The impact of war in Ukraine on the spread of populistic and anti-EU political parties' attitudes in Poland

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Extended abstract

Objective and contribution of the paper

In our paper we aim to analyse the geographical patterns of the spread of Polish voters' tolerance for parties' populist rhetoric and anti-EU position between the lower chamber elections in 2019 and 2023. Our particular focus is on the effect of the outburst of war in Ukraine in 2022 on the spread of the abovementioned attitudes.

For the purpose of our study we follow the definition of populism proposed by Mudde and Kaltwasser (2017) highlighting that it is "a thin-centered ideology that considers society to be ultimately separated into two homogeneous and antagonistic camps, '"the pure people"' versus '"the corrupt elite,"' and which argues that politics should be an expression of the "'volonté Générale' (general will) of the people".

A variety of studies from the fields of public choice or political science focused on the relationship between the parties' populist attitudes and their declared support for Ukraine. As an example, the outcomes of empirical study conducted by Hooghe *et al.* (2024) suggest that the level of the party's populist rhetoric and its European Union skepticism explain a considerable part of variation in support for Ukraine. Stoica (2023), in his study for Romania, argues that the war in Ukraine has triggered approval for populist narratives that altered support for the European Union.

To assess the impact of the war in Ukraine on the spread of voters' tolerance for populist and anti-EU attitudes of political parties, we propose a spatial empirical model forecasted on a county level data in Poland. Based on the county level lower chamber election results and the Chapel Hill Expert Survey data we propose an index capturing the change in the intensity of voters' tolerance for parties' populist rhetoric and anti-EU position between the elections of 2019 and 2023 (the details on the index construction are presented below). What is more, we proxy the impact of war in Ukraine on the voters' perception of populism and anti-EU sentiments by accounting for the distance of a given county from the Polish-Ukrainian border. We aim to provide the answer to the following research question:

Is the county' proximity to the Polish-Ukrainian border correlated with voters' tolerance for populist and anti-EU attitudes of political parties? What is the sign of a correlation?

To our best knowledge it is the first study focused on explaining the micro-scale populist/anti-EU voting patterns in Poland taking into account the impact of proximity to conflict in Ukraine and using the advanced spatial econometric models.

Methods

We apply here standard spatial regressions from the simplest ones (as Spatial Error Model) to the most general (Manski model), as mentioned by Elhorst (2010). Moran's I was calculated before running

spatial regressions - it confirmed the existence of spatial autocorrelation and justified use of spatial approach.
Pre-estimation started with Anselin's (1988) algorithm, in order to determine which models have to be estimated. Post-estimation is presented by Hausman test (Pace & LeSage, 2008), ANOVA (to see whether Manski model can be reduced to a more parsimonious model) and finally values of AIC and BIC were used to choose the best model.

Data

The model is estimated on 2477 county level observations and relies on the following set of variables:

Variable name	Type of the variable (dependent/ independent/ auxiliary)	Definition	Source
populism_diff_final	dependent	Continuous variable representing the change in the intensity of voters' tolerance for parties' anti-establishment/ anti-elite rhetoric between 2019 and 2023 elections. The higher the value the higher the tolerance level.	variable constructed by Authors based on formulas specified in paragraph below
eu_diff_final	dependent	Continuous variable representing the change in the intensity of voters' tolerance for parties' anti-EU position between 2019 and 2023 elections. The higher the value the lower the tolerance level.	variable constructed by Authors based on formulas specified in paragraph below
parties' anti-establishment/anti-elite rhetoric	auxiliary (used to construct dependent variable)	Continuous variable representing the overall orientation of the party leadership towards European integration. Values in range [1;7], where 1=strongly opposed, and 7=strongly in favor	the 2019 Chapel Hill Expert Survey (Bakker *et al.* 2020), the Chapel Hill Expert Survey 2023 – UKRAINE (Hooghe *et al.*, 2024)

parties' EU position	as above	Continuous variable representing the general position on European integration that the party leadership took over. Values in range [1;7], where 1=strongly opposed, and 7=strongly in favor	the 2019 Chapel Hill Expert Survey (Bakker *et al.* 2020), the Chapel Hill Expert Survey 2023 – UKRAINE (Hooghe *et al.*, 2024)
% of votes for a party j in a county i	as above	% of votes cast for a party *j* in county *i* in popular elections to the lower chamber of the parliament (in 2019 and 2023)	the website of the National Electoral Commission in Poland
% of votes for a party j in Poland	as above	% of votes cast for a party *j* in Poland in popular elections to the lower chamber of the parliament (in 2019 and 2023)	as above
ludn2022	auxiliary (used to construct independent variable)	total county population, 2022	Local Data Bank
f2022	as above	total county female population, 2022	as above
l_brob2022	as above	total amount of unemployed in a county, 2022	as above
f_perc2022	independent	percentage of females in a county, 2022	calculated based on total population and total number of females
brob2022	independent	unemployment rate in county, 2022	calculated based on total population and total number of unemployed
income2022	independent	total county income, 2022	Local Data Bank
expend2022	independent	total county expenditures, 2022	as above
gmina_type	independent	county type: 1 - city, 2 - country, 3 - mixed	TERYT

Polish counties borders	auxiliary (used to construct independent variable)	used to calculate neighbourhood structure (*W* matrix in spatial models)	National Register of Boundaries
Polish border	as above	used to eliminate common border with Ukraine	as above
Ukrainian border	as above	as above	data.amerigeoss.org
distance	independent	distance (in km) from centroid of county to the closest point of border	own calculations based on centroids and common border
czy_przygraniczna	independent	whether county has a common border with Ukraine (0-1)	based on administrative map of Poland
czy_strefa_przygraniczna	independent	whether county is in Polish-Ukrainian border zone (within 15 km from the border)	as above + Statistics Poland

Source: Authors' own elaboration.

Our dependent variables express the change in the intensity of voters' tolerance for parties' populist rhetoric and anti-EU position between the national elections of 2019 and 2023 in Poland. The construction of variables follow the approaches proposed by Di Matteo and Mariotti (2021) and Albanese *et al.* (2022) with minor alterations. Dependent variables (Y) are constructed based on the following formulas:

$$Y_i = Y\ difference_{i,2023} - Y\ difference_{i,2019}$$

where i represents a county, Y is either voters tolerance for parties' anti-establishment/anti-elite rhetoric (the name of the final Y_i variable: *populism_diff_final*) or for parties' anti-EU position (the name of the final Y_i variable: *eu_diff_final*) and

$$Y\ difference_{i,t} = Y\ tolerance\ in\ a\ county_{i,t} - Y\ tolerance\ in\ Poland_t$$

where t equals 2019 or 2023, and

$$Y\ tolerance\ in\ a\ county_{i,t} = \sum_{j=1}^{n} \%\ of\ votes\ for\ a\ party\ j\ in\ county\ i\ in\ period\ t * Y\ index\ for\ party\ j\ in\ period\ t$$

where n is the number of parties that entered the lower house of parliament (Sejm) after the elections in period t, and

$$Y\ tolerance\ in\ Poland_t =$$

$\sum_{j=1}^{n} \%\ of\ votes\ for\ a\ party\ j\ in\ Poland\ in\ period\ t * Y\ index\ for\ party\ j\ in\ period\ t.$

We believe that such construction of dependent variables would enable us to empirically capture the effect of the emergence of war in Ukraine on the spread of voters' tolerance for populist and anti-EU rhetoric between 2019 and 2023 lower chamber elections in Poland.

Preliminary results and conclusions

In total, six models were estimated (two different dependent variables * three different proximity variables). Anselin (1988) algorithm showed that in majority of cases spatial lag model (SAR) was preferred over spatial error model (SEM), and also SAC (as combination of lag and error components) performed well. On the other hand, postestimation analysis (both ANOVA and information criteria) detected Manski model as the best one. Due to the fact that Manski model is usually not recommended to use because of overspecification (Kopczewska, 2020), we decided to switch to the second best, SAC model. Table below contains information about parameter significance (we focus here only on proximity related variables) given by *, ** or *** for 10%, 5% and 1%, respectively and + or - for positive and negative signs, respectively. Estimation of impacts and their interpretation is given below.

Variable	Dependent variable					
	populism_diff_final			*eu_diff_final*		
Model	1	2	3	4	5	6
distance			+,***			+,***
czy_przygraniczna_ukr		-			+	
czy_strefa_przygraniczna	-			-,***		
rho	-,***	-,***	-,***	+,***	+,***	+,***
lambda	+,***	+,***	+,***	-,***	-,***	-,***

Source: own calculations in R

Variable	Model	Direct	Indirect	Total	Ratio*	Interpretation
distance	3	+	-	+	2.82	strong internalisation, so called 'leaching' relation (Kopczewska, 2020)
czy_strefa_przygraniczna	4	-	-	-	0.193	weakening of effect (since both in county i and its neighbours we have -)
distance	6	+	+	+	0.207	strengthening of effect (since both in county i and its neighbours we have +)

* direct/total for same direction of effects and abs(direct)/abs(indirect) otherwise

Source: own calculations in R

Discussion of preliminary results and conclusions

Model (3) results indicate that the distance from the centroid of the county to the closest point of the border has a significant impact on change in the intensity of voters' tolerance for parties' populist attitudes. Although the effect is leaching and the impact of neighbouring counties is much lower. This will be further examined.

For the second dependent variable, location of the county in a border zone is significantly correlated with the change in the intensity of voters' tolerance for parties' anti-EU position. The voters from these counties had lower tolerance for parties expressing anti-EU positions in 2023 as compared to the previous 2019 elections. We hypothesise that this effect is due to the higher threat stemming from proximity to war-torn territory. However, once we account for the alternative distance measure calculated from the centroid of the county to the closest point of the border we find a significant negative relation. We will investigate this result further in the upcoming versions of the paper.

Significant rho and lambda parameters suggest that spatial lags of both dependent variable and error term shall be included in the model. The proposed interpretation is as follows:

- for models with *populism_diff_final* as dependent variable:
    - positive value of *rho* demonstrates the clustering of similar counties,
    - negative *lambda* suggests the existence of competitive mechanisms of reaction to common shocks modeled by the error term,
- for models with *eu_diff_final* as dependent variable:
    - negative value of *rho* demonstrates the dissimilarity between counties,
    - positive *lambda* reflects the short-term spillovers' fluctuations, similar in neighboring locations (interpretation follows the one proposed by Kopczewska et al. (2017)).

Except for the inclusion of the alternative distance measure we consider other independent variables (depending on the availability of data) such as the age structure in a county (in particular the share of people 65+), the amount of EU funds received by a county in several last years, cultural change proxied by the change in percentage of county inhabitants with tertiary education in last 10-15 year and immigration level. We also consider the use of different *W* matrices for different spatial lags.

The more detailed interpretation of parameters and policy implications stemming from our empirical results will be presented in the final version of the manuscript.

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