Contextual Sources of Euroscepticism in Eastern Central and Western Europe: The Role of Peripheral Regions

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Politics in Central Europe (ISSN 1801-3422)
Vol. 20, No. 1
DOI: 10.2478/pce-2024-0003

Abstract: *This paper examines how regional contextual factors influence Eurosceptic voting in Eastern Central and Western Europe. It employs a theoretical framework of multidimensional regional periphery and relative deprivation to explore how economic, spatial and demographic factors can generate collective feelings of deprivation among regional inhabitants. This relative deprivation is supposed to manifest as political discontent expressed at the EU level, either by attributing responsibility for regional peripherality to the EU or by blaming national institutions, potentially spilling over to the EU level. Based on an integrated dataset encompassing economic, spatial and demographic indicators as well as election data from the European election 2019 for 1169 NUTS 3 regions within the EU, the findings support the hypotheses. Poor economic performance in a region, relative to the national average and historical levels, increases Eurosceptic voting, and the impact of an ageing population is significant. Spatial infrastructure conditions have minimal direct but moderating effects: Eurosceptic parties benefit more from economic underperformance, if the infrastructure is also poorly developed. The paper further shows differences in cue-taking between Eastern Central Europe and Western Europe suggesting that citizens in Eastern Central Europe consider the EU more often as saviour than as creator of regional deprivation. The paper underscores the importance of regional contextual factors and infrastructural effects, and highlights the need to avoid one-size-fits-all explanations for Euroscepticism in Eastern Central and Western Europe.*

Keywords: ***periphery, Euroscepticism, European Integration, deprivation, cue-taking, contextual factors, voting behaviour, European elections***

Introduction

A growing branch of research has explored the causes and conditions of Euroscepticism in terms of attitudes (Boomgaarden et al. 2011; de Vries 2018; Ejrnæs – Jensen 2019; Hobolt – de Vries, 2016) and voting behaviour (Treib 2014). In addition to individual characteristics (Boomgaarden et al. 2011), regional characteristics have been demonstrated to be important predictors too. In recent years, increasing economic, social and spatial inequalities have become visible between regions in the EU on the international, the national and the regional levels (European Commission 2020). While some regions are economically prosperous, demographically solid, well connected and sufficiently equipped with public and private infrastructure, other areas are declining, ageing and increasingly 'left behind' (Kühn 2015; Musil – Müller 2008). These growing regional inequalities supposedly hamper the quality of life of the population in left behind regions ('places that don't matter' (Rodríguez-Pose 2018) and result in relative deprivation, which has been repeatedly associated with growing political discontent in general (Essletzbichler et al. 2018; Rodríguez-Pose 2018; Velthuis et al. 2022) and Euroscepticism in particular (Dijkstra et al. 2020; Dominicis et al. 2020). So far, long-term economic decline, low employment rates and a low average educational level (Dijkstra et al. 2020) as well as rurality, growing unemployment and a high share of non-EU citizens (Dominicis et al. 2020) have been identified as contextual drivers for Eurosceptic attitudes.

This article contributes to this research by asking how the share of votes for Eurosceptic parties in the 2019 European Parliament election can be explained by a multidimensional concept of peripheral regions. According to this concept, regions are peripheral if their economic performance, demographic situation or regional infrastructure is below the respective national average, which may entail disadvantaged living conditions and lowered chance for social and political participation. We follow the basic assumption of the abovementioned analyses that the population in peripheral regions feel deprived and that this deprivation, in turn, propels Eurosceptic voting behaviour as a kind of protest against the bemoaned state of the region.

From this starting point, we provide five contributions. First, we discuss in detail the mechanisms by which deprivation, stemming from the local and subnational level, can fuel Euroscepticism, an attitude addressed towards the supranational European Union (Taggart 1998), by adapting the cue-taking model (Hobolt – de Vries 2016) to our theoretical considerations.

Second, we investigate predictors for Eurosceptic voting that have so far been neglected in research explaining Eurosceptic voting behaviour. Beyond the well-established socio-economic and demographic predictors, we include a predictor for *spatial infrastructure* that describes whether there is good access to services of general interest in a particular region.

Third, we integrate the economic indicators into a comprehensive model of relative deprivation induced by peripherality. In most of the literature, the region's position relative to its past is considered, but not the region's position relative to the national average. In methodological terms, economic variables were included uncentred on the national average. We centre the regional GDP per capita to the corresponding national average. By doing so, we take into account the core theoretical assumption of relative deprivation that peripheral regions must be identified by assessing their performance *relative* to the performance of the surrounding areas (Noguera et al. 2017). Nevertheless, the past remains a relevant point of reference for the evaluation of the region's current situation, which is why we keep the long-term economic development in our models.

Fourth, we investigate interactions between economic and spatial predictors. Our results show that Eurosceptic parties are able to benefit more from current economic underperformance, if the access to services of general interest is poor as well.

Fifth, we analyse Eastern Central Europe (ECE) and Western Europe (WE) comparatively. The ECE states share a communist past and, compared to most WE states, shorter democratic experience (Bojinović Fenko et al. 2019).[1] Related research on Euroscepticism and populism suggests that the theories – often developed to fit Western European cases – cannot be applied to ECE without taking their history into consideration (Condruz-Băcescu, 2014; Santana et al., 2020; de Vries – Tillman 2011). Our results show strong support for the abandonment of a one-size-fits-all approach for the states of ECE and WE.

We test our hypotheses through an aggregate data analysis conducted on a unique dataset consisting of all 1169 NUTS 3 regions of the 27 EU member states in 2019. Our dependent variable is the share of votes for parties during the 2019 European Parliament election that are Eurosceptic according to the Chapel Hill Expert Survey classification. Our independent variables are the GDP per capita, the development of GDP per capita since 2000, the median age and the access to services of general interest.

The remainder of this paper is structured as follows. In the upcoming section, we discuss the state of research and theorise the link between contextual factors and Eurosceptic voting behaviour. Based on these considerations, we develop a set of hypotheses. Subsequently, the data and methodology used for the analysis is presented. In the following section, we test our hypotheses through different quantitative models. Finally, we discuss our results and conclude in the last section.

1 Within the framework of this paper, the following states are considered a part of Eastern Central Europe: Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Croatia, Slovenia, Estonia, Lithuania and Latvia.

Theory

The multidimensional understanding of peripheral regions of this work is inspired by the approach of *inner peripheries* that goes beyond a purely geographical concept of peripheral regions located at the borders of a country. Inner peripheries can be located everywhere within a geographical unit and 'suffer from specific economic weakness combined with disadvantageous distance from a centre or zones with higher concentration of jobs, social infrastructure, and institutions' (Musil – Müller 2008: 79). This concept requires considering the broader regional context, since it is the performance of peripheral regions 'compared with their neighboring territories' (Noguera et al. 2017: 2) that is decisive for classifying them as inner peripheries.[2] Correspondingly, we identify peripheral regions by their poor access to services of general interest as well as weak economic performance and high unemployment rates, relative to the national level. An additional characteristic of peripheral regions is the emigration of younger people, leading to population ageing and thus a higher median age (Noguera – Copus 2016).

Rodríguez-Pose (2018) argues that people who feel their region has been left behind relative to other regions or has seen better times before, opt to use elections to protest against the disadvantaged status of their region. They do so by voting for parties contesting the status quo both populist (Bayerlein 2020; Lenzi – Perucca 2021; Mamonova – Franquesa 2020) and Eurosceptic parties (Dijkstra et al. 2020; Dominicis et al. 2020). These parties gain more votes in *disadvantaged* regions accordingly.

The theoretical link between disadvantageous regional conditions and protest voting can be explained by the concept of relative deprivation (Runciman 1980; Walker – Pettigrew 1984). Relative deprivation suggests that objective conditions are less important than their subjective and comparative perception. This perception may either be based on one's own individual status or on the collective status of a social group or a region to which individuals feel attached (Ibid.). Individual and collective deprivation are only loosely linked implying that people may perceive their region as disadvantaged without feeling deprived individually. Thus, preventing the ecological fallacy, a positive correlation between the disadvantaged status of a region and the share of protest voters may be due to protest behaviour of both the disadvantaged and not-disadvantaged inhabitants. Further, people may feel themselves or their group deprived either in comparison to other individuals or groups, in comparison to a historically better status or its expected worsening in the future (Ibid.).

2 For the sake of readability, we will refer to inner peripheries as peripheries or peripheral regions for the remainder of this paper.

However, we need to theorise the conditions under which people address their dissatisfaction with regional conditions at the European level. *Euroscepticism*, in general, refers to qualified and unqualified opposition to the process of European integration (Boomgaarden et al. 2011; de Vries 2018; Taggart 1998).[3] According to the cue-taking model, European integration is too complex and too far away from most people's lives, which leads them to base their evaluation of the integration process on national cues. The evaluation of the national context constitutes a benchmark for citizen's evaluation of the European integration (Hobolt – de Vries 2016). Anderson (1998) argues that a negative evaluation of the national system will lead people to a negative evaluation of the EU, either because the dissatisfaction with the national level spills over to dissatisfaction with the EU, or the EU is blamed for causing the relative disadvantages. Our hypotheses *H1* to *H4* are developed on the basis of these two assumptions. Hypothesis 5 later in this section proposes an alternative interpretation of the cue-taking model by assuming cues from the national institutions working rather as contrasting benchmark.

While relative deprivation fuels a feeling of discontent (Stroppe – Jungmann 2022), the point of comparison can differ between regions 'left behind' and 'those that have seen better times' (Rodríguez-Pose 2018: 21). In the first case, inhabitants may perceive their region as left behind relative to the surrounding regions or the national average. In the latter case, the regional performance is evaluated in consideration of the very region's performance in the past. Accordingly, we test two different economic predictors; namely the economic development and the GDP relative to the national average GDP. Dijkstra et al. (2020) show that Eurosceptic parties fare better in regions that have experienced long-term economic decline. Dominicis et al. (2020) find that a declining GDP benefits Eurosceptic parties in rural areas, but not in cities, towns or suburbs. After controlling for long-term economic decline, regions with a higher GDP per capita are even more likely to vote for Eurosceptic parties (Dijkstra et al. 2020). According to Dominicis et al. (2020), GDP per capita itself does not have a significant impact on the vote share for Eurosceptic parties. The increasing effect of economic decline seems to be stable, while this is not the case for the GDP per capita. This may be due to relative deprivation, i.e. the same GDP per capita may have different effects in regions who are above or below the national average. Thus, the GDP per capita variable used for this paper uses the regional GDP expressed as a share of the national average GDP to take into account within-country disparities. Here we follow the idea of relative collective deprivation, arguing that the comparison of one's own region to surrounding regions resulting in a negative assessment fuels feelings of discontent rather than the objective economic situation of the region. Thus, if we analyse two regions A and B with the same economic situation, but region A's economic

3 For further discussion, see Taggart – Szczerbiak (2002) and Kopecký – Mudde (2002).

performance equals the national average, while B's is below, we expect increased protest voting behaviour only in region B.

H1a: Regions that have a relatively low GDP per capita compared to the national average show higher shares of votes for Eurosceptic parties.

Relative collective deprivation may also occur in comparison with the past (see above). If one's own region was better off economically in the past, feelings of deprivation may occur. Thus, the GDP growth rate does not take the national average as a point of reference, but the region's own performance in the past. We develop our second hypothesis accordingly.

H1b: Regions that experienced long-term economic decline show higher shares of votes for Eurosceptic parties.

Living in peripheral regions is associated with disadvantages and impeded social and political participation (Keim-Klärner et al. 2021; Musil – Müller 2008; Toni et al. 2021). Access to services of general interest (SGIs) is significant for the quality of life of the inhabitants of a region (Noguera et al. 2017). Impeded access might induce the feeling of living in a relatively disadvantaged region and lead to deprivation. Accordingly, we develop our second hypothesis.

H2: Regions with impeded access to services of general interest show higher shares of votes for Eurosceptic parties.

Similarly, regions with older populations have been found to be more Eurosceptic (Dominicis et al. 2020). The ageing of the population is a typical characteristic of peripheral regions which often suffer from emigration of younger people and declining birth rates (Noguera – Copus 2016). Again, we assume the relative median age compared to the national median to be the deciding factor and develop our third hypothesis accordingly.

H3: Regions with a median age above the national median show higher shares of votes for Eurosceptic parties.

The access to services of general interest 'ensures higher quality of life' (Noguera et al. 2017: 17), which makes them suitable to moderate the effects of poor economic performance on Euroscepticism. We argue that good access to SGIs, securing a decent quality of life and thus counteracting feelings of deprivation, tempers the effects of poor economic performance on the success of Eurosceptic parties. On the contrary, poor access to SGIs should reinforce discontent with poor economic performance and further benefit Eurosceptic parties.

H4: In regions with good access to services of general interest, the positive effect of poor relative economic performance on the vote share for Eurosceptic parties is weaker than in regions with poor access to services of general interest.

The cue-taking argument underlying *H1-H4* states that citizens use national benchmarks to evaluate the EU. However, the direction of cue-taking is conditional. In contrast to Anderson (1998), Sánchez-Cuenca (2000) argues that the evaluation of the national institutions contrasts rather than substitutes the evaluation of the European Union. The more citizens are dissatisfied with national institutions, the greater their support for European integration. According to Sánchez-Cuenca (2000: 148), 'citizens of a state plagued by all sorts of inefficiencies may come to the conclusion that they have little to lose by opting for "more" Europe.' If trust in the national institutions is low, the European Union might be perceived as a means for improvement and stability in contrast to the national government (Ejrnæs – Jensen 2019). Vice versa, a higher level of trust in national institutions leads to a lower level of trust in the European institutions.

Living in a peripheral region may thus weaken Euroscepticism in cases, in which the EU or European integration is perceived as a solution for the problems of the region. This may especially be the case in regions in which trust in the institutions of the nation state is low. We argue in our final hypothesis that this theoretical consideration can be empirically tested by a comparative design including Eastern Central and Western Europe. While trust in the European Union is roughly the same in ECE and WE (52% and 51% respectively), trust in the national government and the national parliament is generally much lower in ECE (Boda – Medve-Bálint, 2014). In the 2019 Eurobarometer Survey, in ECE countries an average of 34% claimed to trust the national government and 27% claimed to trust the national parliament. In WE, on average 45% claimed to trust the national government and 47% claimed to trust the national parliament (European Commission 2019).[4] Following Sánchez-Cuenca's argumentation, we can expect the citizens in WE to be more Eurosceptic than the citizens in ECE. Due to their higher distrust in the national institutions, people in peripheral regions in ECE should be more likely to blame the condition of their regions on national institutions, while they conceive the EU as a potential 'saviour'. In WE, where trust in national institutions is generally higher, voters might rather opt to blame the EU for their region being left behind.

H5: The effect of the predictors mentioned in hypotheses H1–H4 is moderated by whether a region is located in Eastern Central or Western Europe.

4 The author's own calculations.

Methodology and data

To test the hypotheses developed in the previous section, multiple OLS regression models are calculated.

$$\gamma_r = b_0 + bX_r + c$$

The term γ_r represents our dependent variable, the share of votes for Eurosceptic parties during the 2019 European Parliament election at the level of NUTS 3 regions r. A number of different predictors at the NUTS 3 level are summarised in bX_r. These include the spatial, economic and demographic variables introduced earlier. And c denotes country effects, taken into account by the introduction of country dummies.

The unique dataset used for the analysis encompasses 1169 NUTS 3 regions in 27 EU Member states.[5] NUTS 3 regions are the smallest unit captured by the *Nomenclature of Territorial Units for Statistics* from Eurostat, qualifying them for specific analysis to determine necessary regional measures (Eurostat 2020). Some member states are structured into a large number of relatively small NUTS 3 regions, while other states are structured into few, relatively big NUTS 3 regions. This imbalance could cause a bias in the calculation, overrepresenting the states consisting of a large number of NUTS 3 regions. To avoid this bias, population weights are added to the calculations.[6] Consequently, the impact of the NUTS 3 regions of each member state on the calculation is proportional to the number of the respective inhabitants.

On the level of the NUTS 3 regions, several indicators are included in the dataset. These include *access to services of general interest, GDP per capita, GDP Growth* and the *median age.*

The indicator for the operationalisation of spatial peripheries is provided by the *European Observation Network for Territorial Development and Cohesion* (ESPON EGTC 2022). The indicator *access to services of general interest (SGIs)* is binary and denotes good or poor access to SGIs. Services of general interest include banks, cinemas, doctors, hospitals, pharmacies, retail shops, primary schools, secondary schools, train stations and jobs (Noguera et al. 2017). To calculate the indicator, travel times from grid cells to the nearest service provider were calculated. Travel times were then standardised based on the average of the surrounding NUTS 3 regions. Accordingly, the indicator identifies relative disadvantages compared to the surrounding regions (Noguera et al. 2017).[7]

5 NUTS classification from 2016.

6 By dividing the population share of member states in the total EU population by the NUTS 3 share of member states in the total number of NUTS 3 regions, the NUTS 3 regions of each member state received an individual, nationwide weight.

7 In fact, the calculation of the indicators is more complex than shown here. For more details see Noguera et al. (2017).

Economic disadvantages are operationalised through the GDP per capita in purchasing power standards (PPS) and the Compound Annual Growth Rate. GDP per capita in PPS was calculated based on the GDP in PPS (ARDECO 2023a) and population numbers (ARDECO 2023c). By dividing the NUTS 3 GDP by the national GDP, a relative GDP variable is created that puts the regional GDP into national perspective.[8]

For the GDP Growth variable, the Compound Annual Growth Rate (CAGR) is calculated based on the GDP per capita in PPS in 2000 (initial value) and 2019 (final value) (ARDECO 2023b). The following formula is used for the calculation (Heidecke – Hübscher 2017: 257):

$$CAGR = \left(\frac{Final\ Value}{Initial\ Value}\right)^{\left(\frac{1}{Number\ of\ Years}\right)} - 1$$

This indicator describes the economic development of NUTS 3 regions.

Finally, the median age is included in the data set to measure population ageing as a characteristic of peripheral regions. As we are interested in disparities on the national level, the deviation of the NUTS 3 median age from the national median age is calculated (Eurostat 2023). A positive value indicates that the regional median age is higher than the national median age.

Our dependent variable, the share of votes for Eurosceptic parties, is created through a combination of the 2019 European Parliament election results and the Chapel Hill Expert Survey (CHES). The dataset containing the elections results at the level of almost 80,000 districts was created by Arnold Platon and published by ZEIT ONLINE in 2019 (Platon – ZEIT ONLINE 2019). Platon gathered the electoral data from the national electoral authorities and summarised and harmonised it.

The electoral data was combined with information from the Chapel Hill Expert Survey to determine the share of Eurosceptic votes. In the 2019 CHES, party positions on different political topics and ideological questions were evaluated by national experts in 32 countries, including the 27 EU member states. The issue of European Integration played a prominent role. By the item EU_POSITION, the national experts assessed the 'overall orientation of the party leadership towards European integration in 2019' (Bakker et al. 2020: 12) on a 7-point scale (1 = Strongly Opposed, 2 = Opposed, 3 = Somewhat Opposed, 4 = Neutral, 5 = Somewhat in favour, 6 = In favour, 7 = Strongly in favour). We identify those parties as Eurosceptic that received a rounded score of one, two or three. A list of the parties identified as Eurosceptic by the CHES is provided in the Appendix (A4).

8 One outstanding outlier (Wolfsburg (kreisfreie Stadt), Germany) is excluded from our calculations as the regional GDP is ~4.5 times the national average. The impact of the remaining outliers is considered in the result section.

Parties falling into one of those categories were then identified in the data from the European Parliament election. On the basis of a correspondence table, kindly provided by Platon upon request, the number of votes for the Eurosceptic parties was aggregated on the level of the NUTS 3 regions. By dividing the absolute number of votes for Eurosceptic parties by the absolute number of valid votes, our dependent variable, the share of votes for Eurosceptic parties among the voters at the NUTS 3 level, was created.

Consequently, we follow a rather broad understanding of Euroscepticism including parties that are strongly opposed, opposed or somewhat opposed to European integration according to the Chapel Hill Expert Survey. Such a broad definition originates from our focus on the demand side of voters in peripheral regions, whose choices we assume to be motivated by an expression of protest. The supply side can be heterogeneous depending on the political constellation in the respective EU member state. Protest voters' choice may be restricted to either soft or hard Eurosceptic parties in some regions, while in others they have an electoral choice between parties offering different degrees of Euroscepticism. Further, Eurosceptic parties' ideological orientation may be left or right or they may be in opposition or in government. In order to capture each type of Eurosceptic protest voting given these differences in the supply side, we stretch the category of Eurosceptic parties as far as possible. The limitations of this approach and possible extensions are elaborated in the discussion.

Analysis

We test our hypotheses *H1, H2* and *H3* through an OLS regression model including our six predictors (Table 1 M1). Results are reported as standardised beta coefficients.

The negative effect sign of the regional GDP is in line with our expectations indicating a better performance of Eurosceptic parties in regions that are relatively worse off compared to the national average. Conversely, Eurosceptic parties were less successful in regions that have a high GDP per capita compared to the national average. Accordingly, we can confirm hypothesis *H1a*.

Similarly, GDP Growth between 2000 and 2019 has a negative coefficient confirming hypothesis *H1b*. The higher the GDP Growth rate in a NUTS 3 region the less Eurosceptic parties are supported in this region. Poor economic development, on the other hand, favoured Eurosceptic parties in the European Parliament election 2019.

Hypothesis 2 on the effect of our spatial indicator cannot be confirmed. The *access to services of general interest* has a rounded beta coefficient of zero, i.e. good or impeded access to services of general interest does not play a role when it comes to Eurosceptic voting in a particular region.

Finally, the median age had the expected positive effect corroborating hypothesis *H4*. In NUTS 3 regions with a population older than the national average, Eurosceptic parties were more successful. Conversely, regions with younger populations were less likely to vote for Eurosceptic parties.

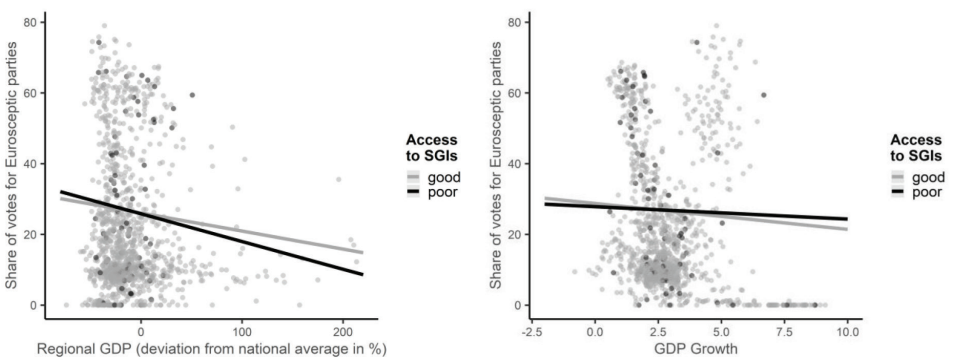
Table 1: Predictors for the vote share of Eurosceptic parties and interactions between spatial and economic predictors (beta values)

Predictors	M1	I1	I2
Relative Regional GDP*	-0.08	-0.08	-0.08
GDP Growth	-0.05	-0.05	-0.06
Access to SGIs	0.00	0.00	0.01
Relative Median Age*	0.07	0.07	0.07
Relative Regional GDP*Access to SGIs		-0.04	
GDP Growth*Access to SGIs			0.03
Observations	1147	1147	1147
R^2 / R^2 adjusted	0.910 / 0.907	0.910 / 0.907	0.910 / 0.907

Standardized beta coefficients; *relative to the national average (see chapter 3)

In the models I1 and I2, we test the presumed moderation effect of the quality of access to SGIs on the impact of economic performance (Table 1). The negative interaction effect between regional GDP and access to SGIs (I1) indicates an increased negative effect of regional GDP in NUTS 3 regions with poor access to services of general interest. In contrast, regarding the interaction between GDP Growth and access to SGIs (I2), the positive sign indicates that the negative main effect of GDP Growth is reduced in regions with poor access to SGIs – against the expectation of H4.

Figure 1: Interaction – Access to SGIs x Regional GDP/GDP Growth



The two interaction plots (Figure 1)[9] visualise again that regional GDP has a stronger effect on the share of votes for Eurosceptic parties in regions with poor access to SGIs compared to regions with good access to SGIs. Accordingly, in regions with a regional GDP below the national average, Eurosceptic parties performed better, if the access to services of general interest was poor as well. We can thus confirm hypothesis *H4: poor access to SGIs and below overage regional GDP increase Euroscepticism cumulatively, while good access to SGIs, i.e. good public and private infrastructure, tempers the effect of regional GDP.*

In contrast, the moderation effect does not work as expected with regard to GDP Growth. While its negative effect remains negative in regions with poor access to SGIs (i.e. Eurosceptic parties benefit from poor economic development), the effect is not pronounced, but more moderate in regions with good access to SGIs. Possible explanations for this surprising finding are elaborated in the discussion section.

To check the robustness of our results and to take into account OLS regression's susceptibility to outliers (Sibbertsen – Lehne 2021), models M1, I1 and I2 were additionally calculated excluding outliers. Outliers were removed based on the Inter Quartile Range method. After removing the outliers, 992 observations remained for the regression models. Apart from a general decrease in effect size, a non-substantial change of sign in M1 for the access to SGIs (from 0.00 to –0.00) and a stronger interaction effect in model I1, results remained robust (see Appendix A5).

Eastern Central and Western Europe – a Comparison

In the final step, we test hypothesis *H5* by running regression models for ECE and WE separately. The results (Table 2) point towards a confirmation of our hypothesis for GDP growth but not for regional GDP. While regions with poor economic development since 2000 were more likely to vote Eurosceptic in WE, the effect was reversed in Eastern Central Europe. Eurosceptic parties performed worse in regions that experienced a poor economic development in ECE. However, this is not the case for the current regional GDP, whose coefficients' sign is negative in both regions and for which the effect size is even stronger in ECE, meaning that Eurosceptic parties in this region do benefit more from a GDP below the national average than they do in WE.

With regard to access to SGIs, the sign differs between WE and ECE. Poor access to services of general interest favoured Eurosceptic parties in ECE, while the same phenomenon hampered the performance of Eurosceptic parties in WE.

9 Prior to their visualisation, 100 was subtracted from the predictor *Regional GDP*. Accordingly, the intercept represents regions not deviating from the national average with regard to their regional GDP per capita. Values below 0 on the x-axis indicate a GDP below the national average.

The effect of the median age differs as well between WE and ECE. In WE, regions with a population older than the country average are more likely to vote for Eurosceptic parties. In contrast, a relatively higher median age was associated with a lower share of votes for Eurosceptic parties in Eastern Central Europe. In other words, Eurosceptic parties are able to benefit from population ageing in Western Europe, while the same phenomenon actually hinders their performance in Eastern Central Europe.

Table 2: Predictors for the vote share of Eurosceptic parties in Western and Eastern Central Europe (beta values)

Predictors	Western Europe	Eastern Central Europe
Relative Regional GDP*	-0.05	-0.14
GDP Growth	-0.06	0.06
Access to SGIs	-0.02	0.05
Relative Median Age*	0.11	-0.06
Observations	920	227
R^2 / R^2 adjusted	0.902 / 0.900	0.937 / 0.933

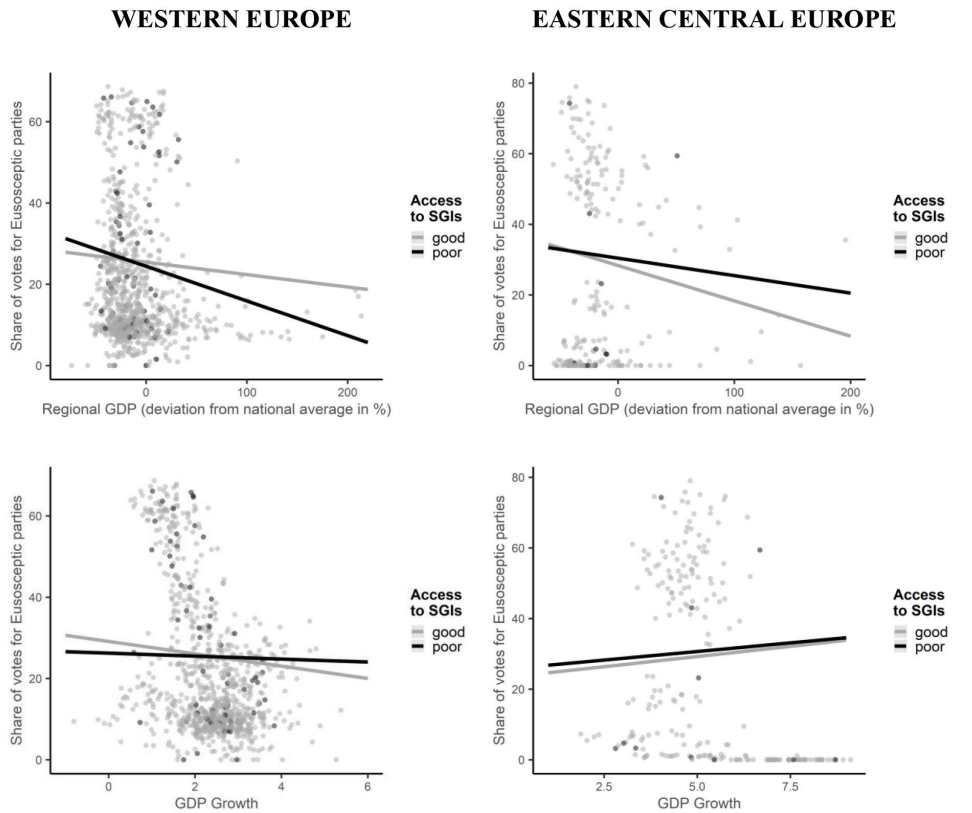
Standardized beta coefficients; *relative to the national average (see chapter 3)

Finally, the interactions between access to SGIs and the economic predictors are analysed for ECE and WE separately (Figure 2 and Table A1 (Appendix)). In WE, the interaction effects are in line with the effects that have been identified during the analysis of the aggregate data set (Table 1).[10] In regions with poor access to services of general interest, the effect of regional GDP is more pronounced, i.e. Eurosceptic parties benefit more from a relatively low GDP. In contrast, the effect of GDP Growth is stronger in regions with good access to SGIs, again in line with the analysis of the aggregate data.

However, in ECE the moderating effect of *access to SGIs* on regional GDP is reversed. Here, the effect of a low regional GDP is *more moderate* in regions with poor access to SGIs. This means the ability of Eurosceptic parties to capitalise from a low GDP (relative to the national average) is actually reduced in regions with poor access to SGIs in ECE. In contrast, access to SGIs only moderates the effect of GDP Growth to a very limited degree in ECE.

10 This is not surprising, since most of the EU population for which the regions are weighted is located in Western Europe.

Figure 2: Graphical representation of interactions between spatial and economic predictors in Western and Eastern Central Europe



Discussion

Our results show higher levels of Euroscepticism in regions with a low GDP per capita compared to the national average. This finding supports our hypothesis *H1a*, stating that citizens of regions that perform economically below other regions in one's own country are more likely to feel deprived, leading to a higher share of votes for Eurosceptic parties. Previous findings on the impact of GDP have not been consistent so far (Dijkstra et al. 2020; Dominicis et al. 2020). This may be due to the usage of the absolute GDP, while we used the relative GDP, expressed as a percentage of the national average, which is more in accordance with the theory of relative deprivation.

Our analysis further confirmed economic *development* to be a strong predictor for the share of votes for Eurosceptic parties independently of the current

economic situation, a finding previously made by Dijkstra et al. (2020). Regions with a lower GDP Growth between 2000 and 2019 showed higher support for Eurosceptic parties than regions with a higher GDP Growth. This result corroborates the assumption that collective deprivation emerges additionally from the comparison between the current and the past performance of a particular region. In the words of Rodríguez-Pose (2018: 21), regions 'that have seen better times and remember them with nostalgia… have used the ballot box as their weapon'. Accordingly, we can confirm hypothesis *H1b*.

Furthermore, we tested whether good or poor access to services of general interest in a region, i.e. the quality of the private and public infrastructure, leads to relative deprivation and thus to a higher share of votes for Eurosceptic parties. However, we cannot confirm hypothesis *H2*, since access to SGIs has no considerable effect on our dependent variable. Still, the operationalisation of the infrastructural indicator used in our analysis may add to this result. Given that poor access so SGIs is measured relatively to the surrounding regions, regional clustering cannot be captured, which may lead to underestimation of poor accessibility.

Our analyses further confirmed that regions with a median age higher than the national average (a sign of emigration of young people as well as low birth rates) showed higher support for Eurosceptic parties (*H3*).

Additionally, we argued that good access to services of general interest, securing a decent quality of life, would temper the effects of poor economic performance on the success of Eurosceptic parties. Our moderation analysis showed some support for hypothesis *H4*. In regions with a relatively low GDP, Eurosceptic parties performed better, if access to SGIs was poor as well. However, this effect is reversed in regions with poor economic *development*. Here, Eurosceptic parties actually performed worse when access to SGIs was poor as well. This surprising finding may be due to the different points of reference used to state collective deprivation. In regions that did not develop well and have seen better times before, the focus of attention might be on the relative downgrading of the region and its loss of relevance compared to the past. In contrast, in regions that are currently performing worse than other regions in their own country, the attention for problems of public and private infrastructure in the present may be more pronounced than in regions focusing on the past.

The comparative analysis of ECE and WE showed considerable support for our hypothesis *H5* that contextual predictors for Euroscepticism are moderated by regions location in Eastern Central or Western Europe. In WE, where trust in national institutions is generally high, regional problems are more likely to be blamed on the European Union. In ECE, trust in national institutions is generally lower and citizens there may, consequently, perceive the European Union as a saviour from inefficient national institutions which are blamed for their regional struggles. This argument can explain why the effect of economic

development is reversed in ECE, where regions with poor economic development were *less* likely to vote for Eurosceptic parties in 2019. The same argument applies to the finding that an above average median age, indicating demographic problems and out-migration, led to worse performance of Eurosceptic parties in ECE. However, there is no reversal of effect for regional GDP: Eurosceptic parties benefit from a relatively low regional GDP in both WE and ECE and even more so in ECE.

Our analysis focused on the demand side of Eurosceptic protest voting. Accordingly, and in line with earlier research (Dijkstra et al. 2020; Dominicis et al. 2020), we did not further differentiate the supply side, assuming that voters made their decision to vote for Eurosceptic parties independently of the specific (Eurosceptic) parties and the structure of party competition. While this approach is suitable for capturing a wide range of political constellations in comparative analyses, the results should be fine-tuned in further research, as the supply side may moderate voters' instrumental choice for Eurosceptic parties to articulate protest. First, while voters who are motivated to express protest against regional deprivation support soft Eurosceptic parties, they may abstain from supporting hard Eurosceptic parties, since their fundamental opposition to the EU and European integration (Taggart – Szczerbiak 2002) may deter them. Second, voters may perceive Eurosceptic parties on the left as better suited to articulate protest against the relative deprivation of the own region, since left wing Eurosceptic parties tend to oppose the European Union due to socio-economic concerns, while right wing Eurosceptic parties tend to base their criticism on concerns about national sovereignty and cultural issues (Meijers 2017). Finally, governing Eurosceptic parties may be perceived as less suited to articulate protest compared to Eurosceptic parties in the opposition. Accordingly, the impact of regional deprivation on the vote share of Eurosceptic parties may be strongest in countries with soft, left-wing parties in opposition, while it may be smallest in countries with hard, right-wing parties in government. Thus, investigating the moderating effect of the supply side on the impact of regional deprivation on Eurosceptic voting can be a promising avenue for future research.

Conclusion

This paper has demonstrated that contextual factors at the regional level impact Eurosceptic voting behaviour in Western and Eastern Central Europe. Contextual factors were presumed and tested within a theoretical framework of multidimensional regional periphery and relative deprivation. It started from the assumption that economic, spatial and demographic contextual factors can cause feelings of collective deprivation among its inhabitants, if they perceive their own region as disadvantaged with regard to these factors compared both to its own past or surrounding regions. Such relative deprivation may cause

political discontent that is addressed to the EU-level by cue-taking, either by blaming the EU or European integration as responsible for the peripheral status of their region or by blaming the national institutions with a subsequent spill-over to the EU level.

Our results mainly corroborate our hypotheses. Poor economic performance of a region, both relative to the national average and the own past, increases the share of Eurosceptic votes. In comparison, the spatial or infrastructural situation of a region has an almost negligible direct impact, while a demographic situation of an aged population, most often indicating out-migration, is equally important.

However, there are indications for moderating effects of the public and private infrastructure, since the effect of the economic situation is tempered in regions with a good infrastructure, but the effect is not consistent for the economic development. Although all effects are relatively small, they support the notion that the rise of Euroscepticism induced by collective economic deprivation can be curbed by investing in public infrastructure.

Finally, the cue-taking approach has been demonstrated to work somewhat differently in Eastern Central and Western Europe. Long-term economic downgrading of a region fosters Eurosceptic vote share in Western Europe but decreases it in Eastern Central Europe; however, such reversal cannot be found for the current economic situation. Presumably, citizens are more susceptible to blaming national institutions and turn to the EU level for help the longer the economic situation devastates. Since the moderating effect of the infrastructure differs as well between Eastern Central and Western Europe, we underline the necessity to overcome a one size fits all approach to explain Euroscepticism in both Eastern Central and Western European countries.

Beyond such regional differentiation, the analyses show the importance of regional contextual factors and the value of integrating them into a model of multidimensional periphery, given that the economic, spatial and demographic factors have independent and joint impacts. Future applications of these models should enrich them by including individual level factors. To avoid an ecological fallacy, our hypotheses did not presume which part of the regional population voted for Eurosceptic parties, but future research should address the individual predictors leading to identification with their own region, the observation of collective deprivation and its translation into Euroscepticism.

Acknowledgements

This paper wouldn't have been possible without the support received from the Jean Monnet Centre of Excellence 'The European Union and Its Rural Periphery in East Central Europe' at Leipzig University, Germany. In particular, we are indebted to David Will for his expert data collection and management.

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APPENDIX

Table A1: Univariate Analysis Full Sample

Variables	N	Min	Max	Mean	Std. dev
Eurosceptic Vote Share	1154	,0	79,0	26,6	21,3
GDP Growth	1168	-,8	9,1	2,9	1,6
Regional GDP	1165	26,2	313,6	88,4	31,9
Median Age	1168	-23,4	12,2	1,0	3,2
Access to SGIs	1161	0	1	,07	,3

Table A2: Univariate Analysis Western and Eastern Central Europe

	Western Europe					Eastern Central Europe				
Variables	N	Min	Max	Mean	Std. dev	N	Min	Max	Mean	Std. dev
Eurosceptic Vote Share	889	,0	59,7	18,9	14,7	266	,0	20,9	4,6	5,5
GDP Growth	900	-,8	7,2	2,2	,8	269	1,5	9,1	5,3	1,5
Regional GDP	896	26,2	313,6	88,8	30,1	269	44,4	295,8	86,9	37,2
Median Age	900	-23,4	12,2	1,2	3,5	269	-4,6	6,2	,4	1,8
Access to SGIs	898	0	1	,08	,3	263	0	1	0,04	,2

Table A3: Interactions between spatial and economic predictors in Western and Eastern Central Europe (beta values)

	Western Europe		Eastern Central Europe	
Predictors	I1WE	I2WE	I1ECE	I2ECE
Relative Regional GDP*	-0.05	-0.05	-0.14	-0.14
GDP Growth	-0.06	-0.06	0.06	0.07
Access to SGIs	-0.02	-0.02	0.05	0.05
Relative Median Age*	0.11	0.11	-0.06	-0.06
Regional GDP*Access to SGIs	-0.08		0.07	
GDP Growth*Access to SGIs		0.05		-0.01
Observations	920	920	227	227
R^2 / R^2 adjusted	0.902 / 0.900	0.902 / 0.900	0.937 / 0.933	0.937 / 0.933

Standardized beta coefficients; *relative to the national average (see chapter 3)

Table A4: Eurosceptic Parties according to the Chapel Hill Expert Survey

Country	Party Name	Party Name (English)	EU-Position
Belgium	Vlaams Belang	Flemish Interest	2
Belgium	Partij van de Arbeid van België; Parti du Travail de Belgique	Workers' Party of Belgium	3
Denmark	Enhedslisten—De Rød-Grønne	Unity List/Red-Green Alliance	2
Denmark	Dansk Folkeparti	Danish People's Party	2
Germany	Alternative für Deutschland	Alternative for Germany	2
Greece	Kommounistikó Kómma Elládas	Communist Party of Greece	1
Greece	Laïkós Sýndesmos—Chrysí Avgí	Popular Association—Golden Dawn	1
Greece	Elliniki Lisi	Greek Solution	2
Spain	Vox	Voice (Latin)	3
France	Parti Communiste Français	French Communist Party	3
France	Rassemblement national	National Rally	1
France	La France Insourmise	Unbowed France	3
France	Debout la France	France Arise	1
Ireland	Dlúthphairtíocht–Pobal Roimh Bhrabús	Solidarity—People Before Profit	2
Italy	Lega Nord	Northern League	2
Italy	Fratelli d'Italia	Brothers of Italy	2
Italy	MoVimento Cinque Stelle	Five Star Movement	3
Netherlands	Staatkundig Gereformeerde Partij	Reformed Political Party	3
Netherlands	Socialistische Partij	Socialist Party	3
Netherlands	Partij voor de Vrijheid	Party for Freedom	1
Netherlands	Partij voor de Dieren	Party for the Animals	3
Netherlands	Forum voor Democratie	Forum for Democracy	1
Portugal	Coligação Democrática Unitária	Democratic Unitarian Coalition	2
Austria	Freiheitliche Partei Österreichs	Freedom Party of Austria	2
Finland	Perussuomalaiset	The Finns Party	2
Sweden	Vänsterpartiet	Left Party	3
Sweden	Sweden Democrats	Sverigedemokraterna	2
Bulgaria	Ataka	Attack	2
Czechia	Komunistická strana ˇCech a Moravy	Communist Party of Bohemia and Moravia	2
Czechia	Svoboda a pˇrímá demokracie Tomio Okamura	Freedom and Direct Democracy Tomio Okamura	1
Estonia	Eesti Konservatiivne Rahvaerakond	Conservative People's Party	2
Hungary	Fidesz—Magyar Polgári Szövetség	Fidesz—Hungarian Civic Union	3
Hungary	Prawo i Sprawiedliwość	Law and Justice Party	3
Poland	Kukiz '15	Kukiz '15	3
Poland	Konfederacja Wolność i Niepodległość	Confederation Liberty and Independence	1

Country	Party Name	Party Name (English)	EU-Position
Slovakia	Slovenská národná strana	Slovak National Party	3
Slovakia	Ľudová strana Naše Slovensko (Marian Kotleba)	People's Party—Our Slovakia	1
Slovakia	Sme Rodina—Boris Kollár	We are family—Boris Kollar	3
Slovenia	Slovenska nacionalna stranka	Slovenian National Party	3
Croatia	Živi zid	Human Shield	2
Croatia	Hrvatska konzervativna stranka	Croatian Conservative Party	3

EU-Position: 1 = Strongly Opposed, 2 = Opposed, 3 = Somewhat Opposed

Table A5: Predictors for the vote share of Eurosceptic parties and interactions between spatial and economic predictors (beta values) - Excluding Outliers

Predictors	M1x	I1x	I2x
Relative Regional GDP*	-0.06	-0.06	-0.06
GDP Growth	-0.02	-0.02	-0.02
Access to SGIs	-0.00	0.01	0.00
Relative Median Age*	0.05	0.05	0.05
Relative Regional GDP*Access to SGIs		-0.06	
GDP Growth*Access to SGIs			0.03
Observations	992	992	992
R^2 / R^2 adjusted	0.916 / 0.914	0.916 / 0.914	0.916 / 0.914

Standardized beta coefficients; *relative to the national average (see chapter 3)