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Left-behind Regions in Poland, Germany, Czechia: Classification and Electoral Implications

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Abstract

Recently, the notion of left-behind places and regions has gained ground in academic debates on regional inequality and changing electoral landscapes. This paper proposes an approach to conceptualising and measuring regional “left-behindness” in three Central Eastern European countries that goes beyond a dichotomous division of regions into “left-behind” versus “not left-behind”. It understands left-behindness as a multi-dimensional continuum, representing regional disparities in living standards and socio-economic opportunities. Our understanding of left-behind places is based to a large extent on the current economic conditions of the regions and their dynamics, but goes beyond them to include a wider range of socially relevant aspects of the living conditions, including educational attainment, poverty, and the attractiveness of places to live.

The paper proposes an approach to measuring regional left-behindness and explores how it explains voting patterns. Thus, the paper is motivated by the seminal arguments of the 'geography of discontent' debate. Its proponents have argued that rising support for populist, right-wing nationalist-conservative and anti-system parties is often closely linked to spatial patterns of regional inequality. This argument has been repeatedly tested in Western European countries, but has remained under-researched in Central Eastern Europe. Using our approach, we were able to confirm the validity of the "geography of discontent" as a central thesis for all three countries studied.

The novelty and added value of this study is that it extends the understanding of left-behindness and voting. Our multidimensional approach to left-behindness allows for a comprehensive interpretation of spatial patterns of populist voting in Central Eastern Europe. The relationship between regional left-behindness and voting behaviour varies in strength across different countries. In Czechia, there are strong associations for the parties ANO and SPD, but not for the KSČM. In eastern Germany, the association between left-behindness and support for the AfD is weaker, as is the case in Poland for the PiS. Another contribution of the multidimensional concept of left-behindness is the finding that different dimensions of left-behindness have different electoral effects. There appears to be a systematic influence of economic prosperity and relative expansion, which primarily captures the contrast between metropolitan areas and their hinterlands on the one hand, versus the rest of the country on the other—not only in terms of economic prosperity and relative expansion, but also in terms of a significant social status hierarchy. Poverty, however, shows a less stable relationship.

Keywords: geography of discontent; political geography; left-behind places; regional disparities; electoral geography; Germany; Czechia; Poland; European Union

JEL-Codes: D72, O18, O57

Kurzfassung

Der Begriff der „abgehängten“ Orte und Regionen hat in akademischen Debatten über regionale Disparitäten und sich verändernde Wahllandschaften an Bedeutung gewonnen. Dieses Paper schlägt einen Ansatz zur Konzeptualisierung und Messung regionaler Disparitäten in drei mittel- und osteuropäischen Ländern vor, der über eine dichotomische Unterteilung der Regionen in „abgehängt“ versus „nicht abgehängt“ hinausgeht. „Abgehängtheit“ wird als ein mehrdimensionales Kontinuum verstanden, das regionale Disparitäten in Bezug auf Lebensstandards und sozioökonomische Chancen darstellt. Unser Verständnis von „abgehängten“ Regionen basiert weitgehend auf den aktuellen wirtschaftlichen Bedingungen der Regionen und deren Dynamik, geht jedoch darüber hinaus und schließt ein breites Spektrum sozial relevanter Aspekte der Lebensbedingungen ein, einschließlich Bildungsniveau und Armut.

Das Paper schlägt einen neuen Ansatz zur Messung regionaler Disparitäten vor und untersucht, wie diese Wahlverhalten erklären. Das Paper nimmt Bezug auf die grundlegenden Argumente der Debatte über die „Geographie der Unzufriedenheit“. Darin wird argumentiert, dass die zunehmende Unterstützung für populistische, rechtspopulistische national-konservative und Anti-System-Parteien oft eng mit räumlichen Mustern regionaler Disparitäten verbunden ist. Diese These wurde wiederholt in westeuropäischen Ländern getestet, jedoch in Mittel- und Osteuropa noch unzureichend untersucht. Mit unseren Analysen können wir die Gültigkeit der Annahmen der „Geographie der Unzufriedenheit“ für alle drei untersuchten Länder im Grundsatz bestätigen.

Die Neuheit und der Mehrwert dieses Papers bestehen darin, dass darin das Verständnis von regionalen Disparitäten und Wahlverhalten erweitert wird. Unser multidimensionaler Ansatz zur Messung regionaler Disparitäten ermöglicht eine umfassende Interpretation räumlicher Muster populistischen Wahlverhaltens in Mittel- und Osteuropa. Die Beziehung zwischen regionalem „Abgehängtsein“ und Wahlverhalten variiert in ihrer Stärke zwischen den verschiedenen Ländern. In Tschechien bestehen starke Assoziationen zu den Parteien ANO und SPD, jedoch nicht zur KSČM. In Ostdeutschland ist der Zusammenhang zwischen „Abgehängtsein“ und Unterstützung für die AfD schwächer, ebenso wie in Polen für die PiS. Ein weiterer Beitrag des multidimensionalen Konzepts des „Abgehängtseins“ ist die Erkenntnis, dass verschiedene Dimensionen unterschiedliche Wahleffekte haben. Es scheint einen systematischen Einfluss von wirtschaftlichem Wohlstand und regionalem Wachstum zu geben, der sich vor allem in Unterschieden zwischen städtischen Gebieten und deren ländlichem Umland einerseits und dem Rest des Landes andererseits zeigt. Der Zusammenhang zwischen Armut und sozialer Exklusion auf der einen Seite und dem Wahlverhalten auf der anderen Seite ist jedoch weniger stabil.

Schlüsselwörter: Geographie der Unzufriedenheit; politische Geographie; abgehängte Regionen; regionale Disparitäten; Wahlgeographie; Deutschland; Tschechien; Polen; Europäische Union

JEL-Codes: D72, O18, O57

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1 Introduction

The aim of this paper is to introduce and describe our approach to measure regional left-behindness in Czechia, Poland and eastern Germany in order to identify its spatial patterns, and explore how types of regional left-behindness explain electoral patterns. This paper is a result of our joint research project “Social and Political Consequences of Spatial Inequalities: East-Central Europe Case Study” which is funded for the period from 2022-2026 by Deutsche Forschungsgemeinschaft, Czech Science Foundation and Narodowe Centrum Nauki (NCN).¹

The paper is motivated by the seminal arguments of the “geography of discontent” debate. Its proponents have noted that the growing support for Eurosceptic, populist, right-wing nationalist-conservative parties, but also for other parties with anti-system features or those channeling protest against the government, is often closely linked to spatial patterns of regional inequality (Rodríguez-Pose, 2020). Geography of discontent describes the electoral gap that has been observed between left behind regions – poor, peripheral, stagnating or even declining on the one hand, and rich, prospering areas on the other.

The geography of discontent is a rapidly growing field of study. Recent research has predominantly concentrated on the United States and the vote for Donald Trump in the 2016 US presidential election; the United Kingdom and Brexit, or Western Europe in general. In an anecdotal way, this can be documented by a brief insight into numerous Special Issues dealing with the geography of discontent in leading scholarly journals in recent years, such as the *Cambridge Journal of Regions, Economy and Society* (2021/3)², (2024/1)³; *Regional Studies* (2024/6)⁴ or the *Journal of European Public Policy* (2024/6)⁵. Out of 39 empirical papers in these Special Issues, 19 focused on Western Europe or the US, 14 had a broad comparative nature, and just six dealt with a region beyond the scope of these two regions. Out of these six, only one centred specifically on Central Eastern Europe. Despite the numerous comparative studies, this strongly biased regional focus has left a gap in understanding the phenomena in other parts of the world. If we were to focus specifically on Europe, Central and Eastern European countries would have been largely overlooked. Our approach seeks to fill this gap by shifting the attention to Central and Eastern Europe (CEE). What we are interested in is not so much its exact geographical demarcation, but the shared experience of post-socialist transformation. By examining two Central Eastern European countries (Czechia and Poland) and the former East Germany, our study adopts an unconventional methodology that prioritizes historical and socio-political commonalities over strict national boundaries.

Central Eastern Europe (CEE) has several specific features relevant for the geography of discontent. Spatial inequalities in CEE post-socialist countries evolved under different conditions than in the western part of Europe and have been largely influenced by the post-socialist restructuring of the economy. In terms of politics, post-socialist countries have been shown during the last few decades to have less stable party

¹ Further information on this project can be found at the international website: <https://regions-left-behind.soc.cas.cz/en>.

² *Cambridge Journal of Regions, Economy and Society*, Volume 14, Issue 3, Geographies of Discontent: Sources, Manifestations and Consequences Geographies of Discontent: Sources, Manifestations and Consequences, November 2021.

³ *Cambridge Journal of Regions, Economy and Society*, Volume 17, Issue 1, Left Behind Places 1: What are They and Why do They Matter? March 2024.

⁴ *Regional Studies* Volume 58, Issue 6, Beyond decline and discontent: developing a broader understanding of ‘left-behind’ places Beyond decline and discontent: developing a broader understanding of ‘left-behind’ places, 2024.

⁵ *Journal of European Public Policy*, Volume 31, Issue 6, Regional Inequality and Political Discontent in Europe Regional Inequality and Political Discontent in Europe, 2024.

systems. In many of them, populist parties and parties expressing opposition to liberal democracy have experienced a relatively higher success rate compared to Western counterparts (Havlík, 2019).

These specificities make the CEE countries an important object of interest within the geography of discontent debate. There is a pressing need for a thorough examination of their regional inequalities, their comparison against other parts of Europe, and implications for electoral results. This paper aims to address this need by providing a method for a detailed analysis of spatial inequality and its associations with electoral results in Central Eastern Europe. It is organized as follows: Firstly, we provide a brief introduction to the concept of regional left-behindness and outline the primary arguments within the geography of discontent debate, pointing at the social and political consequences of left-behindness. Secondly, we detail the fundamental methodological principles and choices underlying our multidimensional approach, which aims to conceptualize and operationalize regional left-behindness while delineating left behind regions in Central Eastern Europe. Thirdly, we present the dimensions of left-behindness in Czechia, Poland, and eastern Germany and the regional classifications derived from these dimensions of left-behindness. The resulting spatial patterns in individual countries and their development are detailed. Finally, for elections that took place between 2019-2021 we explore the electoral implications associated with the resulting regional classifications and the association of left-behindness with support for populist parties in a broad sense.

2 Left-behind regions and geography of discontent

There is a long-standing political and scientific debate on the socio-economic dimensions of spatial inequalities within the European Union (EU) (e.g., Iammarino et al., 2019), and measures for diminishing inter- and intra-regional disparities are at the heart of the EU's cohesion policy (Berkowitz, 2023). According to the EU its cohesion policy “contributes to strengthening economic, social and territorial cohesion in the European Union”, and it “aims to correct imbalances between countries and regions”⁶. Several funds within the EU cohesion policy, such as the European Regional Development Fund (ERDF), support investments, e.g., in research and innovation, transport and other infrastructures and human capital. Since its inception in 1988, the budget of the cohesion policy has grown significantly and now amounts “to around one-third of the European Union (EU) Multiannual Financial Framework (MFF) and 0.3 per cent of the EU GDP” (Berkowitz, 2023: 258).

Within the member states there are also different policies and funds of varying size and scope that address regional inequalities. In Germany, national policies to diminish regional inequalities are quite prominent and operate at different levels (Brachert et al., 2019; Wardenburg and Brenner, 2020). On the level of German federal states (*Bundesländer*) there is a nuanced system of financial transfers from economically stronger states to weaker states (*Länderfinanzausgleich*), and on the national and state levels several funds address smaller scale regional inequalities. National strategies for regional development in Czechia and Poland are largely financed by the EU funds. National funding is comparably rather limited.

Yet, despite these considerable amounts of financial transfers between and within EU member states there are still large socio-economic inequalities between EU member states and between regions within them. Especially, inter-regional disparities within European countries are on the rise (Iammarino et al., 2019; López-Villuendas and del Campo, 2023). Against this background, there is a theoretical debate as to whether peripheralization processes are at work that lead to diverging trajectories of growing metropolitan areas and declining peripheries, as well as which factors drive these processes (Görmar et al., 2019; Kühn, 2015; Leibert and Golinski, 2017; MacKinnon et al., 2024).

The term ‘left behind places,’ along with variations such as ‘left behind regions,’ or ‘regional left-behindness,’ has recently gained significant popularity as a label for disadvantaged, poor and shrinking regions (Comim et al., 2024). Pike et al. (2024, p. 1167) even label it the ‘leitmotif of geographical inequalities since the 2008 crisis.’ Its increasing prevalence in scholarly literature reflects a growing interest in spatial inequality issues and a heightened research focus on regions with weaker economic performance and more constrained growth than other regions in the same country, while also focusing on the impact of this regional disadvantage on the feelings and attitudes of the population and their political reactions.

In this chapter, we are first describing mechanisms of regional polarisation attributed to the emergence and reproduction of left-behind regions in the mainstream scholarly literature and we argue that these mechanisms are supplemented by other polarisation processes in Central Eastern Europe. Consequently, we are dealing with the connotations and imaginaries related to the concept, and on the presumed attitudinal and electoral consequences of left-behindness.

2.1 Processes behind regional inequalities

In general, spatial disparities are the result of long-standing historical, political and economic developments mainly rooted in availability and access to natural resources (such as geographic location, natural resources,

⁶ https://ec.europa.eu/regional_policy/2021-2027_en

environmental conditions) which shaped settlement, migration flows, infrastructure development, economic specialization and competitive (dis)advantages of regions (Bański and Kiniorska, 2021).

The past decades have rewritten the patterns of regional inequalities established during industrialization. Many of the economically strong industrial regions that were among the drivers of growth for most of the 20th century have lost momentum, stagnated or declined. These changes are usually explained as the concomitant effects of two economic and technological processes, namely globalization of trade and production chains, and technological change towards a knowledge-based economy (Broz et al., 2021; MacKinnon et al., 2022). The globalization of world trade involving offshoring and rising competitive pressures, particularly from Asian countries, has led to the loss of industrial jobs in industrialized countries of the Global North, wage stagnation for some parts of the population, and the loss of economic importance of entire regions, e.g., those European regions that were defined by the mining and steel industries. Economic gains from global trade and the transformation to a knowledge economy have become more heavily concentrated in the largest global cities and metropolises. Technological change towards automation and information technology have increased the gains from a highly skilled workforce, again concentrated mainly in large metropolitan areas (Kemeny and Storper, 2020). The growing importance of innovations in economic growth has led many regions with a strong base in the primary and secondary economic sectors into a “middle-income trap,” finding it progressively challenging to maintain economic expansion due to their inherent lack of innovation, making it difficult for them to compete with the more prosperous areas (Rodríguez-Pose et al., 2024). In general, these trends privileged large cities as the best-performing places in the knowledge economy, whereas leaving some heavily industrialised regions and rural areas with an agricultural base “left behind” (Iammarino et al., 2019).

This interpretation of long-term trends in territorial polarization has coined the currently dominant concept of left behind regions. It is based primarily on the situation in the U.S. and much of Western Europe and explains the decline in economic importance of former industrial strongholds such as the industrial Midwest, or the famous “rust-belt” in the U.S.; the North of England; the Lorraine in France or the Ruhr Area in Germany. Yet, in the last two decades spatial disparities between and within EU member states are also fueled by the aftermath of the 2007/08 global financial crisis and the accession of new EU member states from relatively poorer CEE countries with post-socialist legacy (López-Villuendas and del Campo, 2023). There are also diverging regional patterns of economic recovery after the sharp decline in GDP due to COVID-crisis lock-downs (Balakrishnan et al., 2022; Martin, 2021).

In the post-socialist CEE countries regional inequalities have developed in recent decades under different institutional and economic conditions and at a different pace than in the US and Western Europe. . The fall of communism and the process of post-socialist transition from centrally planned economic and social system into market economies and democratic societies represent an important milestone in the regional differentiation of CEE countries. Their current regional inequalities are strongly affected by economic shocks induced by the transition, emigration of a large population to the West (Favell, 2008), the development of low-wage sectors in the labor market, and the crisis in the agricultural economy caused by ownership changes and the collapse of food market networks (Bański, 2020; Bański and Mazur, 2021; Gorzelak, 2020).

These processes partly mirror the development in Western Europe in accelerated form. Regions based traditionally on heavy and mining industries – e.g., parts of Silesia, the Ore Mountains, or Lusatia – suffered serious economic shocks from the post-socialist transition in the late 20th century, and can be generally considered examples of disadvantaged regions in CEE. In contrast, the major cities and largest metropolises experienced exceptionally strong economic growth in the decades after the fall of communism (Lang et al., 2015; Psycharis et al., 2020). However, many of the processes in CEE countries are distinct, and their manifestations differ from one another across the CEE countries. The regions of former East Germany experienced very strong westward outmigration. Population loss, shrinking and ageing have long been

among the main challenges of peripheralization in former East Germany (Leibert and Golinski, 2017). A significant aspect of the peripheralization of some Polish regions, especially in northern Poland, has been the disruption of large state-owned farms, coupled with the loss of dominant forms of employment (Bański, 2011). Global production shifts have had specific impacts in CEE countries. Foreign direct investment and the integration into global production chains have had a major impact on their economic growth in recent decades. Much more so than in Western Europe, the globalization of production and trade introduced not only job losses in CEE, but also new job growth. As a rule, however, many of these newly created opportunities were relatively low value-added and at low levels of production chains. In this sense, CEE countries came to be referred to as the “assembly plants of Europe.” From a regional perspective, this has led to the reindustrialization of some CEE regions, minimizing unemployment, but increasing the risk of the middle-income trap (Myant, 2018).

2.2 Concept of left behind places, related imaginaries and connotations

Like many similar concepts, the term ‘left behind’ carries with it a rich set of associated images and connotations. Its incorporation into scientific and public discourse is more than just the introduction of a new scientific ‘label’ for some undeniable ‘hard facts’. The use and popularization of such geographical terms entails the establishment of a whole system of meanings that serve to emphasize certain aspects of geographic entities, e.g., by highlighting certain characteristics of a region (such as unemployment rates, out-migration numbers), its relations with other regions (such as suburbs, periphery), directions of development (abandonment of settlements, closure of industries, etc.), or even the attribution of identities (such as ‘hillbillies’, ‘country bumpkins’, ‘urban cosmopolitans’, ‘anywheres’/‘somewheres’). In essence, the promotion and use of such concepts is inherently socially constructivist.

Numerous designations have been used to describe regions with weaker economic performance over time and across different geographical contexts. Some possess vivid connotational undertones, such as ‘rustbelt regions’ or ‘flyover states’ in the U.S., while others may carry more subtle implications. Terms such as ‘peripheries’ (Nilsen et al., 2023), ‘structurally weak regions’ (Hennebry and Stryjakiewicz, 2020), or ‘marginal regions’ (Leimgruber, 2018) all evoke images of remoteness, scarcity, powerlessness or even redundancy. These connotations can serve as sources of stigmatization, are susceptible to manipulation in political discourses, and can be used to mobilise voters. This underscores the need for careful handling.

The term ‘left-behind places’ is no exception in this regard. Pike et al. (2024) explore its etymological origins and the specific images and metaphors it evokes. They find that the terminology of ‘left-behind’ conveys moralizing and indicative notions of neglect of the vulnerable or disadvantaged but also stigmatizing notions of immobility, passivity, decline and stagnation. Moreover, it also transcends purely structural perspectives on regional issues and economic development, signifying underlying power dynamics and distribution struggles. The authors conclude that the concept of ‘left-behindness’ broadens the lens beyond mere economic perspectives, shining a spotlight instead on the multifaceted realities of inhabitants of left behind places, their opportunities, needs, demands, and responses.

It would be overly simplistic to suggest that only the concept of ‘left behind places’ highlights the non-economic dimensions of regional life and that other similar concepts have always been used in a reductionist manner. Nevertheless, given its emphasis on the inhabitants’ perspectives, their life prospects, and their political agency (Bernard et al., 2023), with all due care we consider the term of left behind places/regions as a crucial conceptual tool in scholarly and political discussions on spatial inequality.

In this paper we use the concept of left-behind regions to refer to regions characterised by substandard living conditions, limited socio-economic opportunities, and a level of development below the national standard. These characteristics are largely based on the current economic conditions of the regions and their dynamics, but go beyond them to include a wider range of socially relevant aspects of the living

conditions, including educational attainment, poverty, residential attractiveness and demographic dynamics. We aim to avoid a dichotomous conceptualisation which points to a specific set of ‘left-behind’ regions. Instead, we understand ‘left-behind’ as a multidimensional continuum that reflects the multifaceted and continuous nature of regional inequalities.

2.3 Consequences of regional left-behindness

In recent years, growing scholarly attention has focused on the social and political consequences of the existence of left behind places. They have been repeatedly described as a risk to social cohesion, a repository of social and political cleavages, and a source of perceived injustice and marginalization. Most prominent is the debate about “the revenge of places that don’t matter” (Rodríguez-Pose, 2018) which argues that spatial inequalities within nation states lead to widespread discontent in the populations of disadvantaged regions who feel ‘left behind’ by ongoing economic changes and neglected by central governments. The importance attached to the social and political impact of regional inequalities is a relatively new topic in geography and sociology, motivated particularly by a flood of electoral maps from different countries that generally show a similar repeating spatial pattern with more support for pro-liberal and established parties in big metropolitan regions, and increased support for anti-liberal, populist parties, with mostly a right-wing orientation, in various poor, declining, frequently post-industrial places. A typical example is the collection of such maps presented in Rodríguez-Pose (2020). Combined with the rise of populism in many countries, this opens up a socially relevant issue and places the question of spatial inequality at the center of political research.

At the same time, this attention builds on an existing tradition of research on the contextual influence of the residential environment on poverty (Cotter, 2002; Copus et al., 2015); regional-level mechanisms of social inequality (Lobao et al., 2007; Petrović et al., 2020); spatial differences in well-being and satisfaction (Schwanen and Wang, 2014; Hoogerbrugge and Burger, 2022), or the geographic distribution of social mobility (Chetty et al., 2014; Connor et al., 2024). All these lines of research note that resources and opportunities for achieving social status, wealth, and well-being are unevenly distributed in space, and the existing patterns of spatial inequality thus co-create social polarization, which can invoke spatially unequal political responses. Furthermore, it is worth emphasizing that the influence of social inequality on political attitudes and electoral responses is a traditional and long-standing theme in the social sciences – historically in the form of class voting theories (Oesch and Rennwald, 2018), more recently, for example, in grievance mobilisation theory, which posits that frustration of (not only) economic changes and their selective negative effects on individuals, dividing the population into ‘winners’ and ‘losers’ explains electoral mobilisation of new parties (Ivarsflaten, 2008; Maškarinec and Bláha, 2014). What is innovative, however, in the literature on so-called left behind regions, is the emphasis on spatial inequalities as an important driver of political attitudes and electoral decisions.

The geography of discontent (McCann, 2020; Dijkstra et al., 2020), explores how left behind regions disadvantage their inhabitants. It examines the argument that residents of such regions are provided with fewer opportunities and welfare, and perceive poorer prospects for the future. In this context, Bernard et al. (2023) apply the concept of regional opportunity structures and argue that people living in left behind regions have fewer opportunities, especially regarding the labour market as well as public and private services. People respond to this with various expressions of discontent as they develop a sense of alienation from the political system and ruling elites. The rise of (right-wing) populist parties and movements are seen as a consequence of these ‘feelings of being left behind’ (Deppisch, 2021; Deppisch et al., 2022) in disadvantaged regions.

So far, the debate on the geography of discontent debate has largely been dominated by the situation in Western Europe and the United States (Ruyter et al., 2021). However, in comparison to the CEE which

experienced post-socialist transition and integration into the global market economy, the socio-spatial circumstances for the rise of populism are vastly different. As described above, while in the U.S. and Western Europe, the economic, demographic, and infrastructural decline of regions referred to as left behind has been attributed to post-industrialization, technological change, and globalization (Iammarino et al., 2019), spatial inequality in CEE has been formed in a different context. Accordingly, in our project we consider a focus on CEE, to which we include Czechia, Poland and the territory of the former German Democratic Republic (nowadays commonly referred to as eastern Germany) to be a promising area to contribute insights concerning populism and discontent in the context of spatial inequality.

2.4 Populism, its conceptions and premises

According to the geography of discontent scholarship, the electoral consequences of spatial inequalities often manifest themselves in increased support for populist parties, usually of a right-wing orientation (Rodríguez-Pose et al 2020). However, populism is one of those tricky concepts in political science that defies a single definition. A thorough discussion of the conceptualisations, classifications and different faces of populism is beyond the scope of this paper. However, given the alleged link between left-behindness and populist political support, we believe it is essential to at least capture the main features of populist movements.

In the last decade, research has tended to agree on conceptualizing populism with two core ideological aspects: people-centrism and anti-elitism (Rooduijn, 2019: 363; Norris and Inglehart, 2019: 216). However, characteristics of populism point beyond this minimal definition. In addition to the ideological focus, they also refer to a specific communication style and voter mobilization strategies.

With regard to ideology, populist argumentation divides the population in the pure people and the corrupt elite (Mudde, 2007). The ideological core roots in Rousseau's concept 'volonté général'. Populist claims that the only legitimate democratic authority flows directly from the people (representing the general will) and, "establishment elites are corrupt, out of touch, and self-serving, betraying the public trust and thwarting the popular will" (Norris and Inglehart, 2019: 216). The portrayal of the 'corrupt elite' by different protagonists of populism varies, encompassing economic elites ('the rich'), cultural and educational elites, such as intellectuals, academics or experts, or political elites such as representatives of established ruling political parties. By defining two antagonist homogenous groups, populism makes an antipluralistic moral claim of sole representation of "the people" (Müller, 2016: 93). The distinction of those groups is based on morality and not class or nation (Mudde, 2007: 30). This ideology is seen as a 'thin ideology' because it does not imply concrete ideas of political and societal organization nor is it connected to left-right-classification (Mudde, 2007).

Moreover, the populist communication strategy is often confrontational, provocative and simplistic and opposed to conventional political behavior. For example, in the German context right-wing populists explicitly criticize 'political correctness' and show their antagonism with distinctive behavior in public. Typical populist rhetoric uses polemic and simplification when presenting political ideas and criticisms. This style is an instrument that helps influencing public discourse. When focusing on the *discourse of populism*, the strategic influence on public debates is at the core of the populism concept. Discourses are shifted with provocative statements crossing over the lines of political norms (Moffitt, 2016).

There is also a typical populist political strategy for mobilizing voters. Populist leaders build a relationship with their supporters in a non-institutionalized way. With the absence of intermediary institutions, an impression of direct contact is emphasized and leaders present themselves as part of the common people the interests of whom he/she represents (Weyland, 2001). The often-provocative communication style emphasizes the opposition to powerful authorities. Weyland (2017) argues that charismatic and personalistic top-down leadership is an important feature, but rarely considered in populism research.

Galston (2018) notes that the rejection of elites and the elevation of ‘the will of the people’ often places populist parties and movements into conflict with essential elements of liberal democracy on two fronts. First, the homogenisation of ‘the people’ tends to exclude certain segments of society, denying them full citizenship rights — often based on ethnic origin. Thus, nationalist and nativist sentiments are frequently part of the rhetoric and ideology of right-wing populist parties. Second, populism, in its assertion of a direct connection between the people and governance, rejects liberal democratic principles of checks and balances that restrain the power of the ruling party and the state. Populist parties therefore often seek to limit the influence of, or, on the contrary, gain control over independent media, the constitutional courts, and advocacy civil society institutions — often with the argument that they are typical representatives of cultural elites pursuing their own interests. These steps bring populism closer to authoritarian political styles.

Typically, though not general or exclusive, populist parties in contemporary Europe exhibit tendencies such as anti-immigration stances or efforts to limit the rights of migrants, Euroscepticism, and nationalist agendas, sometimes coupled with calls for economic protectionism. As noted by Galston (2018), populism relies on growing public demands for economic, cultural and political closure, contrasting with the elite’s supposed preferences for open and multi-cultural societies.

The narrative of conflict between the elite and the common people is reinforced by spatial polarization, wherein growing metropolitan areas are presented and perceived as places inhabited by the new elite, who not only benefit from established economic and power relations, but also are perceived to look down upon their fellow citizens.

In chapter 7 of this paper, we examine the links between regional left-behindness and electoral support for political parties with or close to populist tendencies. We deliberately draw the boundaries of this group of parties broadly, including parties that can be characterised by only some of the features of populism described above. This group includes not only parties with typically far-right populist features (e.g., Alternative für Deutschland (AfD) in Germany; Strana přímé demokracie (SPD) in Czechia, Konfederacja in Poland), but also left-wing parties with a populist appeal (e.g., Die Linke in Germany, KSČM in Czechia), as well as centrist ‘technocratic populists’ (ANO in Czechia), and conservative nationalists (Prawo i Sprawiedliwość in Poland) with populist rhetoric. The selection of parties largely reflects the established cross-national party classification of the PopuList project (Rooduijn et al 2023), which is based on an expert-informed qualitative comparative classification of political parties. All selected parties are described in Chapter 7.

3 Basic principles and methodological choices to measure left-behindness in Czechia, Poland and eastern Germany

The focus on multifaceted life situations and opportunities/barriers of the inhabitants, together with somewhat vague contours of the concept of regional left-behindness make attempts to identify, classify and describe left behind regions a non-trivial task. Moreover, such an attempt touches on a sensitive topic. The classification of left behind regions should not be an undertaking in itself because of the risk of stigmatisation. However, if we accept that left-behindness is more than a metaphor, but a concept that allows us to describe the structures of spatial inequality reflected in the experiences and attitudes of residents, and if the social and political effects of regional left-behindness are scrutinised, we must attempt to operationalize the concept empirically. This does not necessarily mean dichotomising regions into left-behind and non-left-behind groups. Rather, the operationalisation should make it possible to assess the extent to which each region fulfils the characteristics expressed by the left-behind concept.

In recent years, a number of studies have embarked on similar efforts, some of them with an international focus (e.g., Dijkstra et al., 2020; Koeppen et al., 2021; Rodríguez-Pose et al., 2024). These studies follow different approaches with respect to both the selection of indicators and their treatment. Some of them are based solely on economic output indicators and their dynamics, with a prominent position of GDP per capita, accompanied in some cases by productivity measures, or the number of jobs (Vasilopoulou and Talving, 2024; Rodríguez-Pose et al., 2024). This economic approach is based on the argument that the economic performance of regions and its changes over time reflect the wealth and life prospects of regional residents. This is a tempting statement because it assumes a direct link between spatially uneven economic processes and people's life experiences and attitudes. The question is whether this approach takes sufficient account of other important aspects of spatial inequalities that also contribute to shaping regional opportunity structures and living conditions.

In some studies, the commonly used GDP measures are enriched with indicators expressing also the social situation of households, like income and inequality, unemployment, or the prevailing labour market positions of the inhabitants (Rodríguez-Pose et al., 2023; Gordon, 2018; Koeppen et al., 2021), or complement economic growth indices with population development (Dijkstra et al., 2020). The most complex approaches use sets of diverse indicators to identify left behind regions, capturing the situation in the region and its development from different perspectives – the regional economy, the social situation of residents, and demographic development (Velthuis et al., 2023; Connor et al., 2024).

Regarding the treatment of indicators, some studies construct a single dimension of left-behindness based on the aggregation of data (Connor et al., 2024; Dijkstra et al., 2020; Rodríguez-Pose et al., 2024). Proceeding in this way, Connor et al. (2024) compose their U.S. left behind index as an average rank across four indicators – poverty, income, unemployment, education. Similarly, Dijkstra et al. (2020) construct an index of economic and demographic change for EU regions as a factor based on GDP growth, industrial employment, total employment change and population growth.

Other authors use the individual indicators separately as independent variables in their models (Gordon, 2018; Koeppen et al. 2021; Rodríguez-Pose et al., 2023). An exception is the study by Velthuis et al. (2024), which employs a complex set of regional indicators as input variables in a cluster analysis.

The above approaches to identifying left behind regions have their strengths and weaknesses. Overall, however, we perceive several problematic aspects. The first is that approaches based on a strong

predominance of economic performance data, especially GDP, strongly reduce the issue of living conditions in the region. They assume that regional GDP values reflect the overall standard of living, the amount of opportunity and the prospects of the local population. McCann (2020) makes this explicit by stating that „measures such as GDP per capita [...] are the best overall measure of the value and dynamism of a local economy, and are the best proxy for a range of different issues, including the level of wages, opportunities for high value employment and career progression, opportunities for business investment, entrepreneurship and innovation” (McCann, 2020: 258). This is a bold statement. But even if we agree that GDP-based measures are associated with the socio-economic prospects, positions and opportunities of inhabitants, it would be reasonable to measure these facts more directly, using indicators capturing the socio-economic situation of individuals along lines such as social status, income, social mobility, etc. Moreover, there are other aspects of the situation in the regions, significant for the inhabitants, which are far less associated with the strength of the regional economy, like demographic change and migration, or even hard-to-measure regional characteristics like service and transport accessibility, safety, or environmental issues (e.g., Bernard and Keim-Klärner, 2023).

The second shortcoming is the de-facto one-dimensionality of some of the aforementioned approaches. Aggregating different indicators into a single outcome variable leads to a one-dimensional outcome, and the resulting left-behindness has only one spatial pattern. Such an aggregation overlooks that different aspects of left-behindness need not – and indeed often do not – correlate with each other. The peripheralization debate clearly points to this fact, demonstrating that there are different and not strongly associated aspects of regional disadvantage (Tagai et al., 2019; Bernard and Keim-Klärner, 2023).

Our approach to operationalising regional left-behindness and identifying left behind regions seeks to overcome these critical aspects. It uses a wider range of input indicators to more finely capture the socio-economic conditions of the region, its residential attractiveness and the temporal dynamics of regional change. It selects these indicators from three thematic areas: 1) Economic performance and associated economic opportunities; 2) Social status and poverty rates; and 3) Population development and demographic change.

An important criterion for indicator selection is the effort to make the data comparable across several countries. This enhances the generalizability of the operationalisation and allows for comparisons of similarities and differences between countries. At the same time, however, the comparability limits the use of some potentially important indicators. Above all, we omit indicators of service availability and quality, the measurement of which causes analytical problems across countries with different systems and varying degrees of centralisation of public services. For example, we find it tricky to compare the availability of different health services across countries with differently functioning systems, and the relative importance of general practitioners, outpatient specialists and hospitals. Similar problems arise when comparing the availability of schools or public transport.

We process the indicators in such a way as to preserve the potential multidimensionality of the resulting indices. However, we aim to find a solution with a relatively clear and easy to interpret number and structure of dimensions. The goal is not to use each input indicator as a separate dimension of left-behindness. Such a solution would result in an overcomplicated pattern of highly inter-correlated dimensions, because there is strong multicollinearity in the input set of indicators. Thus, the input data serve as sub-indicators of several separate outcome dimensions.

Left behindness is an essentially relative concept. Regions can be left-behind compared to a certain standard. This standard usually represents the national level, so left-behindness captures inter-regional differences within countries.

In the following, we are summarising the guiding principles of our approach to operationalise left-behindness in line with a definition provided in section 2.2.

3.1 Guiding principles

- (1) Regional left-behindness is multidimensional, i.e., we assume the existence of various, separate perspectives of what constitutes left-behindness, with distinct spatial patterns. These dimensions go beyond the narrowly regional economic stance, which however remains a significant aspect of it.
- (2) The operationalisation of regional left-behindness seeks to employ indicators that can be interpreted as regional characteristics relevant to socio-economic opportunities available to the inhabitants and their living conditions. These comprise indicators related to overall economic wealth and the labour market situation, status-related indices including educational achievements and poverty indices, and figures on the demographic dynamics.
- (3) Left-behindness is both cross-sectional (conditions here and now are worse than elsewhere) and dynamic (the development trajectory is lagging). This leads us to choose both static and dynamic indicators. For dynamic indicators, we use a relatively long-term, 20-year time perspective. This period starts before the Great Recession which began in December 2007 and lasted until 2009, and the dynamic indicators thus take into account the extent of the economic downturn during the recession as well as the recovery period.
- (4) Left-behindness is expressed in terms of relation to the 'national standard'. It shall enable us to identify under-scoring regions in individual countries. In countries with overall growing economies, slow-growing or stagnating regions can be classified as left-behind. In contrast, in overall stagnating countries, such regions would perform well. In the case of eastern Germany, we are taking a different approach. We compare the situation in its regions with the average for eastern Germany, not for the Federal Republic of Germany as a whole. This approach highlights the differences between the different eastern German regions without labelling most of them as left-behind compared to the national average, which is mainly influenced by the situation in western Germany. Doing so, still persisting divides between eastern and western Germany are excluded to shed light on left-behindness within post-socialist regions.
- (5) When selecting indicators, we choose those that are available for all countries included in the analysis so that the classification is the same in all countries. If we cannot find a completely identical indicator for an important aspect of left-behindness, we choose indicators that are as similar in content as possible – this applies in our analysis to the regional indicators of the extent of poverty.
- (6) Decisions about the form and number of left-behindness dimensions are data-driven to reflect the factual structure of inter-linkages between indicators. In determining the dimensionality, we build on the structure of correlations between indicators and group together indicators that are correlated to each other and have thus a similar spatial pattern. We use a combination of exploratory factor analysis and correlation analysis to retrieve the dimensionality. As a result, each dimension of left-behindness can be operationalized by a coherent set of interrelated indicators and each indicator falls within the dimension it best correlates with.

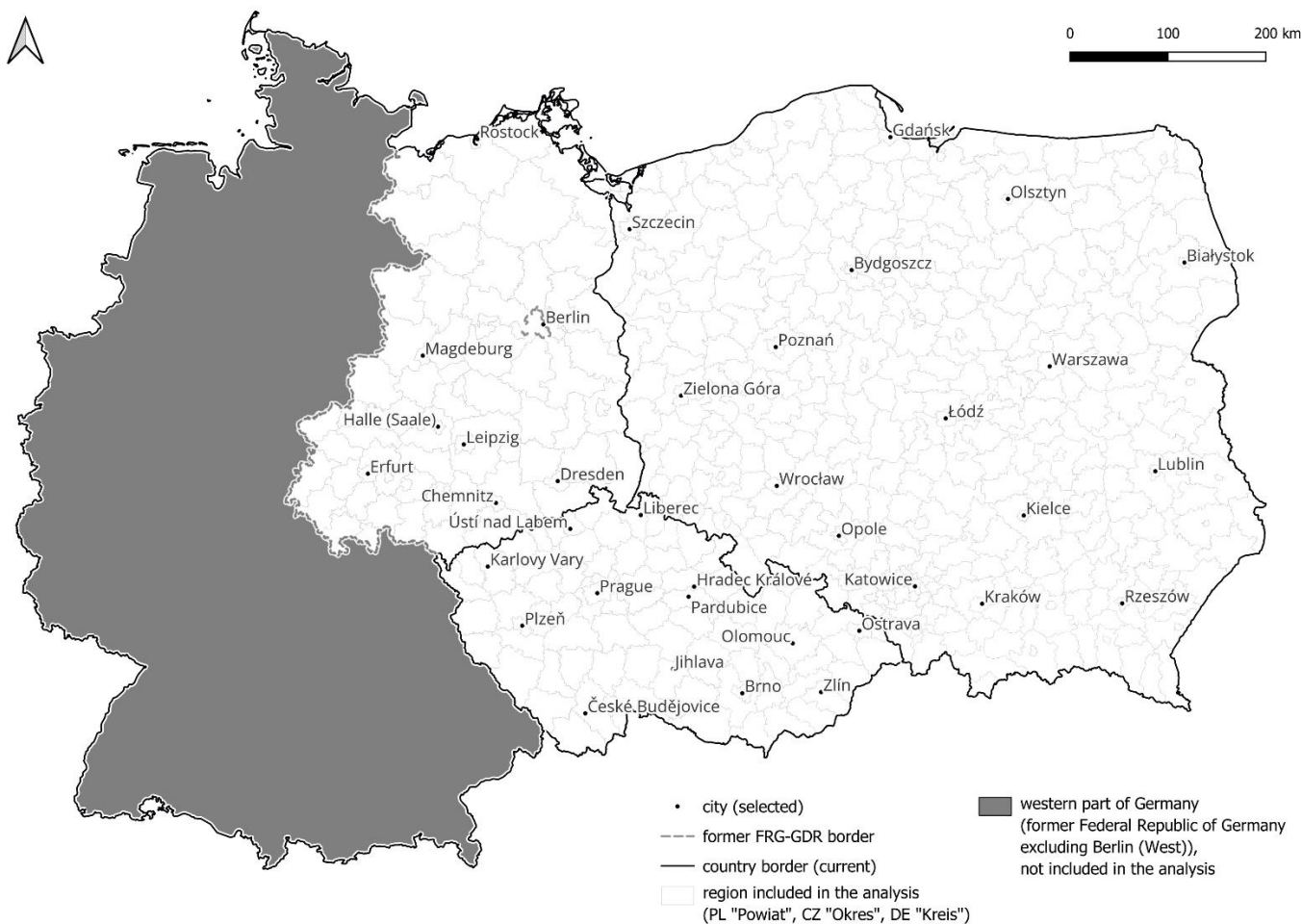
3.2 Geographic scale

We aim for the finest geographical scale possible, as large regions tend to mask considerable internal heterogeneity. At the same time, we strive to work with comparably sized regions in all countries. This prevents us from relying on the EU-wide NUTS classification, because German NUTS3 regions are considerably smaller than Czech and Polish NUTS regions of the same level. The EU-wide LAU-level (Local

administration units) can not be used in a uniform manner, because of size inconsistencies (the majority of LAU-units in Czechia has just few hundreds of inhabitants) and a very limited data base for LAU units.

The resulting solution is to use specific administrative regions in each country. In Germany these are regions called Kreis (which correspond to NUTS3 level in Germany), in the Czech Republic they are Okres, in Poland Powiat, both units being below the NUTS3 level. . We work with 400 regions in Germany (76 in the eastern part and 324 in the western part), 380 regions in Poland and 77 regions in Czechia. The German regions are largest in terms of population (median 155 000 inhabitants), the Polish smallest (median 74 000 inhabitants), Czech in the middle (median 109 000). Figure 1 displays the regional division in each country.

Figure 1: Resulting analytical regions in individual countries ('Kreis' in eastern Germany, 'Okres' in Czechia, 'Powiat' in Poland)



Note: The dashed line in Germany indicates the former border between the Federal Republic of Germany (now: 'old federal states' or 'western Germany') and the German Democratic Republic (now: 'new federal states' or 'eastern Germany'). On the map we display cities with more than 200.000 inhabitants

Source: own depiction.

3.3 Thematic sets of left-behindness indicators⁷

1. Regional economic performance and its dynamics (indicators of labour market viability and the resulting socio-economic opportunities)

- GDP per capita 2021⁸
- Unemployment rate 2021
- Real GDP per capita change 2001 – 2021
- Percentual growth in number of jobs 2001 – 2021
- Unemployment change 2001 – 2021

2. Social status and poverty (current status- and wealth-related indicators)

- Share of adult inhabitants with tertiary education 2021
- Share of adult inhabitants with primary education 2021
- Wages 2021
- Three poverty indicators (long-term unemployment, debts, social benefits, social benefits for families with children)⁹ 2021

3. Demographic dynamics

- Percentual population change 2001 – 2021
- Migration balance 2001-2021
- Share of young population (0-15 age) change 2001-2021¹⁰

3.4 Establishing the dimensions of left-behindness

After collecting the data from individual sources, for Czechia and Poland all variables have been standardized according to national averages. In the case of Germany, regional values are standardized according to the eastern German average. For cross-sectional variables standardised values have been expressed in terms of percentage of the national values. For dynamic indicators of change, standardised values of the change have been expressed in terms of standard deviations from average national change. This approach can result in specific situations in which the majority of regions has negative or positive standardised values, if the most populated regions have systematically skewed figures.

In a second step, the statistical associations between the standardized data have been explored using exploratory factor analysis (FA) with Varimax rotation and Pearson correlations. In these analyses, regions have been weighted so that all countries contribute the same to the analysis. We performed separately two FAs – one for the static, cross-sectional indicators, and the second one for the dynamic indicators. FA of

⁷ Detailed description of the variables including data sources for individual indicators are given in Table 29: Data sources for the classification of regional Left-Behindness in the Appendix.

⁸ GDP based indicators are only available for NUTS3 regions. This corresponds with the Kreis-level in Germany. In Czechia and Poland, NUTS3 figures are used as proxies instead of figures for Powiat and Okres.

⁹ In DE and PL, long-term unemployment, share of households taking basic social benefits, and share of households with children taking social benefits are used, in CZ, long-term unemployment, share of households taking social benefits and share of inhabitants under debt foreclosure. In general, we omit the dynamics of social status and poverty indicators due to lack of data for most of the indicators in the explored 20-year long period.

¹⁰ Due to limited data availability, we do not include indicators of change for social status and poverty.

cross-sectional (static) variables reveals two independent factors (based on eigenvalues >1): F1 – GDP per capita, wages, tertiary education, F2 – unemployment, three poverty indicators, primary education (see Table 23 in the appendix). FA of dynamic indicators reveals also two independent dynamic factors: F3 – GDP per capita change, unemployment change; F4 – population change, migration rate, share of young population change, change in number of jobs (see Table 24 in the appendix).

A Pearson correlation analysis reveals bivariate correlations above 0.5 within all extracted factors, with the exceptions of GDP per capita change and unemployment change as well as primary education and poverty indicators.¹¹

The final dimensions of left-behindness have been established according to the following criteria: 1) FA has extracted a separate factor; 2) all variables within the factor are mutually intercorrelated more than 0.5. The second criterion controls for the internal consistency of the dimensions. Variables that have been assigned to a factor, but associate very weakly with the other indicators, will be omitted. This check discards primary education from F1, and it cancels F3, because GDP per capita change and unemployment change are just very weakly mutually associated (see Tables 25 and 26). As a result, three separate dimensions of left-behindness have been discovered in the data:

- **Economic prosperity** (GDP per capita, wages/income, share of population with tertiary education)
- **Social exclusion** (Long-term unemployment, social benefits, social benefits for families with children/inhabitants under debt foreclosure)¹²
- **Relative expansion** (Population change, migration balance, share of young population change, change in number of jobs)

The values of the left-behindness indices were calculated as the average values of the variables belonging to each dimension. Regional values of each dimension can be understood in the following way: In case of the dimensions *economic prosperity* and *social exclusion*: The value reflects the average percentage of the region in the dimension vis-a-vis the national average. Values above 100 are above average, values below 100 are under average. In case of the dimension *relative expansion*: The value reflects the standard deviation of the regions from the national average expressed in standard deviation. Positive values are above average, negative values are below average.

In the last step, we controlled the internal consistency of each dimension in each country (separately for east Germany), using Cronbach's Alpha. All Alpha values range between 0.726 and 0.952. These are high enough values to accept that the scales are internally consistent. The items on which they are based are strongly enough associated with each other and each contributes meaningfully to the final value.

¹¹ Correlation tables are included in Appendix (Tables 25 and 26).

¹² Unemployment was finally omitted from the dimension, because it is factually very related to long-term unemployment and also from the statistical perspective, the very high correlation (0.945) indicates that both variables carry essentially the same information.

4 Resulting dimensions of regional left-behindness and their combinations

4.1 Individual left-behindness dimensions

Economic prosperity dimension

The dimension captures the difference between regions with a high-performing economy based on the use of high human capital and providing high incomes, and regions with a low-performing economy, low human capital and low incomes. This difference largely corresponds to the core-periphery regional economic hierarchy in the sense of Friedmann (1966), as prosperous regions are typically located in major cities. However, the projection of the empirical results in a map show that the dimension is far from implying a poorly geographic classification of centres and peripheries. Impoverished regions encompass a wide range of different types of areas in terms of accessibility, urbanization, or industrialization. At the same time, this dimension reflects the social status aspects of the regions. The educated middle class resides predominantly in prosperous regions, with impoverished regions exhibiting a higher concentration of the lower classes. Economic regional differentiation is thus closely intertwined with status distinctions.

Social exclusion dimension

This dimension measures the degree of concentration of various faces of poverty in each region. To operationalise poverty, three indicators are used as proxy variables for the concentration of people living in poverty or at risk of social exclusion. The indicators used are relatively conservative in that they classify only a small proportion of the population as poor, usually a few percent. Real poverty rates always depend on the exact definition, but the indicators usually used (e.g., the AROPE rate by Eurostat) tend to be higher.

Relative expansion dimension

Based on data over a time-span of ca. 20 years, this dimension indicates the extent of regional relative expansion, stagnation or contraction¹³. In doing so, it refers simultaneously to demographic and economic changes, which, as the data imply, are closely interlinked. Regions experiencing population growth and immigration are also experiencing increasing numbers of jobs and vice versa. Contracting regions are losing population and jobs in a relative sense, and experience outmigration. In addition, population changes also implicate changes in the age structure. These regions are thus generally affected by stronger ageing and birth rate decline than growing regions. Scoring high on the dimension points to a general attractiveness of the region in a residential and economic sense. Besides, it indicates increasing relevance of the region from the national point of view. Conversely, underscoring regions are implied to possess diminished attractiveness and are losing relevance.

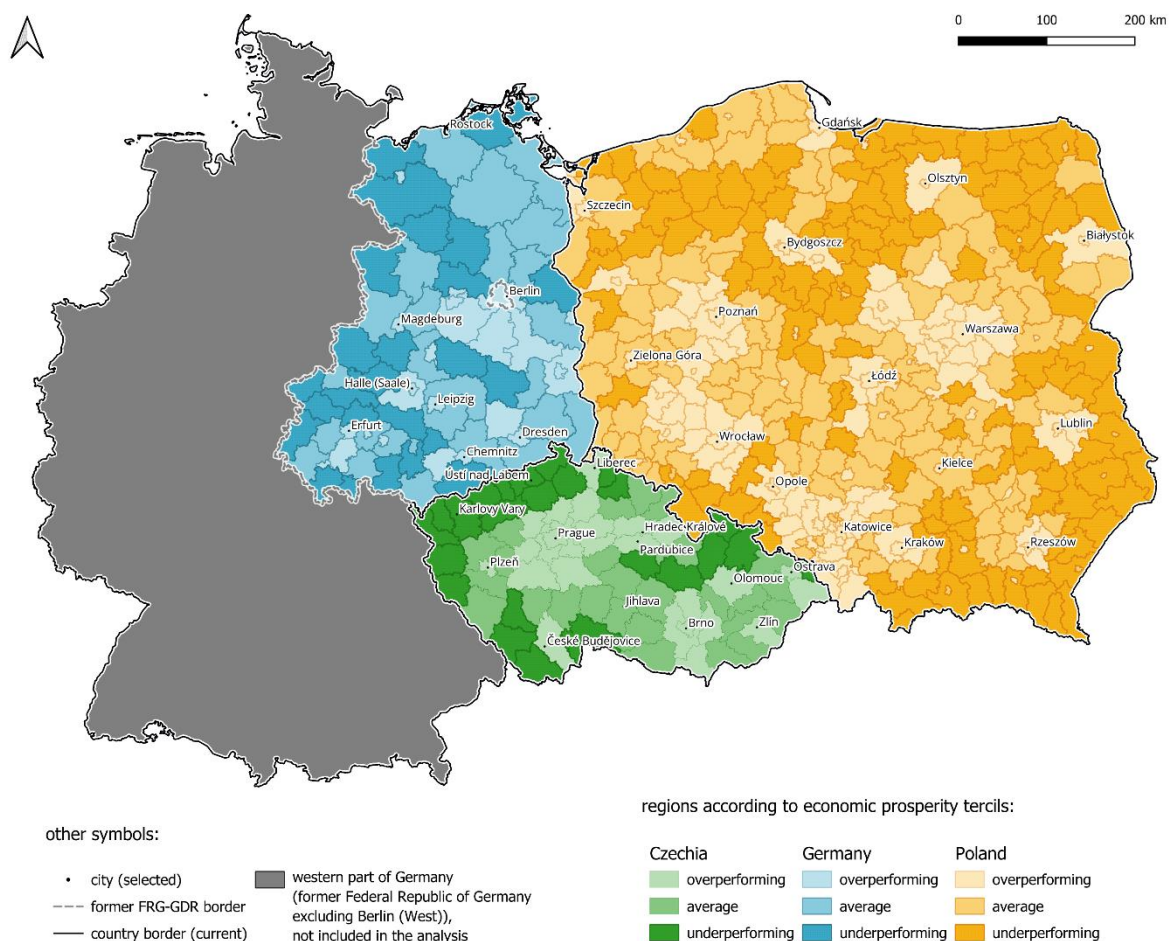
These three dimensions together provide a comprehensible interpretative framework for the patterns of regional-level spatial inequalities in Central Eastern Europe and their development (as described, e.g., by: Bernard and Keim-Klärner, 2023; Tagai et al., 2019; Bański et al., 2018, Smętkowski, 2013). In each country under study, the dimensions reveal distinct spatial patterns, described in the next chapter. At this point, however, we mention a few salient common features: First, the major metropolitan areas of Poland, the Czech Republic and eastern Germany represent the most prosperous regions and have experienced the strongest population and economic growth over the last twenty years. Second, extensive rings of growing metropolitan hinterland have emerged around the metropolises. Third, in both Poland and Czechia,

¹³ Expansion is understood here in a relative sense, in relation to the country average (for Germany: the eastern German average respectively). It does not necessarily mean absolute population and employment growth.

elevated poverty rates are typical for impoverished and shrinking regions. All three dimensions of left-behindness largely overlap here and thus co-create the overall spatial polarization of both countries. In contrast, in eastern Germany, elevated poverty is independent of the other dimensions of left-behindness, and the regions with the highest poverty rates largely include relatively economically successful cities.

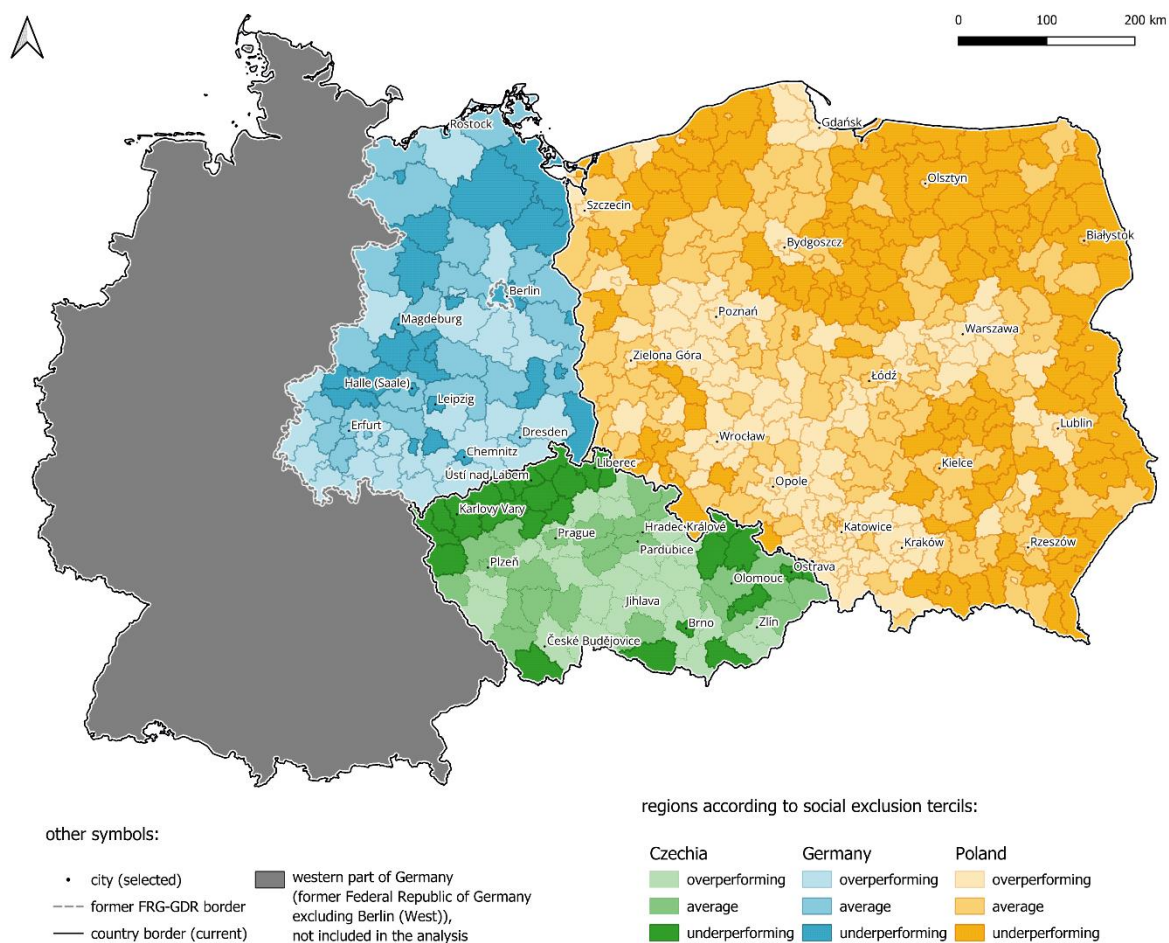
All three dimensions are projected in Maps on Figures 2 to 4. In the maps, the values of the dimensions in each country are categorized into terciles, thus differentiating between overperforming, average and underperforming regions. The decision to display terciles is arbitrary and other decisions (e.g., other types of quantiles, or based on standard deviations) would also be possible. Consistent with our conception of left-behindness as a multitude of quantitative dimensions, we do not consider it appropriate to separate out a certain fraction of regions as typical representatives of left-behind places. Moreover, regions can be underperforming in a way, while succeeding in another one.¹⁴

Figure 2: Economic prosperity dimension, 2021

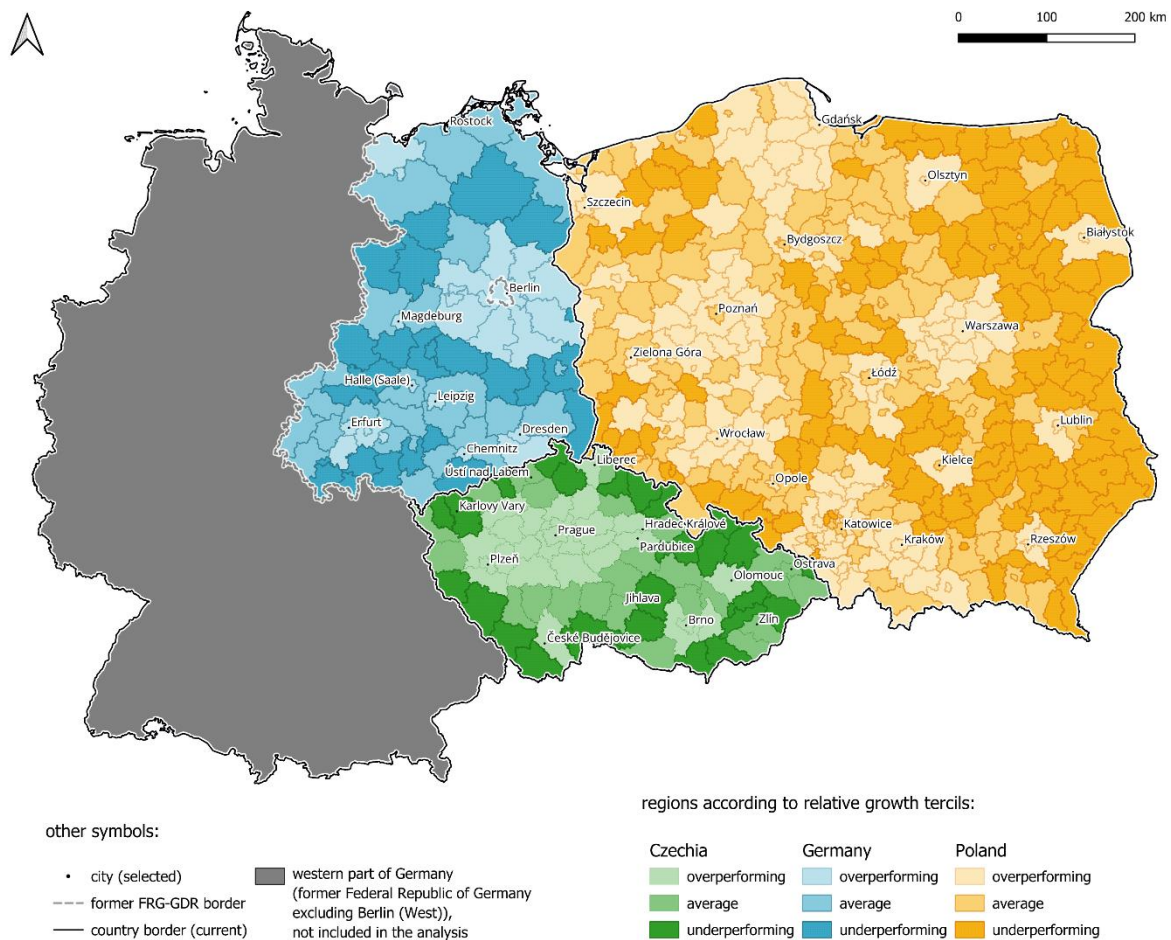


Source: own calculation and depiction.

¹⁴ The decision to classify the terciles of dimensions in each country separately (and also separately for eastern and western Germany) allows to clearly display for each country its spatial patterns. However, it does not allow to assess inequalities between countries, nor to assess the overall degree of spatial polarization in each country.

Figure 3: Social exclusion dimension, 2021

Source: own calculation and depiction.

Figure 4: Relative expansion dimension, 2001-2021

Source: own calculation and depiction.

4.2 Regional classification based on the combination of the dimensions

We used the concept of multi-dimensional left-behindness to create an overall regional classification by combining all three dimensions of left-behindness, to more easily mark regions, which are left behind in more than one dimension. Like the maps on Figures 2 to 4, the classification is based on the categorisation of all three dimensions into tertiles. Regions that fall within the first, most disadvantaged tertile, are labelled as being left-behind. The final classification combines the occurrence of each type of left-behindness. The following types result:

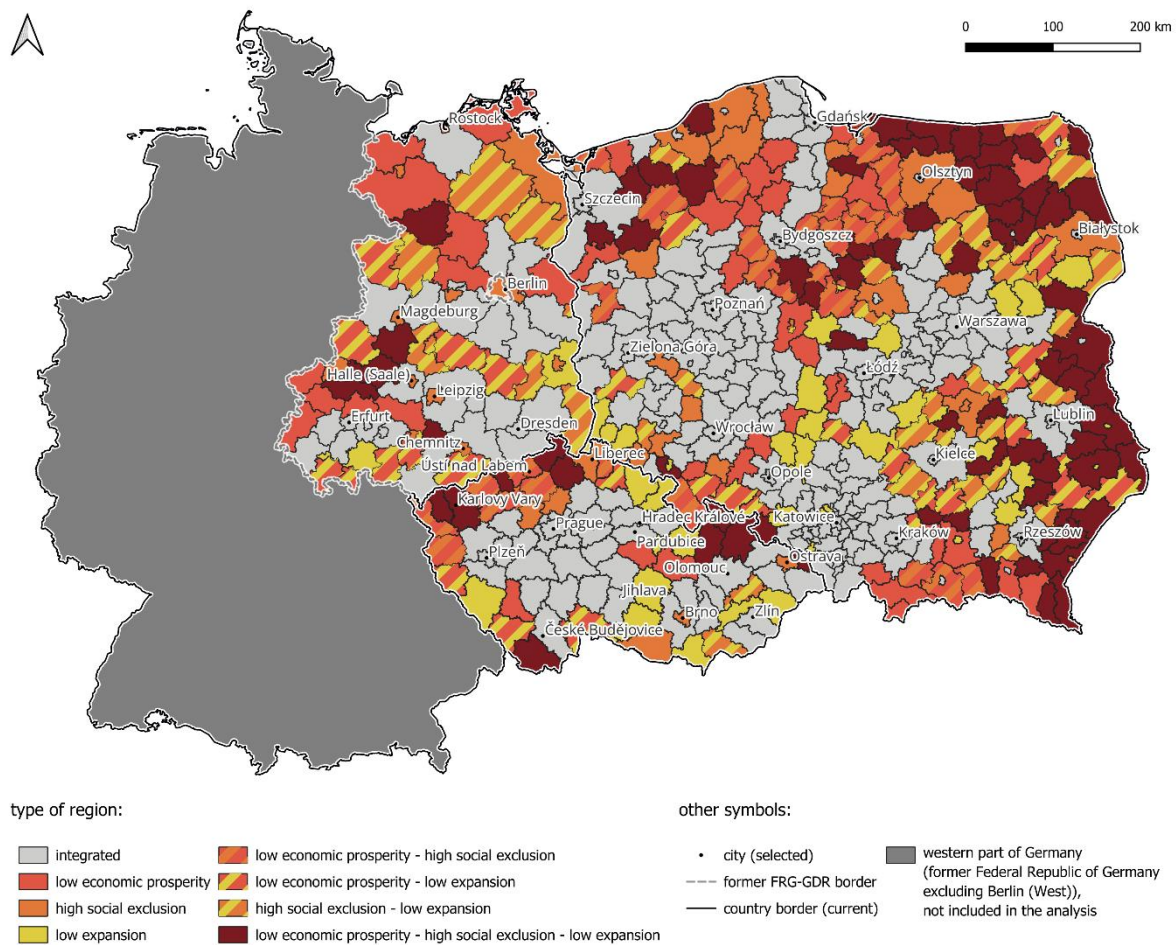
- left behind in all three dimensions: low economic prosperity – high social exclusion – low expansion
- left behind in two dimensions: low economic prosperity – high social exclusion; low economic prosperity – low expansion; high social exclusion – low expansion
- left behind solely in one dimension: low economic prosperity; high social exclusion; low expansion
- not left behind in any dimension: integrated.

The occurrence of individual types in the whole dataset (east DE, CZ, PL) is shown in Table 1. As Poland contains the most regions in the underlying data, it is reflected disproportionately in the aggregated CEE statistics. The map on Figure 5 displays the spatial patterns.

Table 1: Classification of regions based on left-behindness combinations.

	CEE		CZ		DE-EAST		PL	
low economic prosperity – high social exclusion – low expansion	72	13.5 %	10	13.0 %	5	6.6 %	57	15.0 %
low economic prosperity – high social exclusion	32	6.0 %	8	10.4 %	0	0.0 %	24	6.3
low economic prosperity – low expansion	31	5.8 %	4	5.2 %	9	11.8 %	18	4.7 %
high social exclusion – low expansion	35	6.6 %	2	2.6 %	8	10.5 %	25	6.6 %
low economic prosperity	41	7.7 %	3	3.9 %	11	14.5 %	27	7.1 %
high social exclusion	39	7.3 %	6	7.8 %	12	15.8 %	21	5.5 %
low expansion	38	7.1 %	9	11.7 %	3	3.9 %	26	6.8 %
<i>integrated</i>	245	46.0 %	35	45.5 %	28	36.8 %	182	47.9 %
TOTAL number/percentage of regions	533	100.0 %	77	100.0 %	76	100.0 %	380	100.0 %

Source: own calculation.

Figure 5 Multiple left-behindness in CEE: regional types

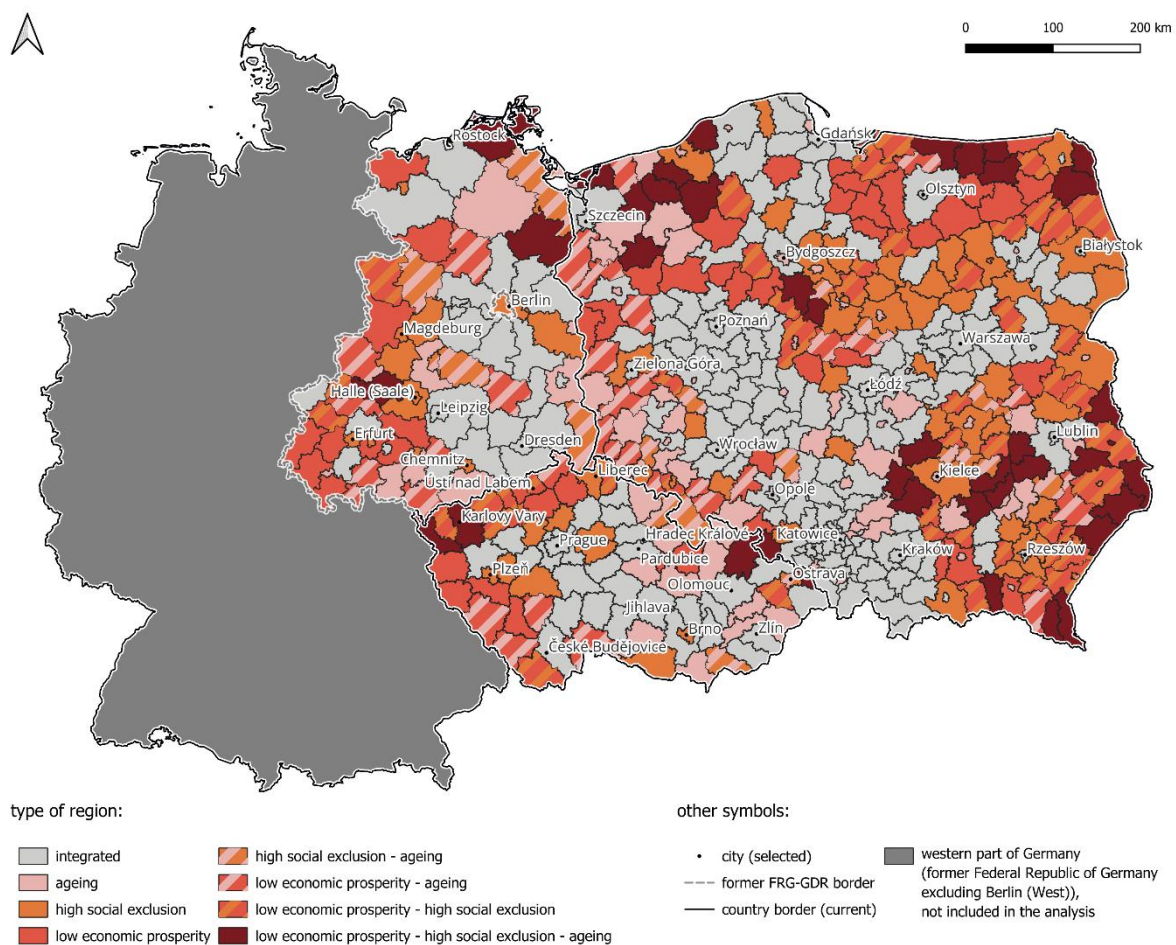
Source: own calculation and depiction.

As a check, if the final classification is robust and not overly dependent on individual partial, and sometimes arbitrary, statistical decisions, we also tried an alternative classification procedure based on slightly different dimensions. Here we explicitly combined cross-sectional data and its corresponding dynamics. This enabled us to classify regions according to information about their current position in individual dimensions, and whether they are catching-up or falling behind.¹⁵ In this endeavour, we used the economic prosperity and the social exclusion dimension, and added a specific age-structure dimension. Age structure can be considered a specific perspective of left-behindness. An ageing social structure goes along with the perception of a low attractiveness of the residential area particularly for the young and age-selective outmigration, with little potential for innovation and challenges for the labour market. We refer to regions as underperforming in a dimension if both cross-sectional and dynamic values of the dimension are below the median. This means, underperforming regions are currently lagging behind and have experienced a sub-standard dynamic at the same time. This alternative procedure also makes it possible to create a final classification by combining the individual dimensions with the last dimension explicitly referring to the issue of ageing. The result is presented in the map on Figure 6. At first glance, it can be seen that the regions

¹⁵ Data for a systematic inclusion of dynamic indicators in all dimensions are not available. Dynamic data for some indicators of the social exclusion dimension are missing. For that reason, we only used unemployment as a measure of social exclusion dynamics.

marked as underperforming overlap in the vast majority on both maps. The alternative classification is somewhat more stringent in that it marks a smaller number of regions as integrated (206 compared to 245 in the main classification). A total of 168 regions are marked as integrated in both classifications. Only one region, labelled as underperforming in all three dimensions in the main classification, appears as integrated in the alternative classification. The main spatial structures also coincide – concentrations of integrated regions mainly around large cities, frequent occurrence of left-behindness in border regions, particularly at the Polish eastern border. Thus, despite the partial differences between the two results, we consider the chosen classification to be sufficiently robust. In addition, to check our classification on being robust against some of the statistical choices, the robustness check offers insights in the regionality of unfavourable age structures and their correspondence with other left-behindness dimensions.

Figure 6 Robustness check – alternative classification of left behind regions



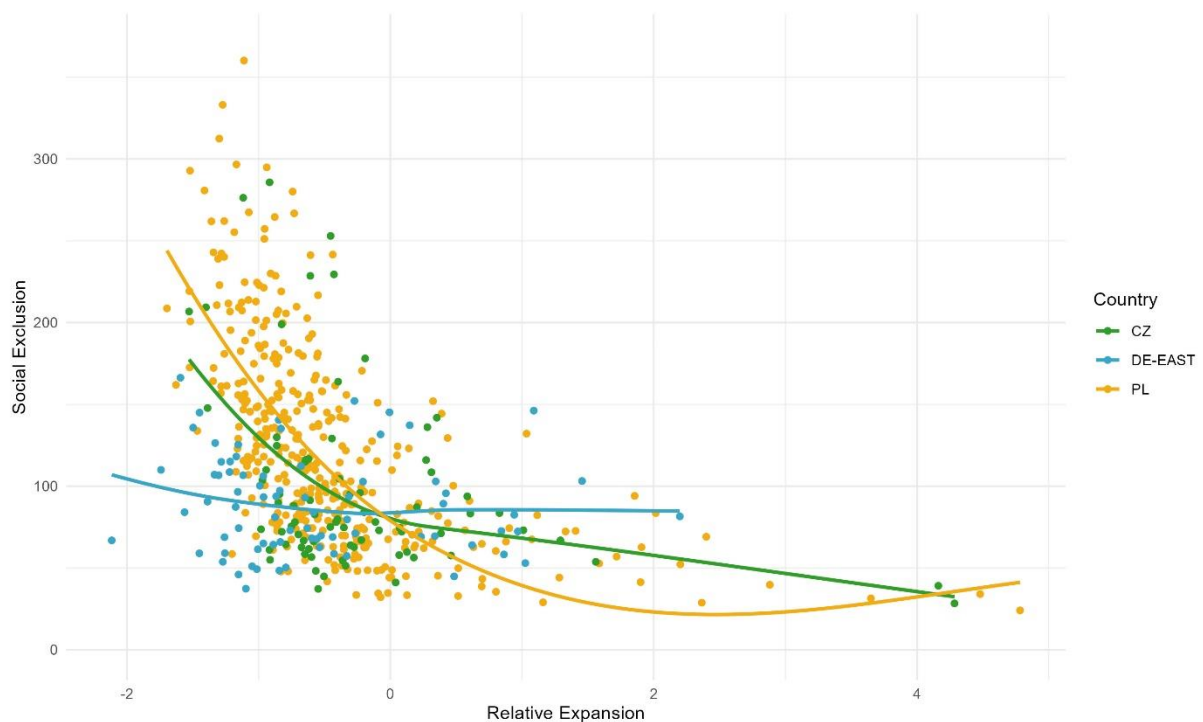
Source: own calculation and depiction.

5 Interpretation of the spatial patterns in individual countries

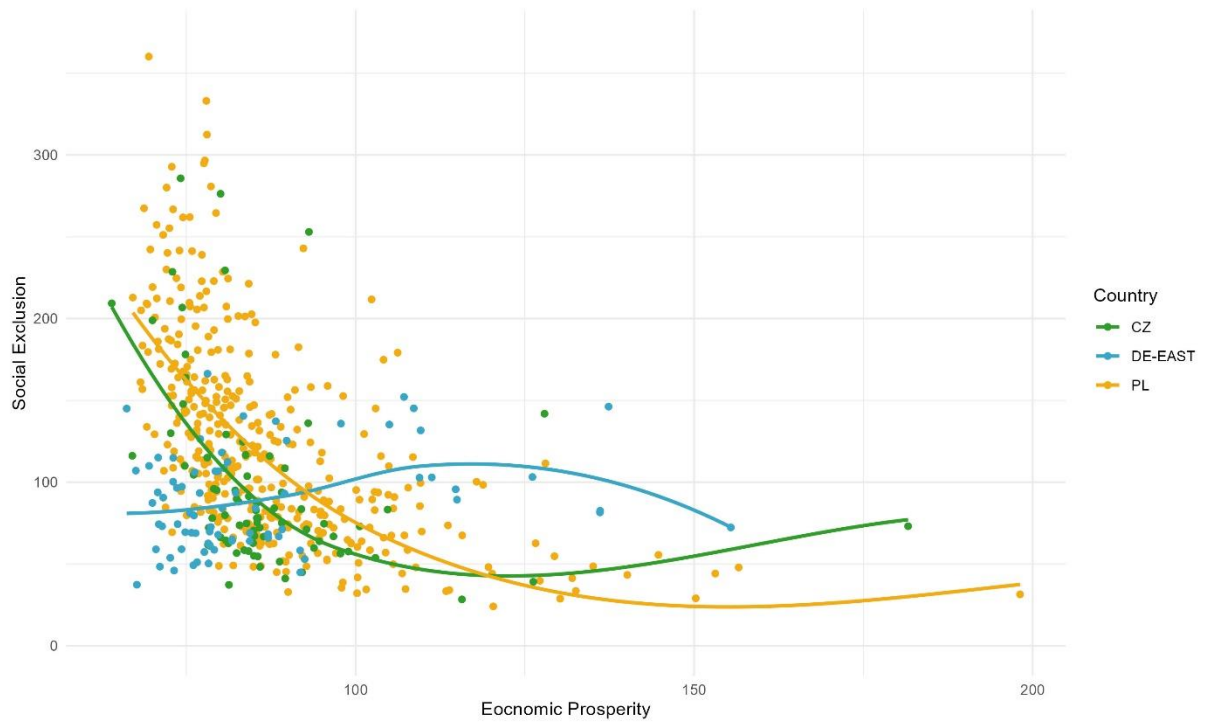
The interpretation of the spatial patterns in Czechia, eastern Germany and Poland is elaborated separately in this section. Scatter plots in the Figures 7, 8 and 9 show bivariate associations of the three left-behindness dimensions for each country. In order to examine the bivariate relationships exploratory, a LOESS (locally estimated scatterplot smoothing) line is added. Being a non-parametric regression method, we use LOESS as a “global smoother” by setting the span parameter to 1, which includes all data points in the smoothing process. This approach provides a non-linear visualization of overarching trends in the data while minimizing the influence of local fluctuations.

While general trends vary between countries, the scatter plots also reveal differences in the range of index values. Poland exhibits the widest range across all three dimensions, followed by Czechia and eastern Germany. This indicates that interregional inequality in social exclusion, relative expansion, and economic prosperity is highest in Poland and lowest in eastern Germany.

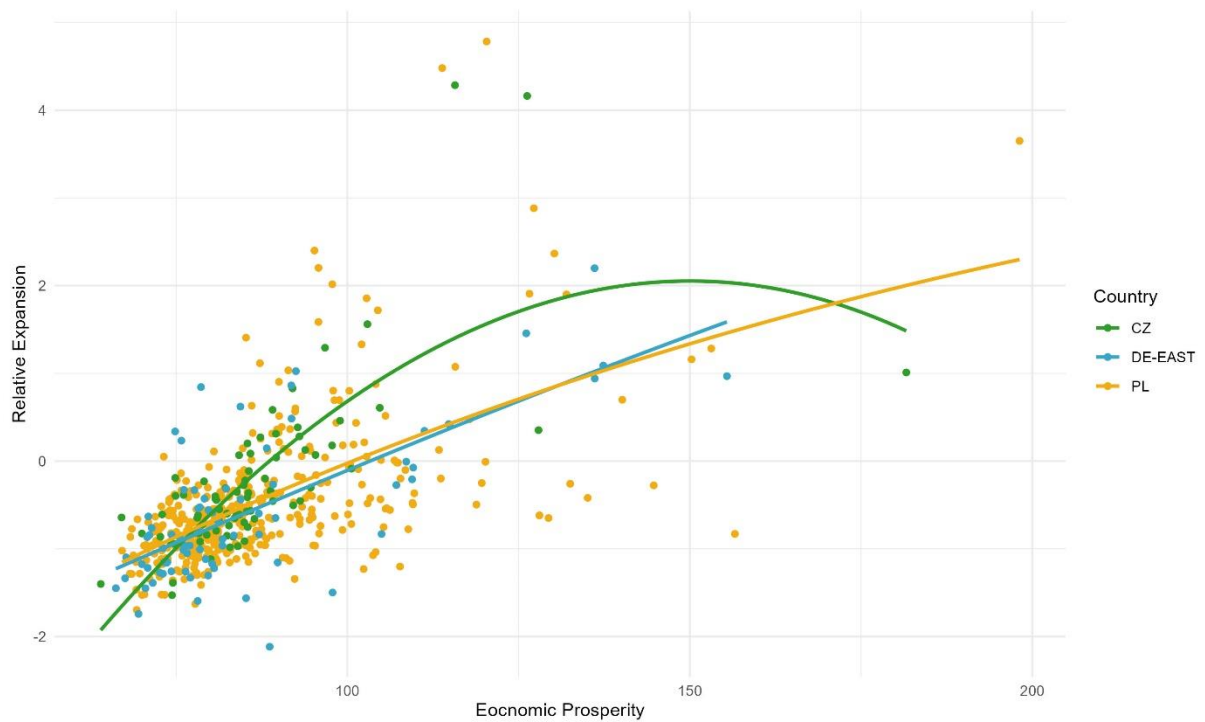
Figure 7 Scatter plot of social exclusion and relative expansion index



Source: own calculation and depiction.

Figure 8 Scatter plot of social exclusion and economic prosperity index

Source: own calculation and depiction.

Figure 9 Scatter plot of relative expansion and economic prosperity index

Source: own calculation and depiction.

5.1 Czechia

As the maps of individual dimensions of left-behindness in Czechia clearly show (Figures 2, 3, 4) there is a relatively high level of similarity of spatial patterns among low economic prosperity, social exclusion and low expansion. The index of economic prosperity correlates remarkably with relative expansion ($r=0.65$) and the both indices are moderately negatively related to social exclusion ($r=-0.31$ or $r=-0.35$). All three dimensions contain significant regional outliers. In terms of economic prosperity, the most significant outlier is the capital city of Prague, which has a prosperity index more than double the average value. The most significant outliers in the social exclusion index are the former mining regions in the north-western Czech Republic and in northern Moravia with about twice the average value of the social exclusion index. Outliers in terms of relative expansion are two suburban regions surrounding Prague. The distribution of the values of the individual indices and their interrelationships are clearly shown in Figures 7, 8, and 9. Considerable interrelationships of all three dimensions (albeit weaker than in the case of Poland) suggest that regions that are doing well in terms of economic development tend to attract new jobs and new population and, at the same time, usually tend to have lower share of socially excluded population. Geographically, such integrated regions can be relatively easily described as areas with the cores in the prosperous metropolitan areas and large cities (such as Prague, Pilsen, České Budějovice, Hradec Králové, Pardubice) which also include their broadly defined hinterlands providing the core cities with both workforce and industrial and service supplies to their core economic sectors. Such regions have participated in the overall post-communist economic development, they represent areas of concentration of both productive services and manufacturing industries in more advanced sectors of the economy, have been able to attract greater amounts of relevant foreign direct investment, and have generally acquired a better position in global production chains. The partial exception to this general rule is represented by the city of Brno, which could be considered an economically prosperous city and the core of a prosperous and growing region, but in which the local concentration of social exclusion reached comparatively high levels, which is a pattern known from many Western European and North American cities and metropolises, indicating that a significant proportion of the local population does not benefit from local prosperity.

In contrast, economically underperforming Czech regions tend also to be regions where higher proportion of socially excluded population can be found and, at the same time, tend to lose not only jobs but also population itself. In general, such regions comprise cities with declining industries such as coal mining; industries such as metallurgy and the related heavy chemical industry which consume excessive energy; as well as rural regions located in both outer and inner peripheries of the state. As the causes of left-behindness differ, several different types of such regions can be distinguished in Czechia. In the old industrial region of north-western Bohemia, an economic underperformance related to restructuring of local industries is typically combined with higher levels of social exclusion but not necessarily with high demographic/jobs contraction. Low population/jobs growth, or even shrinkage, is more typical for a belt of mostly rural regions in the borderland peripheries in the southern Bohemia and Moravia, in some of the Czech-Slovakian and Czech-Polish border areas as well as in regions of the inner periphery on the border of Bohemia and Moravia. In such contracting regions the shrinkage is sometimes combined with the economic underperformance. It should also be noted, that there are only few territorial units in Czechia that can be classified as the left behind territories in all three observed dimensions. These units include the north-west Bohemian districts of Karlovy Vary, Sokolov, Most, Děčín and Česká Lípa, the district of Český Krumlov on the southernmost edge of Bohemia, the districts of Šumperk, Jeseník and Bruntál in the remote foothills of the Jeseníky Mountains on the border between northern Moravia and Silesia, and the district of Karviná, a small but densely populated old coal-mining region east of Ostrava.

5.2 Eastern Germany

Regional disparities within eastern Germany are evident across all three identified dimensions. Looking at the overall picture for the dimension of economic prosperity, i.e., the combined index of GDP, income, and tertiary education, the map depicting eastern Germany (see Figure 2) reveals a mosaic-like pattern almost devoid of distinct geographical divisions. Yet, certain areas are characterized by under-performing clusters of districts. For instance, districts in western Mecklenburg-Vorpommern (with the exception of the federal state capital Schwerin), as well as neighbouring districts in Sachsen-Anhalt and Thüringen, consistently rank in the lower tercile. Taking a closer look, the map illustrates the economic vitality and concentration of higher-paying jobs in urban centres and, in some instances, their surrounding areas (see Figure 2). The German capital Berlin (population around 3.9 million) stands out prominently, with its southern neighbouring regions benefiting from its strong appeal as a business hub and residential destination. But there are also other urban centres in eastern Germany such as Rostock, Schwerin, Magdeburg that have relatively high performance. Yet, their influence on neighbouring districts is more limited with exception of Leipzig and Dresden which have some stronger regional economic influence. Conversely, most rural areas situated farther from major cities tend to fall within the middle or lower tercile in terms of economic prosperity.

The map for the dimension of regional social exclusion, i.e., for the combined index of long-term unemployment, share of social benefits recipients and share of children receiving social benefits, shows a distinctively different picture than the other maps and a clearer pattern (see Figure 3). Better performing districts are concentrated in the south, and around urban centres of Berlin and Magdeburg in central eastern Germany, and Rostock in the northern part. High levels of social exclusion are found in a number of economically prosperous and growing urban cores such as Berlin, Halle, Leipzig, Chemnitz, Rostock, Magdeburg, Brandenburg an der Havel or Schwerin. Indeed, the dimensions of social exclusion and prosperity and relative expansion are positively correlated, suggesting that higher poverty rates tend rather to occur in the richer and faster growing regions. However, there are also clusters of rural and peripheral regions with increased social exclusion rates in Mecklenburg-Vorpommern's northeast and the border area of Sachsen-Anhalt and Thüringen. Additionally, areas like Saxony's eastern regions, including Görlitz and Oberspreewald-Lausitz, exhibit high social exclusion values. On the one hand, these results show that poverty and social exclusion are an urban phenomenon in eastern Germany like in some other highly developed countries in Europe (Bernard, 2019), on the other hand, there are several rural and peripheral areas with higher concentration of social problems in line with recent literature on poverty in rural areas (Bertolini et al., 2008).

The map depicting the relative expansion, i.e., for the combined index of migration balance, and changes in population, number of jobs, share of population under age 15 (see Figure 4), shows quite similar urban-rural disparities. The economic prosperity dimension and the relative expansion dimension are highly correlated ($r=0.71$). Most urban centres rank within the top tercile, along with certain surrounding areas. Notably, the influence of Berlin is even more pronounced in the expansion dimension, as its surrounding areas have witnessed significant in-migration in recent years. However, there are some cities experiencing less favourable trends, such as Gera, Cottbus and Frankfurt (Oder). Regions with below-average expansion are concentrated in southern Thüringen, the Harz region and, for the districts bordering Berlin, the outer areas furthest away from Berlin.

The scatter plots in Figures 7, 8, and 9 show the interrelationships of the different dimensions of left-behindness in eastern Germany. On the one hand, they demonstrate a clear link between economic prosperity and relative regional expansion. Moreover, for both dimensions, the most populous regions score significantly above average. In contrast, the association both of these dimensions with social exclusion is relatively weak. Higher levels of social exclusion are slightly more concentrated in prosperous regions (one exception is the city of Jena), but less so in growing areas. This reflects above-average poverty rates in

some cities, including economic hubs such as the capital Berlin, as well as higher poverty in declining peripheral regions. On the other hand, relatively lower poverty rates can be found in the growing hinterland of some cities.

Our combined analysis and depiction of the combination of all three dimensions of spatial inequalities in the typology of multiple left-behindness in Figure 5 reveals areas that consistently underperform in several dimensions. These areas include the eastern Harz region south of Magdeburg (Salzlandkreis, Mansfeld-Südharz, Kyffhäuserkreis), areas in eastern Thuringia (Altenburger Land), and Prignitz in northern Brandenburg. Furthermore, when considering the alternative typology (Figure 6) which accounts for age structure, an accumulation of disadvantages is observed in Uckermark, Mansfeld-Südharz and Vorpommern-Rügen.

The typology reflects the post-socialist transformation developments of eastern Germany. Following the integration of the former German Democratic Republic (GDR) into the Federal Republic of Germany, many areas experienced significant population losses: from 1991 to 2022 a net migration of approximately 1.2 million persons from eastern to western Germany was recorded.¹⁶ At the same time, East German companies were heavily impacted by the transformation due to four political processes: privatisation and closure of firms and industries; rapid implementation of currency union; the transfer of old GDR debts to the budget of the Federal Republic of Germany that led to restricted fiscal expenditures, especially in the communes, and restitution of property expropriated during socialist regime (leading to asset transfers from East to West) (Intelmann, 2020: 101). Consequently, three quarters of industrial capacity was shuttered, leading to a drastic decline in industrial production and employment in the secondary sector (Henn and Schäfer, 2020: 86).

In addition, the agricultural sector experienced a radical restructuring. This led, on the one hand, to the closure of farms which, besides being employers, were also central to rural social life, providing a range of services to the local population, “from the provision of infrastructure to cultural activities and social services” (Laschewski, 2009: 97). As rural employment was largely based on agriculture and industry, mostly located in larger rural towns (Laschewski, 2009), rural eastern Germany was severely affected by transformation processes. On the other hand, urban areas also experienced a shock from the breakdown of the centrally planned economy and the socialist social system, but they were more attractive to Western capital, so that economic growth concentrated in these areas. Overall, a different picture of eastern Germany emerges depending on the typological dimension. While the dimensions economic prosperity and relative expansion depict a rural urban divide, the dimension of regional social exclusion calls this pattern into question. It is evident that the historical transformation process is still leaving its mark today.

5.3 Poland

Overperforming Polish regions in the dimension economic prosperity (Figure 2) are mostly metropolitan areas of larger cities (e.g., Warsaw, Łódź, Poznań, Wrocław); the Upper Silesian conurbation (Śląskie voivodship, Katowice area), and the so-called Tri-City¹⁷ (Pomorskie voivodship, Gdańsk area). The cities and their surrounding areas (smaller cities and rural areas) form clearly visible clusters. The agglomeration areas are strongly linked to the centre and heavily influenced by it. The main city, however, is clearly dominant over the surrounding area. Upper Silesian conurbation and the Tri-City have a polycentric system – interconnected settlement units in which there are no leading centers or there are numerous nuclei. These

¹⁶ <https://www.destatis.de/DE/Themen/Querschnitt/Demografischer-Wandel/Aspekte/demografie-bevoelkerungsentwicklung-ost-west.html> bzw. <https://www.destatis.de/EN/Themes/Society-Environment/Population/Migration/east-west-migration.html>

¹⁷ Gdańsk, Sopot and Gdynia are sometimes treated as one metropolitan area and referred to as the Tri-City (Trójmiasto).

agglomerations, like monocentric ones, form visible, but more irregularly shaped clusters. Poland's agglomerations concentrate the greatest number of enterprises and foreign investment generate the majority of the state's GDP. These have become the 'growth poles' (Perroux, 1955) evidently stimulating regional development. They are generating a number of 'pull factors' fostering population influx. In these metropolises, workers' wages are significantly above average and the population is far more educated than in rural areas. Another, but equally significant, case of overperforming regions are the so-called 'green islands'. These are small areas considered as best, surrounded by these indicated as worst. They are mainly located in the east of the country. Most of them are district (powiat) capitals and in some cases voivodship capitals (Białystok, Olsztyn). They clearly act as local or sub-regional 'growth poles'.

Underperforming areas in terms of economic prosperity are mainly located in the east of the country (or, more precisely, in the north-eastern peripheral areas). This is the outcome of a long-term depopulation of these areas, mainly caused by outmigration. Lower level of entrepreneurship results in generating low GDP per capita and numerous inhabitants of these areas who acquired tertiary education outmigrated. Despite the high touristic attractiveness of southern Poland (tourism in the majority of districts plays a crucial role in regional GDP) these areas are also underperforming. Apart from tourism, the population is highly involved in small-scale family farming of minor significance for the regional economy. The more conservative and religious social attitude of southern Poland's inhabitants¹⁸ is reflected in lower education rates among women, who are more likely to become housewives than elsewhere, being outside the labour market. One may also notice some "inner peripheries" outlining, mostly in the central (east of Bydgoszcz) and northern part of Poland. These are generally deprived of a large urban centre and – consequently – having poor accessibility to the growth poles rated in the economic prosperity dimension as the best.

The index of social exclusion (Figure 3) is strongly related to the both previous dimensions ($r=-0.55$ or $r=-0.54$). Regions with lowest social exclusion levels are again metropolitan areas (Warsaw, Poznań, Tri-city, Wrocław). However, not all of them. Łódź, classified as „average” in the social exclusion dimension, is certainly Poland's most prominent case of a large agglomeration still struggling with a transformation shock launched in the early 1990s due to privatisation and/or collapse of a large-scale, state-owned textile industry being the principal development backbone during the communist era. This resulted in the major reduction of the city's economic base and was followed by a far-reaching, multi-year recession, which has subsequently triggered social problems such as high levels of long-term unemployment and rising poverty. Despite the fact that Łódź has now slowly begun to recover from the economic crisis and the city has undertaken a new process of development, the effects of these past experiences are still visible in particular when being compared to other major Polish cities (Cudny, 2011; Stawasz and Banachowicz, 2020). In smaller but still large cities – such as Białystok, Olsztyn, Kielce, Płock, etc., social exclusion is not encountered in urban centres themselves, but already in their immediate, rural vicinity – this problem mainly affects eastern and north-eastern Poland. The 'green islands' are less contrasted to the surrounding areas; they may only be called 'yellow' (average) in this case. Despite this, these are still outstanding points in areas considered underperforming in this dimension (e.g., the east of Poland).

Areas deprived of large urban centres, which are predominantly rural, are more likely to have higher poverty risk and poverty rates. Some studies have suggested that this is typical for countries located in Central Eastern Europe and/or new EU member countries. In some western European countries, this looks the other way around. Poverty rates are higher in urban areas, e.g., in UK, Austria, Norway (Raczkowska and Gruzziel, 2018; Kalinowski and Rosa, 2021). Areas with the highest concentration of poverty are located

¹⁸ The dominicantes rate calculated as the percentage of Catholics attending Sunday Mass in relation to the total number of obligated is the highest in southern and south-eastern Poland (Śleszyński, 2023).

mostly at the north and east of the country. They form much more extensive clusters than in the previously described dimension. Areas in the north were incorporated to Poland in 1945 and the population was resettled there from territories lost by Poland to the USSR. Until the economic transformation of 1989 the structure of agricultural land use therein was largely dominated by large-scale state farms, at the same time being the exclusive employer for the vast majority of the rural population. Long-term unemployment of these territories is the aftermath attributed to the collapse of state farms. This factor had also significantly contributed to causing numerous social issues compared to other parts of Poland (alcoholism, household violence, lower high school graduation rates).

On the other hand, areas along the eastern border struggling with a lack of employment opportunities already during the communist regime, as far back as during the 1980s, represent another considerable concentration of poverty. This is the main area of Poland's depopulation due to long-term outmigration and the resulting imbalance of the demographic structure. Inner peripheries – namely vast areas of the Kujawsko-pomorskie voivodship (south of Bydgoszcz) as well as northern and southern parts of the Mazowieckie voivodship are also affected by considerable social exclusion. Even after Poland's accession to the European Union when the least developed areas of eastern Poland received subsidies from the EU Cohesion Fund, the areas of the Mazowieckie voivodship were disadvantaged, as in this administrative region the Warsaw metropolitan area significantly exceeded the average of the considered indicators for the region.

The expansion dimension (Figure 4) correlates strongly with the economic prosperity index in Poland ($r=0.59$). Poland's prosperous metropolitan areas are mostly experiencing growth, primarily due to large-scale in-migration (mainly young adults and foreigners). These agglomerations are at the same time main areas of highest investment and entrepreneurship, hence the strong increase in the number of jobs, especially over the last two decades (Wiśniewski et al., 2020). However, some of the metropolitan areas are experiencing growth with the exclusion – at the cost – of the central city, for instance Poznań and Łódź. Here, the high suburbanization rate is not being balanced by the population influx into downtown. Numerous capitals of voivodships are experiencing growth, either in the cities themselves (Olsztyn, Białystok, Lublin, Rzeszów) or in their immediate surrounding (Bydgoszcz).

Most of the regions underperforming in terms of relative expansion are located in the economically poorer east and north-east of the country, which are major out-migration territories towards the metropolitan areas of growth. The most serious social effect of the political and economic transition was the deterioration of the standard of living of the population (hyper-inflation) and a rapid increase in unemployment. With that being said, the unemployment of the 1990s was selective, both in structural terms (affecting certain social groups – those employed in state-owned agriculture and state industry) and spatial-functional terms (peripheral areas, agricultural areas, mainly eastern Poland). These negative mechanisms intensified migration processes that continue to this day, resulting in large-scale depopulation. According to research on this matter, some municipalities of the Podlaskie voivodship in eastern Poland lost more than 40% of their population between 1995 and 2017 (Wiśniewski et al., 2020).

The series of scatter plots in Figures 7, 8, and 9 documents graphically the associations of the different dimensions of left-behindness in Poland. Unlike in eastern Germany, all three dimensions are strongly correlated, which means that poverty concentrations are as a rule associated with low regional economic prosperity and low development dynamics. Conversely, prosperous and growing regions – usually large cities – have low poverty rates. Nevertheless, the associations of social exclusion with relative expansion and economic prosperity seem logarithmic (Figures 7 and 8).

The summarising map of multiple left-behindness (Figure 5) displays clearly that left-behindness in Poland seems to bypass urban areas. Most cities and their adjacent (larger or smaller) areas form clusters of thriving regions. In some cases, areas referred to as integrated may give an impression of a system

consisting of points and lines. They somewhat form 'corridors of prosperity' surrounded by areas of lower performance (e.g., Tri-City – Bydgoszcz, Warszawa – Łódź, Wrocław – Zielona Góra – Poznań, Kraków – Katowice – Opole). Areas affected under-performing in all three dimensions of left-behindness at the same time are predominantly located in the north-east or south-east of the country. There are also isolated areas ('islands') that perform poorer than surrounding territories. Single areas of this type, however, occur all over the country, omitting Greater Poland (*Wielkopolskie voivodship*) and (almost all of) Lower Silesia (*Dolnośląskie voivodship*) and Upper Silesia (*Śląskie voivodship*).
dimensions

6 Electoral implications of regional left-behindness

In the following, in a first step we describe the electoral implications of the regional left-behindness in individual countries. We begin by calculating average electoral support of parties labelled as populist, by the Populist project (Rooduijn et al 2023) (see chapter 2.4 for more details), according to terciles of individual left-behindness dimensions and the multiple left-behindness classification, including ETA squared as an indicator of the strength of the association¹⁹. In a second step, we calculate a regression model using the quantitative dimensions of left-behindness as independent predictors.

6.1 Czechia

In Czechia, we analyse the results of the 2021 parliamentary election (chamber of deputies). In line with the Populist project, we focus on the results of three political parties classified as different types of populist political subjects: The technocratic centrist ANO, right wing SPD and left-wing conservative KSČM.

6.1.1 ANO

ANO (Akce nespokojených občanů - Action of Dissatisfied Citizens) is a political party established in 2011 by the big agro-business owner and billionaire Andrej Babiš. The party is organised in an entrepreneurial model, with an extremely strong position of the party leader, who is even authorized by the statutes of the party to personally intervene into party candidate lists in all types of elections.²⁰ ANO is sometimes labelled a ‘technocratic populist’ party, emphasizing managerial competencies and attracting voters generally dissatisfied with ‘traditional political parties’. After its establishment, the ANO party came up with a harsh criticism of the political and economic development, describing the traditional parties as an ‘Post-November cartel’.²¹ From an ideological perspective, the party manoeuvred pragmatically with its political program (Havlík, 2019; Bušíková and Guasti, 2019). In 2013, for the first time, ANO made a significant impact on the parliamentary election, obtaining 18.7 % of votes in the elections of the Chamber of Deputies of the Parliament of the Czech Republic, mainly at the expense of centre-right parties, and became junior coalition partner in the centre-left coalition led by the Social Democracy. In the 2017 elections to the same electoral body ANO has tailored its rhetoric to garner more support from the dissatisfied, poorer part of the population, and was able to attract a significant portion of the left-wing voters of the ČSSD (Social democrats) and KSČM (Communist party). In 2017, ANO won the elections with 29.9 % of votes and the party leader Andrej Babiš became Prime Minister. In subsequent elections in 2021, ANO remained the strongest individually competing party, receiving 27.1.% of votes, only slightly less than the coalition of the three centre-right parties SPOLU (‘Together’ in Czech, comprising the Civic Democratic Party, the Christian Democratic Party, and the TOP 09), but was unable to compose the government and went into opposition.

¹⁹ Eta squared is a measure of association defined as the ratio of variance in the outcome variable explained by a predictor variable, after controlling for other predictors.

²⁰ Statutes of ANO (2017, Article 13, Paragraph 6): „The chairman is authorised in exceptional and justified cases, even after approval of the lists of candidates by the Committee pursuant to Article 11 (4) (f), (g) and (h) of these Statutes to approved lists of candidates in particular, to strike out candidates and/or change the order of individual candidates and/or add candidates.

²¹ The term „post-November“ refers to the fall of communism in the Czech Republic, which dates back to November 1989. The post-communist transformation is thus sometimes referred to as the post-November period.

Table 2: Average percentage of votes for ANO in the 2021 election to the Chamber of Deputies of the Parliament in three types of regions according to terciles of left-behindness dimensions

	Regional left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	32.4 %	32.6 %	30.1 %
Average	28.6 %	27.8 %	30.2 %
Overperforming	25.7 %	26.1 %	26.4 %
ETA squared	0.368	0.370	0.155

Note: Share of ANO in CZ is 27.1%.

Source: own calculation.

Table 3: Average percentage of votes for ANO in the 2021 election to the Chamber of Deputies of the Parliament in different types of regions according to the multiple left-behindness typology

Multiple Left-Behindness typology	ANO, 2021
low economic prosperity – high social exclusion – low expansion	34.2 %
low economic prosperity – high social exclusion	34.4 %
low economic prosperity – low expansion	26.8 %
high social exclusion – low expansion	30.2 %
low economic prosperity	28.8 %
high social exclusion	28.3 %
low expansion	27.0 %
integrated	26.8 %
ETA squared	0.464

Note: Share of ANO in CZ is 27.1%.

Source: own calculation.

All classifications perform pretty well as factors underlying of electoral results for the party ANO. The dimensions economic performance and social exclusion are most strongly associated with the electoral outcomes. The multiple left-behindness typology explains 46% of the variance. However, by far the best results are achieved by a regression model with individual dimensions of left-behindness in their original form before categorization. Such a model explains 74% of the variance in voter support for ANO (see Table 4).

Table 4: OLS regression, effects of left-behindness dimensions on average percentage of votes for ANO in 2021 election to the Chamber of Deputies of the Parliament

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.357	.022		16.482	.000
	Economic prosperity	-.001	.000	-.442	-5.724	.000
	Social exclusion	.000	.000	.549	8.779	.000
	Relative expansion	-.005	.004	-.100	-1.282	.204

a. Dependent Variable: vote share of ANO, $R^2=0.74$

Source: own calculation.

6.1.2 SPD

In 2013 the Czech–Japanese entrepreneur Tomio Okamura founded the party Úsvit přímé demokracie (the Dawn of Direct Democracy) which reestablished itself in 2015 under the new name SPD (Svoboda a přímá demokracie - Freedom and Direct Democracy) by initiative of its chairman Tomio Okamura after his conflict with the majority of other members about party leadership. The SPD can be classified as a right-wing populist party, focused on anti-establishment rhetoric, xenophobia and anti-immigrant attitudes, Euroscepticism, and direct democracy. In Parliamentary elections in 2017 and 2021 the party gained 10.6% and 9.6% of votes and is part of the parliamentary opposition.

Table 5: Average average percentage of votes for SPD in the 2021 elections to the Chamber of Deputies of the Parliament in three types of regions according to terciles of left-behindness dimensions

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	11.9 %	12.1 %	11.7 %
Average	10.3 %	9.9 %	10.6 %
Overperforming	8.8 %	9.0 %	8.7 %
ETA squared	0.310	0.337	0.306

Note: Share of SPD in CZ is 9.6 %.

Source: own calculation.

Table 6: Average average percentage of votes for SPD in 2021 elections the Chamber of Deputies of the Parliament in different types of regions according to multiple left-behindness typology

Multiple Left-Behindness typology	SPD, 2021
low economic prosperity – high social exclusion – low expansion	13.4 %
low economic prosperity – high social exclusion	12.0 %
low economic prosperity – low expansion	10.0 %
high social exclusion – low expansion	12.5 %
low economic prosperity	9.3 %
high social exclusion	10.0 %
low expansion	10.5 %
Integrated	9.1 %
ETA squared	0.462

Note: Share of SPD in CZ is 9.6 %.

Source: own calculation.

Despite the overall relatively low support for the SPD in the 2021 elections, left-behindness dimensions turn out to be as good indicators as in the case of the ANO party. All three dimensions are significant drivers of SPD support. Multiple left-behindness typology explains 46% of the variance, as the ETA squared measure indicates.

OLS regression model with left-behindness dimensions explains 63% of variance of SPD support, i.e., slightly less than in case of ANO, but still a very high share.

Table 7: OLS regression, effects of left-behindness dimensions on average percentage of votes for SPD in 2021 elections the Chamber of Deputies of the Parliament

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.130	.013		10.200	.000
	Economic prosperity	-.001	.000	-.353	-3.846	.000
	Social exclusion	.000	.000	.418	5.612	.000
	Relative expansion	-.006	.002	-.258	-2.766	.007

a. Dependent Variable: vote share of SPD, $R^2=0.63$

Note: Share of SPD in CZ is 9.6 %.

Source: own calculation.

6.1.3 KSČM

KSČM – Komunistická strana Čech a Moravy (Communist party of Bohemia and Moravia) is a left-wing conservative populist party, the direct successor of the *Communist Party* that ruled before 1989, criticizing post-1989 political development and emphasizing social security issues (Havlík, 2012). The party maintains its totalitarian past but positions itself as the defender of ordinary working people against the political and business elite. Notably, *KSČM* advocated for a vote against the Czech Republic's entry into the EU, marking

it as the sole major party in the country to adopt such a stance at that time (Šaradín, 2003). After 2013 KSČM has been permanently losing voters and did not enter parliament in 2021 for the first time after 1989.

Table 8: Average percentage of votes for KSČM in 2021 elections to the Chamber of Deputies of the Parliament in three types of regions according to terciles of left-behindness dimensions

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	4.2 %	4.1 %	4.1 %
Average	4.2 %	3.9 %	4.2 %
Overperforming	3.5 %	3.9 %	3.7 %
ETA squared	0.176	0.006	0.064

Note: Share of KSČM in CZ is 3.6 %.

Source: own calculation.

Table 9: Average percentage of votes for KSČM in 2021 elections to the Chamber of Deputies of the Parliament in different types of regions according to multiple left-behindness typology

Multiple Left-Behindness typology	KSČM, 2021
low economic prosperity – high social exclusion – low expansion	4.2 %
low economic prosperity – high social exclusion	4.2 %
low economic prosperity – low expansion	4.3 %
high social exclusion – low expansion	4.3 %
low economic prosperity	4.4 %
high social exclusion	3.6 %
low expansion	3.9 %
integrated	3.9 %
ETA squared	0.064

Note: Share of KSČM in CZ is 3.6 %.

Source: own calculation.

KSČM performed poorly in the parliamentary elections 2021, and the regional differences in its support cannot be easily explained by the left-behindness typologies. The economic prosperity dimension still explains about 18 % of the variance, but the electoral differences between the most and least prosperous regions are smaller than one percentage point. And also, the complex multiple left-behindness typology does not perform as well as in case of ANO or SPD. About 27% of the variance can be explained by the OLS regression model (Table 10).

Table 10: OLS regression, effects of left-behindness dimensions on electoral results for KSČM in 2021 elections the Chamber of Deputies of the Parliament

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.058	.007		8.501	.000
	Economic prosperity	.000	.000	-.350	-2.697	.009
	Social exclusion	-1.767E-5	.000	-.117	-1.110	.271
	Relative expansion	-.003	.001	-.283	-2.146	.035

a. Dependent Variable: vote share of KSČM, R²=0.27

Source: own calculation.

6.2 Eastern Germany

In eastern Germany, we analyse the results of the 2021 parliamentary election (Bundestagswahl). In line with the PopuList project, we focus on the results of two political parties classified as (borderline) populist parties: The right-wing Alternative for Deutschland (AfD) and left-wing party DIE LINKE.²² It is important to note that there are fundamental differences between these parties. The AfD has been populist since its founding in 2013 and in recent years has shifted more and more to far-right and extremist positions that are against the German constitution (see 7.2.1), DIE LINKE is a left-wing party that, especially in eastern Germany, channels protest against policies believed to be 'unsocial'. DIE LINKE is only hesitantly labelled populist and PopuList classifies the party as 'borderline populist, borderline far left' (see 7.2.2).

6.2.1 Alternative für Deutschland (AfD)

Initially a Eurosceptic and neo-liberal party founded in 2013, the AfD – Alternative für Deutschland (Alternative for Germany) – shifted to embrace right-wing authoritarian populism, gaining traction in both western and eastern Germany. The AfD positioned itself as the main representative of critiques on immigration policies which responded to the influx of asylum seekers in 2015 and 2016. In the following years, the party underwent many personnel changes (Lewandowsky, 2018: 168) and opened up further to right-wing extremist positions (Cremer, 2021), such as xenophobia towards asylum seekers or the idea of a conspiracy to replace the 'autochthonous Germans' with 'non-Germans' (Bundesministerium des Inneren und für Heimat n.d.). Since 2020, e.g., the Office for the Protection of the Constitution has categorized the party's regional branches in the eastern German federal states of Sachsen, Sachsen-Anhalt, and Thüringen as right-wing extremist (e.g., Freistaat Thüringen Ministerium für Inneres und Soziales, n.d.) and since 2021 the party has been classified as a suspected case of right-wing extremism at federal level (Bundesministerium des Inneren und für Heimat, n.d.). The classification as right-wing extremist means that the principles of the party are not in line with the constitution of Germany. Due to the party's ongoing electoral successes, particularly in eastern Germany, the potential danger to liberal democracy is becoming apparent. A scientific explanation of the causalities of the AfD's popularity is therefore of great relevance. The bivariate associations outlined below along the typology of spatial inequalities give preliminary insights in the role of regional left-behindness for the electoral results of the AfD.

²² See: <https://popu-list.org/wp-content/uploads/2023/09/Germany.pdf> [3.2.2025].

Table 11: Average regional percentage of votes for AfD in eastern Germany in the federal election 2021 according to terciles of left-behindness dimensions

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	23.0 %	20.1 %	24.1 %
Average	24.0 %	20.1 %	23.8 %
Overperforming	17.6 %	24.7 %	16.8 %
ETA squared	0.249	0.147	0.359

Note: Share of votes for AfD in Germany (whole country) is 10.4 % and in eastern Germany 20.5 %.

Source: Results of the federal election 2021 in Germany (Die Bundeswahlleiterin 2024); own calculation.

Table 12: Average regional percentage of votes for AfD in eastern Germany in the federal election 2021 according to multiple left-behindness typology

Multiple Left-Behindness typology	AfD, 2021
low economic prosperity – high social exclusion – low expansion	24.3 %
low economic prosperity – high social exclusion	No region
low economic prosperity – low expansion	25.0 %
high social exclusion – low expansion	22.2 %
low economic prosperity	20.8 %
high social exclusion	16.9 %
low expansion	26.5 %
integrated	21.6 %
ETA squared	0.199

Note: Share of votes for AfD in Germany (whole country) is 10.4 % and in eastern Germany 20.5 %.

Source: Results of the federal election 2021 in Germany (Die Bundeswahlleiterin 2024); own calculation.

Support for AfD in eastern Germany is clearly negatively related to economic prosperity of the region, as well as to the level of relative expansion. Expansion over a twenty-one-year period is the most significant predictor (Table 11). The classification of eastern German regions into terciles according to the relative expansion dimension explains more than a third of the regional differences in AfD support. In contrast, the social exclusion dimension is related to AfD support in the opposite way to that which the geography of discontent suspects. AfD has less support in regions with higher poverty rates. This is mainly due to the higher poverty rates in urban areas. Poverty in cities, including Berlin, is above average in Germany, whereas the AfD support is higher in rural regions. Since a politically left-progressive attitude prevails in urban centers (and especially in Berlin),²³ this pattern could be a sign of a political-cultural effect that “immunizes” against voting for the AfD despite socio-economic problems. The multiple left-behindness typology explains less than 20% of the variance in electoral support for the AfD, significantly less than the economic prosperity or relative expansion dimension alone (Table 12). Also, AfD election results were highest in regions that experienced below-average development compared to the eastern German average.

²³ This can be seen, e.g., in the fact that in eastern Germany left-green parties (Greens, Left Party) are more popular in urban, while conservative CDU and right-wing populist AfD perform better in rural areas (Klärner/Osigus, 2021).

Regression analysis, on the other hand, explains about 54% of the variance and confirms the prominent role of relative expansion as the strongest predictor of AfD support (Table 13). A standard deviation below the eastern German mean corresponds with an increase of the vote share for the AfD by 0.6 standard deviations, which equals 3.4%. The reversed association with poverty is also confirmed, whereas no significant independent effect of economic prosperity has been proven in the regression analysis.

Summarizing the distribution, it is noticeable that the highest AfD election results are achieved with demographically as well as economically poorer developments, and at the same time relative to the eastern German average lower poverty levels. This could indicate that it is not a currently poor living situation that motivates people to vote the AfD, but the fear of decline, which is triggered by the perception of decline (or relatively poorer performance) manifesting itself spatially in the surrounding area. However, the results could also indicate that the motivation to vote for the AfD is less related to individual economic fate than to the economic fate of the nation, which voters see as being at risk (Bergmann et al., 2017) and which they might identify with, becoming visible in the surrounding area.

Table 13: OLS regression, effects of left-behindness dimensions on regional percentage of votes for AfD in eastern Germany in the federal election 2021

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.278	.033		8.502	.000
	Economic prosperity	.000	.000	-.111	-.916	.363
	Social exclusion	-.001	.000	-.340	-3.948	.000
	Relative expansion	-.041	.008	-.602	-5.063	.000

a. Dependent Variable: vote share of AfD, R²=0.54

Source: own calculation.

6.2.2 Die Linke

The party Die Linke has several predecessors. In post-war Germany, the communist party *Sozialistische Einheitspartei Deutschlands* (SED²⁴) ruled the GDR (eastern Germany with exception of Berlin (West)). With the fall of communism in 1989, the party found its successor a year later in the *Partei des Demokratischen Sozialismus* (PDS²⁵), which is considered a representative of post-communist populism trend, as an opposition against the western German elites and a populist advocate of eastern German identity (Olsen, 2019).

As a protest party, the PDS was supposed to express the opinions of people bearing the costs of German reunification and the economic transformation of the eastern German states, i.e., those who were negatively affected by the integration of the socialist East into the capitalist West (O'Loughlin et al., 2002).

Over the past 30 years, the PDS has undergone several transformations, changes in leadership and a merger with *Wahlalternative Arbeit und soziale Gerechtigkeit* (WASG²⁶), a party formed of ex-members of the German social democratic SPD in 2004/5 who criticized their policy as neoliberal. After the merger with

²⁴ Sozialistische Einheitspartei Deutschlands (Socialist Unity Party of Germany)

²⁵ Partei des Demokratischen Sozialismus (Party of Democratic Socialism)

²⁶ Wahlalternative Arbeit und soziale Gerechtigkeit (Electoral Alternative for Work and Social Justice)

WASG in 2007 the PDS changed its name to *Die Linke*²⁷ and gained more support also in western Germany (Neu, 2018: 391).

The political profile of *Die Linke* draws on socialist, feminist and emancipatory traditions. The party's policies aim to expand the welfare state in all areas, with the aim of creating a more egalitarian society through extensive redistribution from the top to the bottom. Central to the Left's ideology is the questioning of private property, although there are slight differences between the various programs in terms of the depth of state intervention and forms of control. The party tends to favor extensive state control in the economic, political and social spheres. The party's programmatic stance can be summed up by anti-capitalist, anti-fascist, anti-imperialist and anti-militarist (Neu, 2018: 386).

Internal party conflicts stem from the party's mixed ideological situation, with moderate or reformist and radical currents competing. The former current does not want to abolish the capitalist system in general, but only its "neo-liberal" excesses. Such a reform, aimed at greater regulation of market forces and redistribution of the wealth generated, is certainly possible within the framework of existing democratic institutions. Radical currents in the party, on the other hand, see liberal democracy as the guarantor and stabiliser of the capitalist system. Their goal is the social-revolutionary transformation of the political and economic order in the sense of a comprehensive democratic socialism (Decker, 2023). In 2023, long-lasting internal party conflicts led to a split when prominent *Die Linke* politician Sahra Wagenknecht announced her resignation from the party and the formation of the *Bündnis Sahra Wagenknecht (BSW)*.²⁸

In 2009, political scientists Hough and Koß (2009: 77f.) labelled *Die Linke* as populist arguing, in line with the ideational populism approach (Mudde, 2007), it repeatedly mentioned elites betraying the population at large. Today, it is disputed whether the party is populist – the PopuList has listed *Die Linke* as a borderline case since 2007 (Rooduijn et al., 2023).

Table 14: Average regional percentage of votes for DIE LINKE in eastern Germany in the federal election 2021 according to terciles of left-behindness dimensions

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	9.6 %	10.5 %	9.6 %
Average	9.3 %	10.1 %	9.4 %
Overperforming	10.9 %	9.2 %	10.7 %
ETA squared	0.107	0.063	0.069

Source: own calculation.

²⁷ Die Linke (The Left)

²⁸ BSW was finally founded and registered as party eligible for participation in elections in January 2024. Since then, BSW succeeded in several state elections in eastern Germany. Its position can be described as left-wing populist (Thomeczek 2024).

Table 15: Average regional percentage of votes for DIE LINKE in eastern Germany in the federal election 2021 according to multiple left-behindness typology

Multiple Left-Behindness typology	LINKE 2021
low economic prosperity – high social exclusion – low expansion	9.8 %
low economic prosperity – high social exclusion	No region
low economic prosperity – low expansion	9.4 %
high social exclusion – low expansion	9.4 %
low economic prosperity	9.5 %
high social exclusion	11.5 %
low expansion	10.8 %
integrated	9.7
ETA squared	0.121

Source: own calculation.

In the case of the left-wing party Die Linke in eastern German regions, the dimensions of left-behindness are not important factors explaining the regionally different support (Table 14). Their influence is rather weak, and their effects do not support the geography of discontent argument. Die Linke has somewhat stronger support in more prosperous regions and in regions with above-average expansion rate (Table 15). An obvious, albeit weak, predictor that works according to the logic of the geography of discontent is the social exclusion dimension. Support for Die Linke is slightly stronger in regions with higher rates of social exclusion. A detailed comparison with the results for the AfD shows that the regional effects behave in exactly the opposite way than in the case of the AfD. Multiple left-behindness classifications also show only weak effects. Regression analysis significantly increases the predictive ability, as it does for the other parties. The regression model explains about a quarter of the regional differences in support for Die Linke (Table 16). The most significant predictor is the degree of economic prosperity, indicating higher Die Linke support in more prosperous regions compared to less prosperous regions. Expansion then has a secondary, weak influence in the regression model. This applies in the expected way. More dynamic regions support Die Linke slightly less than stagnant and shrinking regions.

Table 16: OLS regression, effects of left-behindness dimensions on regional percentage of votes for DIE LINKE in eastern Germany in the federal election 2021

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.026	.015		1.716	.090
	Economic prosperity	.001	.000	.701	4.519	.000
	Social exclusion	2.100E-6	.000	.003	.027	.978
	Relative expansion	-.007	.004	-.278	-1.832	.071
a. Dependent Variable: vote share of DIE LINKE, R ² =0.25						

Source: own calculation.

We can note that in the case of the western German regions, the electoral support models of AfD and Die Linke come out somewhat differently than in the eastern German regions. Both parties have generally

significantly lower support in western German regions. In the case of AfD, the explanatory effects of left-behindness dimensions have the same directions as in the eastern part, but they are somewhat weaker overall (Table 27 in Appendix). In contrast, in the case of Die Linke, regional left-behindness is a stronger predictor in western Germany than in the East. In particular, the effect of economic prosperity is stronger compared to the eastern German regions. The same holds true for the positive effect of poverty. Die Linke in western Germany enjoys a significantly above-average support in the most prosperous regions, comprising predominantly from cities, especially where these cities have higher than average poverty rates (Table 28 in Appendix).

6.3 Poland

In the Polish case, we are studying the electoral results of the 2019 parliament election, focusing on two political subjects: The far-right party coalition *Konfederacja Wolność i Niepodległość*, and the national-conservative *Prawo i Sprawiedliwość* (PiS).

6.3.1 *Konfederacja*

Konfederacja Wolność i Niepodległość (The Confederation Liberty and Independence) was formed in 2019 as an alliance of several political parties and currently consists primarily of the free-market *Nowa Nadzieja* (New Hope) and the conservative-nationalist *Ruch Narodowy* (National Movement). It is a right-wing political alliance considered to be part of the radical populist right. Its ideology is socially conservative, strongly nationalist, anti-immigrant and Eurosceptic. These typically populist right stances are combined with economic liberalism and strongly pro-free market positions.

The parties that make up the Confederation did not have much electoral success on their own and it was only the alliance that allowed them to cross the electoral threshold (5%) in 2019 and, with a result of 6.8%, to gain 11 deputies in the lower house of parliament (out of a total of 460 deputies) (Litwin 2023). Nevertheless, this political alliance is an ideological and personal continuation of parties such as the Real Politics Union (*Unia Polityki Realnej*, founded 1990), the Christian National Union (*Zjednoczenie Chrześcijańsko-Narodowe*, founded 1990), the League of Polish Families (*Liga Polskich Rodzin*, founded 2001) or the Congress of the New Right (*Kongres Nowej Prawicy*, founded 2011), which had representation in the Polish or European Parliament before 2019. The latter parties on their own always obtained less than 10 percent of the electoral votes, and collectively always less than 12% (it was only in the elections to the European Parliament in 2004 that the League of Polish Families achieved a record 15.9 per cent and, together with the Union for Real Politics, 17.8 per cent). Nevertheless, the Christian National Union participated in several governing coalitions in the 1990s, and the League of Polish Families in 2005-2007 (with PiS and *Samoobrona*). When the free-market Real Politics Union, Congress of the New Right and, more recently, New Hope ran on their own, they gained the strongest support in large urban centres (young, pro-market voters). On the other hand, the national-conservative Christian National Union, League of Polish Families and National Movement independently gained the strongest support in rural areas of eastern Poland (Kowalski and Śleszyński, 2023).

Table 17: Average regional percentage of votes for Konfederacja in 2019 parliament election according to terciles of left-behindness dimensions

	economic prosperity	social exclusion	relative expansion
Underperforming	6.0 %	6.0 %	6.0 %
Average	6.5 %	6.5 %	6.4 %
Overperforming	6.9 %	6.9 %	7.0 %
ETA squared	0.103	0.103	0.154

Note: Share of Konfederacja in PL is 6.8 %.

Source: own calculation.

Table 18: Average regional percentage of votes for Konfederacja in 2019 parliament election according to multiple left-behindness typology

Multiple Left-Behindness typology	Percentage of votes
low economic prosperity – high social exclusion – low expansion	5.9 %
low economic prosperity – high social exclusion	6.0 %
low economic prosperity – low expansion	5.7 %
high social exclusion – low expansion	6.0 %
low economic prosperity	6.7 %
high social exclusion	6.5 %
low expansion	6.4 %
integrated	6.9 %
ETA squared	0.147

Note: Share of Konfederacja in PL is 6.8 %.

Source: own calculation.

The electoral support for the Polish populist party Konfederacja is to a large extent outside our assumed associations with regional left-behindness. Associations with individual left-behindness dimensions are weak and all of them point in the other direction than expected. Konfederacja is supported more in the central rather than in peripheral regions, in regions with less poverty, and in the more dynamically evolving regions. Despite its clearly radical right position within the political spectrum, it completely contradicts the presumed concentrations in left behind regions. Also, the results of a regression model, which generally performs poorly in case of Konfederacja (explained variance 13%) documents higher support in non-poor regions ranking low in the social exclusion dimension, and in the more dynamic regions (ranking better on the dynamics/shrinkage dimension). These findings call the universal validity of the central argument of the geography of discontent that populist and radical right parties enjoy increased support particularly in left behind regions somewhat into question. Konfederacja's pronounced economic right-wing liberalism, which does not necessarily appeal to voters from the poorest areas and may be more attractive to protest-minded younger voters from more prosperous regions, may be a clue to the explanation. This shows that the party has taken over from its predecessors primarily free-market voters and to a lesser extent conservative-nationalist voters.

Table 19: OLS regression, effects of left-behindness dimensions on regional percentage of votes for Konfederacja in 2019 parliament election

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.068	.005		14.327	.000
	Economic prosperity	2.796E-5	.000	.039	.620	.536
	Social exclusion	-3.165E-5	.000	-.173	-2.859	.004
	Relative expansion	.003	.001	.223	3.571	.000
a. Dependent Variable: vote share of Konfederacja, R ² =0.16						

Source: own calculation.

6.3.2 PiS

PiS – Prawo i Sprawiedliwość (Law and Justice) is a national-conservative right-wing political party and forms the core of the conservative post-Solidarity bloc. It was founded in 2001 on the basis of Porozumienie Centrum (Centre Agreement) party, which had already been active since 1990. Centre Agreement was already one of the more influential parties on the Polish political scene in the 1990s, co-forming government coalitions in 1991-1992 and 1997-2001. After 2001, however, PiS became a major political party in Poland and one of both most significant political subjects – together with, and opposed to, the Civic coalition. PiS won the parliamentary elections in 2005, 2015 and 2019, and was closely defeated in 2023. In its programme, PiS proclaimed the postulate of continuing reforms and moving away from the system created during the communist rule in Poland, and later by the alliance of post-communists and part of the post-Solidarity (liberal-left) elites. Hence the postulate of the so-called ‘acceleration’ in the early 1990s and the construction of the Fourth Republic (as opposed to the compromise Third Republic formed in the 1990s) (Nyzio, 2020; Kujawski, 2022). Controversies surrounding PiS concern its policies, which have been understood as an attack on the independence of the judiciary and the public media, i.e., dismantling liberal-democratic checks and balances. Also, its significantly nationalist and anti-immigrant rhetoric evokes controversies (Adamiak et al., 2024).

Table 20: Average regional percentage of votes for PiS in 2019 parliament election according to terciles of left-behindness dimensions

	economic prosperity	social exclusion	relative expansion
Underperforming	52.6 %	52.0 %	54.5 %
Average	49.3 %	48.4 %	46.3 %
Overperforming	41.4 %	42.9 %	42.5 %
ETA squared	0.160	0.101	0.180

Note: Share of PiS in PL is 43.6 %.

Source: own calculation.

Table 21: Average regional percentage of votes for PiS in 2019 parliament election according to multiple left-behindness typology

Multiple Left-Behindness typology	Percentage of votes
low economic prosperity – high social exclusion – low expansion	55.1 %
low economic prosperity – high social exclusion	45.5 %
low economic prosperity – low expansion	57.6 %
high social exclusion – low expansion	56.0 %
low economic prosperity	50.4 %
high social exclusion	46.2 %
low expansion	49.5 %
integrated	43.2 %
ETA squared	0.205

Note: Share of PiS in PL is 43.6 %.

Source: own calculation.

The weaker – compared to populist parties in Czechia and Germany – correlation of support for PiS with regional left-behindness may be due to the ideological nature of the party. It gains support primarily with conservative voters (Kotras, 2021; Adamiak et al., 2024), who however form a socially and spatially diverse group. On the one hand, they are likely to be economically disadvantaged, conservative voters who believe that PiS will guarantee their economic improvement. On the other hand, there are also likely to be economically better-off conservative voters who hope that PiS will reduce the influence of the left, strengthen Poland's importance on the international stage and carry out a systemic overhaul of the state (the concept of the Fourth Republic, reform of the judiciary, etc.). In contrast, less well-off voters with progressive (left-wing) views, concentrated primarily in the western part of the country, are reluctant to vote for PiS (Kowalski, 2019), further weakening the link between the left-behindness and votes for the party. Hence, perhaps the low voter turnout in less conservative left behind regions concentrated primarily in the western part of the country (Adamiak et al., 2024). This is because there is no significant populist or quasi-populist party of a left-wing nature on the Polish political scene, dominated by the conflict of PiS with the Civic Platform (Wielgosz, 2019), which would be attractive to this group of potential voters and able to reach them with its message. Meanwhile, PiS is too conservative (albeit less so than the Confederation) and PO is too associated with economic liberalism for the dissatisfied citizens with leftist views to vote for them.

Table 22: OLS regression, effects of left-behindness dimensions on regional percentage of votes for PiS in 2019 parliament election

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.656	.047		13.961	.000
	Economic prosperity	-.002	.000	-.309	-5.177	.000
	Social exclusion	9.884E-5	.000	.052	.897	.370
	Relative expansion	-.026	.009	-.175	-2.942	.003
a. Dependent Variable: vote_share_party1_last, R ² =0.21						

Source: own calculation.

7 Conclusion

At first glance, the fundamental result of the study is that the major geography of discontent argument holds true for Central Eastern Europe (eastern Germany, Poland, Czechia). Some important populist parties in these three countries receive increased support in left behind regions, whereas they underperform in the most prosperous and dynamic places. In fact, this is not surprising, as similar findings have been observed in previous research conducted in Czechia, Germany, and Poland (Suchánek and Hasman, 2022; Dvořák and Zouhar, 2023; Adamiak et al., 2024). At the same time, the study shows that these arguments cannot be used as shortcuts to explain the support for populist parties in general. We discovered in two countries a political party which can be considered populist, but whose electoral support is not driven by the left-behind regions. This concerns the left-wing populist DIE LINKE in eastern Germany, as well as the far-right populist Konfederacja in Poland.

The genuine added value of this study is that it extends our understanding of the links between left-behindness and electoral results with several important insights. It offers a conceptualization of 'left-behindness' as multidimensional framework referring to regions characterized by substandard living conditions, limited socio-economic opportunities, and development levels below the national standard. These characteristics are significantly based on the current economic conditions of the regions and their dynamics, but go beyond them to include a broader array of socially relevant aspects of the living conditions, including educational achievements, poverty, residential attractiveness and demographic dynamics.

This approach not only allows for a more nuanced description of regional disparities. Moreover, and above all, it facilitates a comprehensive interpretation of regional disadvantages within individual countries as a combination of several interacting spatial structures. It opens space for interpretations that go beyond the questions of regional polarisation and the geographical localization of disadvantaged regions. It provokes examinations how different disadvantaging aspects are related, overlapping and mutually conditioning in space.

The multidimensional approach allows for the following interpretation of left-behindness in Central Eastern Europe. In all three countries examined—(eastern) Germany, Czechia, and Poland—there is a general pattern of economically strong and growing metropolitan areas. In Germany, this is characterized predominantly by population and economic growth of the core urban regions, which only in some cases, especially in the case of Berlin, significantly benefits the surrounding areas. In Czechia and Poland, the expansion of metropolitan areas into neighbouring regions due to intense suburbanization in recent decades is more pronounced. The main metropolitan regions in Czechia and Poland have emerged as clear winners of the post-socialist transformation, highlighting a clear division between these areas and the rest of the country being left behind by them. Poland exhibits a particularly strong interconnection among economic performance, regional growth and poverty. Moreover, there is a considerable urban-rural polarization of these three dimensions. Rural areas in Poland experience relatively high levels of poverty, whereas cities tend to be socially inclusive regions. Czechia shows weaker albeit similar associations of prosperity and growth on one hand and poverty on the other, with less pronounced urban-rural distinctions. In fact, two types of Czech regions combine high levels of left-behindness in all three dimensions. On the one hand, these are rural border regions with accessibility problems, on the other hand, being left-behind accumulates in urbanized post-industrial regions. Eastern Germany presents a different structure, where poverty is only loosely linked to economic prosperity and development and tends to be concentrated in cities, a pattern that is even more pronounced in some Western European countries.

The relationship between various spatial inequalities and electoral behaviour varies in strength across different countries. There are strong associations in Czechia between regional left-behindness and electoral support for two significant representatives of populism – ANO and SPD (but it is rather weak for KSČM). Czech electoral maps strongly resemble the spatial distribution of left-behindness. In eastern Germany, the association between left-behindness and support for AfD is weaker (and for DIE LINKE it is the opposite), as well as it is in Poland for PiS. This variation in the strength of the association raises the question of why such differences exist. One possible, albeit so far not systematically examined explanation, is the form of the prevailing political cleavages within each country and the positioning of individual parties within it. Where socio-economic issues dominate the spectrum of cleavages, like in Czechia, the correlations with left-behindness (which also is basically a socio-economic structure) tend to be stronger, whereas culturally dominated cleavages, typical for Poland and for the position of the AfD in the German party system, would result in weaker associations.

It is also noteworthy that the associations between left-behindness and electoral support do not apply uniformly across all examined political parties. For instance, Poland's Konfederacja and Germany's Die Linke exhibit distinct behaviours in this context. In case of Confederation, regional left-behindness does not present a significant explaining factor. In fact, there is even a weak reversed association with increased support in prosperous and growing places. The spatial distribution of electoral support for Die Linke in eastern Germany is even completely reversed to AfD support, and higher in prosperous regions (cities). This in itself does not invalidate the argument of the geography of discontent. It does, however, point to two things. Firstly, how problematic it is to apply universal arguments for parties labelled as populist. The electorate of these parties may differ significantly from one another. The example of the Polish Confederation, which is a typical representative of a radically populist party in Poland, is symptomatic of this. Its strongly pro-market orientation, combined with the fact that the rival party PiS is able to win over the bulk of poorer conservative voters in left-behind places, concentrates its voters mainly in wealthier areas.

Another contribution of the multidimensional concept of left-behindness is the finding that different dimensions of left-behindness have varying electoral effects. There appears to be a systematic influence of economic prosperity and relative expansion, primarily capturing the contrast between metropolitan areas and their hinterlands on one hand, versus the rest of the countries—not only in terms of economic prosperity but also in terms of a significant social status hierarchy. Poverty, however, shows a less stable relationship, most notably in Germany, where it appears not to have a strong effect. There are also specific nuances in each country: economic and demographic expansion is a more pronounced effect in the case of AfD support in eastern Germany, while, e.g., prosperity plays a more critical role in Czechia for the support of ANO.

The basic findings presented in this paper provoke several questions for further investigation. These include the exploration of regional variations in political attitudes and their associations with left-behindness, a deeper look into the sources of political discontent in left behind regions, as well as the differentiation between compositional and contextual effects on electoral behaviour. Addressing these questions in the further course of the project will deepen our understanding of the complex interplay between regional inequalities and the political dynamics in Central and Eastern Europe.

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Appendix

Table 23: Factor analysis cross sectional variables, Varimax rotation (CEE countries together)

Rotated Component Matrix ^a		
	Component	
	1	2
GDP per capita 2021 in current prices	-.212	.792
Wages / Income 2021	-.121	.854
Unemployment rate 2021p	.898	-.144
Share of adult inhabitants with tertiary education 2021	-.047	.860
Share of adult inhabitants with primary education 2021	.665	-.219
Social benefits	.888	-.091
Social benefits for households with children (DE, PL)/Debt seizure (CZ)	.897	-.071
Long-term unemployment	.845	-.108

a. Rotation converged in 3 iterations.

Note: further information on the variables in Table 29.

Source: own calculation; extraction method: Principal Component Analysis; rotation method: Varimax with Kaiser Normalization.

Table 24: Factor analysis dynamic variables, Varimax rotation (CEE countries together)

Rotated Component Matrix ^a		
	Component	
	1	2
Real GDP per capita change 2001-2021 in fixed prices	.010	-.785
Unemployment change 2001-2021	.023	.771
Change in number of jobs 2001-2021	.855	-.123
Share of young population (0-15 age) change 2001-2021	.794	-.100
Population change 2001-2021	.933	.140
Migration balance 2001-2021	.895	.146

a. Rotation converged in 3 iterations.

Note: further information on the variables in Table 29.

Source: own calculation; extraction method: Principal Component Analysis; rotation method: Varimax with Kaiser Normalization.

Table 25: Pearson correlations cross sectional variables (CEE countries together)

	Wages/Income 2021	Share of adult inhabitants with tertiary education 2021	Unemployment rate 2021	Share of adult inhabitants with primary education 2021	Social benefits	Social benefits for households with children (DE, PL)/ Debt seizure (CZ)	Long-term unemployment
GDP per capita 2021 in current prices	.557**	.539**	-.284**	-.309**	-.255**	-.253**	-.235**
Wages/Income 2021		.622**	-.251**	-.235**	-.192**	-.163**	-.203**
Share of adult inhabitants with tertiary education 2021			-.168**	-.179**	-.144**	-.114**	-.166**
Unemployment rate 2021				.516**	.687**	.689**	.945**
Share of adult inhabitants with primary education 2021					.527**	.635**	.377**
Social benefits						.881**	.660**
Social benefits for households with children (DE, PL)/ Debt seizure (CZ)							.595**

Note: further information on the variables in Table 29

Source: own calculation.

Table 26: Pearson correlations dynamic variables (CEE countries together)

	Unemployment change 2001-2021	Change in number of jobs 2001-2021	Share of young population (0-15 age) change 2001-2021)	Population change 2001-2021	Migration balance 2001-2021
Real GDP per capita change 2001-2021 in fixed prices	-.228**	0.054	.090*	-.092*	-0.082
Unemployment change 2001-2021		-0.078	0.008	.098*	.093*
Change in number of jobs 2001-2021			.570**	.761**	.635**
Share of young population (0-15 age) change 2001-2021				.612**	.611**
Population change 2001-2021					.862**

Note: further information on the variables in Table 29

Source: own calculation.

Table 27: Average regional results for AfD in 2021 according to terciles of left-behindness dimensions in western Germany

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	9.4 %	8.3 %	9.9 %
Average	9.5 %	8.6 %	9.0 %
Overperforming	8.0 %	10.0 %	8.0 %
ETA squared	0.085	0.091	0.106

Note: Share of votes for AfD in Germany (whole country) is 10.4 % and in western Germany 8.2 %.

Source: Results of the federal election 2021 in Germany (Die Bundeswahlleiterin 2024); own calculation.

Table 28: Average regional results for Die Linke in 2021 according to terciles of left-behindness dimensions in western Germany

	Left-behindness dimensions		
	economic prosperity	social exclusion	relative expansion
Underperforming	2.9 %	4.2 %	3.2 %
Average	2.9 %	3.4 %	3.1 %
Overperforming	4.2 %	2.4 %	3.4 %
ETA squared	0.211	0.337	0.036

Note: Share of votes for AfD in Germany (whole country) is 10.4% and in western Germany 8.2%.

Source: Results of the federal election 2021 in Germany (Die Bundeswahlleiterin 2024); own calculation.

Table 29: Data sources for the classification of regional Left-Behindness

Indicator	Description and Source		
	Czechia	Germany	Poland
GDP per capita 2021 in current prices ²⁹	Ardeco (Annual Regional Database of the European Commission)	Ardeco	Ardeco
Unemployment rate 2021	Share of registered unemployed in population 15-65 years old in %: Czech Labour Office	Share of unemployed in the civilian labor force in %. INKAR*	Registered unemployment rate in % Statistics Poland
Real GDP per capita change 2001-2021 in fixed prices	Ardeco	Ardeco	Ardeco
Change in number of jobs 2001-2021	Change in number of working places in the region reported by employers, in % Czech Ministry of Finance	Change in number of jobs with social security contributions, in % INKAR	Change in number of jobs. The data do not include entities of the national economy with up to 9 employed persons, clergy and employed persons in budgetary units operating in the field of national defence and public safety. Statistics Poland
Unemployment change 2001-2021	Difference in unemployment rates Czech Labour Office	Difference in unemployment rates INKAR	Difference in unemployment rates Statistics Poland
Share of adult inhabitants with tertiary education 2021	Share of residents aged 15+ with tertiary education Czech Statistical Office	Share of employed persons with academic qualification INKAR	Share of population aged 13 years and more with tertiary education Statistics Poland

²⁹ GDP based indicators are only available for NUTS3 regions. This corresponds with the Kreis-level in Germany. In Czechia and Poland, NUTS3 figures are used as proxies instead of figures for Powiat and Okres.

Indicator	Description and Source		
	Czechia	Germany	Poland
Share of adult inhabitants with primary education 2021	Share of residents aged 15+ with primary education Czech Statistical Office	Share of employed persons without professional qualification INKAR	Share of population aged 13 years and more with primary education Statistics Poland
Wages / Income 2021	Average salaries and wages of socially insured employed persons according to place of residence. Czech Social Security Administration	Wages and salaries of employed workers paid by resident economic units (establishments) before deduction of payroll taxes and employees' social contributions, as well as benefits in kind provided to workers free of charge or at a reduced price. Statistical Offices of the Federal Government and the Länder	Average monthly gross wages and salaries. The data concern entities of the national economy with 10 or more employed persons and budgetary sphere units, regardless of the number of employed persons. Statistics Poland
Long-term unemployment	Share of registered unemployed over 12 months, in population 15-65 years old Czech Labour Office	Share of unemployed for 1 year and longer in the civilian labor force. INKAR	Registered unemployed persons out of job for longer than 1 year in percent of the workforce Statistics Poland
Social benefits	Share of residents in households receiving the basic social benefit to reduce poverty „Příspěvek na živobytí“. Czech Ministry of Labour and Social Affairs	SGB II quota. Proportion of employable and non-employable beneficiaries under SGB II among residents under 65 years of age in %. INKAR	Beneficiaries of social assistance at domicile according to criterion of income Statistics Poland
Social benefits for households with children		Non-employable SGBII benefit recipients under 15 years of age per 100 inhabitants under 15 years of age INKAR	Beneficiaries of social assistance at domicile in preworking age according to criterion of income Statistics Poland
Debt seizure	Share of residents under official debt seizure schemes. Chamber of Executors	--	--

Indicator	Description and Source		
	Czechia	Germany	Poland
Population change 2001-2021	Population growth between 2011 and 2021 in % Czech Statistical Office	Population growth between 2011 and 2021 in % Destatis	Population growth between 2011 and 2021 in % Statistics Poland
Migration balance 2001-2021	Average yearly balance of all registered migrations across district borders, related to 1000 residents. Czech Statistical Office	Average yearly balance of all registered migrations across district borders, related to 1000 residents. INKAR	Average yearly balance of all registered migrations across district borders, related to 1000 residents. Statistics Poland
Share of young population (0-15 age) change 2001-2021	Difference in share of population under age 15 Czech Statistical Office	Difference in share of population under age 15 Destatis	Difference in share of population under age 15 Statistics Poland

*INKAR (=Laufende Raumbbeobachtung des BBSR - INKAR, edited by Bundesinstituts für Bau-, Stadt- und Raumforschung (BBSR), Bonn [<https://www.inkar.de/>])

Source: own compilation

Table 30: Selected political parties participating in the national parliamentary elections in the Czechia (2021), Germany (2021), and Poland (2019)

Acronym	Name of Party or Coalition	Authors proposal for classification*
CZECHIA		
ANO	Akce nespokojených občanů (Action of Dissatisfied Citizens)	Populist
ČSSD	Česká strana sociálně demokratická (Czech Social Democratic Party)	Centre-left
KDU-ČSL	Křesťanská a demokratická unie – Československá strana lidová (Christian and Democratic Union – Czechoslovak People's Party)	Centre
KSČM	Komunistická strana Čech a Moravy (Communist Party of Bohemia and Moravia)	Far left, Populist
ODS	Občanská demokratická strana (Civic democratic party)	Centre right
SPD	Svoboda a přímá demokracie (Freedom and Direct Democracy)	Far right, Populist
STAN	Starostové a nezávislí (Mayors and Independents)	Centre
TOP09	Tradice, Odpovědnost, Prosperita (Tradition, Responsibility, Prosperity)	Centre right
GERMANY		
AfD	Alternative für Deutschland (Alternative for Germany)	Far-right, populist
CDU	Christlich Demokratische Union (Christian Democratic Union)	Centre-right
CSU	Christlich Soziale Union (Christian Social Union) – CSU is a regional party which only competes in the state of Bavaria, where CDU does not compete. In the national parliament CDU and CSU form a joint parliamentary group	Centre-right
Die Linke	Die Linke (The Left)	Far left
FDP	Freiheitlich Demokratische Partei (Liberal Democratic Party)	Centre-right
Grüne	Bündnis 90/Die Grünen (Alliance 90/The Greens)	Centre-left
SPD	Sozialdemokratische Partei Deutschlands (Social Democratic Party of Germany)	Centre left
POLAND		
KO	Koalicja Obywatelska (Civic Coalition) - consisting primarily of Platforma Obywatelska (Civic Platform), Nowoczesna (Modern) and other several minor parties	Centre
Konfederacja	Konfederacja Wolność i Niepodległość (Confederation Freedom and Independence)	Far-right, populist
Lewica	Lewica (Left) – coalition of Nowa Lewica (New Left) and Lewica Razem (Left Together)	(far) left, partly populist
PiS	Prawo i Sprawiedliwość (Law and Justice Party)	Centre-right
PSL	Polskie Stronnictwo Ludowe (Polish People's Party)	Centre or Centre-right

*Identification of populist parties based partly on The PopuList, <https://popu-list.org/wp-content/uploads/2023/09/The-PopuList-3.0-short-version.pdf>, see also: <https://popu-list.org/>

Source: own compilation.

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