Perception of Slovenian Political Parties: A Network Approach

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Abstract

The first democratic multi-party parliamentary elections in Slovenia in 1990 also began the process of building relations between political parties. A useful approach to studying this process is the method of social network analysis, as shown by Kropivnik and Mrvar (1996), who used this approach to examine similarities and dissimilarities between parliamentary political parties on an eleven-point scale. Members of the Slovenian parliament were asked to fill in a rather extensive questionnaire about their perceptions of Slovenian political space. Based on these responses, the authors were able to present a clear picture of the network of Slovenian parliamentary parties and its significant characteristics.

In this study, we have pursued the same objective by utilising voters' perceptions of relations between parties. Clearly, parliament members cannot be interviewed at any time and too many times. Voters are much more convenient respondents for such studies focusing on the process of change. On the other hand, voters are not involved in politics as much as elected parliament members and they cannot have the same concern and expertise as insiders. Therefore, the randomly chosen respondents were asked to estimate relations between parties on a less demanding seven-point scale, using a two-stage approach. To avoid response bias, a split-half approach was used to assess original and reverse relations (party A against party B and vice versa). Furthermore, each respondent was asked to evaluate only five of all fifteen possible relations.

In this article, the main objective is to show that a random sample of voters and telephone interviewing can be used to evaluate political space if the described data collection design is followed. In addition, an up-to-date picture of the network of Slovenian parliamentary parties is presented.

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1   Introduction – stasiology[2] on the road to a network approach

Studies of relations between parliamentary political parties are an important part of political science. Parties that are similar with respect to their political goals and the values they represent are more co-operative and they can more easily reach compromises, thereby creating more stable coalitions. The opposite is true for parties which are dissimilar. Antagonistic relations between substantially dissimilar and powerful parliamentary parties can obstruct the parliament as well as jeopardise democracy.

The majority of studies of parliamentary political parties are based on public opinion pools data and various multivariate research methods. Although researchers are primarily interested in relations between parties, they can only speculate about their relations on the basis of the parties' characteristics. For example, parties that are estimated by respondents as left oriented (which is a characteristic) are understood as being similar (which is a relation). Analogously, on the basis of factor analysis of respondents' attitudes towards political parties on the "political barometer" (inclined-disinclined) scale, a certain number of factors can be created and each factor can be associated with a certain group of parties. If a respondent has a positive attitude towards one party in a group, he or she has positive attitudes towards all parties in the group and vice versa. On the basis of such response patterns, parties in a group are understood as being similar.

In the last decade new social science empirical methods have emerged which enable the study of negative and positive relations between units of analysis simultaneously and to present the results in a clear way. The network approach has made possible the analysis of relations between political parties directly, i.e. not on the basis of their characteristics. Relations between parties can be represented by a valued signed graph (Doreian and Mrvar, 1996), where vertices correspond to parties; a positive edge joins two parties if there is a positive relation (similarity) between two parties and a negative edge joins two parties if there is a negative relation (dissimilarity) between the two parties. The strength of a relation is also taken into account. Indifference between two parties is indicated by the lack of any edge joining the corresponding parties. Partitions of parties into two or more groups can be obtained, so that every positive relation occurs between parties in the same group, and every negative relation occurs between parties in different groups.

After Slovenia's first decade of democracy, relations between political parties in this country are still in the process of change. The process itself is deeply

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[2] A course in political science studying political parties.

studied by political scientists, using various multivariate research methods. To date the network approach has been used by Kropivnik and Mrvar (1996) to examine similarities and dissimilarities between parliamentary political parties, reported on an eleven-point scale by members of Slovenian parliament, who were asked to fill in a rather extensive questionnaire about their perceptions of Slovenian political space. Based on the responses, the authors were able to present the significant characteristics and a clear picture of the network of Slovenian parliamentary parties. After the elections in 1996 new members of the parliament were interviewed in 1998, using a similar questionnaire. The obtained data set is only partial and still under analysis.

Since 1998, some changes in the party system have given rise to the need for another study. Voters are much more convenient respondents for such studies as parliamentary members cannot be interviewed at any time. At the same time, voters in general can have only inexpert knowledge about political space, as they are less involved in politics than elected members of parliament. The question is whether it is reasonable to interview randomly chosen voters about expert information and expect their full cooperation and valid and reliable answers. In other words, do voters understand the many-sided latent dynamic concept of relation? Do they use this concept when they think about political parties? Do they prefer the one-sided explicit constant concept of party characteristics and value parties only according to their attributes? We decided that it is worth giving voters a chance.

2   Survey description

Research on perceptions of parliamentary political space was conducted from April 26th to May 3rd, 2000. To keep the costs of the experiment as low as possible, CATI was used to interview 355 randomly chosen respondents[3]. Afterwards, data were weighted using a ranking method for gender, age, education, employment status and region (based on postal codes).

To make the interview for randomly chosen respondents as easy as possible they were asked to estimate relations between parties on a less demanding seven-point scale (instead of a more fine-grained eleven-point scale). To avoid response bias and response burden, a split-half approach was used to assess original and reverse relation (party A against party B and vice versa) with five evaluated relations out of fifteen. For this reason the sample was composed of six randomly composed subgroups, each of which provided estimations of one third of the original relations or one third of the reversed relations. In this way we reduced data collection costs and the burden on the respondents at the same time.

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[3] Data collecting process was carried out by CATI Center, Ljubljana.

Because of the described data collection design, the full similarity/dissimilarity matrix composed of six partial matrices was put together after extensive testing for differences between subgroups which could affect party distance estimations. For example, a third of relations estimated by young voters and another third of relations estimated by older voters should not be used as one if there are differences in estimates depending on age. In other words, there should be no significant differences in the demographic and political structure of sub-samples. Or alternatively, respondents' demographic characteristics and degree of involvement in politics should have no effect on the estimates given.

Last but not least, the study should confirm that there is no difference in the outcome depending on whether respondents estimate the relation between A and B (original relation) or the relation between B and A (reversed relation).

3   Structure of the sample

The average age of respondents was 43 years. 55% were male and 45% were female, among which 19% completed elementary school or less, 20% completed vocational school, 41% completed high school, and 20% have a university degree. The majority of the respondents have picked a favoured political party (85%) and would cast a vote if elections were held "next week" (84%). Table 1 shows which parties would receive votes (only respondents with expressed preferences are included).

Table 1: Number of votes.

Party[4]	Frequency	Percent
LDS	39	52%
SLS+SKD	9	12%
SDS	7	9%
DESUS	2	3%
ZLSD	17	23%
Demokrati	1	1%
Total	75	

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[4] List of Slovenian political parties: Liberal Democratic or LDS; Slovene People's Party or SLS (Slovenian People's Party or SLS and Slovenian Christian Democrats or SKD merged in April 2000); Social Democratic Party of Slovenia or SDS; Democratic Party of Retired (Persons) of Slovenia or DeSUS; United List of Social Democrats (former Communists and allies) or ZLSD; Slovene National Party or SNS.

An analysis of the most crucial characteristics of the six sub-samples, which are equal in size, revealed the following:

- There is no significant difference in mean age of respondents ($F = 0.749$; $p = 0.587$).
- There is no significant difference in gender structure (Chi-square = 4.446; $p = 0.487$).
- There is no significant difference in educational structure (Chi-square = 17.173; $p = 0.309$).
- There is no significant difference in favoured party affiliation (Chi-square = 1.430; $p = 0.921$).
- There is no significant difference in determination to cast a vote (Chi-square = 3.391; $p = 0.640$).

There were no significant differences between sub-samples with regard to demographic characteristics and level of involvement in politics. Therefore in this respect the six sub-samples can be treated as one in further analyses and the aggregate similarity/dissimilarity matrix can be analysed.

Table 2: Differences in sub-samples with regard to party affiliation.

Subsa-mple	Party affiliation						
	LDS	SLS+SKD	SDS	DESUS	ZLSD	SNS	NONE
1	8	1	1		2		1
2	5	1	4		2		
3	6	2	1		4	1	1
4	4	2	1	1	4		
5	7			1	1		
6	4	1			4		

However, further analysis of the last but not the least important characteristic of the six sub-samples revealed that:
- There were some differences in party-voting structure (expected frequencies in some cells of the contingency table are too low for reporting Chi-square and P). Party-voting structure of the six sub-samples is presented in Table 2.

Therefore in this respect the six sub-samples so far cannot be treated as one in further analyses and an aggregate similarity/dissimilarity matrix cannot be analysed without restrictions. Further analysis is required to remove this barrier.

The optimum approach to dealing with party-voting structure of the sub-samples is to prove that party distance estimates are independent of party affiliation. If so, the party-voting structure of the sub-samples is irrelevant.

The reliability of the average party distance estimates between groups organized by party affiliation was estimated. Cronbach Alpha turned to be reasonably high, namely 0.87. No matter which party we exclude, the reliability of party distance estimates is almost the same. Therefore, we considered party distance estimates as independent of party affiliation and voting structure of the sub-samples as irrelevant. In all respects that were taken into account so far the six sub-samples can be treated as one in further analyses.

4   Split-half design of the sample

Respondents were asked the following question: "We would like to ask you some questions about your attitude toward politics. According to several criteria some political parties are closer to each other than others. How would you personally estimate similarities and differences between the following parties in the pair?" Respondents estimated similarities and dissimilarities on the seven-point scale in two steps. First, they estimated the nature of the relation on the scale with three categories: similar, neutral and or dissimilar. Secondly, they were asked to estimate the intensity of the selected relation on a three-point ordinal scale (very, fairly, or moderately).

To avoid response bias, a split-half approach was used to assess original and reverse relation (party A against party B and vice versa). If there is no difference in estimating original and reverse relation, both can be treated as equivalent and an aggregate matrix can finally be analysed using the network approach. Results of comparisons of estimations obtained in two sub-samples are presented in Table 3.

There is a single significant difference in estimation of distance between parties "SDS and ZLSD" and "ZLSD and SDS". Parties in reversed presentation were estimated as more different. So far we have found no reasonable explanation for this detail. As this is the only significant difference, it seems that presentation ordering of political parties has no systematic effect on estimated differences between parties. Therefore, the original and reversed relation estimates can be treated as equivalent and the aggregate matrix of estimates can finally be analysed with network approach.

Table 3: Differences between original and reversed relations.

Parties in a pair	Original (mean value)	Reversed (mean value)	t-test (significance)
LDS and SLS+SKD	-1.24	-1.62	0.271
SDS and ZLSD	**-0.72**	**-1.62**	**0.017**
DESUS and SNS	-0.83	-0.76	0.886
SLS+SKD and DESUS	-1.37	-0.89	0.218
SDS and SNS	-1.61	-1.46	0.654
LDS and SDS	-1.32	-1.49	0.639
ZLSD and SNS	-0.89	-1.12	0.548
LDS and ZLSD	0.81	0.16	0.073
SDS and DESUS	-1.71	-1.33	0.260
LDS and SNS	-0.87	-1.44	0.133
SLS+SKD and SDS	-0.00163	-0.04129	0.916
ZLSD and DESUS	0.24	0.53	0.438
SLS+SKD and ZLSD	-1.52	-0.95	0.150
LDS and DESUS	0.16	0.68	0.165
SLS+SKD and SNS	-2.11	-1.71	0.206

5   Network analysis

The network analysis package Pajek (Batagelj and Mrvar, 2002) was used to analyse dissimilarities between pairs of political parties. Partitions of similar parties were sought with relocation procedure utilizing input weight for negative errors: total error = $\alpha \cdot$ negative errors + $(1 - \alpha) \cdot$ positive errors

(α was set to 0.6 since the positioning of dissimilar parties into the same group was considered as a more important criterion for partition as opposed to positioning similar parties into different groups). Regarding the error function, the best fitting partitions are the 3 or 4 group partitions as shown in Figure 1.

The three group partition is far more interesting as it separates left-wing parties (ZLSD, LDS, DESUS) from right-wing parties (SLS+SKD, SDS) and a small nationalist party with elements of the left and right ideology. Similar partitions are obtained in analyses of Slovenian political space and the party system. Partition into four groups is less appealing because of fragmentation (three parties appear in separate groups).

Comparison of parties based on perceptions of similarities of parties done by voters can be graphically presented as well. The Pajek program (Batagelj and Mrvar, 2002) was used to obtain such presentation of Slovenian political space

using Fruchterman Reingold spring-embedder in 2D space. Arcs were valued by estimated (dis)similarities of parties.

Results of the 3 and 4 group partitions are presented in Table 5.
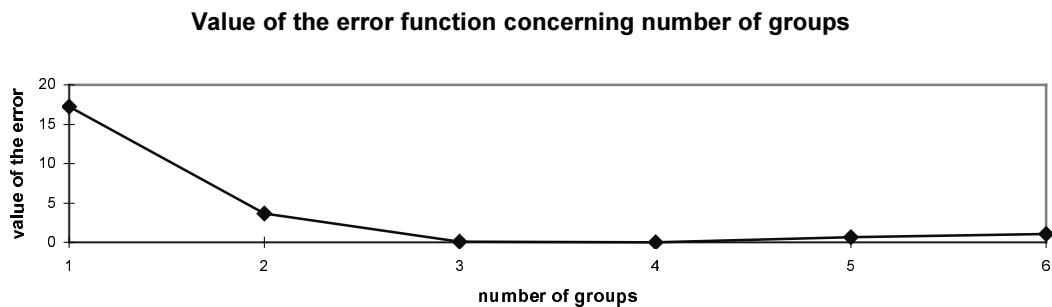
Figure 1: Error function.

Table 4: Number of groups and values of error function.

No. of groups	Value of error function
1	17.26
2	3.66
3	0.09
4	0.00
5	0.67
6	1.09

Table 5: Groups of parties.

No. of groups	Parties
3	1) ZLSD; LDS; DeSUS 2) SLS+SKD; SDS 3) SNS
4	1) ZLSD; LDS; DeSUS 2) SKD+SLS 3) SDS 4) SNS

The results show that most similar are the left-wing parties (LDS, ZLSD, DeSUS). The right-wing parties SDS and SLS+SKD are also very similar, but less so than the left-wing parties among themselves. The political party SNS is an outlier in almost all cases, but it leans more to the left than to the right.

A similar research made by Kropivnik and Mrvar in 1996, has shown that left-wing parties are in the perception of parliament members highly heterogeneous and right wing are much more homogeneous.
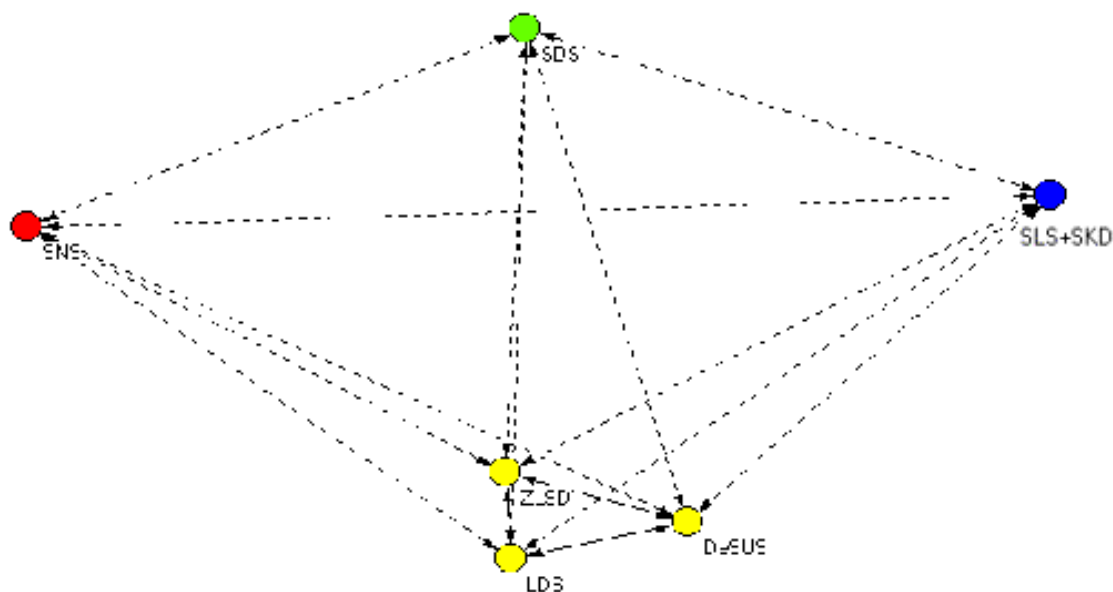
Figure 2: Similarities of political parties.

6   Conclusions

As shown, a random sample of voters and telephone interviewing can be used to obtain valuable data on party relations if the described data collection design is followed. In other words, voters understand the many-sided latent dynamic concept of relation, not only the one-sided explicit constant concept of characteristic, and therefore can and should be interviewed if one wants to study changes in relations between political parties using the network approach.

Our survey shows that voters see left-wing parties as much more homogenous than right-wing parties. If we divide all the parliamentary political parties into two groups, we get a simplified division on the left and the right. When dividing into more groups, we see a further subdivision of right-wing parties, but the left-wing ones stay in one group.

This situation is different from the one shown at the first study done on parliament members. The explanation lies in substance, not methodology. At the time of the first study the coalition in power belonged to the left and at the time of this study the coalition in power belonged to the right. Regardless of ideology,

temporary parliament opposition always seems to be more homogeneous, while parties in power always seem to be more apart from each other than they actually are according to their political aims.

References

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