

## **Electoral-spatial analysis of party configuration (on the material of parliamentary elections 1998-2014 in Ukraine)**

The article researches spatial-temporal measurement of electoral relations (similarity, antagonism and continuity in electoral-spatial aspect) between Ukrainian political parties. The aim of the research is to ascertain appropriate connection between parties, belonged to one or opposite electoral-spatial niches. Dynamics of electoral-partial configuration in Ukraine was analyzed (on the material of parliamentary elections 1998-2014). The method of correlation analysis towards to electoral statistics (party results on polling stations) was used in the work. Besides national level we considered a local case of one of the Kharkov oblast districts, showing nontrivial connection of electoral continuity of political subjects as consequence of personally oriented electors voting.

*Keywords: correlation analysis, electoral-spatial analysis, electoral continuity, electoral similarity, electoral antagonism, political parties, parliamentary elections, electoral geography.*

## **Електорально-просторовий аналіз партійної конфігурації (на матеріалі парламентських виборів 1998-2014 в Україні)**

У статті досліджується просторово-часовий вимір електоральних відносин (подібності, антагонізму, спадкоємності в електорально-просторовому аспекті) між українськими політичними партіями. Метою дослідження є встановлення відповідних зв'язків між партіями, приналежних до однієї чи протилежних електорально-просторових ніш. Проаналізована динаміка електорально-партійної конфігурації України (на матеріалі парламентських виборів 1998-2014 років). У роботі застосовано метод кореляційного аналізу по відношенню до електоральної статистики (результатів партій по виборчих дільницях). Окрім загальнодержавного рівня розглядається локальний кейс одного з районів Харківської області, який показує нетривіальні зв'язки електоральної спадкоємності політичних суб'єктів як наслідок персонально орієнтованого голосування виборців.

**Ключові слова:** кореляційний аналіз, електорально-просторовий аналіз, електоральна спадкоємність, електоральна подібність, електоральний антагонізм, політичні партії, парламентські вибори, електоральна географія.

One of the differences of budding democracy party system (which include post communism countries, in particular, Ukraine) from Western countries is short life-span of party projects. On the beginning of 2016, 262 parties<sup>1</sup> have been registered, the most of them are products of «political entrepreneurship» and can be classified as «technical projects» capitalized during the elections (quota trade in election committees, the episodic participation in electoral campaigns in certain regions or districts, renaming or selling of the whole party structure to the investors interested in a new project creation, etc.). We won't apply to such «technical projects» as a part of our research, concentrating on big competitive parties which have a fight for getting to local unions, parliament and forming the government. Even such big parties, whose average life-span is one-three electoral cycles (with the exceptions). So the system of socio-political differentiations («cleavages» in the categories of S. Lipset and S. Rokkan), the division of electoral space into niches in most cases looks more stable than the configuration of specific political parties fighting for representation in the parliament. This fact *actualizes* the topic of «electoral continuity» – specific relationships between political subjects which took part in elections during different periods of time. A serious analysis of party system must foresee the electoral relationship fixation (antagonism, similarity) between political subjects taking part in the election at the same time. The researching of such subject positions and relationships in electoral space, and the studying of party electoral continuity without attraction of quantitative methods have a risk to be not enough objective, and the argumentation of the conclusions will be rather poor.

Correspondingly, this article deals with research of spatial-temporal electoral relationships between different Ukrainian parties by means of such quantitative *method* as a correlation analysis of electoral statistics. *The object of our research* is a party system of Ukraine, *the subject* – specific spatial-temporal electoral relationships between political parties. The aim of the article is to research these spatial-temporal relationships of electoral competition, antagonism and continuity on a base of parliamentary elections in Ukraine, 1998-2014.

In Western political science (particularly, from the second half of the 20<sup>th</sup> century), it is observed a tangible interest in space-electoral studies. Rather conditionally these studies are united into interdisciplinary direction so called «electoral geography», the founder of which is French scientist A. Siegfried. It is worthwhile to note the works of such scientists as A. Secor, M. Shin, J. Webster, L. Nelson, V. Barney, J. Leib, N. Quinton, J. Agnew, D. Denver, R. Jonston, M. Humphrey, D. Levin, R. Gillman, J. Mackenzie, J. Toplak, R. Niemi among the last researches and publications on connection of party electoral parameters with specific space measurement.

<sup>1</sup> Ministry of Justice of Ukraine (Official Website). – Regime to access: [www.drsu.gov.ua/show/202](http://www.drsu.gov.ua/show/202)

The researches of party system, electoral geography and regional political regimes studies carried out by K. Cherkashin, A. Romanyuk, Yu. Shveda, N. Rotar, M. Guytor, N. Khoma, T. Madriga, E. Han, O. Fisun, I. PolIschuk, O. Romanyuk, T. Panchenko, N. Panina, S. Bilichenko, O. Mikhailich, M. Dnistryanskij, S. Vasilchenko, Yu. Ostapets, V. Berezinskoho, A. Ehnich are close to our theme in Ukrainian political science.

Before presentation of spatial-temporal connections of Ukrainian party study results, we will define the main working notions and in detail describe the methodology. One of the main categories of the research is «electoral space». In American political science tradition the «spatial elections» or «electoral space» is more often analyzed within the framework of theory of rational choice as correlation of political positions of parties and voters (to some extent «electoral space» looks like «economically softened» variant of «political market»). At the same time, exactly the very last years the category of «electoral space» acquired popularity and enriched with original contents among the post-soviet scientists. The differences in approaching between American and post-soviet scientist's schools could be explained by cardinally different political context and models of party systems. There are two descriptions of «electoral space», we will rely on in our article. To our mind, M. Arbatskya formulates rather good definition: «populated territory with clear lined instituted local differences and peculiarities of interconnection between participants in political process regarding the formation of legal government bodies»<sup>2</sup>. So, we can consider the elements of current political-geographical and administrative-territorial division, as well as own research products of electoral regionalization as the electoral space. Far more close to our research is a definition made by A. Akhremenko: «*the electoral space is a set of electoral objects – parties or candidates with clear structure in the form of quantitative order of spatial relationships between these objects*»<sup>3</sup>. So, the accent is, particularly, made on quantitative measurement of electoral connections between parties or candidates.

We offer to describe different types of these connections in categories of «*electoral similarity*» and «*electoral antagonism*». These two characteristics of space-electoral relationship correspond to two states – the electoral similarity means the belonging of the party to one electoral niche, the electoral antagonism – to opposite ones. We offer to understand «*electoral niche*» as relatively homogenous population of voters with the similar positions according the key political agenda issues, united by belonging to a certain socio-political group. We propose to call electoral homogeneity state of two different political subjects taking part in elections on the same territory at different time as «*the electoral continuity*».

There is a tradition of using above mentioned terms in English-speaking scientific literature. For instance, there is a stable conception as for «niche parties, which are understood as party projects oriented on small homogenous groups proceeding from traditional binominal

<sup>2</sup> Arbatskaya M., Elektoralnoe prostranstvo i upravlenie izbiratel'nymi pravami grazhdan. – Regime to access: <http://www.politex.info/content/view/200/30/>

<sup>3</sup> Akhremenko A., Spatial-electoral analysis: method characteristics, possibility of comparative studies, Political science, 2009, nr. 1, s. 37

party division in accordance with key agenda conflict (for western party systems – economical conflict of «left» - «right»)<sup>4</sup>. «The green», «piratical parties», minority parties or ultra-right nationalists are rated to such parties. We recommend addressing to J. Adams, M. Wagner, T. Meyer, K.J. Han, B. Meguid, T. Bale, K. Mudde, L. Ezrow works for better understanding the specific traditional usage of «niche party» category (and, correspondingly, «electoral niches») in western political science. For this direction (as well as for the whole modern western political science) it is characterized with significant involvement of mathematical methods for quantitative analysis of «niche parties». However, our understanding of «electoral niche» is wider and probably emerges from the theory of «cleavages» by S. Lipset and S. Rokan. In 1967 they proposed a model of configuration of modern party system of Western Europe countries via historically important socio-political differentiations («cleavages») of electoral space<sup>5</sup>. These «cleavages» are considered as structural conflicts between socio-political voters' groups, besides that, the groups are formed both on the base of objective facts (ethical, age-specific, gender, economical, etc.) and on a subjectively-valuable basis. At the same time, there can be several dimensions of cleavages (and modus of individuals existence in them), and the political parties actualize the «key conflict» in their positioning. Our «wide» understanding of the electoral niche put it to one of electoral space segments formed in a result of actualization of such a «key conflict».

Within a scope of studies of party systems a lot of scientists make an accent on «electoral competition», focusing on a specific of relations between the political subjects (a term «electoral congruence» is rather common, the usage of which is close to our notion of «electoral similarity»). As for «electoral continuity», it is possible to single out two directions of this category understanding (and none of them corresponds to our usage): either in the format of «electoral nepotism» (both among voters and politics), or as succession of political subjects' course.

As it had been already mentioned we chose an electoral statistics correlation analysis as a capacity of main instrument for electoral similarity, antagonism and continuity research. Rather grounded critical comprehension of advantages and disadvantages of such method is given by J. Wittenberg in his article «How Similar are They? Rethinking Electoral Congruence»<sup>6</sup>. The correlation analysis is widely spread not only in western political science, but in the former USSR: the researches of Higher Economics School representatives, especially, A. Ahremenko, R. Turovskij, Yu. Gayvoronskij, which are close to our theme and chosen methodology, are worth our attention. Generalized impression concerning this methodical

<sup>4</sup> Han K.J, What makes niche parties niche parties? Past election results, Issue salience, and the Nicheness of Niche parties, The University of Tennessee, 2013.

<sup>5</sup> Lipset S., Rokkan S., Party systems and voter alignments: cross-national perspectives. New York: Free Press, 1967.

<sup>6</sup> Wittenberg J., How Similar are They? Rethinking Electoral Congruence, University of California, Berkeley, 2008

traditions of this school can be obtained from the work «Space electoral analysis: method characteristics, possibilities of cross-national comparative studies»<sup>7</sup> written by A. Ahremenko.

We propose to evaluate the correlation between result arrays of two parties in all polling stations (simplified model – in districts or regions) and put a received index in a table. If Pearson's correlation index is close or bigger than 0,5 we can speak about the state of «electoral-spatial similarity» and if it is lower than -0,5 – «electoral-spatial antagonism». Similarly big (bigger than 0,5) correlation index values between the results of political subjects taken part in the elections at different time on the same territory can affirm «electoral-spatial continuity» of subjects. We added to our base categories the term «spatial» not accidentally, because a weak side of this method is evaluating only a spatial-territorial measurement of electoral segmentation. Specifically studying more deeply the «atomic» level of polling stations, we are strengthening the method, increasing probability that other (non-territorial) socio-political differentiations will be covered by our spatial analysis. For instance, classical differentiations «town»-«village» or «center»-«periphery» can be covered. At the same time, the features showing steady distribution on the whole territory are aside the research: for example, in modern Ukraine there is almost steady distribution of voters by gender, and our analysis, unfortunately, won't react on «electoral-gender niches» (besides, it will effectively process all the distributions, covered by territory – ethical, language, etc.). Pearson's correlation index can be effectively used for researching of «identification effect» during voting for candidates and parties.

One more methodological nuance of electoral continuity research is its basic assumption about relative stability of electoral niches. There is a risk of «phantom connection» between results of parties that will be confirmed by correlation analysis, but will become a result of tectonic movements in the very electoral space (fundamental change of electoral balance within existing key conflict or changing of key conflict). In order to minimize such risks it is necessary to analyze elections with much time between them. We were afraid a little regarding modern «Ukrainian case», but the researches of electoral continuity of parties of 2012-2014 have showed that the model is working despite all important changes of political and electoral context.

It is provided the calculation results of «electoral-spatial similarity» and «electoral-spatial antagonism» for Ukrainian parliamentary parties (and among ones which didn't overcome the barrier) in Tables 1-6. The indexes of «electoral-spatial continuity» of parties (in brackets gained in the election result is given for each party that reasoned by correlation analysis hypothesis concerning continuity won't be absurd) are provided in Tables 7-11. The electoral statistics resource for all 9 tables is official web-site of Central Election Commission of Ukraine<sup>8</sup>.

<sup>7</sup> Ahremenko A., Spatial-electoral analysis: method characteristics, possibility of comparative studies, Political science, 2009, nr. 1.

<sup>8</sup> Central election commission (Official Website). – Regime to access : [www.cvk.gov.ua](http://www.cvk.gov.ua)

**Table 1.** Electoral Competition in parliamentary elections 2014

2014	NF	BPP	SAM	OB	RPL	BUT	SVO	KPU	SU	GP	ZAST
NF	1,00	0,28	0,55	-0,88	0,19	0,70	0,88	-0,92	-0,84	0,40	0,18
BPP	0,28	1,00	0,10	-0,55	0,12	0,43	0,19	-0,47	-0,40	0,14	0,40
SAM	0,55	0,10	1,00	-0,56	-0,29	0,21	0,75	-0,61	-0,59	0,61	-0,28
OB	-0,88	-0,55	-0,56	1,00	-0,36	-0,83	-0,80	0,88	0,79	-0,55	-0,38
RPL	0,19	0,12	-0,29	-0,36	1,00	0,66	0,00	-0,22	-0,27	0,27	0,53
BJT	0,70	0,43	0,21	-0,83	0,66	1,00	0,57	-0,72	-0,70	0,38	0,46
SVO	0,88	0,19	0,75	-0,80	0,00	0,57	1,00	-0,84	-0,81	0,52	-0,06
KPU	-0,92	-0,47	-0,61	0,88	-0,22	-0,72	-0,84	1,00	0,92	-0,47	-0,26
SU	-0,84	-0,40	-0,59	0,79	-0,27	-0,70	-0,81	0,92	1,00	-0,57	-0,09
GP	0,40	0,14	0,61	-0,55	0,27	0,38	0,52	-0,47	-0,57	1,00	0,02
ZAST	0,18	0,40	-0,28	-0,38	0,53	0,46	-0,06	-0,26	-0,09	0,02	1,00

Source: www.cvk.gov.ua [14.01.2016]

«Opozytsiinyi block», KPU and «Sylna Ukraina» form a «triangular» of electoral-spatial homogeneity parties ( $\chi^2 = \{0,88; 0,92; 0,79\}$ ), being in relations of electoral antagonism with almost all the parties. The most strong reverse connection (negative correlation) of this «block» is with «Narodnyi Front» and «Svoboda» (electoral homogeneity of this couple is  $\chi^2=0,88$ ). In its turn, «Natsionalny Front» is also related to relations of homogeneity-competition with «Batkivshchyna» ( $\chi^2=0,7$ ) and «Samopomich» ( $\chi^2=0,55$ ). A close connection of «Samopomich» and «Svoboda» ( $\chi^2=0,75$ ) is explained first of all by the history of parties, both of them started as regional projects with the base in Galicia. Except «cleavage» on line of «pro-Ukrainian» / «counter-revolutionary» powers, the differentiation of «village» and «town» parties in the capacity of «pro-Ukrainian» camp is seen well in the table. More oriented on a villager voter triangular of parties is «Radykalna partia», «Zastyp» and «Batkivshchyna» ( $\chi^2 = \{0,66; 0,53; 0,46\}$ ). The most town pro-Ukrainian party «Samopomich» with RPL and «Zastyp» have observed weak reverse connection of negative correlation ( $\chi^2 = -0,3$ ). It is interesting to notice that the presidential power «Block Poroshenko» doesn't have high correlation indexes with any party (maybe, it is connected to tangibly more regional homogeneity of its electoral base, that is inherent for party of power).

**Table 2.** Electoral Competition in parliamentary elections 2012

2012	PR	BUT	UDAR	KPU	SVO
PR	1,00	-0,92	-0,73	0,84	-0,78
BUT	-0,92	1,00	0,71	-0,86	0,60
UDAR	-0,73	0,71	1,00	-0,69	0,39
KPU	0,84	-0,86	-0,69	1,00	-0,78
SVO	-0,78	0,60	0,39	-0,78	1,00

Source: www.cvk.gov.ua [14.01.2016]

The results of 2012 elections proved high electoral-spatial homogeneity between «Party of Regions» and KPU ( $\chi^2 = -0,84$ ), oriented on southeastern regions of Ukraine. Oppositional camp formed from the triangular «Batkivshchina» - «Udar» - «Svoboda» ( $\chi^2 = \{0,71; 0,60; 0,39\}$ ), had rather heterogeneous electoral-spatial structure. The weakest connection of similarity is between «Svoboda», radical, oriented on western regions, and «Udar», more temperate, centrist and regionally homogenous. The strongest relations of electoral-spatial antagonism (as in 2006-2007) were fixed between the most popular subjects – «Party of Regions» and «Batkivshchina».

**Table 3.** Electoral Competition in parliamentary elections 2007

2007	PR	BUT	NUNS	KPU	LYTV	SPU
PR	1,00	-0,98	-0,86	0,81	-0,11	0,37
BUT	-0,98	1,00	0,76	-0,77	0,11	-0,37
NUNS	-0,86	0,76	1,00	-0,89	-0,19	-0,39
KPU	0,81	-0,77	-0,89	1,00	0,13	0,17
LYTV	-0,11	0,11	-0,19	0,13	1,00	-0,02
SPU	0,37	-0,37	-0,39	0,17	-0,02	1,00

Source: www.cvk.gov.ua [14.01.2016]

First of all it is necessary to note a record rate of electoral-spatial antagonism, fixed between «Party of Regions» and «Block of Julia Timoshenko» ( $\chi^2 = -0,98$ ). Electoral-geographic configuration of 2007 was characterized by the division into two antagonistic «tandems»: south-eastern duet of «Party of Regions» and KPU ( $\chi^2 = 0,81$ ) against oriented on western and central regions «Batkivshchina» and «Nasha Ukraina» ( $\chi^2 = 0,76$ ). After unexpected coalition union with regionals and communists, KPU didn't overcome 3% barrier and for its electoral-spatial characteristics became similar to PR ( $\chi^2 = 0,37$ ). «Lytvyn's block» gained rather homogenous results (with majority in village locality and central Ukraine) had occupied rather neutral position according to key conflict, which reflected in low rates of electoral similarity with other parties.

**Table 4.** Electoral Competition in parliamentary elections 2006

2006	PR	BUT	NUNS	SPU	KPU	LYTV	PSPU
PR	1,00	-0,94	-0,78	-0,49	0,48	-0,34	0,91
BUT	-0,94	1,00	0,59	0,56	-0,38	0,32	-0,85
NUNS	-0,78	0,59	1,00	-0,02	-0,75	-0,04	-0,72
SPU	-0,49	0,56	-0,02	1,00	0,26	0,43	-0,47
KPU	0,48	-0,38	-0,75	0,26	1,00	0,25	0,44
LYTV	-0,34	0,32	-0,04	0,43	0,25	1,00	-0,38
PSPU	0,91	-0,85	-0,72	-0,47	0,44	-0,38	1,00

Source: www.cvk.gov.ua [14.01.2016]

The winner of elections 2006 is «Party of Regions» was in a very strong connection of electoral similarity with PSPU Natalia Vitrenko ( $\chi^2 = 0,91$ ), who lacked electoral votes for overcoming the barrier, also, she competed for electoral voters together with KPU, a small party traditionally close to «regionals» electoral base ( $\chi^2 = 0,48$ ). The most powerful electoral-spatial antagonism of PR was observed with «Block Tymoshenko» ( $\chi^2 = -0,94$ ), and also with NUNS ( $\chi^2 = -0,78$ ). It is interesting that SPU was positioned as «pro-Ukrainian» party (despite their future role in «coaliciada»), that is why its results give a positive correlation with «BJT» ( $\chi^2 = 0,56$ ) which look very close to socialists for agrarian inclination and rate on central Ukraine by «Lytvyn Block» ( $\chi^2 = 0,44$ ), and vice versa on negative correlation with PR ( $\chi^2 = -0,49$ ).

**Table 5.** Electoral Competition in parliamentary elections 2002

2002	NU	KPU	Za EDU	BUT	SPU	SDPU	PSPU	Zinky	Ozym
NU	1,00	-0,90	-0,57	0,77	-0,22	-0,53	-0,88	-0,75	-0,66
KPU	-0,90	1,00	0,50	-0,83	-0,05	0,56	0,83	0,77	0,65
Za EDY	-0,57	0,50	1,00	-0,56	-0,07	0,16	0,52	0,24	0,10
BUT	0,77	-0,83	-0,56	1,00	0,19	-0,71	-0,74	-0,84	-0,55
SPU	-0,22	-0,05	-0,07	0,19	1,00	-0,29	-0,01	-0,14	-0,12
SDPU o	-0,53	0,56	0,16	-0,71	-0,29	1,00	0,55	0,79	0,51
VITR	-0,88	0,83	0,52	-0,74	-0,01	0,55	1,00	0,67	0,76
Zinky	-0,75	0,77	0,24	-0,84	-0,14	0,79	0,67	1,00	0,63
Ozym	-0,66	0,65	0,10	-0,55	-0,12	0,51	0,76	0,63	1,00

Source: www.cvk.gov.ua [14.01.2016]

In 2002 elections the electoral-spatial conflict clearly was circumscribed, that resulted into «Maidan» in two years and practically into electoral «cleavage» of voters on two approximately equal camps. The weakened «triangular» «Za Edynu Ukrainu!»-«KPU»-«SDPU» (o) ( $\chi^2 = \{0,50; 0,56; 0,16\}$ ), oriented mostly on southeastern regions, was in the state of electoral-spatial antagonism to tandem «Nasha Ukraina» of Victor Ushchenko and «Block of Julia Tymoshenko» (a duet  $\chi^2 = 0,77$  oriented on western and central Ukraine). No strong connections of similarity-competition or antagonism are observed in rather regionally homogeneity in electoral plan of SPU. It is interesting, that parties which didn't get votes for overcoming 4% barrier are «Block of Natalia Vitrenko», «Zhinky za maibutne» and «Comanda ozumoho pokolinnia» in electoral-spatial respect were similar to «pro-government triangular» and oriented on the same base regions (totally had been taken away more than 7% from bigger powers in this electoral-geographical niche).



**Table 6.** Electoral Competition in parliamentary elections 1998

1998	KPU	RUH	SPU	ZEL	NDP	GROM	PSPU	SDPU	NA	NU	TRUD
KPU	1,00	-0,81	0,04	0,16	0,11	0,10	0,28	-0,39	-0,49	-0,52	0,40
RUH	-0,81	1,00	-0,28	-0,29	-0,12	-0,18	-0,42	0,05	0,57	0,55	-0,39
SPU	0,04	-0,28	1,00	-0,07	0,20	-0,17	0,27	-0,21	-0,08	-0,39	-0,07
ZEL	0,16	-0,29	-0,07	1,00	-0,12	-0,06	0,00	0,02	0,12	0,00	-0,20
NDP	0,11	-0,12	0,20	-0,12	1,00	-0,22	-0,09	0,04	-0,14	-0,01	-0,20
GROM	0,10	-0,18	-0,17	-0,06	-0,22	1,00	-0,10	-0,06	-0,24	-0,18	0,04
PSPU	0,28	-0,42	0,27	0,00	-0,09	-0,10	1,00	-0,17	-0,27	-0,25	0,16
SDPU o	-0,39	0,05	-0,21	0,02	0,04	-0,06	-0,17	1,00	-0,11	0,24	-0,16
NA	-0,49	0,57	-0,08	0,12	-0,14	-0,24	-0,27	-0,11	1,00	0,28	-0,24
NU	-0,52	0,55	-0,39	0,00	-0,01	-0,18	-0,25	0,24	0,28	1,00	-0,14
TRUD	0,40	-0,39	-0,07	-0,20	-0,20	0,04	0,16	-0,16	-0,24	-0,14	1,00

Source: [www.cvk.gov.ua](http://www.cvk.gov.ua) [14.01.2016]

First parliamentary elections where at least a half of the mandates were divided as for proportionally-partial part (it was used pure majority system of absolute majority with the second voting and 50% threshold of presence) showed the availability of electoral-spatial cleavage. On different poles of Ukrainian electoral space were KPU dominating at that time and «Narodnij Ruh Ukrainy», popular party in western regions (antagonism rate  $\chi^2 = -0,81$ ). It is interesting, that eight parties have overcome 4% barrier to be in the parliament, but they don't show any strong connections of similarity-competition or antagonism. First of all, it is connected with a high level of regionalization of party-winners: in fact, 3 out of 8 political powers were «parties of one region» (SDPU (o) – Zakarpatie, «Hromada» – Dnipropetrovsk region, PSPU – Sumy region and partially Kharkov region). That is why the electoral-spatial niches of these projects didn't cross particularly. We should say that among the parties, mostly close to overcome the barrier, Donbas regional project, «Trudova Ukraina» pronounced a connection of electoral-spatial similarity with KPU ( $\chi^2 = 0,40$ ) was observed, and «Nasha Ukraina – PRP» and «Narodna Agrarna Partia» with «RYH» ( $\chi^2 = 0,55$  та  $\chi^2 = 0,57$  correspondingly), oriented on western regions.

**Table 7.** Electoral Continuity in parliamentary elections 2012-2014

2012-2014	PR (30)	BUT (25,54)	UDAR (13,96)	KPU (13,18)	SVO (10,44)
NF (22,14)	-0,89	0,89	0,54	-0,91	0,76
BPP (21,82)	-0,37	0,57	0,42	-0,38	-0,02
SAM (10,97)	-0,71	0,49	0,67	-0,68	0,76
OB (9,43)	0,92	-0,93	-0,73	0,82	-0,57
RPL (7,44)	-0,23	0,33	0,11	0,02	-0,24
BUT (5,68)	-0,74	0,85	0,57	-0,55	0,23
SVO (4,71)	-0,91	0,80	0,60	-0,86	0,85
KPU (3,88)	0,90	-0,93	-0,67	0,94	-0,68
SU (3,11)	0,88	-0,88	-0,59	0,81	-0,64
GP (3,10)	-0,67	0,48	0,55	-0,37	0,45
ZAST (2,65)	-0,18	0,31	0,17	-0,13	-0,18

Source: www.cvk.gov.ua [14.01.2016]

Studying of electoral party continuity 2012-2014, it is necessary to remember about actual eradication of the Crimea and Donbas (more than 6.5 million of homogenous and mobilized electorate, where each fifth voter is Ukrainian) from electoral process 2014-2015 and swift reduction of attendance in most of southeastern regions. The main «Party of Region» inheritress, for which the abovementioned regions were fundamental, became party «Opozitsiinyi Blok» ( $\chi^2 = 0,92$ ) and in part, «Sylina Ukraina» ( $\chi^2 = 0,88$ ). Electoral-spatial structure of KPU support has not been changed ( $\chi^2 = 0,94$ ) under significant support reduction in absolute values (not in the last thing because of The Crimea and Donbas factor). The calculations presented here give the opportunity to presume that election winner «Narodny Front» by a proportional part first of all appeared as an inheritor of «Batkivshchyna» ( $\chi^2 = 0,89$ ), and partially got the electors' votes that had supported «Svoboda» and «UDAR» in 2012 ( $\chi^2 = 0,76$  ra  $\chi^2 = 0,54$  correspondingly). More reasonable and centrist «Block of Poroshenko» approximately accumulated «Batkivshchyna» and «UDAR» (but not «Svoboda») electorate of 2012 ( $\chi^2 = 0,57$  ra  $\chi^2 = 0,42$  correspondingly). It is not excluded the probability (though the correlative electoral-spatial analysis on national level doesn't show it, but late we will give a typical «district case» confirming this hypothesis) of voting for the presidential power of «Party of Regions» former

electors (steady group of citizens that always vote for authority). Somewhere on intersection of «Svoboda» voters in Western Ukraine and «UDAR» in the oblast centers and cities it was formed the electoral base of «Samopomich» ( $\chi^2 = 0,76$  and  $\chi^2 = 0,67$  correspondingly). The parties «Batkivshchyna» and «Svoboda», as predictively, have the highest correlation with each other like in 2012. «Radykalna party» has a connection of similarity only with «Batkivshchyna» of 2012 ( $\chi^2 = 0,33$ ); in fact, this party didn't have electoral-spatial equivalent on the previous elections (further there will be calculations of RLP electoral continuity with more earlier political forces of 1998-2002).

**Table 8.** Electoral Continuity in parliamentary elections 2007-2012

2007-2012	PR (34,37)	BUT (30,71)	NUNS (14,15)	KPU (5,39)	LYTV (3,96)	SPU (2,86)
PR (30)	0,97	-0,95	-0,82	0,72	-0,09	0,47
BUT (25,54)	-0,96	0,97	0,76	-0,74	0,16	-0,32
UDAR (13,96)	-0,75	0,72	0,53	-0,56	0,47	-0,20
KPU (13,18)	0,92	-0,88	-0,89	0,96	0,01	0,23
SVO (10,44)	-0,73	0,68	0,86	-0,80	-0,31	-0,47

Source: www.cvk.gov.ua [14.01.2016]

The analysis of electoral continuity of party configuration of 2007-2012 has fixed several strong connections: firstly, «Party of Regions», «Batkivshchyna» and KPU demonstrated stability of spatial structure of their electoral base ( $\chi^2 > 0,95$  for all three parties). Secondly, the nationalistic party «Svoboda», mostly oriented on Western Ukraine became the only electoral inheritor of «Nasha Ukraina». Thirdly, «UDAR», reasonably oppositional to Viktor Yanukovich regime, formed its electoral-spatial base on intersection of «BJT» ( $\chi^2 = 0,72$ ), «Nasha Ukraina» ( $\chi^2 = 0,53$ ) and «Lytvyn Block» ( $\chi^2 = 0,47$ ) as well.

**Table 9.** Electoral Continuity in parliamentary elections 2006-2007

2006-2007	PR (32,14)	BUT (22,29)	NUNS (13,95)	SPU (5,69)	KPU (3,66)	LYTV (2,44)	PSPU (2,93)
PR (34,37)	1,00	-0,93	-0,82	-0,45	0,53	-0,29	0,91
BUT (30,71)	-0,98	0,97	0,73	0,51	-0,48	0,28	-0,90
NUNS (14,15)	-0,83	0,66	0,97	0,07	-0,73	-0,02	-0,78
KPU (5,39)	0,78	-0,68	-0,88	-0,07	0,88	-0,02	0,77

2006-2007	PR (32,14)	BUT (22,29)	NUNS (13,95)	SPU (5,69)	KPU (3,66)	LYTV (2,44)	PSPU (2,93)
LYTV (3,96)	-0,16	0,20	-0,25	0,36	0,33	0,85	-0,20
PSPU (2,86)	0,36	-0,34	-0,40	0,16	0,08	0,04	0,31

Source: www.cvk.gov.ua [14.01.2016]

Very small period of time between regular and special parliamentary elections caused such a situation according to which the electoral-spatial structure of support for «Party of Regions» ( $\chi^2 = 1$ ), «Batkivshchina» ( $\chi^2 = 0,97$ ), «Nasha Ukraina» ( $\chi^2 = 0,97$ ), KPU ( $\chi^2 = 0,88$ ) and «Block of Lytvyn» ( $\chi^2 = 0,85$ ) has not changed nearly. The cardinal changes have just taken place in a territorial measurement of SPU support (as in absolute quantity of gained votes): low correlation index of party results with «itself» ( $\chi^2 = 0,16$ ) is a bright illustration of its basic electorate loss because of head of political power, Oleksand Moroz, position concerning «anti-crisis coalition» formation.

**Table 10.** Electoral Continuity in parliamentary election 2002–2006

2002-2006	NU (23,57)	KPU (19,98)	Za EDU (11,77)	BUT (7,26)	SPU (6,87)	SDPU (6,27)	PSPU (3,22)	Zinku (2,11)	Ozim (2,02)
PR (32,14)	-0,80	0,92	0,61	-0,86	-0,30	0,56	0,75	0,73	0,57
BUT (22,29)	0,67	-0,84	-0,53	0,86	0,37	-0,60	-0,61	-0,72	-0,46
NUNS (13,95)	0,95	-0,87	-0,55	0,70	-0,17	-0,44	-0,83	-0,70	-0,65
SPU (5,69)	-0,02	-0,28	-0,10	0,35	0,94	-0,40	-0,17	-0,29	-0,25
KPU (3,66)	-0,81	0,75	0,27	-0,54	0,46	0,32	0,67	0,56	0,52
BL (2,44)	-0,04	-0,14	-0,08	0,11	0,33	0,10	-0,13	0,10	-0,04
PSPU (2,93)	-0,73	0,83	0,51	-0,76	-0,30	0,39	0,70	0,69	0,56

Source: www.cvk.gov.ua [14.01.2016]

It is naturally that in spite of all the dramatic events of electoral cycle of 2002–2006, the electoral-spatial support structure of parties, which took part in elections twice was almost unchanged for «Nasha Ukraina»  $\chi^2 = 0,95$ , for KPU – 0,75, for BJT – 0,86, for SPU – 0,94, for PSPU – 0,70. The «Party of Regions» ( $\chi^2 = 0,61$ ), oriented on southeastern regions, became a main electoral inheritor of presidential block «Za Edynu Ukrainu». But, we consider more important tendency that is how naturally the oligarchic «Party of Regions» occupied

the electoral-spatial niche of communists ( $\chi^2 = 0.92$ ), who had been actually engrossed by «regionals» for 4 years and transferred from a dominant party to a satellite status (reduction of support from 20% to 3.7%).

**Table 11.** Electoral Continuity in parliamentary elections 1998-2002

1998-2002	KPU (24,65)	RUH (9,40)	SPU (8,55)	ZEL (5,43)	NDP (5,01)	GROM (4,67)	PSPU (4,04)	SDPU (4,01)	AGR (3,68)	NU (3,13)	TRUD (3,06)
NU (23,57)	-0,90	0,91	-0,11	-0,33	-0,01	-0,26	-0,36	0,20	0,56	0,48	-0,43
KPU (19,98)	0,93	-0,75	-0,12	0,24	-0,05	0,31	0,21	-0,34	-0,44	-0,42	0,39
ZA EDU (11,77)	0,50	-0,49	-0,14	-0,02	-0,14	0,07	0,33	-0,12	-0,18	-0,22	0,87
BUT (7,26)	-0,77	0,67	0,27	-0,25	0,11	-0,19	-0,20	-0,02	0,38	0,40	-0,37
SPU (6,87)	0,11	-0,36	0,92	-0,05	0,23	-0,09	0,38	-0,23	-0,23	-0,40	-0,04
SDPU (6,27)	0,44	-0,46	-0,29	0,22	0,04	0,24	0,00	0,42	-0,35	-0,19	0,03
PSPU (3,22)	0,78	-0,77	-0,12	0,39	-0,12	0,27	0,53	-0,21	-0,50	-0,30	0,39
Zinky (2,11)	0,70	-0,65	-0,17	0,46	0,04	0,20	0,03	0,11	-0,37	-0,31	0,02
Ozim (2,02)	0,57	-0,53	-0,20	0,45	-0,02	0,47	0,16	-0,15	-0,41	-0,26	-0,06

Source: [www.cvk.gov.ua](http://www.cvk.gov.ua) [14.01.2016]

KPU, a party - winner of 1998 elections, didn't feel the essential changes in electoral-spatial structure of its support ( $\chi^2 = 0,93$ ), properly, as well as SPU ( $\chi^2 = 0,92$ ). Not very high rates of «correlation with each other» of SDPU ( $\chi^2 = 0,42$ ) and PSPU ( $\chi^2 = 0,53$ ) are associated with more uniform electoral base of these parties in 2002 than in the elections of 1998, when these young political forces were de-facto «parties of one basic region». The «electoral inheritance» NRU was obtained fully by «Nasha Ukraina» ( $\chi^2 = 0,91$ , when the results correlation of «Nasha Ukraina» of 2002 and 1998 years was just  $\chi^2 = 0,48$ ). The presidential block «Za EDU» is characterized by electoral-spatial similarity to one of its founders, that is «Trudova Ukraina» ( $\chi^2 = 0,87$ ), and at the same time «Za EDU» succeeded to widen the boundaries of «Donbas regional project».

In our research of electoral continuity, we decided to pay attention to a comparison of results of «neighbor» elections, though it is possible to take another approach. In the result of correlation analysis of different (not «neighbor») electoral cycles arrays; we determined some more interesting regularities concerning modern parties given in the «Table 12»

**Table 12.** Electoral continuity of distant electoral cycles.

Party №1 and year of elections	Party №2 1 and year of elections	$\chi^2$ (correlation)
RPL-2014	SPU-1998	0,64
OB-2014	Za EDU-2002	0,70
OB-2014	KPU-1998	0,74
SVO-2014	RUH-1998	0,91
SAM-2014	RUH-1998	0,62
BPP-2014	NDP-1998	0,52
NF-2014	RUH-1998	0,77
NF-2014	NU-2002	0,90
SU-2014	SDPU-2002	0,57

So, we have analyzed the dynamics of electoral party system configuration of Ukraine in 1998-2014 by means of correlative analysis. However, the usage of such method for nationwide electoral space is not the only format of researches. Moreover the focusing on smaller unions (discrete regions, districts) can give much more valuable information which is difficult to approach to with exceptionally qualitative expert methods of political analysis. As an example, we propose to consider case of Barvinkivskiy district of Kharkov oblast. There are 20391 voters<sup>9</sup> in the district, village population numerically predominate over urban one. According to the results of parliamentary elections in 2012, «Party of Regions» gained 45,29% of votes (by total 40,98 on the whole oblast). 24,09% of voters supported «Opozitsiinyi blok» (by joint result 32,16%), 22,3%<sup>10</sup> supported «Block of Poroshenko» in 2014. In the local elections to Kharkov oblast rada in 2015, the highest result in district was shown by «Volonterska party of Ukrainy», (22,79%), the second place took «Solidarnist-BPP» (19,91%), the third – «Opozitsiinyi blok» – (15,29). Barvenkivskiy district is located on the south of Kharkov oblast and has a boarder on Donetsk oblast, the economy of administrative-territorial unit is based on agriculture.<sup>9</sup> There are 20391 voters in the district, village population numerically predominate over urban one. According to the results of parliamentary elections in 2012, «Party of Regions» gained 45,29% of votes (by total 40,98 on the whole oblast). 24,09% of voters supported «Opozitsiinyi blok» (by joint result 32,16%), 22,3%<sup>10</sup> supported «Block of Poroshenko» in 2014. In the local elections to Kharkov oblast rada in 2015, the highest result in district was shown by «Volonterska party of Ukrainy» (22,79%), the second place took «Solidarnist-BPP» (19,91%), the third – «Opozitsiinyi blok» – (15,29).

The analysis of dynamics of these results is pushing the majority of researchers to define conclusion about «ukrainization» of the region, an obvious tendency of «democratic forces» support growth. However, the usage of correlative analysis of electoral statistics (in combination with expert methods) helps more deeply understand the situation. The correlative connection

<sup>9</sup> Governmental register of electors of Barvenkivskiy region. – Regime to access: [www.drvgov.ua/portal!/cm\\_core.cm\\_index?option=ext\\_orган\\_ved&pid100=63&pf3001=607&cprijim=8](http://www.drvgov.ua/portal!/cm_core.cm_index?option=ext_orган_ved&pid100=63&pf3001=607&cprijim=8)

between the results of BPP in 2014 and 2015 constitutes  $\chi^2 = 0.05$ . It is rather strange, taking into consideration a small period of time, and it means that 22.3% of votes in 2014 and 19.91% in 2015 – are «different votes» (there is no any significant connection between electoral-spatial base of these results). The calculation of electoral continuity rate between BPP-2014 and VPU-2015 results gave more appreciable result  $\chi^2 = 0.31$ . And now the strangest thing: the correlation between voting for «volunteers» in 2015 and «Party of Regions» in 2012 was  $\chi^2 = 0.54$ . It is rather strong connection, which means that in major cases those polling stations that had given «regionals» the highest percent in 2012, gave the greatest support to «volunteers» in 2015 and vice versa. The biggest «pro-Ukrainian» party of 2012 was «Batkivshchyna». VPU looks more like «Batkivshchyna» than PR in accordance with its rhetoric and positioning. But the calculation of correlation between the results of «Batkivshchyna» in 2012 and «Volonterskaya partiya» in 2015 didn't give any positive results ( $\chi^2 = -0,19$ ). Why did the pro-Ukrainian VPU, which in city locality was close to electoral niche of «Samopomich», become a partial inheritor of «Party of Regions» of 2012 and not of «Batkivshchyna» in Barvenkivskiy district? The most probable explanation is rather simple – one of the biggest employers in village location is an agrarian holding, the owner of which, Valerij Dema, was the candidate to Verkhovna Rada on majority district from BPP, and seemed to provide with the necessary result for «Party of Regions» in the district before the events of 2013.

This hypothesis is confirmed by the correlative analysis between voting for Dema on the territory of the district (which was a part of majority okrug №178) in 2014 and by electoral-spatial support structure of «Volonterska partya» in 2015 ( $\chi^2 = 0.59$ ), «Block of Poroshenko» in 2014 ( $\chi^2 = 0.57$ ). This typical example of «neopatrimonial democracy» logics affirms «the identification effect», «personal voting» and administration influence factors often explain changes in electoral behavior of voters without deepening into the context of any hypothesis according the electoral dynamics («Ukrainization» or «de-Ukrainization») will carry rather superficial character.

So, during the course of research we came to the following conclusions. Firstly, with respect to the perspectives of the correlative analysis method for electoral-geographical studies; instrumental testing on «Ukrainian case» assured that correlation analysis of political subjects' results arrays on polling stations allows evaluating the electoral-spatial party configuration and electoral party continuity on rather deep level. The example with Barvinkivskiy district of Kharkiv oblast assured that this method allows to discover the concealed tendencies and regularities of voting that are invisible at the first sight and connected to the peculiarities of «identification effect», «personal voting» and neopatrimonial democracy. At the same time the method has its own weak sides and certain nuance in usage. Firstly, it describes the configuration of the very electoral-spatial niches, not «electoral niches» in wide understanding. In other words, the correlation analysis embraces all the socio-political differentiations, which has its own territorial measurement (ethnic, language, religious, central-peripheral, urban, socio-economical), but

it can't give the information according, for example, to gender aspect of electoral niches (by the way, it is possible to work with age distribution, researching the results of «concentrated» polling stations, in particular, halls of residence). The correlative analysis gives the information concerning the electoral-spatial antagonism or similarity of parties, but for creation of electoral-partial configuration model it is recommended to strengthen it by cartographical method of electoral geography (i.e. not only the presence of specific connection between the parties but a concrete spatial measurement of this electoral niche are important). One more nuance: testing of this method on «low» level of discrete regions and electoral district demonstrated that during such focusing it is possible to study the electoral continuity and not belonging to one electoral-spatial niche (with fixed percentage size of this niche in rather homogenous small territorial unit between electoral-similar parties effect of communicating vessels appears, but not a reverse correlation). Besides, electoral continuity studies (these don't correspond to electoral similarity) appear from the thesis on relative resistance of existing configuration of socio-political cleavages (weakened version of «cleavage freezing» package in the categories of S. Lipset and S. Rokkan). Such detailed descriptions of methodological nuances (to counterbalance laconic description of strong sides) don't have to discredit the method, and only aimed for convenience of future studies and concrete work with it.

Properly speaking, the results of «Ukrainian case» studies demonstrated high effectiveness of this instrument. Dynamics of electoral continuity and structure of electoral-partial configuration of the 1998-2014 period was analyzed. The configuration of this whole period, to our mind, is clearly inscribing into «cleavage» model of Lipset-Rokkan, correspondingly, one group of parties oriented, mostly, on southeastern projects, the second – on western Ukraine (there always were specific projects, for example, agrarian parties with the focus on central Ukraine or «parties of one region»). We consider a great perspective in further studies of certain aspects of Ukrainian party system exactly by this instrument. The question of «Party of Regions» electoral inheritance remains open – on the results of local election 2015 we can confidently affirm that monopoly of «Opozitsiynij Blok» of 2014 will be weakened by such projects as «Vidrodzennya» and «Nash Kraj». Uncertainty with fullness of the Crimea and Donbas participation in Ukrainian electoral process creates all the reasons for development of different scenario – returning models to 2006-2007 (with the appearance increase in southeastern regions and attraction of Donbas to voting) or, contrariwise, to the variants of new outlines of political cleavages and electoral-spatial differentiation.



**Appendix 1.** The list of party abbreviations

Abb	Party	Abb	Party
LYTV	Blok Litvina	PR	Party of Regions
VITR	Blok Nataliyi Vitrenko	PSPU	Progrisivna sotsualistichna partiya
BPP	Blok Petra Poroshenko	RPL	Radikalna partiya Ukrayini
BUT	Blok Yuliyi Timoshenko	SAM	Samopomich
GROM	Gromada	SU	Silna Ukrayina
GP	Gromadyanska pozitsiya	SDPU	Sotsial-demokratichnaya partiya Ukrayini
OZIM	Komanda ozimogo pokolinnya	SPU	Sotsialistichna partiya Ukrayini –
KPU	Komunistichna partiya Ukrayini	SVO	Svoboda
NA	Narodna agrarna partiya	TU	Trudova Ukrayina
NUNS	Nasha Ukrayina - Narodna Samooborona	UDAR	UDAR
NU	Nasha Ukrayina	Za EDU	Za edinu Ukrayinu
OB	Opozitsiyiniy blok	ZAST	Zastup
ZEL	Partiya zelenih Ukrayini	Zinky	Zhinki za maybutne