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The rise of AfD in Germany: A spatial econometrics approach
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Abstract

The purpose of this paper is to examine the possible macroeconomic parameters that give rise to Eurosceptic, far-right phenomena. We focus our analysis on the case of "Alternative für Deutschland" and, more specifically, on the 2019 European parliament election results. Methodologically, we use a spatial econometrics approach to overcome some methodological limitations of a typical OLS model and in order to examine possible "spillover" or indirect effects. From a theoretical point of view, we stress the "losers of modernization" or "losers of globalization" theory for which we find evidence to support while, we also control for other typical parameters that they possibly contribute to the rise of the far-right, such as age, proportion of foreigners or rurality. Finally, we compare our results for AfD with traditional democratic powers in German polity such as the CDU/CSU, the Die Linke and the Grüne in order to understand the distinctive elements of the far-right populism.

Introduction

When Erich Fromm, the famous German psychiatrist and sociologist, decided to write about his experience during the Nazi regime in Germany, he pointed that "When Fascism came into power, most people were unprepared, both theoretically and practically. They were unable to believe that man could exhibit such propensities for evil, such lust for power, such disregard for the rights of the weak, or such yearning for submission. Only a few had been aware of the rumbling of the volcano preceding the outbreak." (Fromm 2021). His words indicate that the rise of the European far-right which, during the last years, has passed the establishment period in the union and tends to be set as normality (Arzheimer & Berning 2019) must not find us unprepared once again. The success of the Front National in France, the VVP in the Netherlands, the Sweden Democrats in Sweden or the Fidesz party in Hungary should, by now, have rang a bell to every political power of the democratic spectrum.

In Germany, the party "Alternative für Deutschland" (hereafter AfD) which was created in 2013 and by 2017 had managed to be the third power in Bundestag, condenses the typical characteristics of a radical, right-wing party (hereafter RRP) namely populism, nativism and authoritarianism (Mudde 2004). The purpose of this paper is to examine the possible socioeconomic parameters that give rise to these extremist phenomena. The novelty of our study derives from its methodological framework. We follow a spatial econometrics approach not only to enrich our theoretical knowledge on the field of political geography by inserting the parameter of space but; to also overcome some methodological limitations which were not extensively discussed in previous quantitative studies (Schwander & Manow 2017; Franz et al., 2018). Finally, as we combine a voting behavior research question within a spatial econometrics framework we recognize a possible difficulty for the reader to follow our approach. We consider therefore necessary, before continuing to the corpus of our research, to try to provide a clear yet synopsized theoretical framework of the AfD profile in order the reader to obtain a holistic view on the subject.

Theoretical background

The parameters that drive people vote for extremism and, more specifically towards far-right political powers, have been a matter of research for many decades. Economists (Kalecki 1943), political scientists (Adorno et al., 2019) or psychiatrists (Reich 1970) have added different perspectives and have paved new ways in scientific literature trying to reveal the roots of these phenomena, either form a macro- micro or from a demand-supply angle. What has still not received the proper attention, given its significance, is the analysis of the importance of space in these processes. In a very influential paper, Rodriguez-Pose (Rodríguez-Pose 2018) presented the idea that the "places left behind" or "places that don't matter" may have a higher propensity towards the so-called anti-system or reactionary voting behavior, what far-right really is. He suggested that the academia had pretty much failed to identify this territorial polarization, places of long-term economic deprivation from the one side and places of long-term growth from the other, and he identified four main reasons for this. At first, the study of agglomeration phenomena, the Holy Grail for urban economics, had overwhelmingly focused on the "wrong" negative externalities (e.g congestion cost, high land prices) of the leading urban centers while; they had failed to grasp the parallel long-term economic deprivation, brain drain or deindustrialization processes of the less densely populated areas. Secondly, the economists had mostly focused on interpersonal inequality while little attention had been put on interregional inequality. According to Rodriguez-Pose, it was not simply the poorest layers of society that voted for Brexit, Trump or Marine Le Pen but those who had experienced a chronic-persistent poverty and economic or social decadence. Thirdly, academics had axiomatically pre-assumed perfect labour mobility. A gradual technocratization of economics and a dogmatic belief that individuals necessarily respond to market signals under a barren and simplistic profit-maximization logic, misguided researchers to overestimate the willingness of people to move elsewhere. Sociological explanations of migration such as the "sense of place" (Hay 1998), the sentimental bonds of people with places based on non-economic reasons, had been overseen by the mainstream narrative. Finally, by giving the messianic role for economic development to urban centers, policy makers had underestimated the potential of less developed regions. This did not only condemn people living in these areas to low- or middle-income trap but it also intensified the "left behind" sentiment, the perception that the central governance had abandoned them, providing a fertile ground for extremism to bloom (Rodríguez-Pose 2018).

In the European context it is difficult to conceptualize the causes of the recent rise of the far-right separated from the rise of Euroscepticism. Without being utterly identical, in a sense that not every Eurosceptic party or movement is necessarily a far-right one, we could safely claim that every far-right phenomenon expresses some sort of Eurosceptic positions, in a soft or less soft form. This far-right Euroscepticism had been mainly expressed through the scapegoating of Euro mainly because of its symbolic position as the basis of the European integration and less because of any possible monetary concerns of whether or not Euro had constituted an optimal currency area. The main claim of this anti-Euro rhetoric was the common currency had provided uneven political power to a small group of powerful states and bureaucratic institutions, what Eurosceptics disparagingly named as "Eurocracy" (Borzel 2016).

Consequently, our study should be seen not only as the analysis of the macro-economic conditions that give rise to a particular far-right party, such as the AfD, but also as a more holistic and indicative approach of the far-right Euroscepticism in general which is highly likely to apply uniformly to most of the populist Eurosceptic parties across the EU. Before continuing to the analysis of the common characteristics of the European RRP, we provide a synopsis of our case study: the AfD in Germany.

The party

AfD was established in 2013, a national election year, during which it received the impressive 4,7% of the votes; a share which was though not sufficient to make it to Bundestag. Despite its current status, AfD was not initially introduced as a typical RRP but rather as a conservative disputer of Chancellor's Merkel right-wing CDU/CSU (Dilling 2018). It initially combined soft-Euroscepticism with economic liberalism (Schmitt-Beck 2017; Arzheimer 2015) and it soon become known as "the party of the professors" due to the synthesis of its politburo by university professors of Economics and because of the high societal status of their average voter profile (Kroh & Fetz 2016).

Despite the gradual internal corrosion of the party, the radicalization of the party coincided with Chancellor's Merkel decision in 2015 to suspend the Dublin's Regulation and to permit entrance to Germany to almost one million asylum seekers (Arzheimer & Berning 2019). This led to a de facto split of the party and a rapid turn to extremism, mainly expressed as a vision for the Orbanization of Europe through a scheme which main characteristics were xenophobia, particularly expressed as Islamophobia, and nativism (Hansen & Olsen 2019).

After the split, there was also a turn to the audience to which AfD was referring. The party gradually focused and promoted an anti-globalization narrative as the "people", silently implying the low-skilled Germans who were most affected by the globalization and labor market changes and who were most deepen into the economic deprivation, were the "globalization-losers" (Wurthmann et al., 2020) which should be paternalistically protected by an ethno-centric government (Wurthmann et al., 2020). This final dipole between "the people", the globalization losers, and the "others", either the globalization winners -the elite- in socioeconomic terms or the asylum seekers in sociocultural terms, introduces us to the first characteristic of the post-2015 AfD: populism.

Populism

Populism is neither a new phenomenon nor a symptom of a political decadence of modernization. In his book "Historiae", Thucydides comments on Athenian Democracy and its leader Pericles in the following way "λόγῳ μὲν δημοκρατία, ἔργῳ δὲ ὑπὸ τοῦ πρώτου ἀνδρὸς ἀρχή"[1] (Connor 1984) while Plutarch describes Pericles as "a leader devoted to people contrary to his nature which was fundamentally not democratic" (Moles 1992). These sources allow us to define the outline of a proto-populist leader; a charismatic yet demagogic icon who is able

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[1] The regime is called Democracy but, in reality, it is one man's (Pericles') will.

to synchronize and present his inner will or vision as peoples' and thus, to "rule without a crown". We can consequently claim that, despite a common belief, populism was and is a rather common and diachronic phenomenon. But which is the most contemporary form of populism?

More recently, many scholars define the early 1990s as the establishment period of populism as a normality in the European political arena; mainly derived from RRPs typically presented as a reaction to the mainstream Thatcherian TINA[2] rhetoric (Mudde 2019). Lately, RRPs have indicated a rise across the EU, mainly levered by the European financial crisis and later followed by the 2015 "refugee crisis" (Mudde 2019).

In the post-2000 scientific literature on populism, we can identify three (3) major academic perceptions of populism (Aslanidis 2016). At first, Cas Mudde defines populism as a "thin-centred" ideology which perceives society in a Manichean way; the "people", a class of homogenous interests, versus the "elites", a mass of corrupted and anti-social aspirations which rules contrary to the *vox populi[3]* (Mudde 2004). This rhetoric considers the "people" marginalized and excluded from the decision-making processes which remains on the hands of the elites; the elites which are axiomatically, for the populist narrative, characterized by a rentieric, opportunistic and anti-patriotic mentality. Contrary to a common belief, the RRW are not openly against democracy. They promote what they consider as a direct democracy and they focus their critique to liberal democracy, especially to minority rights which is a fundamental pillar of western societies together with popular sovereignty and majority rule (Mudde & Kaltwasser 2012). On the other side, some scholars appear reluctant in defining populism as an ideology, even a "thin-centred" one, and they more perceive it as a *terminus technicus[4],* as a scheme of political rhetoric targeting the sentimental or phobic reflexes of the audience (Hawkins 2009). A major objection that they raise about the ideological profile of populism, is the matter of degreeism (Aslanidis 2016). Every ideology is per se absolute. You either consider yourself a Marxist or you do not; The question "how much Marxist you are" has, in principle, no sense. A final group of academics considers populism as a purely opportunistic and as such a conscious strategic decision of parties with main and only goal the maximization of votes (Rydgren 2005). This study categorizes itself within the first group of scholars. The "thin-centered" group, recognizes unique and qualitatively distinctive characteristics in different populist phenomena. But, if we accept that we can identify different levels and forms of populism, then this means that we can identify the phenomenon within the whole range of the political spectrum.

Therefore, it is vital to be stressed that populism is a "passepartout" or a "host-ideology" (Huber & Ruth 2017). As it does not form an ideology per se, it follows a parasitic or chameleonic co-existence with true ideologies (Taggart 2004). Consequently, left-wing populist parties or movements such as Syriza in Greece or Chavism in Latin America combine socialistic ideas

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[2] There Is No Alternative
[3] Literally: Peoples' voice, indicates the will of the people.
[4] Technical term

with a populistic rhetoric while the AfD in Germany, the Fidesz party in Hungary and Front National in France combine nationalism with typical populistic clichés.

Nevertheless, we should keep in mind the qualitative elements that distinct populist movements. The prementioned dichotomy between "the people" and "the elites" is not per se a safe criterion to characterize a political thesis as a populist one. The existence of elites it is a fact and so it is the opposing interests that these elites have with the vast majority of the "non-elites". It is the moral parameter of populism that defines it as such. The populism claims that "the people" should rule because those are necessarily pure or honest. On the contrary, the elites should be excluded from the power because they are all utterly corrupted; there are no exclusions in these categories, homogeneity rules. A typical example of this characteristic of populism, which makes things clearer, is the typical case of a political leader who claims that "all politicians are corrupted" without, apparently, understanding the fundamental contradictio in adiecto[5] of this thesis.

Nativism

The nativistic narrative is a common element of all RRPs. It is based on an ethnocentric mentality of a nation-state which considers the nonnatives as an imminent threat to the historically homogenous corpus of the nation (Richardson & Wodak 2009). Academically, nativism has been used to explain the, historically observed, high impact of the RRPs in rural, typically more ethnically homogenous in terms of population, areas which had been traditionally been promoted as the righteous side of a moralistic dipole of "pure"-indigenous rural population against the metropolitan, globalized and corrupted elites (Mudde 2004). In its most modern form, nativism has taken the form of Euroscepticism but not necessarily expressed as anti-integration imperative but rather as a radicalization or as an "Orbanization" of Europe under the imminent Islamic threat which requires a drastic Christian European response (Mudde 2019; Fabry 2019).

Authoritarianism

The last part of the "holy trinity" of the RRPs is authoritarianism. Authoritarianism can be described as the deep belief to a top-down, hierarchically strict order of society and can be found from typical conservatism to communism (Mudde 2010), while its roots may be even traced back, to a more egalitarian form, to Plato's Politea and his idea of given social roles for every citizen. For the European far-right, authoritarianism is mainly expressed through the messianic role of the leader and the deep and absolute belief to the political wisdom of her/his decisions. In summary, we would say that the absolute obedience to the leading figure combined with the denial of any critique of central bureau decisions synopsize the strong belief on a strictly hierarchical society in which each one has a role to play is a typical characteristic of AfD's authoritarian profile (Gandhi & Lust-Okar 2009).

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[5] antiphasis

Hypotheses

In order to examine the objective or socioeconomic macro variables that shape the voting towards AfD , we have formulated to stress the following three basic hypotheses.

H1. Far-right voting is related with low economic performance and a lack of potential. This is captured by the unemployment rate, the disposable income per capita. Furthermore, the "losers of modernization" or "losers of globalization" hypothesis indicates that the regions "left behind" have a higher propensity towards RRP voting; this is mostly captured by the degree of tertiarization.

H2. Based on the radicalization of AfD after 2015 and the refugee crisis that mobilized the anti-immigration social reflexes, we expect that regions with higher percentages of foreigners to indicate higher percentages towards far-right.

H3. Finally, socio-demographically, far-right voting has been related to a low education level but also with elderly populations. Those factors are captured by the variables "school leavers" and "population over 55".

Methodology & Data

Why Spatial Econometrics?

A central element of our study that needs to be addressed is why we chose to use a spatial econometrics approach instead of the typical and commonly used ordinary least square (OLS) one. The answer lies on two reasons, one methodological and one theoretical.

The methodological argument

On the methodological argument side, one of the assumptions for the proper use of an OLS model is that its residuals are independent and identically distributed (i.i.d) (Casella & Berger 2021) or simply put, that there is no spatial autocorrelation among the residuals of the regression. When this assumption is not taken into account, we get downward-biased standard errors, higher t-ratios and thus significant results without being necessarily significant. It is a type I statistical hypothesis testing error (Lann 1959). To stress this assumption with our dataset, we run an OLS model and afterwards we map the local & global Moran's I spatial autocorrelation indicators of the OLS residuals presented in Figures 1, 2 & 3.
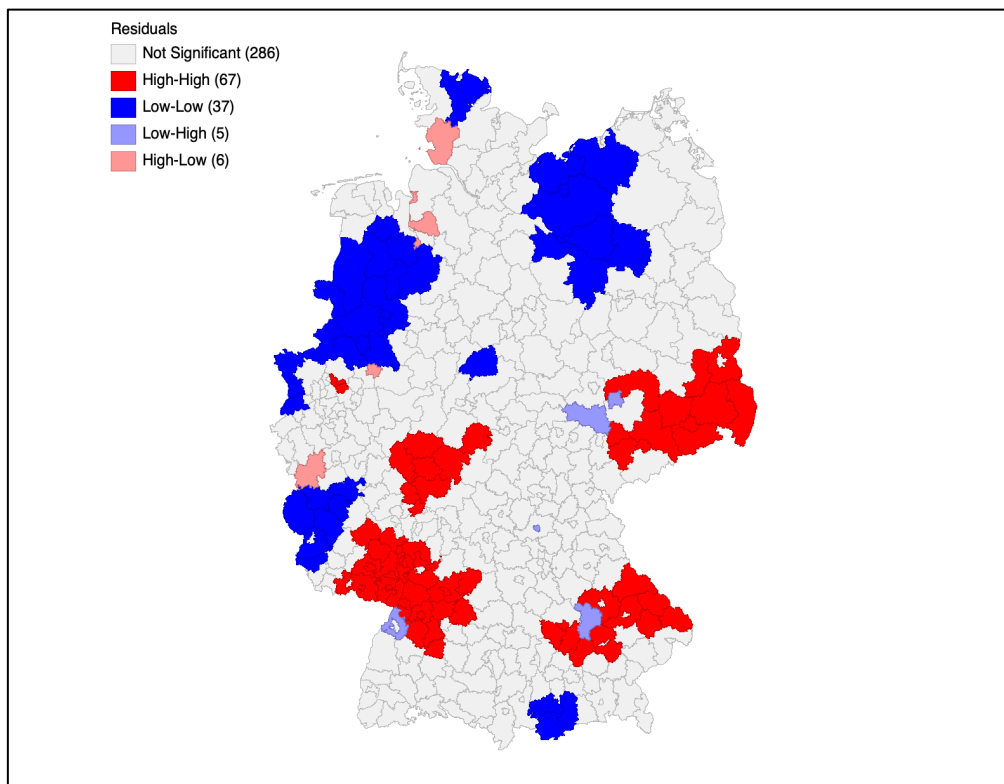
Figure 1. Local Moran's I of the OLS residuals
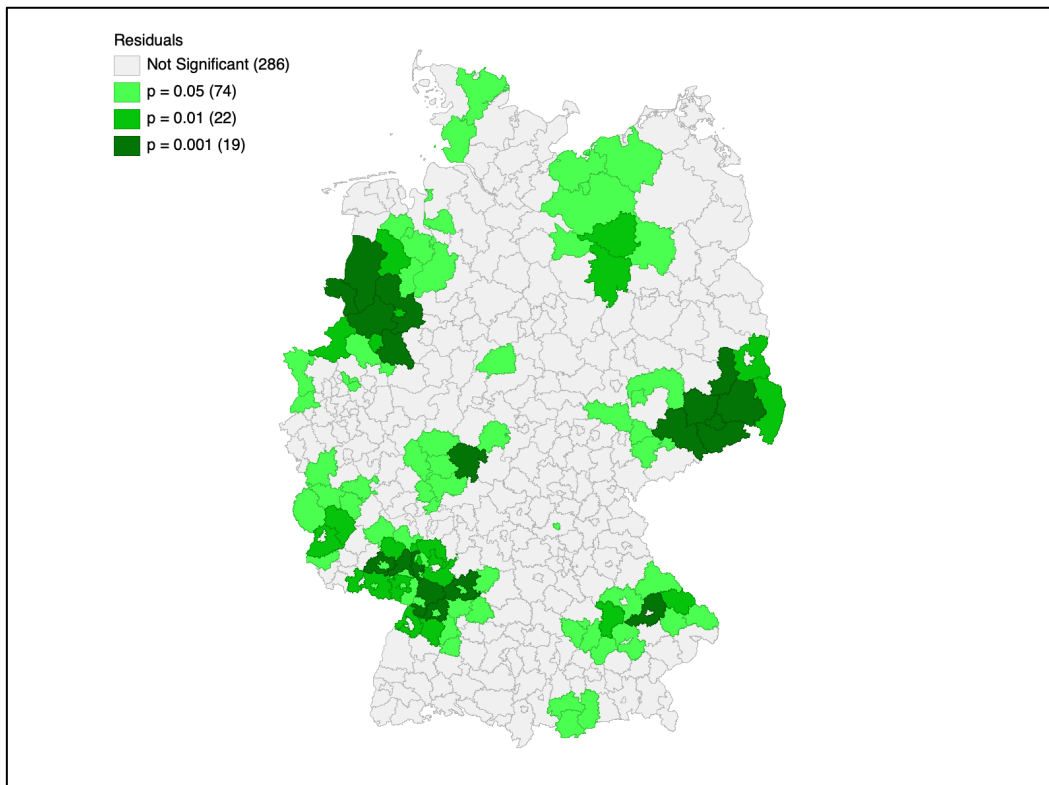
Figure 2. Local Moran's I statistical significance

In figures 1 & 2 we present the LISA[6] Moran's I indicator (Anselin 1995) of the OLS model in order to examine the scenario of clustered residuals which would violate the i.i.d principle of the OLS regression. We identify the presence of spatial autocorrelation of the residuals and, more specifically, the hot-spots (a high number surrounded by high numbers) and the cold-spots (a low number surrounded by low numbers). Furthermore, at figure 3 we present the global Moran's I which again indicates a strong spatial autocorrelation of 0,505.

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[6] Local Indicators of Spatial Association
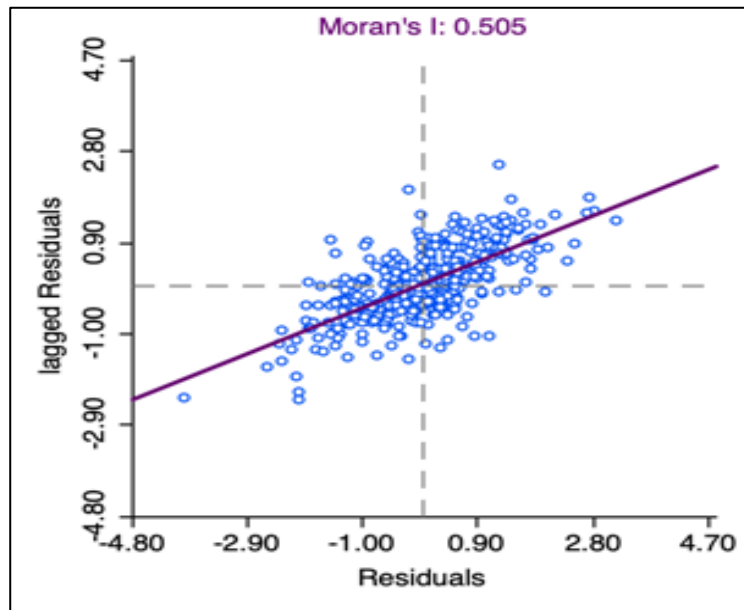
Figure 3, Global Moran's I

On the X axis of Figure 3 there are the values of the OLS residuals while on the Y axis there are the spatially lagged values of the residuals. The linear line indicates that the high-values are located next to high values while the low values next to low ones. Finally, we use 99.999 permutations of the values of the residuals in order to create the random distribution in Figure 4. Simply put, we drop the values of residuals that we have at random on the map as dice. This procedure is done 99.999 and thus we get a very detailed random distribution. What we observe, is that the green line which represents our true distribution falls far away from the random distribution. This, in turn, implies that our spatial distribution of residuals could not have occurred at random and that the spatial autocorrelation is indeed an issue which makes an OLS model not a wise selection for our dataset.

permutations: 99999
pseudo p-value: 0.000010

I: 0.5048   E[I]: -0.0025   mean: -0.0025   sd: 0.0335   z-value: 15.1597

Figure 4. Random distribution. (99.999 permutations)

The theoretical argument

On the other side, the theoretical argument for the use of spatial econometrics is twofold as we are interested in two types of interaction effects, one endogenous and one exogenous (Elhorst 2014). The endogenous interaction effect implies that we are interested in examining how the de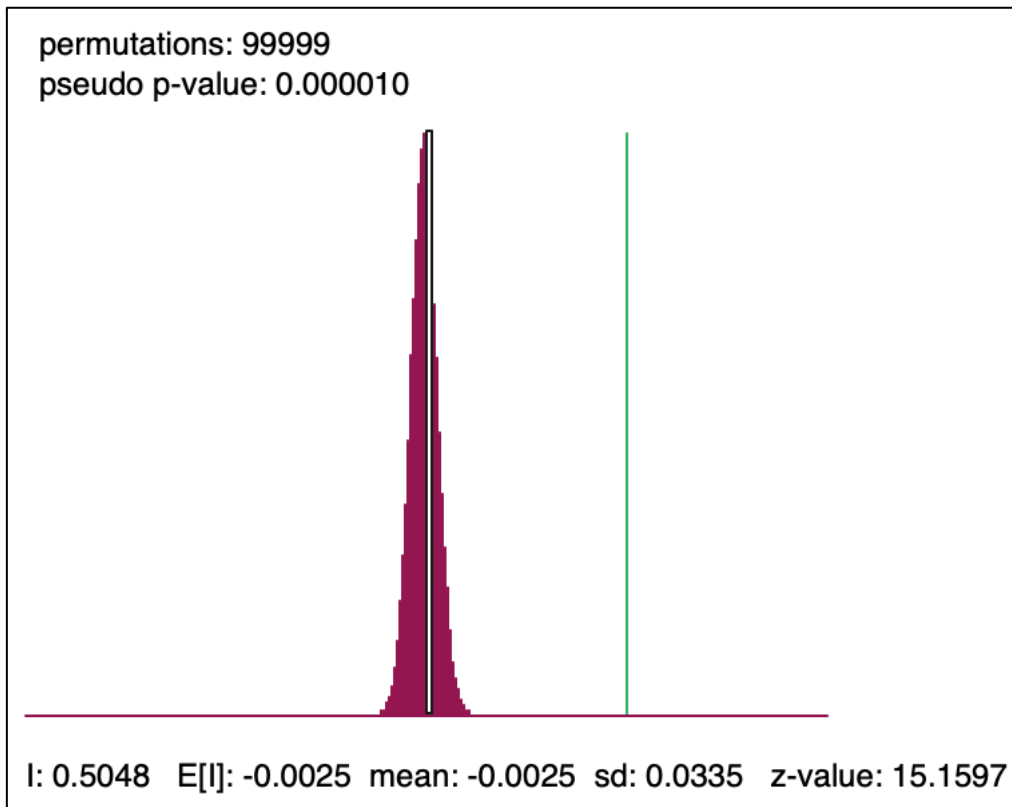pendent variable (the AfD 2019 EP share) of neighboring, to region A, regions affect the dependent variable of region A. The exogenous interaction effect, on the other hand, describes an interaction between the independent variables of the neighboring regions and the dependent variable of region A. A straightforward example of the exogenous interaction effect would be the effect of the unemployment rate of region B on the AfD 2019 EP share in region A. These effects are also known as indirect or "spillover" effects (LeSage & Pace 2009). In a nutshell, we could say that the basic theoretical advantage that spatial econometrics offer is the examination of existing spillover effects, thus, the possibility that space or geography matters (Elhorst 2014) and that the regions are not, as far as the political geography is concerned, "floating islands" (Fujita & Mori 2005) .

The W matrix

A crucial element in the use of spatial econometrics is the specification of the W matrix as it is the W that defines the value and the significance of the interaction parameter (Elhorst 2014). Simply put, the W matrix indicates the spatial arrangement (or connectiveness) of the units, the structure of the neighbors (Anselin & Hudak 1992). Despite some important contributions for a statistical procedure of selecting the most likely W matrix through the use of Bayesian posterior probabilities (Yesilyurt & Elhorst 2017), the selection of the W matrix is still pretty

much mainly derived based on theoretical reasons although also theory has often little to offer in regards to the most proper W. In our study, we have selected to use a first order binary contiguity matrix which was row-normalized so that each row sums to one. This, we could say, is the simplest topological arrangement that we could possibly choose. The selection of this matrix serves a basic thesis that no strong assumptions for the W should be drawn without a convincing theoretical argument (Beck et al., 2006) while its normalization indicates that the row elements of W represent the impact on a unit by all the other units, an impact which cannot be larger than one (Elhorst 2014). The summary of the spatial weights matrix W is included in the appendix.

The model

Another question that needs to be addressed, it concerns the selection of our spatial econometrics model. Following Elhorst's classification (Elhorst 2014), we can see that starting from a typical OLS model on the right hand-side of the diagram 1 and adding different parameters, we can generate the General Nesting Model (GNS) which includes all the possible interaction effects[7].
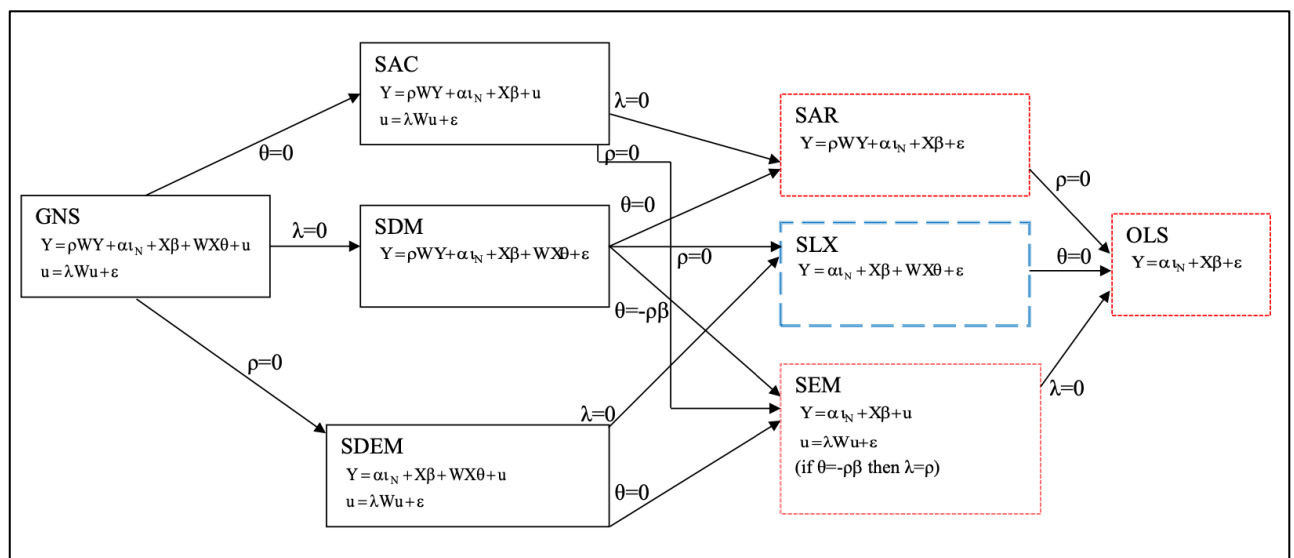
Diagram 1. Spatial Econometrics Models, Source: (Elhorst 2014)

In this paper, we have selected the Spatial Durbin Model (eq.1) (SDM hereafter) both for the theoretical reasons of our study that we have pre-mentioned and because it was the most proper model to work with according to typical statistical tests. It needs to be stressed that our choice of the SDM with a sparse first order binary contiguity spatial weights matrix indicates our expectation for global spillover effects. Naturally, we would expect that as the RRW parties' narrative is fundamentally generic and "external", because it refers to incidents that do not necessarily take place near to the particular regions in which they are referring to and they do not provide solid evidence to support the political narrative. Drawn from the dichotomy "we

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[7] Interaction effects between A) Dependent variables, B) Dependent-Independent and C) Error terms

vs they", we expect that a change of one of our variables in a spatial unit to have an effect in every other unit even to regions not directly connected (Elhorst 2014).

$$Y = \delta WY + \alpha \iota_N + X\beta + WX\theta + \varepsilon \qquad eq.\ 1$$

For the selection of the SDM, we have used the LR-test for the nested models while, for the non-nested models (SDEM, SAC) we have based our decision on the criteria BIC[8] and AIC[9] as presented in the tables 1 and 2 respectively (Belotti et al., 2013).

Models	Prob>chi2
GNS-SDM	0,126
GNS-SAC	0,020
GNS-SDEM	0,042
SDM-SAR	0,000
SDM-SLX	0,000
SDM-SEM	0,002

Table 1. LR-tests

Models	AIC	BIC
SDM	-429,56	-361,66
SAC	-427,29	-383,36
SDEM	-427,76	-359,86

Table 2. BIC/AIC

The null hypothesis of the LR test is that the simpler-smaller model fits the data better than the more complex one. Looking at the p-values at Table 1, we can see that we reject the null hypothesis for every model nested in the SDM, making the SDM a preferred model, while; for the GNS, the more complex than the SDM, we fail to reject the null hypothesis, a result which again points towards the selection of the SDM. For the comparison between the non-nested models, in table 2, we see that again the SDM outperforms the SDEM; while, for the comparison between the SDM and the SAC, the picture remains blur. Nevertheless, as we are interested in examining the possible spillover effects, we select again the SDM as the SAC model suffers from non-resilient indirect effects. Non-resilience of spillovers, in spatial econometrics, implies that the ratio between the direct and the indirect effect is the same for every explanatory variable (Elhorst 2014), which makes the SAC not a proper model for the purposes of this study.

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[8] Bayesian information criterion
[9] Akaike information criterion

Data

In this section, we present the variables which were used for the models and their sources. Administratively, the German federal state is divided into 401 "Kreis" or regions correspondent to the NUTS 3 classification and which was the most detailed level for which we were able to obtain the necessary data. This does not mean by any sense that we compromised our model to data availability; on the contrary, the 401 spatial units that we have used in our study are considered far more than enough for a solid spatial econometrics approach. The 76 out of 401 regional units in the Eastern part of Germany were, until 1989, part of the German Democratic Republic (GDR hereafter) and within the influence of the communist regimes of Eastern Europe under the Warsaw Pact. Furthermore, 294 out of the 401 units are characterized as "Landkreis" while 107 as "Kreisfreie Stadt". For reasons of simplicity and understanding we will interpret this separation, in a following section, as the distinction between rurality and urbanity accordingly. Both the pre-mentioned administrative references will be further discussed in the results section.

With regards to the data sources, we used two main national offices. The first one was the German regional statistics "Regionaldatenbank Deutschland" which was used to obtain the 2019 EP election results, the dependent variable of our models; while the labour office "Bundesagentur für Arbeit" was used for the independent variables. While the EP election were held on 2019, the independent variables were extracted for the year of 2018 because we considered that the 2018 data would describe better the conditions under which an individual was called to vote at 2019; taking also into account that the statistics are typically released at the end of each year.

Dependent Variable

AfD 2019 European Parliament elections

The AfD officially received the share of 11% of the 2019 European parliament elections. In our study the mean differs from this number (11,62%) as the "kreis"-the regions-are given the same weights and the population differences do not affect the relative relevance of the results (Sliwa Ruiz 2019). As the dataset was only available on numbers of votes, we divided the eligible votes for each party with the total number of eligible votes and then multiplied by 100% to obtain the percentage for each party and most importantly, the AfD. In Figure 5, we present the final AfD results at the 2019 EP elections.
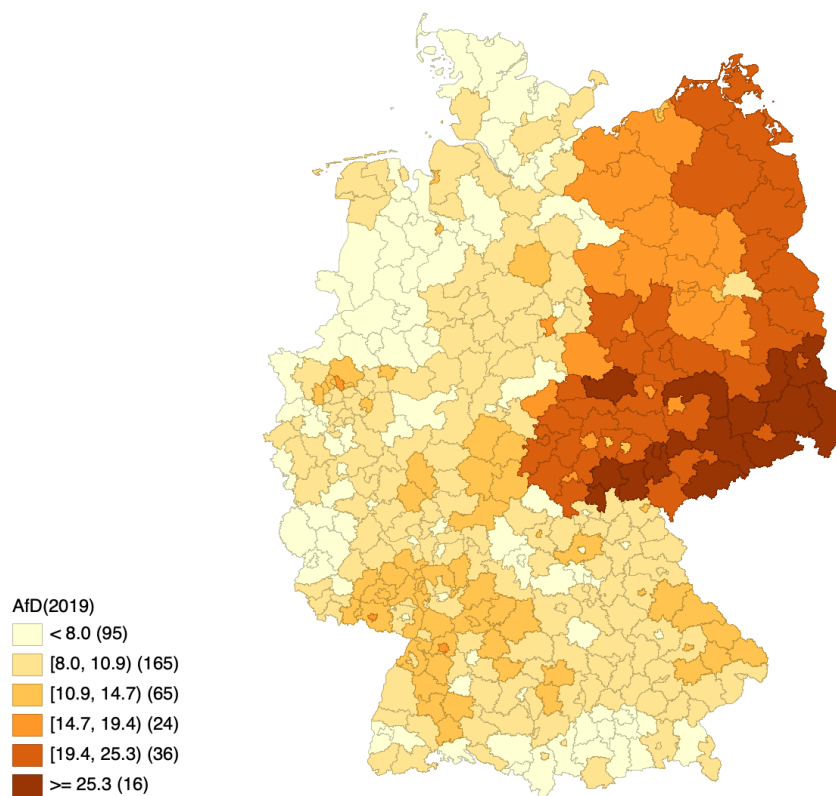
Figure 5. AfD % 2019 EP Elections

What can be clearly seen from Figure 5, is the amazingly different voting behavior between the West and the East part of Germany. This dichotomy indicates that the past division is still a present for the political mosaic of Germany. Apparently, the Eastern part, trapped in the long-term underdevelopment, mostly expressed as an insisting deindustrialization process (Frank 2008) offered the conditions for the expression of discontent via the political extremism of the far-right. Going beyond the explanation of the chronic economic decline, we should also add that, from a sociological scope, the isolationist and xenophobic policy of the communist regime of the GDR has inherited to the current eastern part of the federal state some persistent chauvinistic reflexes which, in turn, create a fertile ground for the nativistic rhetoric of AfD (Betz & Habersack 2019; Dippel et al., 2015).

Independent Variables

In this section we present the independent variables of our models. The independent variables stress the hypotheses of our research while in the Appendix, the reader, can find a detailed matrix of the descriptive statistics and a correlation matrix.

Unemployment Rate

The question whether or not the high unemployment rate is related to higher shares for far-right parties has been an old discourse. Some studies they indeed find a relation between the two

(Panagiotidis & Roumanias 2021), while others; they either claim that it is not unemployment rate itself that drives the far-right voting but rather the unemployment benefits (or the lack of it), the social security net, that determines the incline to extremism (Vlandas & Halikiopoulou 2019); or, that it is the contextual, the neighboring effect or the relative unemployment rate that gives rise to far right (Vasilopoulos et al., 2021). In this research, we believe that exactly because of this plurality of findings in regards to the role of unemployment, we should have included the unemployment rate as one of the explanatory variables. Again, it is important to be stressed that the mean unemployment rate for the former GDR for 2018 was 6,55% while for the West Germany 4,50%.

Degree of tertiarization

The degree of tertiarization, which is expressed as the ratio of employees subject to social security contributions in the tertiary sector (service sector) to the total number of employees subject to social security contributions, is used as a proxy of the modernization of the regional economy and it relates to the losers of globalization or losers of modernization hypothesis. Naturally, the higher this ratio is, the more advanced the economy is. Lower degree of modernization is linked to higher far-right shares (Golder 2016).

Disposable income per inhabitant

The disposable income of private households (annual total in €) divided by the total population seems to have an explanatory power on AfD voting (Franz et al., 2018). Again, the mean disposable income for western Germany is 23.280€ while, for the Eastern Germany is 19.952€.

Population over 55

Elderly populations are typically expected, compared to younger ones, to vote for far-right (Franz et al., 2018). A possible explanation to this could be that a climate of insecurity and Islamophobic rhetoric combined with a persistently over the years aging regional profile (probably because of immigration to urban centers) could give rise to xenophobic parties.

School leavers without a secondary school certificate

Low education level has been typically linked to far-right voting. A possible reason for this is that the lower the education level, the higher the precariousness and consequentially; the easier to vote for a party that claims to support the low-skilled natives on the job-seeking antagonism against the non-natives (Mayer 2013).

Proportion of foreigners

The proportion of foreigners is a very central variable for our research. In every research that has been published for any European country that has faced a far-right rise during the last years, the proportion of foreigners has always played a central role as it is a crucial part of the far-right populist narrative. The foreigners, as a typical scapegoat for the far-right, are seen as the outsiders that they threat both the labour market for the lower classes but that they also alienate the "pureness" corpus of the nation, the "heartland" (Mudde 2004).

Dummy Variables

Kreis: It indicates the rurality or urbanity of a spatial unit.

EastGermany: It indicates whether the region had been part of the GDP.

Results

In this section we present the results of our models. Following LeSage and Pace's advice (LeSage & Pace 2009) we will not focus our analysis, of whether or not spillover effects exist, on the coefficients estimates but; we will present the direct and the indirect effects of our models which is, a partial derivative interpretation, similar to the marginal effects of a typical OLS model. Nevertheless, the tables of the coefficients' estimates can be found in the appendix of the study. We present two models (MODEL 1 & 2) which they are different at the point that MODEL 2 includes the variable KREIS, an addition which does not alters our results drastically. The δ parameter of value 0,742 indicates that the AfD percentage in neighboring regions can be considered a good predictor for AfD voting. It is important to be stressed that, both the dependent and the independent variables are log-transformed and thus can be interpreted as elasticities. Consequently, 1% increase in unemployment rate is expected to lead to 0,143% increase in AfD share, ceteris paribus.

In regards to our hypotheses our results indicate that the first hypothesis is confirmed. We see that higher unemployment, lower income per inhabitant and lower degree of tertiarization of the regional economy are related to higher AfD voting. These indicators, especially the degree of tertiarization which is a proxy of how modern the regional economy is, are in favor of the loser of globalization or losers of modernization theory. Even more impressive is the fact that the degree of tertiarization has also a significant spillover effect. This would probably indicate that the people are able to recognize or perceive a diffused spirit of economic decadence, formulating clusters of regions or "places that do not matter" which, eventually, turn to extremism as a final shelter against the long-term economic deprivation.

	MODEL 1		MODEL 2	
Direct				
Unemployment Rate	0,143	***	0,159	***
	(0,038)		(0,039)	
Proportion of Foreigners	0,072	**	0,093	***
	(0,032)		(0,033)	
School Leavers	0,028		0,023	
	(0,028)		(0,027)	
Population over 55	1,260	***	1,209	***
	(0,121)		(0,122)	
Disposable Income/inhabitant	-0,535	***	-0,514	***
	(0,111)		(0,109)	
Degree of tertiarization	-0,392	***	-0,369	***
	(0,059)		(0,059)	
East Germany	0,621	***	0,639	***
	(0,053)		(0,053)	
KREIS				
Kreisfreie Stadt			-0,024	
			(0,027)	
δ	0,742	***	0,741	***
	(0,038)		(0,038)	
Indirect				
Unemployment Rate	0,054		-0,050	
	(0,150)		(0,150)	
Proportion of Foreigners	0,326	**	0,255	*
	(0,131)		(0,131)	
School Leavers	-0,039		-0,063	
	(0,142)		(0,139)	
Population over 55	0,089		0,494	
	(0,736)		(0,734)	
Disposable Income/inhabitant	0,614		0,774	
	(0,611)		(0,607)	
Degree of tertiarization	-0,742	**	-0,731	**
	(0,337)		(0,330)	
East Germany	0,283	**	0,247	*
	(0,131)		(0,129)	
KREIS				
Kreisfreie Stadt			0,436	**
			(0,183)	

Standard errors in parentheses
e: *p ‹ 0.05; **p ‹ 0.01; ***p ‹ 0.001

Table 3. Direct-Indirect Effects

As far as our second hypothesis is concerned, it is only merely confirmed. Interestingly, we find that it is the proportion of foreigners in neighboring regions that gives rise to a populist narrative as an external "threat" or "the fear of invasion" (Papastergiadis 2006). On the other hand, the effect of the share of foreigners as a direct effect is significantly limited indicating that the more an individual interacts with a foreigner the more, he/she develops an attitude of acceptance or at least of tolerance.

Finally, our third hypothesis is again only merely confirmed. School-leaving does not seem to have an effect on AfD voting. On the other hand, elderly population seem to have a positive relation to AfD voting behavior. This finding is very much in line with the vast majority of many sociological studies in far-right voting that elderly people vote more for far-right, populist parties (Franz et al., 2018). Furthermore, we should keep in mind that higher age could also be considered as one of the parameters contributing to the "losers of globalization" theory as younger people may tend to leave regions of chronic economic decline which, in turn, worsens the "places that don't matter" feeling.

Lastly, looking at model 2 and, more specifically, the KREIS variable we observe a very interesting phenomenon. At first, the direct effect does not seem to have a statistically significant value meaning that whether a region is urban or rural is not relevant for AfD voting. On the other hand, though, the indirect or spillover effect is positive and statistically significant. Simply put, this result indicates that if my neighboring region is an urban region, I am more inclined on voting for AfD and, looking at the map of Germany, mostly rural areas have urban neighbors. Again, this result comes to, indirectly, confirm the finding of previous studies about a distinction, on voting behavior for the far-right, between rural and urban areas (Franz et al., 2018; Schwander & Manow 2017). Furthermore, it comes to prove our expectations, that geography matters, correct.

In order to examine any possible dinstictive far-right characteristics, we also include an inter-party comparison. In Table 4 we present the Model 2 for AfD and we have also included three (3) other historical German parties in order to draw some conclusions for our variables in comparison with traditional political powers in Germany.

	AfD		CDU/CSU		DIELINKE		GRÜNE	
Direct								
Unemployment Rate	0,159	***	0,023		0,478	***	0,051	
	(0,039)		(0,135)		(0,157)		(0,151)	
Proportion of Foreigners	0,093	***	0,037		0,052		0,122	
	(0,033)		(0,112)		(0,130)		(0,125)	
School Leavers	0,023		0,021		0,083		0,076	
	(0,027)		(0,083)		(0,097)		(0,095)	
Population over 55	1,209	***	-3,696	***	-4,911	***	-5,460	***
	(0,122)		(0,402)		(0,467)		(0,450)	
DisposableIncome/inhabitant	-0,514	***	1,100	***	1,180	***	1,860	***
	(0,109)		(0,363)		(0,421)		(0,407)	
Degree of tertiarization	-0,369	***	0,270		0,679	***	1,108	***
	(0,059)		(0,183)		(0,214)		(0,208)	
East Germany	0,639	***	-0,457	**	0,950	***	-0,743	***
	(0,053)		(0,194)		(0,224)		(0,214)	
KREIS								
Kreisfreie Stadt	-0,024		-0,966	***	-0,689	***	-0,751	***
	(0,027)		(0,082)		(0,096)		(0,093)	
δ	0,741	***	0,312	***	0,358	***	0,423	***
	(0,038)		(0,063)		(0,061)		(0,058)	
Indirect								
Unemployment Rate	-0,050		0,775	***	1,003	***	1,298	***
	(0,150)		(0,231)		(0,281)		(0,294)	
Proportion of Foreigners	0,255	*	0,105		0,584	**	0,080	
	(0,131)		(0,194)		(0,240)		(0,250)	
School Leavers	-0,063		-0,406	**	0,036		0,088	
	(0,139)		(0,185)		(0,229)		(0,245)	
Population over 55	0,494		1,034		2,349	*	0,426	
	(0,734)		(1,067)		(1,311)		(1,385)	
Disposable Income/inhabitant	0,774		1,034		0,027		1,759	
	(0,607)		(0,878)		(1,077)		(1,137)	
Degree of tertiarization	-0,731	**	-0,657		-0,051		0,111	
	(0,330)		(0,446)		(0,550)		(0,586)	
East Germany	0,247	*	0,811	***	1,003	***	0,908	***
	(0,129)		(0,257)		(0,305)		(0,307)	
KREIS								
Kreisfreie Stadt	0,436	**	0,289		-0,049		0,098	
	(0,183)		(0,248)		(0,306)		(0,326)	

Standard errors in parentheses
e: *p ‹ 0.05; **p ‹ 0.01; ***p ‹ 0.001

Table 4. Direct-Indirect effect for different parties

Focusing first on the direct effect on Table 4 of the inter-party comparison, and starting from the unemployment rate variable we observe that it is statistically significant only for the AfD and Die Linke. Interestingly, Die Linke is considered the leftist populist rival of AfD (Loew & Faas 2019) indicating that high unemployment provides fertile ground for populist parties uniformly across the political spectrum. On the other hand, we see that elderly populations, low income and low degree of modernity of the regional economy are politically advantageous only for AfD, a fact which suggests that economic deprivation mainly expressed via the losers of modernization theory, is only applied for the far-right populism. It is interesting to see how apparent this last distinction is. For the variable "population over 55" the coefficient is positive and significant while, for the "Disposable Income per inhabitant" and the "Degree of tertiarization" it is negative and significant. For every other party those variables have exactly the opposite sign with the only exception being the lack of statistical significance of degree of tertiarization for the CDU/CSU. Finally, we could claim that the parameter δ has some predictive power for every party but again, for the case of AfD, this power is distinctively significant. This would probably imply that AfD has the political ability of forming and coordinate strong inter-regional connections.

On the spillover effects side, we again see the distinctive, for AfD, effect of degree of tertiarization in neighboring economies and how regional underdevelopment gives rise to extremism. A very noteworthy observation derives from the spillover effect of the unemployment rate. We see that, except the AfD, the effect is positive and statistically significant. This could possibly imply that the higher the unemployment in neighboring regions is, the higher the share of CDU/CSU, Die Linke and the Grüne. It is likely that people trust those traditional political powers that can provide solutions against unemployment in their own regions compared to the neighboring ones. Another possible explanation could be that the effect of context is really significant. Simply put, the higher the unemployment in neighboring regions, the higher the "sense of normality", for the people, in their own regions. As we described in the theoretical part, AfD is closely related to reactionary or "anti-system" voting. Normality, an "objective" definition of normality is not necessarily relevant here, is not beneficial for the populist parties. Consequently, the "sense of normality" that we propose, in a nutshell, indicates that the higher my neighbors' unemployment rate is; the more inclined I am to vote for non-reactionary or traditional political parties. As a final comment, we observe that rurality, expressed through the urban status of neighbors, is an ace up AfD's sleeve; a fact which does not apply to other political parties, including Die Linke.

Conclusion

The purpose of this study was to examine the possible macro-economic conditions that give rise to far-right phenomena. A basic theory that we stressed was the "losers of globalization" or "losers of modernization"; a theory which suggests that places with people most affected by the structural changes of the regional economy, mainly through the modernization and globalization processes or the lack of it, offer the proper conditions for the electoral success of far-right populist political powers. Next to this, as we used the European parliament results for Germany, we also bear in mind the warning of "revenge of places that don't matter", places which were hardly hit by the long-term economic deprivation and which they had turned, within the European context, towards the anti-system and reactionary vote for Eurosceptic parties (Rodríguez-Pose 2018; Dijkstra et al., 2020). We further stressed typical sociodemographic parameters such as age, the proportion of foreigners and the low education level which had extensively tested in sociological studies as possible determinants of far-right voting. Finally, we included two dummy variables; one for the former East-West political division and one for the dichotomy between urbanity and rurality.

Our results supported the losers of modernization theory. We saw that AfD percentage was benefitted by the higher unemployment rate, the lower disposable income and the lower degree of tertiarization of the regional economy. The sociodemographic parameters only supported higher age as a parameter which promoted the AfD, while school-leaving or the existence of foreigners did not show any statistical significance. Naturally, we should always keep in mind some limitations derived by the selection of the variables; school-leavers, for example, may have not properly conceptualized the low education level of a region and thus, we should interpret our results modestly. The combination of the spillover and the direct effect of the proportion of foreigners variable allowed to empirically test how the populist narrative works; it is fundamentally external. The higher proportion of foreigners in neighboring regions benefits the AfD as it allows to build a narrative of "others" invading to alienate the sociocultural traditions of the indigenous populations; on the other hand, the direct effect did not show any significant influence on the AfD voting. Furthermore, we saw that the past political division of Germany it is still affecting the voting behavior, with the Eastern part indicating a propensity towards the far-right narrative. Rurality seemed to positively affect the percentages of AfD in an interesting way. Although the direct effect did not show any statistical significance; the spillover effect, of the neighbors being urban regions, had a positive and significant sign. This could mean that regions next to urban centers, which geographically in Germany are categorized as rural areas, had an inclination towards far-right populism. This significant finding is in line with the "places left behind" and it reveals that space indeed matters. It does not really my status that drives me to reaction; it is the comparison of my place with my neighbors that make me a "place that doesn't matter". Finally, we proposed the "sense of normality" to explain a distinctive, for the German political status quo, element of the AfD. We see that for the traditional democratic powers the relative position of the regions matters. The higher unemployment in neighboring regions creates a "sense of normality" which does not drive people to "anti-system" voting. This did not apply for the AfD.

Our analysis indicated a possibly disturbing situation which have been long overlooked by economists and policy makers. The gradual overfocusing of urban economics on large urban and leading centers as the pillar of growth combined with the compensatory mentality for lagging behind regions without any real potential for development, has created a discontent which, more and more, tends to be politically expressed via the AfD in Germany or similar Eurosceptic, far-right, populist parties elsewhere. Policy makers need to bear in mind that the economy is just one of the spheres of polity which, as such, should constantly remain in a dialectic relation with the former. The abstraction of economy under the teleological promise of "growth", without questing "growth for whom" or "at what cost", may bring to power forces from which humanity has suffered in its recent history. Until now, the democratic powers across the EU have appeared sluggish to respond to this phenomenon. Regional science could contribute to policy making by suggesting place-based policies, beyond the typical people-based ones, which could promote equity across space and which will possibly overturn the regional long-term economic deprivation which, according to our study, gives rise to political extremism. Finally, the funds that are headed towards lagging-behind regions should "escape" the current compensatory mentality and to be devoted to the economic reconstruction of those areas based on a smart specialization plan which will promote the comparative advantage of each region and which will lead, in the long-run, in brain gain and regional development.

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Appendix

Variable	Obs	Mean	Std. Dev	Min	Max
AfD %	401	2,361	0,407	1,386	3,494
Unemployment Rate	401	1,485	0,458	0,262	2,580
Proportion of Foreigners	401	2,213	0,548	0,693	3,581
School Leavers	401	1,859	0,350	0,833	2,773
Population over 55	401	3,617	0,113	3,288	3,904
Disposableincome/inhabitant	401	10,021	0,113	9,708	10,516
Degree of tertiarization	401	4,183	0,168	3,608	4,525
East Germany	401	0,190	0,392	0	1
KREIS	401	1,267	0,443	0	1

Table 1. Summary Statistics

		1	2	3	4	5	6	7	8
1	Unemployment Rate	1,000							
2	Proportion of Foreigners	-0,077	1,000						
3	School Leavers	0,483	-0,258	1,000					
4	PopulationO55	0,271	-0,774	0,355	1,000				
5	Disposableincome/inhabitant	-0,673	0,369	-0,483	-0,358	1,000			
6	Degree of tertiarization	0,507	0,223	0,099	-0,194	-0,196	1,000		
7	East Germany	0,380	-0,665	0,457	0,589	-0,522	0,070	1,000	
8	KREIS	0,432	0,479	0,127	-0,372	-0,200	0,487	-0,033	1,000

Table 2. Correlation Table

Weighting matrix	W1
Type	contiguity
Normalization	row
Dimension	401 x 401
Elements	
minimum	0
minimum > 0	.0833
mean	.0025
max	1
Neighbors	
minimum	1
mean	5.217
maximum	12

Table 3. Spatial Weights matrix W summary

	MODEL 1		MODEL 2	
AfD %	Coef.		Coef	
Unemployment Rate	0,140	***	0,162	***
	(0,038)		(0,039)	
Proportion of Foreigners	0,050		0,076	**
	(0,030)		(0,032)	
School Leavers	0,031		0,027	
	(0,023		(0,023)	
Population over 55	1,254	***	1,175	***
	(0,113)		(0,114)	
Disposableincome/inhabitant	-0,577	***	-0,566	***
	(0,105)		(0,103)	
Degree of tertiarization	-0,342	***	-0,320	***
	(0,051)		(0,051)	
East Germany	0,602	***	0,622	***
	(0,056)		(0,056)	
constant	0,024		-0,753	
KREIS				
Kreisfreie Stadt			-0,053	**
			(0,023)	

W

Unemployment Rate	-0,089	*	-0,134	**
	(0,052)		(0,052)	
Proportion of Foreigners	0,053		0,014	
	(0,044)		(0,045)	
School Leavers	-0,034		-0,037	
	(0,037)		(0,037)	
Population over 55	-0,905	***	-0,734	***
	(0,231)		(0,233)	
Disposableincome/inhabitant	0,597	***	0,634	***
	(0,188)		(0,187)	
Degree of tertiarization	0,049		0,034	
	(0,095)		(0,094)	
East Germany	-0,368	***	-0,393	***
	(0,072)		(0,072)	
AfD %	0,742	***	0,741	***
	(0,038)		(0,038)	
KREIS				
Kreisfreie Stadt			0,160	***
			(0,050)	
Number of obs	401		401	
Wald chi^2 (15)	3343,5		3459,2	
Prob> chi^2	0,0000		0,0000	
Pseudo R^2	0,81		0,82	

Standard errors in parentheses
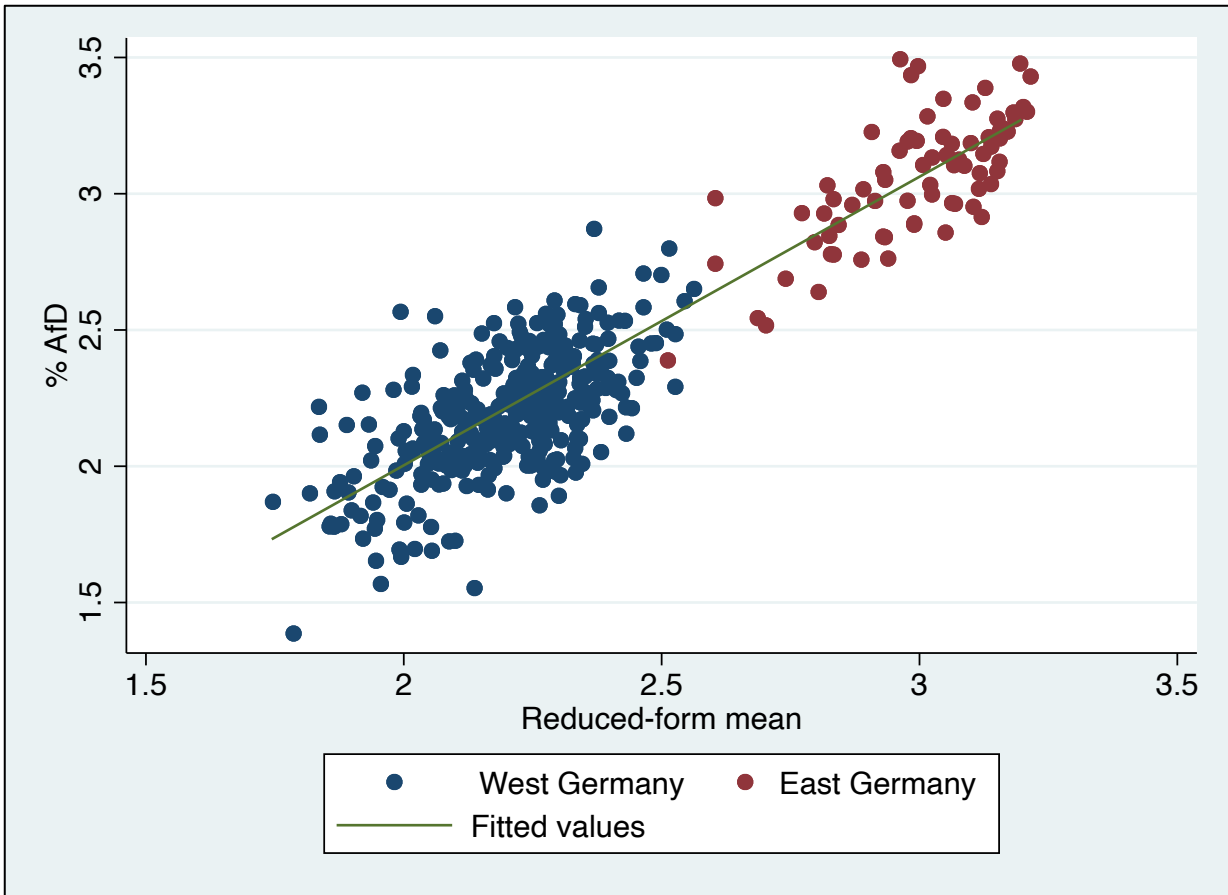Note: *p ‹ 0.05; **p ‹ 0.01; ***p ‹ 0.001

Table 4. Coefficients table

Figure 1. Fitted values vs Observed AfD votes shares