (ERDF, CF, ESF).[5] There exist separate databases with expenditure information at the more granular NUTS3 level (nested in NUTS2), which can all be accessed via the website of the European Commission. For the funding cycle from 2000 to 2006 and 2007 to 2013, NUTS3 level expenditure information is published in the Annexes to reports produced for the Commission, which describe the regional distribution of EU expenditures.[6] For the most recent funding period, the European Commission started to provide project-specific information, including the projects' geocodes, the total volume of the projects and the co-financing rate. We downloaded the data for the universe of projects and mapped the projects into NUTS3

[3] During the period under investigation, Objective-1 was also supported by the European Social Fund (ESF) and the Cohesion Fund (CF).

[4] Concretely, regions covered by the development goal of the ERDF for the period 2000 - 2006 are listed in in the Official Journal L 194 (27/07/1999) on page 53 - 57; for the period 2007 - 2013 regions are listed in in the Official Journal L 243 (06/09/2006) on page 44 - 46 and for the period 2014 - 2020 respective regions are listed in in the Official Journal L 50 (20/02/2014) on page 22 - 34.

[5] The information on annual expenditures at the NUTS2 level can be found here. Last retrieved in February 2021.

[6] The report about expenditure during the funding period 2007 -2013 is titled "Geography of Expenditure" and the title for the report describing the regional expenditure distribution in the period 2000 - 2006 is "Regional expenditure study 2000-2006". See here for the reports and the data. Last retrieved in October 2021.

regions to calculate total transfers at the NUTS3 level.[7]

2.2 Election Data

To analyze the effect of regional policy on populist support, we collect results from elections to the European Parliament from the past 20 years. Our election data is regionally highly dis-aggregated, i.e we observe election outcomes at the NUTS3-level, the lowest level of the standard European classification of regions. The primary data sources are the national electoral authorities. While recent election results are often available for download, NUTS3-level results for earlier years were available upon request. We use EUROSTAT's correspondence tables to accommodate changes in the boundaries of NUTS regions and various national correspondence tables to account for shifts in the boundaries of local administrative units. The regional units in our final election dataset largely correspond to the NUTS3 classification from 2016. On this basis, we consistently merge all other regional-level data.

We observe NUTS3 regional election outcomes for almost all member states of the EU-28. Exceptions are the Republic of Ireland, where it was impossible to obtain regionally dis-aggregated election results, and observations from Scotland, Wales and Northern Ireland, where it is impossible to map the electoral wards into the NUTS classification. For most countries, our dataset covers at least the past five elections, which took place in 1999, 2004, 2009, 2014 and 2019. When a new member state enters the EU, the first observation refers to the first regular election to the European Parliament in which the new member participates.

To classify parties into the political left-right-spectrum and as populist, we build on "The PopuList" (M.Rooduijn et al., 2019)."The PopuList" assesses the political orientation of parties from 31 European countries, evaluated by academics and journalists in a peer-reviewed process.[8] Based on this information, we classify parties as either far-right or far-left. The former group consists of 51 parties from the right fringe of the political spectrum and the latter consists of 34 parties from the left fringe of the political spectrum.

Fortunately, the election cycles to the European Parliament nicely coincide with the ERDF funding periods. In Each funding period, we observe at least one election. Our main analysis will focus on election results from the years 2004 (Funding Period 2000 - 2006), 2009 (Funding Period 2007 - 2013) and 2019 (Funding Period 2014 - 2020), i.e. the last election per funding period.

[7] We downloaded the data from here. Last retrieved in June 2023. While this data source seems ideal, many of the geocodes turned out to be identical, e.g., a town's centroid. We adopted various cleaning steps to be confident that our data reasonably describe transfer intensity.

[8] For more information, see https://popu-list.org/

We use election results from 1999 and 2014 in the DiD-analysis and for robustness checks.

2.3 Descriptives

Table 1 provides summary statistics on election outcomes at the NUTS3-level. Over the last 20 years, right-fringe parties increased their electoral support from an average vote share of approximately 8% in 2004 to roughly 10% in 2009, 16% in 2014 and 19% in the most recent election to the European Parliament in 2019. In contrast, the support for left-fringe parties has remained stable over time and averaged at a vote share of about 6%.

Table 1: Descriptive Statistics - Votes

	Mean	Mode	SD	Max	Min	N
Election 1999						
Share Far Right	0.051	0.024	0.064	0.352	0.000	894
Share Far Left	0.069	0.037	0.079	0.407	0.000	894
Election 2004						
Share Far Right	0.102	0.044	0.113	0.583	0.000	1,187
Share Far Left	0.056	0.021	0.074	0.408	0.000	1,187
Election 2009						
Share Far Right	0.109	0.050	0.134	0.777	0.000	1,252
Share Far Left	0.058	0.032	0.070	0.499	0.000	1,252
Election 2014						
Share Far Right	0.161	0.104	0.143	0.744	0.000	1,279
Share Far Left	0.060	0.035	0.078	0.459	0.000	1,279
Election 2019						
Share Far Right	0.212	0.144	0.173	0.790	0.000	1,286
Share Far Left	0.055	0.031	0.071	0.403	0.000	1,286

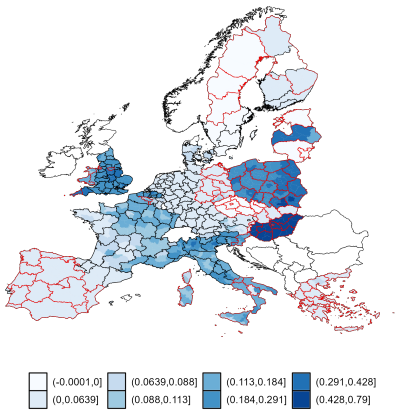
Notes: This table shows moments of the distributions of vote shares for far right and far left parties in the past four elections to the European Parliament.

The numbers in Table 1 mask a pronounced spatial variation in election outcomes, which is illustrated in Figure 1. The map shows the vote shares received by right fringe parties at the NUTS3-level for our main elections of interest, i.e. elections to the European Parliament in 2004 (upper left panel), 2009 (upper right panel) and 2019 (lower left). Appendix Figure A1 presents corresponding maps for the vote shares received by left-fringe parties.

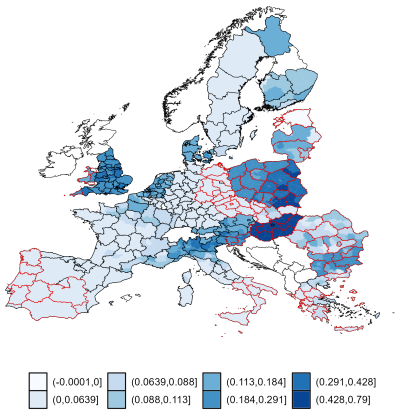
The maps reveal substantial between-country variation in populist support – almost all European countries can easily be identified by changing colors at the border. In our empirical analysis, country-time fixed effects will absorb country-level differences and time trends. To illustrate the remaining variation used in the regression analyses, we plot the residualized vote shares from the 2019 election in the lower-right panel of Figure 1.

Because of EU enlargements, the number of regions observed varies by election. Our final dataset

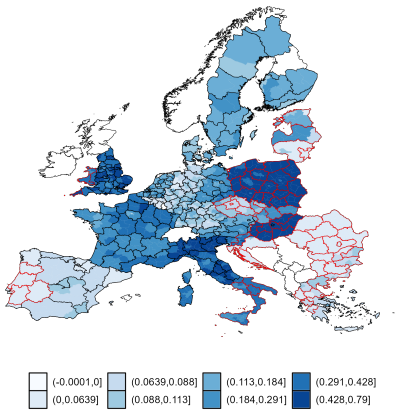
Figure 1: Vote Shares for Right-fringe Parties in EP Elections



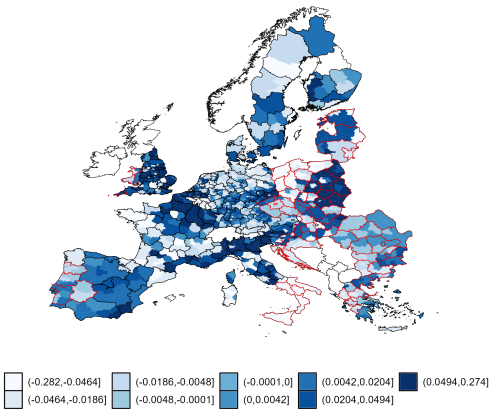
(a) Far-Right in 2004



(b) Far-Right in 2009



(c) Far-Right in 2019



(d) Far-Right in 2019, residualized

Notes: The maps show the share of votes for far right parties in the elections to the European Parliament in 2004, 2009, and 2019, as well as the residualized outcome for 2019. Objective-1 regions are outlined in red.

includes 201 NUTS2 regions in the funding period 2000 - 2006, 243 NUTS2 regions in the period 2007 - 2013, and 258 in the period 2013 - 2020. The number of regions receiving Objective-1 treatment is 52, 66 and 65 in the respective funding periods (compare Table 2).[9]

While treatment is defined at the NUTS2-level, outcome variables are observed at the NUTS3-level, with NUTS3 being nested in NUTS2. On average, approximately five NUTS3 regions are contained in one NUTS2 region. In rows three and four of Table 2, we present the total number of NUTS3 regions and those with Objective-1 treatment status.

In row five and six of Table 2, we show the average per capita disbursements (over the whole period) from the European structural and investment funds in Objective-1-regions and contrast it with the average per capita disbursement in control regions.[10] The average per capita transfer is approximately four to seven times higher in Objective-1-regions than in the control group. The difference between treated regions and the rest is the smallest from 2007 until 2013. This is likely due to special "phasing-out" assistance provided to NUTS2-regions loosing treatment status due to the Eastern Enlargement of the EU. These figures mainly demonstrate the relevance of a region's Objective-1 treatment status for the amount of EU transfers a region receives.

Table 2: Regions and Treatment Status

Funding Period	2000-2006	2007 - 2013	2014 - 2020
NUTS2 Regions	249	261	264
NUTS2 Regions - Dev. Obj.	92	79	68
NUTS3 Regions	1,242	1,291	1,313
NUTS3 Regions - Dev. Obj.	414	379	301
Transfers (No Dev. Obj.)	210	464	299
Transfers (Dev. Obj.)	1,498	2,139	1,351

Notes: This table reports the number of NUTS2 and NUTS3 regions in our estimation sample for each funding period. It also shows the average per capita transfers from the EU separately for treated and non-treated regions.

We supplement our data with a set of regional-level variables, mostly downloaded from the European Commissions Database (ARDECO). ARDECO draws on information from EUROSTAT, supplemented with data from Cambridge Econometrics. The data comes as a balanced panel, i.e. the NUTS regions were harmonized over time. It includes population, employment shares, employment by economic sectors, and GDP per capita in purchasing power parities. Most regional level data is available at the NUTS3 level. Importantly, we draw on this data source

[9] As mentioned above, we drop Ireland as well as Scotland, Wales and Northern Ireland due to data limitations. We also drop the French oversea regions Guadeloupe, Martinique, Guyane and La Réunion. We drop the Spanish exclaves Ceuta and Melilla, as well as the Portuguese regions "Região Autónoma da Madeira" and "Região Autónoma dos Açores"

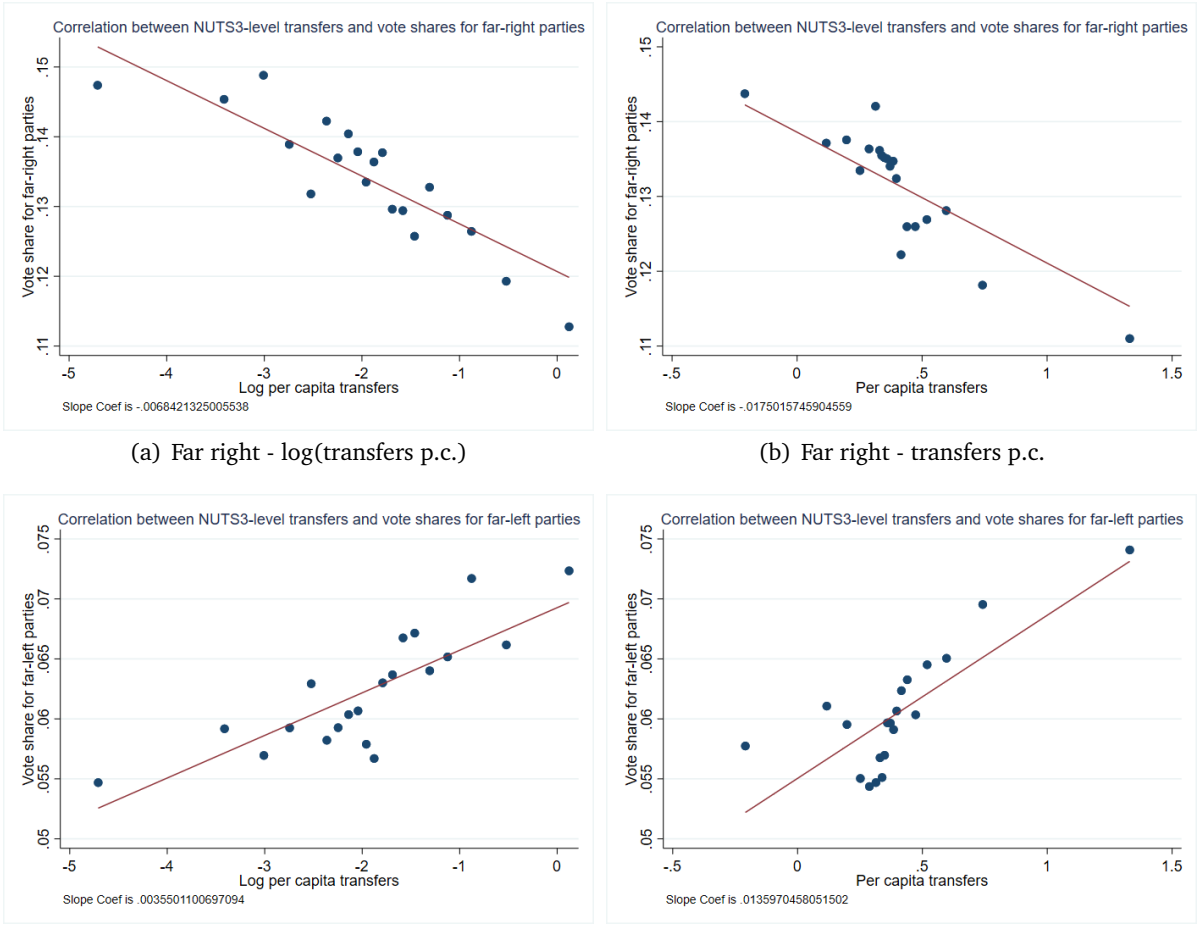
[10] Regionalized information on EU expenditures can be downloaded from the EU Commissions' website (DG Regional Policy).

to construct the forcing variable for our fuzzy RDD. Other variables will be used as controls. Summary statistics of covariates and the forcing variable are shown in Table A2 in the Appendix.

2.4 Correlation Between EU-Transfers and Populist Support

To motivate the subsequent empirical analyses, we pool election outcomes observed between 2004 and 2019 on the NUTS3-level and correlate the vote shares received by left-fringe and right-fringe parties with the EU-transfers a region receives over the corresponding funding period. Figure 2 summarizes the statistical relationship as binscatter-plots. All variables are demeaned by country-election.

Figure 2: Regional EU-transfers Correlated with Vote Shares



(a) Far right - log(transfers p.c.)

(b) Far right - transfers p.c.

(c) Far left - log(transfers p.c.)

(d) Far left - transfers p.c.

Notes: The binned scatter plots visualize the correlations between the share of votes for fringe parties (far-right and far-left) and per capita transfers. Observations from the 2004, 2009, 2014 and 2019 elections were pooled and the sample was restricted to countries that were EU members at the beginning of a funding period. We focus on a symmetric sample (+/- 75pp) around the 75% threshold, determining a NUTS2 region's eligibility for Objective-1 transfers. The units of observation are NUTS3 regions. All variables are residualized by country election. Subfigure (a) reports the correlation between the vote share for far-right parties and the log of per capita transfers, (b) uses per capita transfers in levels, Subfigure (c) reports the correlation between far-left parties and log transfers and (d) far-left parties and transfers in levels.

With a view on the subsequent analyses, very affluent regions with a GDP per capita exceeding

150% of the EU average have been omitted from the sample underlying the binned-scatterplots in Figure 2. The upper panels (a) and (b) show a negative correlation between far-right voting and per-capita transfers in logs (a) and in levels (b). Conversely, the lower panels (c) and (d) show a positive correlation between the EU-transfers a region receives and voting support of left-fringe parties. Results of a corresponding regression analysis, reported in Table A3 in the Appendix, confirm the statistical significance of this relationship, even when conditioning on regional control variables. Accordingly, increasing EU transfers to a NUTS3-region by 1000€ per capita decreases support of right-fringe parties by 1.2pp, but increases support of left-fringe parties by 1.4pp. The empirical challenge is to extract the exogenous variation caused by EU Regional Policy from this correlation.

3 Empirical Strategy

To assess the causal effect of EU Regional Policy on voting support for populist parties, we focus on the ERDF's Objective-1, i.e. the development-objective supporting lagging behind regions. For identification, we exploit three different sources of quasi-exogenous variation in three different empirical settings.

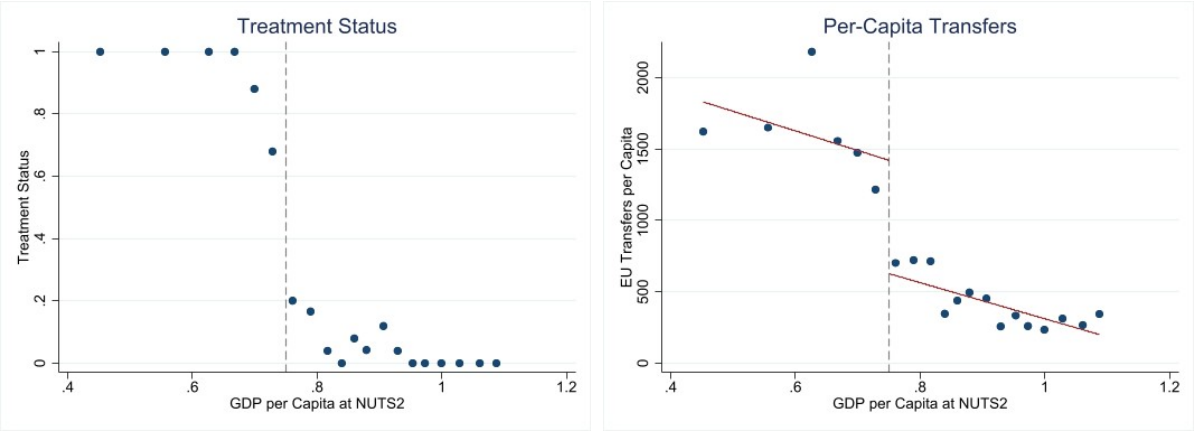
3.1 Regression Discontinuity Design

Similar to Becker et al. (2010) and Becker et al. (2018), we leverage the eligibility rule for Objective-1 transfers to identify the effect of regional policy on voting behavior. As described above, a NUTS2 region is formally eligible for development-support under Objective-1 if the regions' average GDP per capita is less than 75% of the EU average.[11] This gives rise to a regression discontinuity design (RDD). The discontinuity at the 75% threshold is illustrated in Figure 3 (left panel), as well as the steep increase in EU transfers received that comes with Objective-1 treatment (right panel).

The left panel of Figure 3 plots the treatment status of NUTS2 regions against the regions' GDP per capita, i.e. the forcing variable (observations are pooled across funding periods). Importantly, as the right panel shows, the treatment implies a significant increase in EU transfers received by treated regions. Still, untreated regions may receive transfers from other funding lines of the ERDF-program, or other structural funds.

[11] To be precise, eligibility status is determined based on the average GDP per capita in years prior to the respective funding period. For the three funding periods, we thus consider averages calculated over the following years: for the funding period 2000-2006 the years 1994-1996 are decisive; for the funding period 2007-2013 the years 2000-2002; and, finally, for the period 2014-2020 the years 2007-2009 determine eligibility.

Figure 3: Forcing Variable, Treatment Status, and Per-Capita Transfers



(a) Treatment Status (b) Per-Capita Transfers

Notes: This figure illustrates the discontinuity at the threshold. Subfigure 4(a) plots the treatment probability against the forcing variable (GDP per Capita) with the vertical line indicating the cutoff. Subfigure 4(b) plots the average per capita EU-transfers against the forcing variable. The red lines correspond to a linear fit. Source: ARDECO and European Commission. Own calculations.

As evident from the left panel of Figure 3, the 75% rule is not sharp in practice, i.e. there are some non-compliers. One can see that few regions formally eligible for treatment did not receive treatment. More frequently, regions receive treatment although their GDP per capita exceeds the 75% threshold.[12] Consequently, we employ a fuzzy-RDD, that uses the forcing variable "GDP per capita" as IV in 2SLS-regressions.

The corresponding first stage is given by:

$$D_{int} = \alpha_0 + \alpha_{c,t} + \gamma Z_{nt} + f^p(X_{nt}) \times Z_{nt} + \zeta K_{int} + \epsilon_{int} \tag{1}$$

and the second stage reads as:

$$V_{int} = \beta_0 + \beta_{c,t} + \theta D_{int} + f^p(X_{nt}) \times Z_{nt} + \lambda K_{int} + \varepsilon_{int} \tag{2}$$

D_{int} is a treatment dummy that takes the value 1 if NUTS3 region i, nested in NUTS2 region n, is treated with Objective-1 transfers in funding period t, and 0 otherwise. Z_{nt} is an indicator for Objective-1 eligibility, i.e. Z_{nt} is equal to 1 if GDP per capita in the NUTS2 region n is below 75% of the EU average. The vector K_{int} contains strictly exogenous NUTS3 level controls. Finally, the forcing variable is denoted by X_{nt}.

[12] Most of the regions receiving Objective-1 funding despite a GDP per capita above the threshold qualify for exemptions for sparsely populated areas such as the Finnish region Pohjois-ja Itä-Suomi and the Swedish regions Norra Mellansverige, Mellersta Norrland and Övre Norrland. Moreover, GDP revisions and territorial reorganizations frequently lead to non-compliance.

The coefficient of interest θ from the second stage regression captures the local average treatment effect, i.e. the effect of receiving Objective-1 transfers on voting behavior. The functions f^p are polynomial functions (of different order) of the logarithm of the normalized NUTS2 level GDP per capita. We allow these functions to differ to the right and left of the 75% eligibility threshold in all specifications. The variable of interest V_{int} is the average vote share for right-fringe or left-fringe political parties in NUTS3 region i in period t. $\alpha_{c,t}$ and $\beta_{c,t}$ are election-by-country fixed effects. Standard errors are clustered at the NUTS2-level.

3.2 Difference-in-Differences

Having data from the past 20 years allows us to exploit longitudinal variation in regions' treatment status. In particular, many regions in Western Europe did not qualify for the Objective-1 treatment any longer after the EU's average GDP per capita dropped as a result of the EU enlargement in 2004. Accordingly, comparatively poor regions lost funding not because of economic development, but just because of even poorer regions joining the EU. We leverage this within-region variation over time for causal inference in difference-in-differences regressions.

Specifically, we relate the change in vote shares between the first or second election after losing treatment status and the last election under treatment to a dummy that indicates loss of treatment. Formally, this reads as

$$\Delta V_{in} = \alpha_0 + \alpha_c + \theta \text{dropout}_n + \lambda K_{in} + \varepsilon_{inc} \tag{3}$$

where α_c are country fixed effects and K_{in} are regional level controls, fixed at their baseline levels. The sample is restricted to Western European regions ever receiving Objective-1 funding. Indicator dropout_n takes the value of one if a region drops out of funding, and is zero for regions continuously receiving Objective-1 transfers. We are interested in the coefficient θ, which captures the effect of losing Objective-1 treatment on fringe-party vote shares. This setting nicely complements the RDD analysis, as it recovers the treatment effect from NUTS3 regions that switched treatment status.

3.3 Matching Nested Aberrants

We further leverage the granularity of our data and exploit within NUTS2 variation in NUTS3-regions' GDP per capita. Somewhat arbitrarily, the EU chose the NUTS2-level to define treatment eligibility. Accordingly, some comparatively rich NUTS3-regions with their own per-capita GDP

above the 75% threshold receive funding just because the NUTS2-boundaries include sufficiently poor neighbors. These regions are "exogenously treated" since in a counterfactual world that defined eligibility on a NUTS3-level, they would not receive funding under Objective-1. Similarly, "exogenously untreated" NUTS3-regions exist that do not receive funding just because they are nested in comparatively rich NUTS2-regions. The larger a NUTS2 region, the more likely the existence of such "nested aberrants", i.e. NUTS3-regions that, taken by themselves, are "on the other side" of the 75% threshold relative to the NUTS2-average of the broader region they belong to.

Figure A2 (a) in the Appendix illustrates the within-NUTS2 variation in NUTS3-level GDP per capita. The density plots in Figure A2 (b) show a sizeable overlap of GDP per capita at the NUTS3 level between treated and untreated regions.

We match exogeneously (un-)treated NUTS3-regions to their statistical twins, particularly NUTS3-regions with the same GDP per capita but a different treatment status, and estimate the following regression to corroborate our previous analyses:

$$V_{int} = \alpha_0 + \alpha_{c,t} + \theta D_{int} + \lambda K_{int} + \varepsilon_{int} \tag{4}$$

Again, V_{int} is the share of votes for fringe parties, D_{int} is a treatment dummy, $\alpha_{c,t}$ are country-election fixed effects, and K_{int} is a vector of control variables.

4 Regional-Level Results

4.1 Main Results: Regression-Discontinuity

Table 3 presents our main RDD results with the share of votes for far-right parties as the dependent variable. All regression specifications include country-by-election fixed effects to net out country-level differences in fringe-party support and time trends. First, we present results from the full sample. We then narrow down the range around the 75% threshold (+/- 15pp in columns 3-6 and +/- 5pp in columns 7 and 8). We control for GDP per Capita, i.e. the forcing variable, by including polynomials of different orders, as indicated at the bottom of the table. Polynomials are always allowed to take different shapes on each side of the threshold. Additional control variables are indicated at the bottom of the table.[13] In case of multiple elections per

[13] For the regional controls, we use the average values from the years that were relevant to determine a NUTS2 regions' treatment status, i.e., they are exogenous to the current treatment. Regional controls include employment shares, the share of industrial employment, GDP per capita at the NUTS3 level, log population density and region

funding period, we use the latest election.[14]

Table 3: ERDF Transfers and Vote Shares for Far-Right Parties

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote Shares								
Treatment	-0.033**	-0.041***	-0.022**	-0.028***	-0.025***	-0.031***	-0.024*	-0.029*
	(0.014)	(0.013)	(0.010)	(0.010)	(0.009)	(0.009)	(0.013)	(0.015)
# of Observations	3,721	3,721	1,175	1,175	1,175	1,175	416	416
Adj. R-Squared	0.081	0.134	0.010	0.058	0.002	0.052	0.040	0.107
K-P-F-Statistic	145.12	139.32	58.12	54.21	73.84	67.18	13.32	15.87
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is the share of votes for far-right parties. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). The specifications include country-election fixed effects and, if indicated, regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15 and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * p $<$ 0.1; ** p $<$ 0.05; *** p $<$ 0.01.

Columns 1-2 show results from the full sample, which gives us 3721 NUTS3 region-election observations. To flexibly control for the structural relationship between GDP per capita and voting, these specifications include third-order polynomials of the forcing variable. The point estimate shown in Column 1 implies a reduction of vote shares for far-right parties by 3.3pp as a result of receiving Objective-1 transfers. Column 2 adds regional controls, which increases the point estimate by almost 1pp. All controls are fixed to their pre-funding period levels to avoid bad control problems. Results from the full sample provide a first benchmark. However, it is good practice not to rely on polynomials of the forcing variable only, but to focus the analysis on observations in closer proximity to the threshold. Thus in columns 3-6, we restrict the sample to regions with a per capita GDP between 60 and 90 percent of the EU average, i.e. +/- 15pp around the cutoff. This leaves us with 1175 NUTS3-level observations. Columns with even numbers include regional-level control variables. In Columns 3-4, we add second-order polynomials of the forcing variable. For comparison, Columns 5-6 include the forcing variable in linear form only.

Results from the sample around the threshold consistently show that Objective-1 treatment decreases populist support in European regions. In particular, the vote share received by right-fringe parties decreases between 2.2 and 3.1 percentage points. All point estimates are

type by country fixed effects.

[14] In practice, this implies the exclusion of the election in 2014 only. In the table with robustness checks (Table 7) we present estimates that include the election in 2014.

statistically significant at conventional levels. Our preferred specification is in Column (4). Accordingly, Objective-1 transfers decrease voting support of far right parties by 2.8pp, i.e. 21 percent of the vote share of 13.4 received on average by these parties.

In each RDD, narrowing down the sample at smaller ranges around the threshold decreases the probability of violating the exclusion restriction. However, identification comes at a cost, since the number of observations becomes smaller as the range narrows and the share of non-compliers tends to increase. Columns 7-8 focus on regions with GDP per Capita $+/-5$pp around the threshold. The number of observed NUTS3 regions drops to 416 and the first stage becomes weaker, though the F-statistic still exceeds conventional limits. Lower precision decreases the treatment effect's level of significance to the 10% level. However, getting point estimates of similar magnitude for this selective set of regions with per capita GDP between 70 and 80 percent of the EU average makes us confident that we can indeed interpret our preferred specification (4) as treatment effect of EU spending under Objective-1 on right-wing populist support.

Table A4 in the Appendix estimates the treatment effect on the *change* in far-right parties' vote shares. In line with the main results from Table 3, we find negative and significant treatment effects based on the full sample and across ranges and specifications. Looking at changes in vote shares instead of levels, we net out the effect of regional characteristics that persistently drive voting behavior. The differencing comes at the cost of potentially also differencing away parts of the treatment effect; for example, if an always treated region experienced a change in the level of vote shares resulting from the treatment but no change in the growth rates of vote shares. Hence, the results in Table A4 are both a robustness check and a qualification of the treatment effect: the results are robust to netting out persistent regional factors, and EU regional policy does not only decrease levels but also growth of populist support.

Table 4 presents results with far-left parties' vote shares as dependent variables. All coefficients up to $+/-15$pp around the threshold are very close to zero and statistically insignificant. Point estimates in Columns 7 and 8, based on observations in the narrow range around the threshold, are slightly larger – they suggest an increase in far-left parties' vote shares by 1.7pp for regions with a GDP per capita close to 75% of the EU average – but remain statistically insignificant. Similarly, when looking at the effect on changes of far-left parties' vote shares shown in Table A5 in the Appendix, we find zero effects except for one small significantly positive effect estimated from the specification focusing on the smallest range around the threshold without control variables.

Table 4: ERDF Transfers and Vote Shares for Far-Left Parties

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote Shares								
Treatment	-0.004	-0.003	0.004	0.009	-0.001	0.007	0.017	0.017
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.017)	(0.013)
# of Observations	3,721	3,721	1,175	1,175	1,175	1,175	416	416
Adj. R-Squared	0.006	0.052	0.018	0.111	0.004	0.107	-0.041	0.082
K-P-F-Statistic	145.12	139.32	58.12	54.21	73.84	67.18	13.32	15.87
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is the share of votes for far-left parties. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). The specifications include country-election fixed effects and, if indicated, regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15 and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

In sum, the baseline RDD results as reported in Tables 3 and 4 provide strong evidence for a negative causal effect of EU Regional Policy on the vote share for far-right parties but yield no support for a causal effect on the vote share for far-left parties. Altogether, the coefficients suggest that Objective-1 treatment depresses the share of votes for far-right parties by 2 - 3pp, corresponding to a reduction of 15-20% relative to the dependent variable's mean.

In addition to the above, Table A6 in the Appendix estimates the treatment effect on vote shares for parties that are part of a country's national government at the time of the election to the European Parliament. Our most preferred specification, focusing on a range of +/- 15pp around the threshold, provides suggestive evidence that governing parties benefit from treatment through higher vote shares. This offers at least a partial answer to the question of who benefits from the losses for far-right parties. Since, at least in public media, voting behavior in European Elections is often interpreted as a way to express discontent with the national government, these results could suggest higher levels of satisfaction with government in treated regions and, for that reason, lower support for far-right parties. In line with this reasoning, Table A7 indicates slightly higher turnout rates in treated regions, also regarded as a measure of voters' satisfaction with government and the political system.

4.2 Losing Treatment: Difference-in-Differences Results

As explained in Subsection 3.2, we also exploit longitudinal variation in Western European regions' treatment status as it was caused by the EU's Eastward Enlargement in 2004. We restrict

the sample to NUTS2-regions (i.e. the NUTS3-regions contained therein) classified as Objective-1 treatment regions from 2000 until 2006. Beginning with the next funding period in 2007, some of these regions lost treatment status since their GDP per capita suddenly exceeded 75% of the decreased EU average (for a list of regions that lost eligibility in 2007, see Table A1 in the Appendix). Our difference-in differences-approach (DiD) compares NUTS3-regions that quasi-exogenously lost Objective-1 status to those that remained treated. We expect no significant differences in populist support before the Eastward Enlargement, but divergence afterwards.

Results from estimating various versions of Equation 3 are shown in Table 5. The focus is on the DiD-parameter θ, that identifies the causal effect of losing treatment status on voting behavior. Panel A reports the results for changes in far-right parties' vote shares, and Panel B looks at the effect on vote shares for far-left parties.

Table 5: Loosing Development-Objective Transfers and the Effect on Voting Behavior

	Δ 2004 and 1999		Δ 2009 and 2004		Δ 2014 and 2004	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A – Far Right Parties						
Lost Treatment	-0.0044	-0.0039	0.0088***	0.0063*	0.0171***	0.0159***
	(0.0028)	(0.0032)	(0.0029)	(0.0032)	(0.0034)	(0.0038)
# of Observations	240	240	246	246	245	245
Adj. R-Squared	0.529	0.559	0.915	0.924	0.919	0.925
Panel B – Far Left Parties						
Lost Treatment	0.0173***	0.0159***	-0.0134***	-0.0115***	-0.0164***	-0.0152**
	(0.0050)	(0.0054)	(0.0039)	(0.0044)	(0.0063)	(0.0070)
# of Observations	240	240	246	246	245	245
Adj. R-Squared	0.673	0.726	0.740	0.768	0.853	0.866
Regional Controls		Yes		Yes		Yes
Country-FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows difference in differences estimates. The sample includes all Western European Objective 1 regions from the funding period 2000 - 2006. The treatment dummy takes the value 1 if a region lost objective 1 treatment in 2007 - 2013, following the accession of Eastern European countries. The unit of observation are NUTS3 regions. Standard errors are clustered at the NUTS2 level. Regional-level controls are log population density, employment shares, gdp per capita and region-type by country fixed effects. All controls were fixed to baseline levels. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Columns 1 and 2 report on pre-trends, i.e. changes in populist support between 2004 and 1999 before the Eastward Enlargement. Columns 3 and 4 assess immediate treatment effects by relating the first election after loosing treatment in 2009 to the last election under treatment in 2004. Columns 5 and 6 look into longer-run effects by comparing election results observed in 2014 to the last election under treatment in 2004.

Regarding voting support of right-fringe parties in Panel A, the placebo estimates in Columns 1 and 2 are small and statistically insignificant. Accordingly, before the Eastern Enlargement, regions that lost treatment in later years did not differ in far-right support from regions that

remained treated, supporting the validity of our identifying assumption. Columns 3 and 4 show that dropping out of treatment lead to an increase in far-right parties' vote shares by 0.6-0.9pp in the first election after the Eastward Enlargement. The treatment effect increases over time, as can be seen from the results in Columns 5 and 6, which report on differences in right-fringe vote shares between 2014 and 2004. The point estimate in Column 6 implies that loosing Objective-1 status increases far-right party support by approximately 1.6 pp relative to the control group. The gradual increase in the treatment effect is plausible, since in the funding period 2007-2013, specific "phasing out" provisions supported regions that lost treatment status due to the Eastward Enlargement. It was just from the funding period 2014-2020 on that loosing Objective-1 status had its full economic impact. Thus altogether, the DiD-results confirm our previous RDD-results on the effect of EU regional policy on right-fringe voting support.

Panel B of Table 5 reports effects of losing Objective-1 treatment on far-left party support. The four post coefficients in Columns 3-6 show negative treatment effects. For instance, Column 6 implies a differential drop in far-left parties' vote shares by around 1.5pp between 2014 and 2004. This effect size aligns with the point estimates from the RD-design after restricting the sample to observations to a very close window around the threshold (Column 8 of table 4), and to the correlational evidence presented in Appendix Table A3. However, these effects should be interpreted cautiously: the coefficients in Columns 1 and 2 are positive and statistically significant, hinting at a pre-trend in left-fringe support. Thus, the post-period estimates might just reflect a reversion of far-left party support to pre-2004 levels. More generally, results on far-left parties are much less robust to specification changes and sample selection than results on far-right parties.

4.3 Matched Sample: Nested Aberrants

Eventually, to further corroborate our previous findings, we focus on quasi-exogenously (un-)treated NUTS3-regions aberrating from the treatment eligibility of the NUTS2-region they belong to. "Nested Aberrants" are comparatively rich NUTS3-regions that receive Objective-1 transfers only because they are nested in a NUTS2-region below the threshold, or NUTS3-regions with a GDP per capita of less than 75% of the EU average, that do not receive Obective-1 transfers because their NUTS2 region's average is above the threshold. Rich aberrants that exogenously receive treatment are matched to similarly rich NUTS3 regions that do not receive Objective-1 transfers. Likewise, poor aberrants not receiving treatment are matched to similarly poor NUTS3-regions that do. The treatment effect of receiving Objective-1 transfers on populist support is identified from this matched sample of comparable regions.

Table 6 reports results from the regression analysis. All regressions include country-by-election fixed effects and regional-level controls. The first two columns use nested aberrants on both sides of the threshold. Columns 3 and 4 in the middle compare "exogenously untreated" abberants to treated control-regions. This analysis focusses on comparatively poor NUTS3-regions with less than 75% of the EU average in GDP per capita, some of which do not receive funding just because they are nested in a comparatively rich NUTS2-region. Conversely, Columns 5 and 6 focus on comparatively rich NUTS3-regions, some of which are exogenously treated with Objective-1 transfers just because they have poor neighbors. In uneven columns, we match on a country-election specific "area of common support", i.e. NUTS3-regions with the same GDP per capita but differing treatment status, observed in the same country and the same election cycle. Even columns report results from a sample homogenized via caliper-matching. Specifically, we perform tight caliper matching on NUTS3 regions' GDP per capita within country-election strata (cf. Appendix Figure A2 for the balancing of GDP per capita between treated regions and controls).[15]

Table 6: Nested Aberrants and Vote Shares for Far-Right Parties

	Exo. (un)treated		Exo. untreated		Exo. treated	
	(Common Sup.)	(Caliper)	(Common Sup.)	(Caliper)	(Common Sup.)	(Caliper)
Panel A.						
Treatment	-0.021***	-0.020**	-0.032***	-0.035**	0.000	0.006
	(0.008)	(0.009)	(0.011)	(0.014)	(0.006)	(0.005)
# Treated NUTS3	291	90	228	53	63	29
# Control NUTS3	178	90	115	53	63	29
Adjusted R-Squared	0.963	0.972	0.965	0.973	0.946	0.969
Country-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes
Regional Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows results from a comparison of NUTS3 regions with different treatment statuses conditional on levels of economic development at the NUTS3 level. The dependent variable is the share of votes for far-right parties at the NUTS3-level. The sample is restricted to NUTS2 regions that comply with the 75% rule and to NUTS3 regions with GDP per capita on the country-election specific "area of common support", i.e., for a treated NUTS3 region, there exists at least one untreated NUTS3 region in the same country-election cycle with a GDP per capita as small as the treated region's GDP per capita. Accordingly, for each untreated NUTS3 region, at least one treated NUTS3 region exists in the same country and period with GDP per capita as high as the untreated region's GDP per capita. In odd columns we use all observations and in even columns we estimate on a sample homogenized via caliper matching on GDP per capita within country-election strata. All regressions include country-election-fixed effects. All specifications include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). Standard errors are clustered at the NUTS2 level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Column 1 reports a negative and statistically significant effect of EU transfers on far-right parties' vote shares of around 2pp. After the caliper-matching, the number of observations drops to 90 aberrant NUTS3 regions and 90 matched controls, but the point estimate remains almost unchanged and significant. In columns 3 and 4 we compare regions receiving transfers to

[15]We follow the convention in the literature and set the caliper to 0.25 times the standard deviation of the matching variable (cf. Rosenbaum and Rubin, 1985)

similarly underdeveloped, but exogenously untreated regions. For these comparatively poor regions, the point estimates suggest a negative and highly significant effect of 3.2pp to 3.5pp. In contrast, we find no treatment effect comparing exogenously treated aberrants so similar but untreated NUTS3-regions (Columns 5 and 6). This zero-effect could relate to the small number of observations. It could also relate to the composition if this subsample, that contains a number of cities with poor Hinterland that may differ in voting behavior from rural areas. In any case, the underdeveloped regions targeted by the ERDF's Objective-1 turn out to be more responsive to the treatment than the richer regions.

Table A9 in the Appendix reports the same specifications with the share of far-left parties as dependent variables. In line with the RDD results, there is no evidence of a treatment effect on voting for far-left parties. All point estimates are quantitatively small and statistically insignificant.

4.4 Robustness of RDD-Main Results

To test the robustness of our main result from the RDD, i.e. the negative effect of Objective-1 transfers on voting for far-right parties, we estimate modified versions of the specifications from Columns 4 and 6 of Table 3, i.e. we consider the range of +/- 15pp around the threshold and include regional level controls. Results are reported in Table 7.

Columns 1 and 2 use the log of the vote share for far-right parties instead of levels as left-hand side variable. The point estimates are informative regarding the magnitude of the effect. The estimates reported in Columns 1 and 2 of Table 7 imply a reduction in the share of votes for far-right parties by 15-20%, which aligns well with the relative magnitude of the results reported in the levels specification in Table 3.

Columns 3 and 4 add historical vote shares for far-right parties as explanatory variables to the model, mostly results from elections to the European Parliament in 1999. Conditioning on start-of-period values controls for persistent differences in voting behavior between NUTS3 regions. Consequently, identification relies on changes to trends in regional voting behavior as in the first differences specifications.[16] Thus as expected, the point estimates drop compared to the baseline results in Table 3, indicating that vote shares for far-right parties are approximately 1.7pp lower in treated regions. It is worth noting that the effect's statistical significance increases compared to the baseline results because of much smaller standard errors. The improvement in

[16] A point estimate indistinguishable from zero would not allow the conclusion that transfers did not affect voting behavior, since most regions receiving Objective-1 transfers after 2000 also received transfers before. If the treatment effect was a one-time level shift, start-of-period values could just absorb it.

precision results from past vote shares being a powerful predictor of contemporaneous voting behavior (compare also the Adjusted R^2).

Columns 5 and 6 analyze the aggregate NUTS2 level, the spatial unit at which the treatment status is defined. Reassuringly, the point estimates are in the same order of magnitude as the baseline results. With NUTS2 regions as units of observation, the number of observations drops to 230; consequently, our estimates lose precision but remain significant at the 10% and 5% level.

In Columns 7 and 8, we restrict the estimation sample to EU-15 countries. Over our period of analysis, most NUTS2-regions in Eastern Europe were classified as Objective-1 region at least at some point in time. Omitting Eastern Europe only leads to a minuscule drop in the point estimate.

For the baseline analysis, we relied on election results from the last election per funding period. This restriction implies the exclusion of election outcomes from 2014. Columns 9 and 10 include the election results from 2014, which gives us a sample of 1577 NUTS3 region-year observations. The main results remain qualitatively unchanged.

Finally, the estimate in Column 11 is based on an RDD specification with a linear polynomial of the forcing variable, whose shape is allowed to vary not only between both sides of the cutoff, but also by country. While in theory there might be good reasons to believe that the relationship between GDP per capita and voting has a country-specific component, adding further interactions with the polynomials is likely an instance of overfitting the data at hand. Still, the effect size remains approximately similar.

In Appendix Table A8, we check the sensitivity of our main results towards omitting single countries from the estimation sample. Reassuringly, this "leave-one-country-out" exercise shows that the RDD-results do not depend on individual countries, although the magnitude of the effect shows some variance.[17]

[17] For instance, the omission of Spain leads to an increase in the point estimate, indicating a reduction in the vote share for far-right parties by $\approx$ 3.8pp. Conversely, dropping the UK decreases the point estimate to $\approx$ 2pp. These 'sensitivities' partially reflect different levels in the share of votes for far-right parties in the two countries. Moreover, omitting Italy, a country with many regions of varying treatment status and only few non-compliers, increases the standard errors.

Table 7: Robustness: Objective-1 Transfers and Far-Right Vote Shares (Range is 15)

	LHS in Log		FP-Values		NUTS-2		EU-15		Incl. 2014		Poly#Ctry.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Vote Shares											
Treatment	-0.189**	-0.166**	-0.018***	-0.017**	-0.022**	-0.024*	-0.028***	-0.026***	-0.028***	-0.023**	-0.032***
	(0.078)	(0.080)	(0.006)	(0.007)	(0.011)	(0.013)	(0.009)	(0.010)	(0.009)	(0.010)	(0.011)
# of Observations	1,168	1,168	1,175	1,175	230	230	1,083	1,083	1,577	1,577	1,175
Adj. R-Squared	0.067	0.072	0.356	0.358	0.091	0.092	0.052	0.056	0.052	0.060	0.054
K-P-F-Statistic	67.36	54.42	67.02	54.33	76.24	64.49	63.61	53.25	63.76	51.99	38.96
Regional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.

Notes: This table shows the results from alternative specifications based on the fuzzy regression discontinuity design. The estimation sample comprises NUTS2 regions in a range of +/- 15 around the threshold. The dependent variable in columns 1 and 2 is the log share of votes for far-right parties. In columns 3 and 4 we include a control for the share of votes for far-right parties in an early election (usually 1999). In columns 5 and 6 we estimate our main specification using NUTS2 instead of NUTS3 regions. In columns 7 and 8 we use only EU 15 countries, i.e. we omit Eastern Europe. In column 9 and 10 we also include the election results from 2014. Finally, in column 11 we interact the linear polynomial of the forcing variable with the county i.e., we allow for a different shape of the relationship between GDP per capita and election outcomes by country and side of the cutoff. The treatment dummy is always instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). All specifications include country-election fixed effects and regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of each Panel, we report the first stage's Kleibergen-Paap -. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

5 Individual-level Analysis

In the preceding part of this paper, we have shown that regional policy reduces the regional vote share obtained by right-fringe parties in European Elections. To corroborate our findings, and to infer on potential mechanisms, we replicate our RD-design from above but assess individual-level data instead. We use data from the Eurobarometer (EB), a European-wide survey which, among other things, asks about attitudes towards the EU, trust in democratic institutions, and expectations about future economic development.[18]

5.1 Data: The Eurobarometer

The Eurobarometer (EB) is a multi-annual survey conducted on behalf of the EU Commission. The so-called "Standard Eurobarometer" - with at least two survey waves each year - contains questions related to personal convictions, trust measures, and respondents' political attitudes. With each wave, the EB surveys approximately 25000 individuals, at least 500 from each member state. We combine 40 waves of the standard EB covering the years 2000 until 2019. For most countries, information on the respondents' residence is available at the NUTS2 level. However, for some countries such as Germany, the UK and parts of Italy, the EB provides geographic information only at a more aggregate level. We homogenize the regional identifiers over time, supplement the EB with information on regional characteristics from ARDECO (cf. Section 2), and aggregate voting results accordingly.

We group questions asked in the EB into three broad categories: The first category on "attitudes" contains responses to survey questions about individuals' overall image of the EU, or their level of satisfaction with democracy in the European Union. The second category contains measures of individuals' "trust" in different democratic institutions, both of their home country and the EU. In the last category "expectations", we summarize survey answers on individuals' expectations towards the future development of the economy or the labor market. We construct binary indicators for all outcomes if the response is not yet on a 0-1 scale.

To give a first impression of the raw data, Figure A3 in the Appendix plots the evolution of a representative measure from each category over time, separately for Objective-1 regions and for untreated regions.[19] In all figures, the time series for the treated and untreated groups strongly

[18] Bayerlein and Diermeier (2022) investigate effects of EU structural funds on euroscepticism using data from the European Social Survey.

[19] Figure A3 (a) shows the share of individuals with a negative EU image, Figure A3 (b) the share of people with trust in the EU, and Figure A3 (c) plots the evolution of individuals' expectations regarding economic development, measured by the share of people who expect the economic situation to improve.

co-move. Figure A3 (a) shows that over the entire period from 2000 to 2019, treated regions have a consistently less negative image of the EU. Likewise, people living in treated regions generally express higher trust in the EU (cf. Figure A3 (b)).[20]

5.2 RDD Results: Eurobarometer

To move beyond the suggestive evidence presented in Appendix Figure A3, we employ the same RDD as in Section 4.1 to estimate the causal effects of EU transfers on individual-level outcomes. We focus on a range of +/-15pp around the 75% threshold and, as previously, on outcomes observed at the end of each funding period. As in the regional-level analysis, we include country-time fixed effects, regional-level controls, as well as some — arguably exogenous — individual-level controls such as age and gender.[21]

Figure 4 plots the point estimates of the treatment effect and related confidence intervals for specifications with first- and second-order polynomials (triangles and circles). From the first block of results, one can see that individuals living in regions receiving Objective-1 transfers are approximately 5pp more likely to think that their country benefits from the EU and are approximately 5pp less likely to have a negative image of the EU. For the first outcome, the point estimates correspond to an $\approx$ 7% increase relative to the mean of the dependent variable. The relative effect size for the second outcome is substantially larger: in the estimation sample, about $\approx$ 25% of the individuals hold a negative view; hence, the point estimate implies a 20% reduction relative to the mean. Interestingly, we observe no increase in the proportion of individuals with explicitly positive views of the EU. Apparently, Objective-1 transfers may decrease discontent with the EU, without furthering content. However, when explicitly asked about their satisfaction with democracy in the EU, satisfaction levels tend to increase with Objective-1 treatment, while dissatisfaction is not affected.

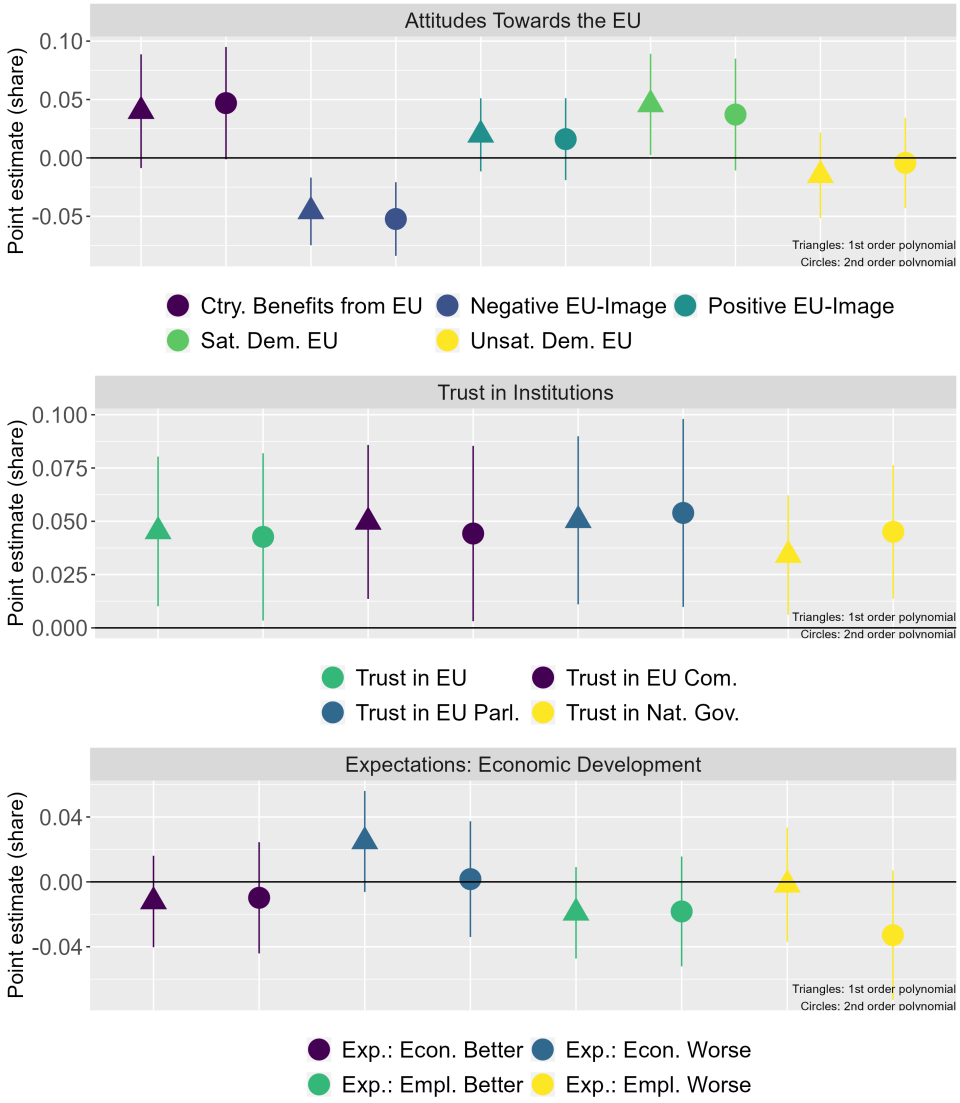
The middle-block reports on the effects of EU transfers on individuals' trust in democratic institutions. Across the board, the estimates show that Objective-1 transfers increase trust in the EU institutions and in the national government. Indeed, when interpreted relative to the mean of the dependent variable, the effect on trust in the national government is the largest.[22]

[20] One can also see how the evolution of these time series plausibly reflects significant macro developments e.g., during the European debt crisis between 2010 and 2015, the share of people with a negative EU image peaked and trust levels hit their bottom.

[21] Specifically, the regional-level controls include the employment share, the share of industrial workers, and population density. The variables from the EB that we include as controls are individuals' gender, marital status, dummies for age categories, and community type (rural, suburban, urban) by country. To correct for the over-/under-representation of certain regions, we weight each individual answer by the inverse of the number of observations in a region, thus equalizing the overall weight of each region.

[22] The share of people with trust in the EU, the EU Commission, the European Parliament and the national

Figure 4: Point Estimates RDD - Individual Level



Notes: The figure plots the point estimates and 90% confidence intervals from our FRDD, focusing on a range of +/-15% around the threshold. The estimates are obtained from individual-level data from the last three years of a funding period. All outcomes are 0-1 dummies. The triangles/circles represent the point estimates from a specification with linear/quadratic polynomials. Regressions include country-time fixed effects and the employment share, the share of industrial workers, population density, individuals' gender, marital status, dummies for age categories, and their community type (rural, suburban, urban) by country as further controls. Specifications are weighted by the inverse of the number of observations in a given regional unit. Standard errors are clustered at the region-year level. Source: Eurobarometer and Ardeco.

These results are consistent with the main finding about Objective-1 treatment's impact on voting behavior, as trust in government and satisfaction with the political system are known to be associated with fewer votes for fringe parties (cf. Dustmann et al., 2017).

The primary objective of regional policy is to foster economic convergence between regions, which, as documented by previous research, is successful (cf. Becker et al., 2013; Becker et al.,

government are 44%, 51%, 54% and 32%.

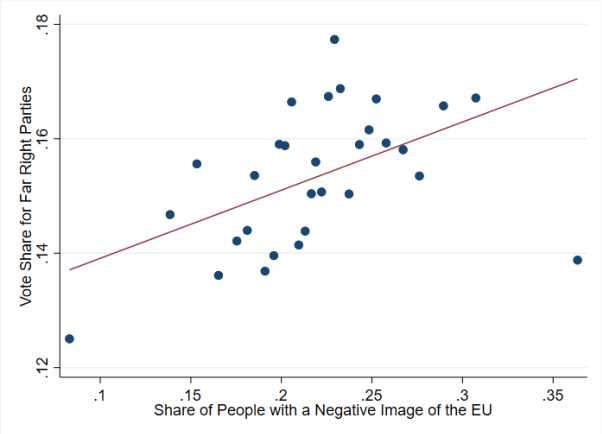
2012). Hence, it is natural to assume that individuals affected by this policy may have a more optimistic/less pessimistic view on their future economic perspectives. This, in turn, could affect their attitudes towards the EU, trust in democratic institutions, and eventually voting behavior. However, as the bottom block of Figure 4 shows, individuals' economic expectations are not affected by Objective-1 transfers. Apparently, the reason to decrease support of populist parties in reaction to the EU's regional policy has less to do with voters' economic considerations, but more with voters (re-)gaining trust in the political system.

This interpretation is supported by the binscatters in Figure 5. By the way of example, they show the relationship between right-fringe voting on the regional level and regional-level aggregates of the answers to the Eurobarometer. While far-right voting support relates to attitudes to the EU and to trust in institutions, both of which are affected by Objective-1 transfers, there is no statistical relationship between economic expectations and the vote share received by far-right parties.

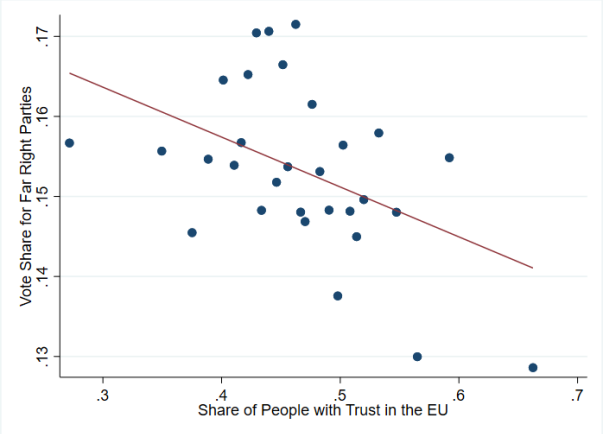
To further explore the relationship between EU Regional Policy on the one hand and attitudes, trust and expectations on the other hand, we split survey responses by respondents' education level. Appendix Table A10 presents estimates for the respective subgroups. We find suggestive evidence for a more pronounced treatment effect on individuals without formal education until age 21. For instance, among those with low education, treatment decreases the share of respondents holding a negative view of the EU by approximately 5pp, in contrast to around 2.5pp for those with higher education. The difference is even more pronounced for most trust measures.[23] Hence, one perspective on the size of the treatment effects is that Objective-1 transfers close 50% of the trust gap between high- and low-educated individuals.

[23]We find a positive effect of treatment on trust in the EU by about 5pp and no effect among individuals with high levels of education. This is despite individuals with lower educational levels having considerably less trust in institutions, e.g. only 37% of individuals with lower education express trust in the EU as compared to 48% among individuals with higher education.

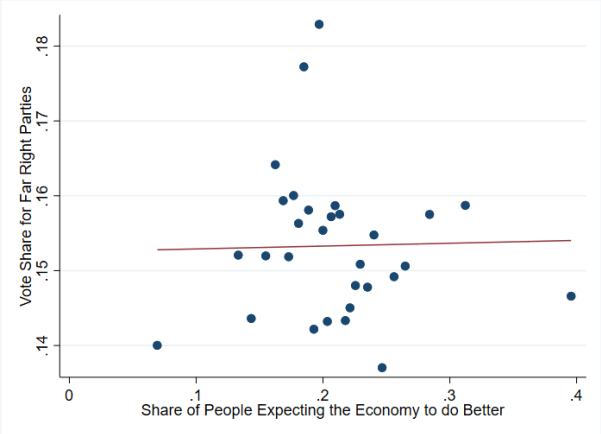
Figure 5: Regional-level Correlation - Survey Answers and Voting



(a) Negative Image of the EU



(b) Trust in the EU



(c) Expecting the Economy to do Better

Notes: The figures show the correlations between vote shares for far-right parties and the share of individuals with a negative view of the EU (a), trust in the EU (b), and (c) the expectation that the economic situation will improve at the regional level (NUTS2 or broader). Both variables are residualized by country-election, i.e., the correlations are from within countries. Source: Eurobarometer and national electoral authorities, Own calculations.

6 Conclusion

While the economic causes of populism are comparatively well understood, little is known about potential remedies. We show that regional policies can mitigate the populist surge. Specifically, public investments into regional development funded by the EU's Regional Policy program reduce the support of nationalist parties from the right fringe of the political spectrum. Indeed, populist support decreases by around 20% in European regions receiving funding under the development objective (Objective-1) of the EU's structural funds. This result holds in different empirical models using different sources of quasi-exogenous variation, and on different subsamples of European regions.

With that, investments into regional development help to counter the political polarization in space observed in many Western democracies. As a general pattern, urban agglomerations are

less inclined to support populist parties or candidates, who tend to have their strongholds in more peripheral regions. Our analysis shows for the European Union that regional policies may at least slow down the drifting-apart between prosperous centers and lagging behind regions – not only economically, but also politically.

In the EU, the rise of populism casts a shadow on the prospects of European integration. Right-wing populists in particular pursue a nationalist agenda, that tends to be sceptical towards the institutions of the EU, and to furthering European cooperation. We show that the electoral support of exactly this set of parties is most responsive to EU Regional Policy. In line with that, our individual-level analysis suggests that regional policies increase individuals' trust in the EU and its institutions, as well as consent with democracy more generally. This seems to be a reason why populist support decreases in regions receiving support from the EU's structural funds.

Our paper deliberately takes a pan-European view, assessing the effect of regional policy on an average European region. This broad view comes at the expense of detail. While we identify the overall effect of Objective-1 transfers, we cannot say much about the effectiveness of specific policy-measures – not to speak of efficiency. More research is needed to better understand how exactly public support for regional development affects voting behavior, which measures are most successful (and under which circumstances), and how the political consequences of regional policies interact with their economic effects.

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Appendix A Expenditure Data

The expenditure data comes from separate datasets for each funding period; data consistency within the funding period is ensured but not across periods.

Funding period 2000 - 2006: The expenditure data for the funding period 2000 - 2006 covers ERDF and Cohesion Fund expenditures and was collected in a study carried out by SWECO on behalf of the DG Regional Policy. According to the final report, the study successfully mapped 98% of ERDF and Cohesion Fund expenditures from the 2000-2006 budgets to NUTS3 regions (cf. *ERDF and CF Regional Expenditure*). In a previous study, Becker et al. (2013) use the same data.

Funding period 2007 - 2013: NUTS3 level expenditure data for the funding period 2007 - 2013 comes from a similar data collection effort conducted by the Spatial Foresight GmbH on behalf of the EU Commission (Spatial Foresight GmbH, 2015). The data also covers expenditures through ERDF and the Cohesion Fund.[24]

Funding period 2014 - 2020: For the last completed funding period, which ran from 2014 until 2020, we could not get regional expenditure data directly. However, in 2022 the EU-Commission launched the *Kohesio* platform, which allows downloading information at the project level, i.e., it documents all co-financed projects, their volume, and their geo-referenced location.[25] We cleaned the project level data by dropping the largest 0.5% of projects since those are primarily large infrastructure projects, such as road construction, that cannot be mapped to individual NUTS3 regions. We also dropped expenditures from the ESF in regions with a spike in the number of respective projects. The reported location of ESF projects often corresponds to the location of the local authority that manages the project. For example, if the employment agency runs a retraining program for the unemployed across the country that receives money from the ESF, the project location would be the location of the employment agency. We then use the cleaned project-level data to calculate the regional-level expenditure.

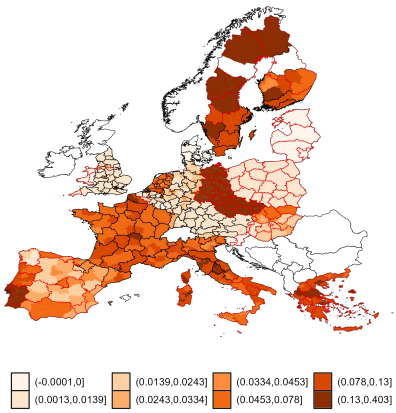
[24] We downloaded both datasets, i.e. for the period 2000 - 2006 and for 2007 - 2013, from the official website of the European Commission (cf. here). Last retrieved: 10.03.2021.

[25] The project level data can be downloaded here. Last retrieved: 16.06.2023

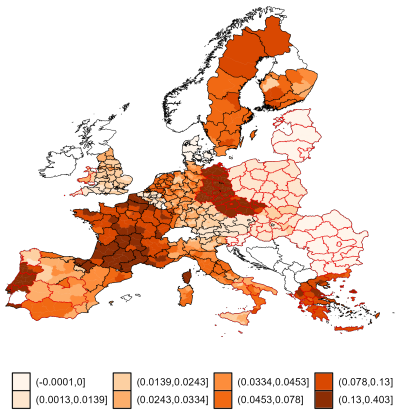
Appendix B Additional Regional-Level Material

B.1 Descriptive Information

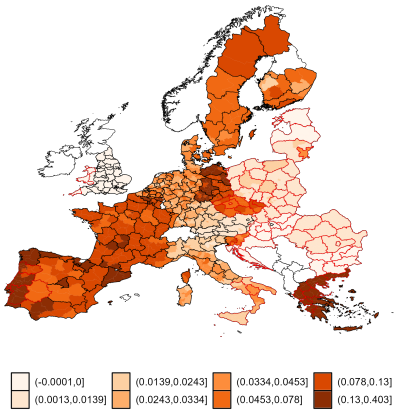
Figure A1: Vote Shares for Left-fringe Parties in EP Elections



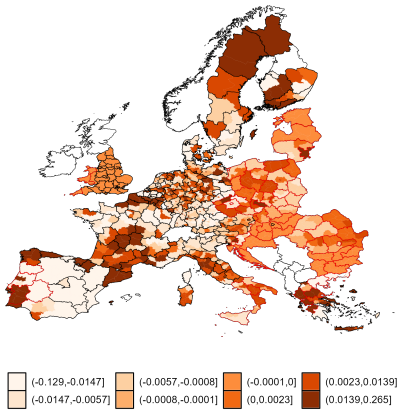
(a) Far-Left in 2004



(b) Far-Left in 2009



(c) Far-Left in 2019



(d) Far-Left in 2019, residualized

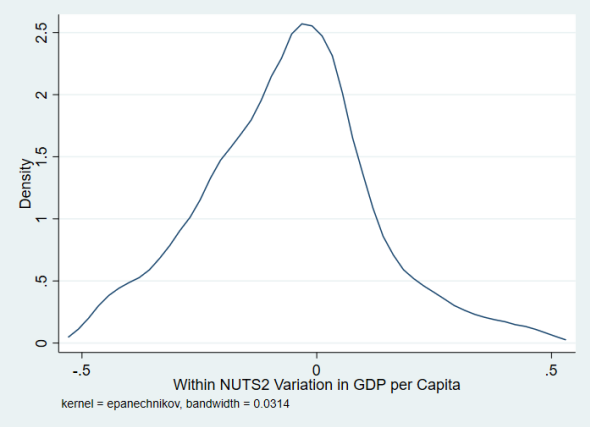
Notes: The figures show the share of votes for far left parties in the elections to the European Parliament in 2004, 2009, and 2019, as well as the residualized outcome for 2019. Objective-1 regions are outlined in red.

Table A1: List of Regions Used in Difference-in-Differences Estimation

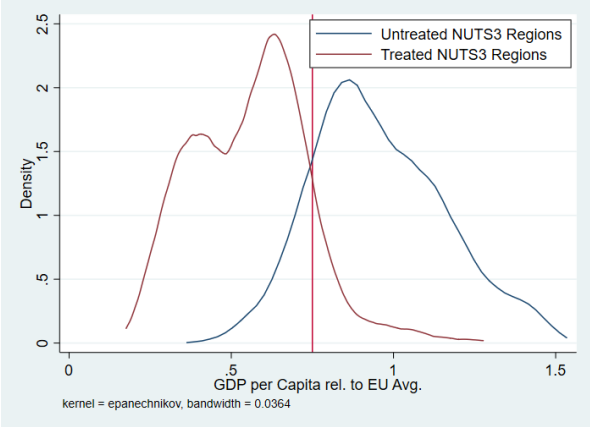
NUTS2 regions that remained treated	NUTS2 regions that dropped out of treatment
DE41 (8), DE80 (8), DED2 (5), DED (4), DEE0 (14), DEG0 (23), EL41 (3), EL43 (4), EL51 (5), EL54 (3), EL61 (3), EL62 (4), EL63 (3), EL65 (3), ES11 (4), ES42 (5), ES43 (2), ES61 (8), FI1D (7), ITF3 (5), ITF4 (6), ITF6 (5), ITG1 (9), PT11 (8), PT16 (8), PT18 (5), UKK3 (1)	AT11 (3), BE32 (7), DE42 (10), DED5 (3), EL42 (2), EL52 (7), EL53 (3), EL64 (5), ES12 (1), ES13 (1), ES41 (9), ES52 (3), ES62 (1), ES70 (2), FRM0 (2), ITF2 (2), ITF5 (2), ITG2 (8), PT15 (1), SE31 (3), SE32 (2), SE33 (2), UKD7 (4), UKE3 (2)

Notes: Regions used in the difference-in-differences regressions. All listed NUTS2 regions received Objective-1 treatment until 2007. The number of nested NUTS3 regions is shown in brackets. Source: Official Journal of the European Union (L 194, L 243/44)

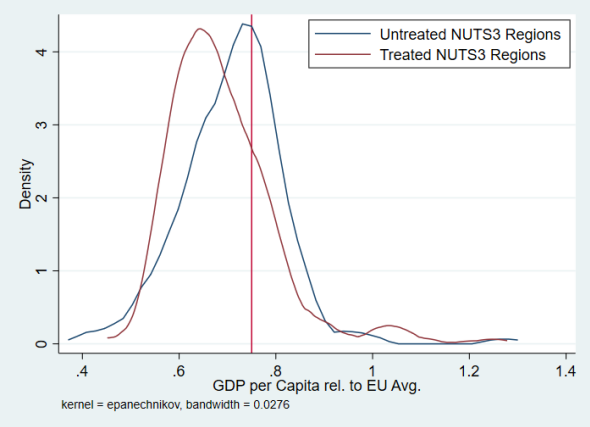
Figure A2: Variation of GDP per Capita Between NUTS3 Regions



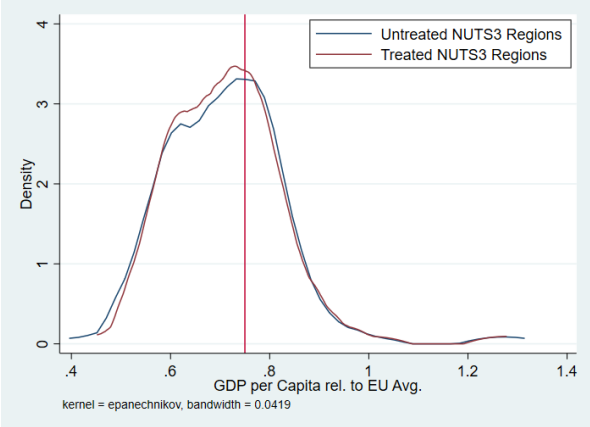
(a) Within NUTS2 variation



(b) GDP per capita at NUTS3 level



(c) GDP per capita on area of common support



(d) GDP per capita after caliper matching

Notes: Subfigure (a) shows the distribution of the differences between a NUTS3 region's GDP per capita and the GDP per capita at the level of the mother NUTS2 region. Subfigure (b) shows the distribution of GDP per capita at the NUTS3 level, separately for treated regions and untreated regions. Subfigure (c) shows the distribution of GDP per capita at the NUTS3 level for treated and untreated NUTS3 regions after the sample has been restricted to the country by period specific area of common support with regard to GDP per capita. Subfigure (d) shows the distribution of GDP per capita on the matched sample, separately for treated and untreated NUTS3 regions. Source: Official Journal of the European (L 194, L 243/44, L 50/22) and Union European Commission - DG REGIONAL POLICY

Table A2: Descriptive Statistics of NUTS3-Level Covariates

	Mean	Mode	SD	Max	Min	N
GDP / Capita	21,532	20,479	15,638	365,805	798	5,004
GDP / Capita - Forcing	0.910	0.848	0.547	12.522	0.129	5,004
Employment Share	0.444	0.422	0.146	2.918	0.214	5,004
Industry Share	0.350	0.337	0.133	0.862	0.041	5,004
Total Population (in 1000)	370.570	264.009	413.664	6,263.517	19.833	5,004
Population Dens. (Pop/km2)	575	144	1,405	21,339	2	5,004

Notes: This table shows summary statistics of covariates at the NUTS3-level pooled over the election years 2004, 2009, 2014 and 2019. Source: ARDECO database.

B.2 Enhanced Correlations: Transfers and Voting

To explore the correlation between vote shares and EU-transfers, we pool the data from the last four elections to the EP and estimate the following OLS regression at the NUTS3 level:

$$V_{ict} = \beta_0 + \beta_1 X_{ict} + \phi_{ct} + \alpha T_{ict} + \varepsilon_{ict} \tag{5}$$

The coefficient α measures the correlation between the population normalized measure of EU transfers (T_{ict}) and the vote shares V_{ict}, conditional on country-election fixed effects (ϕ_{ct}) and regional control variables (X_{ict}).[26] Panel A of Table A3 reports the respective point estimates when the explanatory variable is in log. Panel B shows the results when EU transfers are in levels (1000Euro/per capita). The dependent variables are the shares of votes for right-fringe parties (Columns 1 and 2) and left-fringe parties (Columns 3 and 4).

Results in Panel A indicate that higher per-capita transfers are associated with a lower share of votes for right-fringe parties. Qualitatively this holds in specifications with and without regional controls. The opposite is true for the association between transfers and the share of votes for left-fringe parties. Both effects are highly significant in a statistical sense. Quantitatively, the coefficients in Columns (2) and (4), Panel A, imply that 100% larger EU transfers are associated with vote shares for far-right parties being 0.5pp lower, and far-left parties' vote shares being 0.4pp higher. Results in Panel B suggest that transferring an additional 1000€ per capita is associated with vote shares for far-right parties being 1.2pp lower and for far-left parties 1.4pp higher (Columns 2, 4).

[26]The regional controls collected in X_{ict} include log population density, employment, GDP per capita and higher-order terms. The estimation sample includes all Objective-1 regions and all NUTS3 regions nested in a NUTS2 region with a GDP per capita that does not exceed 1.5 times the EU's average (i.e., the sample is symmetric around the threshold).

Table A3: NUTS3-level Transfers and Vote Shares for Far-right/-left Parties

	Far-right parties		Far-left parties	
	(1)	(2)	(3)	(4)
Panel A - Log of p.c. Transfers				
Transfers	-0.007***	-0.005***	0.004***	0.004***
	(0.001)	(0.001)	(0.000)	(0.000)
# of Observations	3,925	3,923	3,925	3,923
Adj. R-Squared	0.909	0.919	0.865	0.883
Panel A - Transfers (1000/p.c.)				
Transfers	-0.018***	-0.012***	0.014***	0.014***
	(0.002)	(0.002)	(0.001)	(0.001)
# of Observations	4,099	4,097	4,099	4,097
Adj. R-Squared	0.909	0.919	0.868	0.885
Regional Controls		Yes		Yes
Country-Election-FE	Yes	Yes	Yes	Yes

Notes: This table shows correlations between the share of votes for fringe parties (far-right in Columns 1 and 2 and far-left in Columns 3 and 4) and per capita transfers. The units of observation are NUTS3 regions. The specifications include country-election fixed effects and may or may not include regional controls (Log employment, log GDP per capita, log of population density and higher order terms thereof). In Panel A, the independent variable is in log and in Panel B, the independent variable is in levels (1000€ per capita). We omit very affluent regions from the sample and focus instead on a symmetric sample (+/- 75%) around the threshold determining a NUTS2 region's eligibility for Objective-1 transfers. We pool all observations from the 2004, 2009, 2014 and 2019 elections and keep all countries that were EU members at the beginning of a funding period. * p < 0.1; ** p < 0.05; *** p < 0.01.

B.3 Additional Regression Results: Regional

Table A4: ERDF Transfers and Vote Shares for Far-Right Parties - In First Differences

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ Shares								
Treatment	-0.017***	-0.018***	-0.013**	-0.013**	-0.015***	-0.015**	-0.020*	-0.013
	(0.005)	(0.005)	(0.006)	(0.007)	(0.006)	(0.006)	(0.011)	(0.009)
# of Observations	3,414	3,414	1,077	1,077	1,077	1,077	372	372
Adj. R-Squared	0.034	0.049	0.010	0.035	0.007	0.032	0.066	0.087
K-P-F-Statistic	126.19	120.56	51.61	46.93	58.50	52.91	15.60	17.15
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is the change (first difference) in the share of votes for far-right parties. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion (< 75% of the EU's average). The specifications include country-election fixed effects and may or may not include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15, and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * p < 0.1; ** p < 0.05; *** p < 0.01.

Table A5: ERDF Transfers and Vote Shares for Far-Left Parties - In First Differences

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ Shares								
Treatment	-0.003	-0.002	0.003	0.003	-0.002	-0.002	0.030**	0.025
	(0.006)	(0.007)	(0.009)	(0.010)	(0.009)	(0.010)	(0.015)	(0.019)
# of Observations	3,414	3,414	1,077	1,077	1,077	1,077	372	372
Adj. R-Squared	0.008	0.009	0.015	0.024	0.003	0.011	0.076	0.088
K-P-F-Statistic	126.19	120.56	51.61	46.93	58.50	52.91	15.60	17.15
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is the change (first difference) in the share of votes for far-left parties. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). The specifications include country-election fixed effects and may or may not include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15 and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * p $<$ 0.1; ** p $<$ 0.05; *** p $<$ 0.01.

Table A6: ERDF Transfers and Vote Shares for Governing Parties

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote Shares								
Treatment	0.006	0.007	0.028*	0.022	0.029*	0.022	0.004	0.001
	(0.015)	(0.016)	(0.016)	(0.015)	(0.016)	(0.015)	(0.020)	(0.023)
# of Observations	3,721	3,721	1,175	1,175	1,175	1,175	416	416
Adj. R-Squared	0.006	0.010	0.006	0.010	-0.002	0.007	0.004	0.035
K-P-F-Statistic	145.12	139.32	58.12	54.21	73.84	67.18	13.32	15.87
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is the share of votes for governing parties. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). The specifications include country-election fixed effects and may or may not include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15 and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * p $<$ 0.1; ** p $<$ 0.05; *** p $<$ 0.01.

Table A7: ERDF Transfers and Turnout

	Full Range		Range +/- 15				Range +/- 5	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote Shares								
Treatment	-0.013	-0.014	0.036	0.033	0.022	0.015	0.096*	0.102**
	(0.035)	(0.036)	(0.033)	(0.029)	(0.035)	(0.032)	(0.053)	(0.044)
# of Observations	3,106	3,106	909	909	909	909	339	339
Adj. R-Squared	0.052	0.074	0.027	0.118	0.018	0.103	0.165	0.270
K-P-F-Statistic	90.40	82.31	39.28	35.10	42.28	38.86	12.86	14.53
Regional Controls		Yes		Yes		Yes		Yes
Ctry-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Order of Poly.	Cub.	Cub.	Quad.	Quad.	Lin.	Lin.	Lin.	Lin.

Notes: This table shows the results from the fuzzy regression discontinuity design. The dependent variable is turnout. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion ($<$ 75% of the EU's average). The specifications include country-election fixed effects and may or may not include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). At the bottom of the table we report the first stage's Kleibergen-Paap-F-Statistic. We estimate the effect on the full range, on a range +/-15 and +/-5. To control for the forcing variable, we use polynomials which are allowed to have different shapes on each side of the threshold. Standard errors are clustered at the NUTS2 level. * p $<$ 0.1; ** p $<$ 0.05; *** p $<$ 0.01.

Table A8: Leave-one-county-out coefficients

	First order polynomial		Second order polynomial			
Country	β	se	β	se	YMean	N
AT	-0.032	0.009***	-0.029	0.010***	0.175	1,160
BE	-0.029	0.009***	-0.026	0.010**	0.183	1,109
BG	-0.031	0.009***	-0.028	0.010***	0.173	1,172
CZ	-0.031	0.009***	-0.029	0.010***	0.173	1,154
DE-W	-0.032	0.009***	-0.029	0.010***	0.183	1,132
DK	-0.031	0.009***	-0.028	0.010***	0.174	1,169
EE	-0.031	0.009***	-0.028	0.010***	0.173	1,172
EL	-0.032	0.009***	-0.030	0.010***	0.179	1,063
ES	-0.039	0.012***	-0.035	0.013***	0.184	1,085
FI	-0.033	0.009***	-0.030	0.011***	0.177	1,151
FR	-0.033	0.009***	-0.030	0.011***	0.177	1,052
HR	-0.031	0.009***	-0.028	0.010***	0.173	1,155
HU	-0.031	0.009***	-0.028	0.010***	0.173	1,175
IE	-0.031	0.009***	-0.028	0.010***	0.173	1,175
IT	-0.032	0.011***	-0.029	0.012**	0.173	1,069
NL	-0.031	0.009***	-0.029	0.010***	0.177	1,161
PL	-0.028	0.009***	-0.026	0.010***	0.167	1,152
PT	-0.031	0.009***	-0.029	0.010***	0.174	1,125
SE	-0.031	0.009***	-0.028	0.010***	0.174	1,168
SI	-0.031	0.009***	-0.029	0.010***	0.173	1,155
SK	-0.031	0.009***	-0.028	0.010***	0.173	1,173
GB-ENG	-0.020	0.007***	-0.017	0.007**	0.123	1,000
DE-E	-0.035	0.010***	-0.034	0.013***	0.169	947
GB-WLS	-0.031	0.009***	-0.028	0.010***	0.173	1,151

Notes: This table shows the results from the baseline FRDD specification estimated on a range of +/-15 around the 75% threshold. The units of observation are NUTS3 regions. The treatment dummy is instrumented with a dummy that indicates eligibility based on the GDP per capita criterion. The specifications include country-election, country-region-type fixed effects and regional controls (employment share, industry share, log population density, GDP/capita, share of young/old people). Each row shows results from subsamples after dropping the county specified in Column 1. We report results from a specification with first and second-order polynomials of the forcing variable. The shape of the polynomial is allowed to vary on each side of the threshold. We also show the mean of the dependent variable for untreated regions in the respective subsamples. Standard errors are clustered at the NUTS2 level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A9: Nested Aberrants and Vote Shares for Far-Left Parties

	Exo. (un)treated		Exo. untreated		Exo. treated	
	(Common Sup.)	(Caliper)	(Common Sup.)	(Caliper)	(Common Sup.)	(Caliper)
Panel A.						
Treatment	0.000	-0.000	0.005	0.011	-0.007	-0.007
	(0.005)	(0.007)	(0.005)	(0.008)	(0.006)	(0.012)
# Treated NUTS3	291	90	228	53	63	29
# Control NUTS3	178	90	115	53	63	29
Adjusted R-Squared	0.941	0.948	0.933	0.947	0.964	0.958
Country-Election-FE	Yes	Yes	Yes	Yes	Yes	Yes
Regional Controls	Yes	Yes	Yes	Yes	Yes	Yes

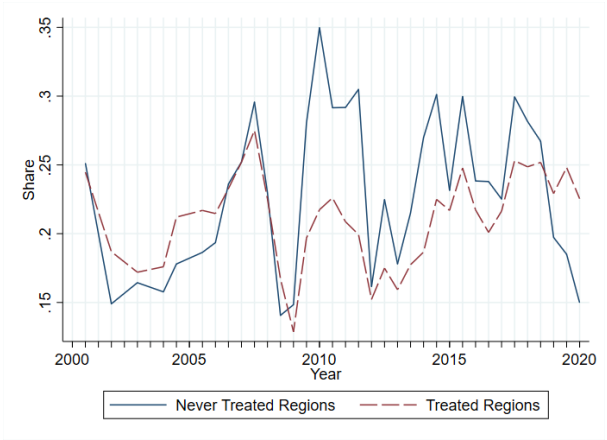
Notes: This table shows results from a comparison of NUTS3 regions with different treatment statuses conditional on levels of economic development at the NUTS3 level. The dependent variable is the share of votes for far-left parties at the NUTS3-level. The sample is restricted to NUTS2 regions that comply with the 75% rule and to NUTS3 regions with GDP per capita on the country-election specific "area of common support", i.e., for a treated NUTS3 region, there exists at least one untreated NUTS3 region in the same country-election cycle with a GDP per capita as small as the treated region's GDP per capita. Accordingly, for each untreated NUTS3 region, at least one treated NUTS3 region exists in the same country and period with GDP per capita as high as the untreated region's GDP per capita. In odd columns we use all observations and in even columns we estimate on a sample homogenized via caliper matching on GDP per capita within country-election strata. All regressions include country-election-fixed effects. All specifications include regional controls (sectoral employment shares and log of population density, gdp per capita and region-type by country fixed effects all measured at the level of NUTS3 regions). Standard errors are clustered at the NUTS2 level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Appendix C Additional Individual-level Material

Figure A3: Evolution of EU Image, Trust in EU and Economic Expectations

(a) Negative Image of the EU

(b) Trust in the EU



(c) Expecting the Economy to do Better

Notes: The figures plot the evolution of the share of individuals with a negative image of the EU (a), with trust in the EU (b), and the share of individuals who expect their economic situation to improve (c). The solid blue lines plot respective shares among individuals living in regions that never received Objective-1 treatment and the dashed red lines for individuals whose region of residence was treated at least once between 2000 and 2020. Source: Eurobarometer, Own calculations.

Table A10: Effect of Treatment on Individual's Attitudes: Split by Education Level

	Ctry. Benefits		Neg. EU-Image		Sat. Dem. EU		Unsat. Dem. EU	
	(Low)	(High)	(Low)	(High)	(Low)	(High)	(Low)	(High)
Panel A. – Attitudes								
Treatment	0.039	0.039	-0.048***	-0.028	0.053*	-0.014	-0.018	0.006
	(0.030)	(0.043)	(0.018)	(0.027)	(0.028)	(0.037)	(0.024)	(0.027)
Mean of Y	0.54	0.72	0.29	0.20	0.47	0.56	0.16	0.11
# Individuals	26,917	8,684	63,692	19,574	47,734	15,780	47,734	15,780
Adj. R-Squared	0.005	0.008	0.001	0.001	0.002	0.004	0.003	0.004
K-P-F Stat.	138.19	107.27	216.93	170.17	184.29	147.15	184.29	147.15
	Trust in EU		Trust in EU-COM		Trust in EU-EP		Trust in Nat. Gov.	
	(Low)	(High)	(Low)	(High)	(Low)	(High)	(Low)	(High)
Panel B. – Trust								
Treatment	0.054**	-0.008	0.040*	0.042	0.047*	0.008	0.043**	0.009
	(0.021)	(0.031)	(0.022)	(0.031)	(0.025)	(0.032)	(0.019)	(0.028)
Mean of Y	0.37	0.48	0.45	0.59	0.47	0.61	0.29	0.35
# Individuals	59,318	18,478	58,914	19,019	61,464	19,614	63,157	19,046
Adj. R-Squared	0.003	0.002	0.002	0.003	0.003	0.002	0.002	0.003
K-P-F Stat.	217.11	172.23	214.19	158.51	212.23	163.75	219.16	163.76
	Econ. Better		Econ. Worse		Empl. Better		Empl. Worse	
	(Low)	(High)	(Low)	(High)	(Low)	(High)	(Low)	(High)
Panel C. – Expectations								
Treatment	-0.007	-0.022	0.024	0.035	-0.011	-0.027	-0.011	0.011
	(0.018)	(0.029)	(0.020)	(0.029)	(0.018)	(0.027)	(0.018)	(0.030)
Mean of Y	0.18	0.21	0.41	0.36	0.18	0.21	0.18	0.37
# Individuals	63,289	19,362	63,289	19,362	63,152	19,276	63,152	19,276
Adj. R-Squared	0.001	0.002	0.001	0.001	0.000	0.001	0.000	0.001
K-P-F Stat.	217.70	168.46	217.70	168.46	218.05	165.74	218.05	165.74
1^{st} Order Poly.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ctry-Year-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the point estimates from the FRDD, focusing on a range of +/-15% around the threshold. The effects are estimated separately for individuals with high and low education (education at least until age 21 or not). The estimates are obtained from individual-level data from the last three years of a funding period. All outcomes are 0-1 dummies. The specifications include a linear polynomial of the forcing variable with different shapes on each side of the threshold. Regressions include country-time fixed effects and the employment share, the share of industrial workers, population density, individuals' gender, marital status, dummies for age categories, and their community type (rural, suburban, urban) by country as further controls. Standard errors are clustered at the region-year level (NUTS2 or larger). The table further reports the mean of dependent variables in each estimation sample. Source: Eurobarometer and Ardeco.* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.