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A CONSIDERATION SET APPROACH TO VOTING BEHAVIOR: THE CASE OF RUSSIAN FEDERAL DUMA ELECTIONS

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Introduction

Previous theories and empirical studies devoted to issue voting in multi-party systems claim that a voter chooses between policy offerings of various political parties by comparing them with her own preferences. Moreover, existing literature usually makes an assumption that each voter has the same **choice set**[1]. However, a voter may ignore certain political parties if they are not electorally viable (strategic voting) or have too extreme policy positions. Besides that, voters in electoral authoritarian regimes often face artificially restricted choice set of parties that are allowed to campaign. The consideration set approach relaxes the constant choice set assumption while predicting party choice.

In the existing literature on the problem there are no studies devoted to the application of the consideration set approach to modelling voting behavior in non-democratic regimes. Previous research exploits the survey data on elections held in the democratic environment to test the hypotheses on two-step decision-making process (M.R. Steenbergen, Hangartner, and deVries 2011; Moral and Zhirnov 2018). The results of these studies show that the two-step approach enables to reach significantly more accurate predictions than the regression models which do not take into account the difference between individual consideration sets.

We are interested in applying the consideration set approach to the data on elections under electoral authoritarianism not only to gain more accurate predictions but also to model the voting behavior assuming that it depends on the individual choice set composition. What is more appealing is to check whether the changes in the set of parties influence the voter choice and thereby uncovering the effect of possible manipulations. A number of

[1] In this thesis, terms "choice set" and "consideration set" are often used interchangeably.

existing studies state that as a rule the elections under electoral authoritarianism are manipulated by ruling elite that seeks to win the competition with huge margins (Colton and Hale 2008; D. White 2011; Gill 2012). One of the methods to provide an incumbent political party with advantage in electoral competition is to play with the set of parties allowed to ballot. It can be performed via either adding spoiler parties that pick up votes from relatively strong opposition parties or impeding some parties to elect. Therefore, it is reasonable to research how the manipulation with party choice set affects the election results.

Thus, in political science there is a lack of studies devoted to the application of a two-step approach to modelling the electoral behavior in the framework of the Russian political regime with regulated party competition. This can be considered a **research problem** of the study.

In turn, the **research question** can be stated in the following way: how do the formation and change of a voter's effective choice set influence her electoral behavior and decision in political space?

The **object** of this study is a voting process in electoral authoritarian regimes, whereas the **subject** is the voters' behavior in the framework of the Russian political regime with the regulated party competition.

The **objective** of the research is to indicate some patterns of voting behavior in politically regulated elections.

The **tasks** are:

1. To analyze voting as a two-step process at the theoretical level;

2. To divide the factors of voting decision into two groups: the first level (predictors that explain the choice set composition) and the second level (the final choice among possible alternatives included in the choice set);

3. To estimate the influence of the first and the second level factors on elec-

toral behavior via the constrained choice conditional logistic regression (CCCL).

Methodology

As classic models of electoral behavior are usually traced to Downs and a number of recent studies in this field use economic analysis, we will try to adhere to the *rational choice theory* as a methodological framework for this research. The key method is the regression analysis and subsequent modelling of a voter's behavior via performing simulations.

In our analysis we use the data on post-presidential election survey in 2012 that contains questions about the State Duma election in 2011. In this year, the electoral authoritarianism in Russia is considered to reach a peak. Then only seven parties were allowed to compete, there was the control over the most popular TV channels. All things considered, informational space gave a big advantage to the ruling party.

In this regard, we test six hypotheses in this research. First, we suppose that the congruence between a voter and party stances on a policy dimension has significant effect on the party choice. We measure the congruence based on the assumptions of both proximity and directional theories[2]. Second, the party with high level of media representation is more likely to be included in a voter's choice set. Third, the individual choice set composition is influenced by the voter's main source of information (TV, the Internet, the radio and newspapers). Fourth, the individual choice set differs between those who votes for the ruling party and those who chooses the representatives of opposition. Finally, the change in choice set composition leads to the meaningful change of a voter's choice.

After performing the empirical analysis, we have corroborated all the hypotheses listed above and have shown that the composition of choice set

[2]Both theories are reviewed in detail in the first part of the thesis.

influences the voting behavior. Furthermore, we demonstrate that the two-step approach is suitable for modelling a voter's party choice under electoral authoritarianism.

Chapter 1. Theoretical Framework

1.1. How Voters Decide: a Two-step Approach.

One of the key questions in political science is why citizens choose a particular party or candidate among others. How do they typically make this decision? For more than half a century social scientists have been trying to find out the determinants of a voter's choice. Eventually, the three main approaches to the problem have been elaborated.

The first one, the Columbia school, assumes that voters cast their ballots for a certain candidate or a political party according to the social group they belong to (Berelson, Lazarsfeld, and McPhee 1954; Lipset and Rokkan 1967). However, recent studies indicate the tendency that the relationship between the position in the social structure and the party choice is steadily weakening. Moreover, R. Dalton points out that politics is getting more and more individualized and independent from social cleavages (Dalton 1996).

The other approach was introduced by scholars from Michigan University. They draw their attention to the voter's party identification (Campbell et al. 1960). It is considered to be a long-term, psychological factor affecting the voter's process of decision-making. Also, it should be indicated that the partisan attachment can differ from the actual voter's choice and cannot be the only predictor of the dependent variable.

Furthermore, it has been noted that the voter in highly developed countries goes through a so-called cognitive mobilization (Dalton 1984). In other words, citizens choose between political parties by mainly considering the current issues, the strength and performance of the party as well as how the party tends to eliminate the existing concerns. This fact encourages contemporary scholars to return to the final approach that is rooted in Downs'

works (Downs 1957), the rational choice theory. This economic model of political market is based on the assumption that citizens choose a certain political party by estimating the similarity between their position on policy dimension and party offerings.

In literature, there are two main ways how to measure the congruence between voter and parties in a policy space. The first one belongs to the proximity theory. The key concept of the model is that a voter prefers the party that has the minimal distance to her ideal point (Enelow and Hinich 1984). The alternative to the proximity model is directional theory. It assumes that the direction of a party position in a policy space, depending on a neutral point, plays a crucial role in the voter's decision-making process (Rabinowitz and Macdonald 1989). This is tantamount to saying that voters are more likely to support the parties that have more radical claims on certain policy issues and promise to implement the policy in the same direction that the voter wants.

Besides the differences listed above, each model will work better and have stronger explanatory power if specific contexts are considered. The proximity model is sure to make more precise predictions when voters are well-informed about the parties or candidates, whereas the directional model is good at fitting voter evaluations of unknown parties (Merrill and Grofman 1997; Cho and Endersby 2003). Also, some scholars found out that the directional model has better results in comparison with the proximity model (Macdonald and Rabinowitz 1998). In contrast, Cho and Endersby demonstrate that the differences in accuracy between the two models are insignificant and the proximity model even outperforms the other one (Cho and Endersby 2003).

Referring to the initial three approaches to modelling the electoral behavior, it can be stated that they are not ideal, and describe only one side of the coin. That is why it is better to take into account all the considerations

while modelling electoral behavior. Besides, J. Thomassen argues that there are three types of determinants: social structure, long-term predispositions (party identification, value orientations, ideological orientations), and short-term factors (issues, retrospective judgments, political leaders) and their explanatory power of the party choice increases from the first to the last one (Thomassen 2005).

All three approaches reviewed above generally assume that a voter's choice set includes a fixed number of parties and is the same for all voters. More specifically, if election is contested by the Left, Centrist, and Right parties, proximity and directional theories assume that each voter makes a choice by comparing her ideal point to policy positions of all 3 parties. This implies that right-oriented voters would still pay attention to the agenda of Left party because they need this information in order to make informed decision. Several works suppose that this assumption is rather strict and is far from political reality. The voter may not consider all the parties involved in a political campaign. Indeed, it seems unrealistic to assume that a voter would even pay attention to the policy offerings of all political parties. A right-wing voter will likely never choose a leftist party regardless of what it promises during the campaign and, therefore, won't even pay attention to these promises. To summarize, each voter is likely to have her own consideration set or individual effective choice set of parties[3]. Scholars have tried to take into account this idea by exploiting different methods. Some used their judgements and exclude from the analysis the most radical and unpopular political parties (Cho and Endersby 2003). However, the exclusion of some party can lead to incorrect results and biased estimates. The other authors have built up the models that allow calculating the probability for each party to be in a voter's effective choice set (Moral and Zhirnov 2018) or the

[3]Effective choice set is the optimal subset of parties that is relevant to the voter's preferences and is evaluated by a certain voter while she is making a decision on party choice.

probability of each choice set (M.R. Steenbergen, Hangartner, and deVries 2011). These two approaches relax constant consideration set assumption and, therefore, can provide more accurate predictions.

The most recent research on the problem has been conducted by Moral and Zhirnov (2018). Using the Norwegian election data they test the constrained choice conditional logistic regression (CCCL), that contains two levels of voter decision-making process. The first level is responsible for estimating the individual (effective) choice set that depends on such non-policy factors as electoral viability, policy extremity of parties and a voter's strong affinity to another party. The second level is where a voter decides which party to choose based on the relationship between the voter's and party's position in the policy space. The authors show that the model makes more accurate predictions of vote shares than a simple conditional logistic regression used before. Moreover, the CCCL model has a significant feature that allows modelling the voters response to different choice set compositions. This approach seems to be appropriate not only for the electoral process in democratic regimes but, what is more appealing, for regimes with electoral authoritarianism.

To the best of our knowledge, there is no research where the consideration set approach is applied to the legislative elections in autocracies. These regimes, especially electoral authoritarianism, are famous for their politically regulated elections, a constrained party competition, a huge number of manipulations with election results and controlling the key mass media (Schedler 2002; Magaloni and Kricheli 2010). Elections under this kind of regimes are the instrument in autocrat's hands by which it holds on power (Gandhi and Lust-Okar 2009). The incumbents under electoral authoritarianism in order to survive and provide stability of their regime often build up the dominant party system as well as are usually concerned about mass support for their

regime. As a rule, the autocrats conquer the support via wining elections with huge margins and high level of turnout (Magaloni and Kricheli 2010). There are several ways how to gain the results. Autocrat can exploit overwhelming administrative resource (Frye, Reuter, and Szakonyi 2014) or turn to the falsifications of election results. The other way is to dry the political competition by preventing opposition parties or candidates from participating in elections, thereby creating a party choice set that favors a ruling party. That is why in this research we will try to test how the consideration set approach works in electoral autocracies, particularly in Russia.

1.2. Voting Under Certainty: Why Do Russian Citizens Vote?

According to the latest studies, there is convincing evidence that the political regime in contemporary Russia is non-democratic. Some authors regard it as a hybrid regime (Petrov, Lipman, and Hale 2013; Treisman 2011), at the same time Golosov and Gel'man classify the Russian regime as an electoral authoritarianism (Golosov 2008; Gel'man 2014). Despite the disputes regarding the type of authoritarianism in Russia, it can be claimed for sure that the Russian electoral process have several meaningful peculiarities.

1. It has a dominant party system (D. White 2011). For a relatively long time, the political party United Russia has managed to keep the majority of seats in the legislatures of different levels.

2. The severe electoral legislation and selective exercise of the law have resulted in the system with politically regulated party competition and controlled choice set submitted to voters (Colton and Hale 2008).

3. Incumbents often resort to vote falsifications and the use of administrative resource to win the elections (Frye, Reuter, and Szakonyi 2014; Enikolopov, Korovkin, et al. 2013).

4. Control over the crucial mass media (Colton and Hale 2008; D. White 2011).

All these characteristics of the Russian electoral process define how voters make up their minds for which party to cast their ballot.

A Russian voter in contrast to a voter in consolidated democracies experiences special challenges, and probably some kind of confusion, while making her decision on party choice. First of all, after the collapse of the Soviet Union, he or she in general was not accustomed to the sound democratic procedure due to the long period of the Communist Party dominance and the absence of party competition in that elections. It is quite difficult to speculate about political ideologies and values, let alone party programs without having some strong understanding how the emerging system works. Moreover, the majority of voters in many post-communist countries had to answer the questions which they had not faced before. According to what criteria should I select the political parties? Who deserves to win the unusual political competition? Who can I trust?

Kitscheld calls the obstacle the "tabula rasa" (Kitschelt 1995). It means that parties are not anchored in social and political structure. Therefore, taking into account the lack of experience and knowledge the parties in emerging post-communist democratic regimes were not going to base their strategies on some rational or programmatic grounds. They were predominantly charismatic or clientelistic parties that were able to shift from one political position to another with the aim to attract the "naive" electorate (Kitschelt 1995).

In the 90th, the Russian party system could not be considered as sustain-

able; however, it was also not fully controlled by the incumbent. Eventually, this resulted in the "managed democracy" (Balzer 2003) where the freedom of political choice was restricted by different manipulations. In 2007, the regime was followed by the electoral authoritarianism with non-free elections empowering the party United Russia to dominate (Golosov 2011). From 2005 till 2011 the number of parties allowed to participate in elections was decreasing from 37 to 7. The key instrument exploited by the ruling elite was adopting severe rules of party registration. Besides that, the electoral threshold was increased to record 7% in 2011. These conditions fostered the formation of the dominant party system with artificially created party choice set. In response to these measures A. Navalny, the representative of non-systemic opposition, initialized the campaign "Vote for any party except the United Russia" in the 2011 legislative election. This campaign implied the strategic voting had relative success and resulted in the decrease of the ruling party's vote share. After 2012, the regime suffered several changes. The strict rules of party registration were weakened and many political parties (but not all) were given the opportunity to appear on the ballot. Some authors suppose that the electoral authoritarianism in Russia started to decline after these changes (Gill 2012; Gel'man 2014). However, the political competition has remained restricted and controlled in the interest of the incumbent. Therefore, we consider in our analysis the period from 2007 till 2011 when electoral authoritarianism in Russia reached a peak and opposition took measures to resist it by the logic of strategic voting.

How did the political parties act during the flourishing electoral authoritarianism? The United Russia was characterized as a catch-all personalistic party and associated with Vladimir Putin (D. White 2011), despite the fact that he was not a leader and, at a minimum, a member of this party. As a catch-all party, the United Russia did not adhere to a distinct ideology, it is

taking the centrist position in the policy space, which allows it to maneuver while conquering the mass support. The dominating party's program captured both leftist and market economy appeals as well as national-patriotic values and claims thereby attracting the voters on a wide range of policy stances. Moreover, the United Russia via the closeness to the state had an opportunity to exploit huge administrative resource to win both federal and regional elections. These favourable conditions were complemented by the support of the state-owned national TV channels that projected only desired image of the ruling party.

In contrast to the United Russia, the opposition parties seem to have played only supporting roles at the Russian political theatre. The main opposition force is considered to belong to the Communist Party of the Russian Federation (CPRF), a successor of the Communist Party of the Soviet Union (Gill 2012). The party had a strong ideological attitude and was positioning as a left-wing political actor. It did not have the same access to the mass media like a ruling party and recruited supporters and activists through the other available channels. Besides that, the Communist Party was weakened by the spoiler parties that split its vote share and thereby enabling the United Russia to win the majority of seats in the State Duma. Thus, according to the existing research, Rodina in 2003 and A Just Russia in 2007 and 2011 are regarded as spoiler parties in the federal elections (Gill 2012). In such a way the incumbents formed favourable party choice set.

In 2011, the Yabloko party that differs from others in its liberal appeals suffered from these manipulations too. Although Yabloko did not have a mass support like CPRF and United Russia and was more elitist party (D. White 2011), the Right Cause was created and drew some portion of the liberal vote away (Gill 2012).

The Liberal Democratic Party of Russia (LDPR) was a personalistic op-

position party headed by Vladimir Zhirinovsky. The strategy and positioning of the party were tightly linked with the vision of their leader. In those years, this party did not have a definite ideological position and were not able to challenge the United Russia dominance.

During the period under review, all these parties, except United Russia, had restricted access to mass media, some of them were criticized by state-owned TV channels. Therefore, they had to use alternative channels of communication with voters and potential party activists. As a result, many of them turned to the use of the Internet, especially new media (D. White 2011).

Thus, the conditions in which voters had to make their decision on party choice were non-democratic. The results of federal elections were rather predictable and the party competition was subject to the several kind of manipulations. Some parties, such as the LDPR and the United Russia, were characterized as personalistic parties with vague ideological position, whereas the Yabloko and the CPRF whose positioning were based on ideological appeals had to compete with spoiler parties. This covers the supply side of the political market in Russia during the period of electoral authoritarianism. What about the demand side?

The research on electoral behavior includes several explanations for why people choose a certain party in the Russian political regime. First, there are economic determinants of voting. Gaivoronsky and Turovsky come to the conclusion that pocketbook voting is a weak and situational predictor of support for the ruling authority but stronger than the sociotropic one. In their opinion, the main reason why Russian citizens vote for the dominant party is a so-called "Putin's contract" which implies the exchange between the ruling elite and population of their loyalty for socio-economic well-being. The exception of this rule is retired persons whose loyalty depends on the size

of pensions they receive (Turovsky and Gaivoronsky 2017). Similar results were obtained by Mau et al. in their earlier works (Mau, Kochetkova, and Zhavoronkov 2000).

Second, the issue preferences of electorate influence the size of support for parties or candidates. Colton and Hale analyzing survey data on Russian Presidential elections in 2000 and 2004 find evidence that the Putin's popularity is partially linked with the policy he offers to voters (Colton and Hale 2008). According to their study, in 2000, this policy issue was the position on the left-right scale. In 2004, this classic dimension was replaced with offerings about foreign policy. Following their research, A. Zakharov finds out that ideological preferences, or policy dimensions, and demographic factors have significant effect on party choice. It is worth indicating that A. Zakharov is the first to use multinomial logistic regression to test the hypothesis about the importance of ideological factors in decision-making process (Zakharov 2008). Additionally, A. Akhremenko notices in his work that, in the Russian policy space, parties are divided into opposition and proponents of current performance (Akhremenko 2007). Besides that, in literature, there is plenty of evidence in favor of the significant influence of policy issue on the party choice in the framework of the Russian electoral system.

Third, mass media plays a crucial role in Russian elections. The main sources of information in Russia are controlled and manipulated by incumbents, which allow them to form favourable image or evaluation of their performance (S. White, Oates, and MacAllister 2001; Colton and Hale 2008). The manipulation of mass media is sure to form voter perception of political parties (Enikolopov, Petrova, and Zhuravskaya 2011). Besides, the source of information is likely to affect voter's effective choice set composition. Those voters who prefer watching state-owned television on a regular basis are more likely to cast their ballot for the pro-Kremlin party (S. White, Oates, and

MacAllister 2001). At the same time, the Internet is more often used by opposition parties to mobilise their supporters and to encourage others to vote for them (D. White 2011).

Thus, taking into account the results of previous studies and existing gaps in research we will try to test the following hypotheses:

- H_1: The closer the voter's ideal point to a party's position on a distinct issue, the higher the probability that this voter will vote for this party.
- H_2: The higher the intensity of voter's support for the political party, the higher the probability that this voter will vote for this party.
- H_3: The higher the media representation of a political party, the higher the probability of this party to be in a voter's consideration set.
- H_4: The voter's effective choice set depends on the type of media the voter uses most often.
- H_5: The effective choice set of voters who cast their ballots for opposition political party differs from those who choose the ruling party.
- H_6: Choice set composition conditions the effect of policy-related factors on voter's behavior and choice.

Chapter 2. Empirical Analysis

2.1. The Model

The most common approach to modelling choice behavior is based on probabilistic theories. The widely used model that allows predicting the choice among finite set of available alternatives is the conditional logit (McFadden n.d.). It implies that the choice depends on individual characteristics of alternatives and a decision-maker who tries to select the most beneficial alternative, or more formally to maximize some utility function. The random utility model embedded in the conditional logistic regression is a core method to calculate the probability that a voter will choose a certain political party in multiparty election.

Supposing the attributes of voter i forms a vector p_i as well as the features of some party j belonged to the set of alternatives J are included in the vector q_j, then the utility function of voter i can be described in the form:

$$U = f(p_i, q_j) + \epsilon_{ij},$$

where $f(\cdot)$ is a function that links the vectors of voter's and party's characteristics. In view of the existing literature on party choice, vector p_i constitutes the voter's ideal point and q_j is the party's position along a continuum of policy alternatives. Then, using the McFadden's conditional logistic regression the probability that voter i will choose the party j is

$$\pi_{ij} = \frac{e^{\alpha f(p_i, q_j)}}{\sum_{k \in J} e^{\alpha f(p_i, q_k)}},$$

considering that the random components (error terms) reflect unobserved individual idiosyncrasies, are independent and come from the Gumbel distri-

bution with a parameter α. It is important that the probability π_{ij} equals to the probability that the difference between the random components of alternatives will be less than the difference between the systematic utilities. This is a key assumption of a random utility model (Louviere, Hensher, and Swait 2003).

According to the two-stage approach, this conditional logistic regression is the final, second, step in the decision-making process. Regarding the first stage that defines the voter's individual choice set existing research in economics and political science offers several methods to model it. Manski is the first to add to the model these differences between decision-makers which stay implicit in the random component (Manski 1977). A. Tversky considers the choice behavior as an elimination process where a decision-maker excludes alternatives steadily paying attention to their properties (Tversky 1972).

As for research on voting, Vries, Steenbergen et al. have built up a choice set logistic regression where at the consideration stage the probabilities of all possible combinations of alternatives are calculated (Vries, M. Steenbergen, and Hangartner 2009). This approach is promising but rather time-consuming. The other option was suggested by Moral and Zhirnov (Moral and Zhirnov 2018). They incorporate the multinomial logit model (Castro, Martinez, and Munizaga 2013) into conditional logistic regression to obtain the probabilities of inclusion of each party in the voter's choice set (Moral and Zhirnov 2018). What is important is that the estimation of the parameters in the constrained choice conditional logistic regression (CCCL) does not require sophisticated and time-consuming calculations in contrast to the choice set logistic regression. Besides, it allows keeping the alternatives in the choice process by assigning some probability to each object, thereby avoiding the strict verdict in terms of 0 and 1. Also, the CCCL outperforms a simple conditional logistic regression on the prominent Norwegian

Election Study of 1989 (Moral and Zhirnov 2018). Therefore, in this work the CCCL is used to model the consideration and choice steps in the voting decision-making process.

To summarize, the constrained choice conditional logistic regression consists of two parts, multinomial and conditional logits:

1) Multinomial logistic regression is intended to estimate the probability ($Pr(j \in C_i)$) that party j will be included in the individual (effective) choice set (C_i). The probability is assumed to depend on non-policy characteristics of a party or a voter such as strong affinity to another party, party's policy extremity and electoral viability. Assuming that these properties of voter i and a certain party j are described by the vector z_{ij} as well as γ_0 is an intercept, and γ is a vector of parameters, then this model has the form:

$$Pr(j \in C_i) = \frac{1}{1 + e^{-\gamma_0 - z_{ij}^T \gamma}} = logit^{-1}(\gamma_0 + z_{ij}^T \gamma)$$

2) The second stage is the conditional logistic regression which models the choice among alternatives that remained viable after the first stage. Here, x_{ij} implies the congruence between the positions of party j and voter i in the multidimensional policy space, whereas β is a vector of parameters. The probability that voter i will choose party j is obtained by the formula:

$$\pi_{ij} = \frac{e^{x_{ij}^T \beta}}{\sum_k e^{x_{ik}^T \beta}}$$

And finally, combining the two models, the constrained choice conditional logistic regression can be simply described by the following equation:

$$\pi_{ij} = \frac{Pr(j \in C_i) e^{x_{ij}^T \beta}}{\sum_k Pr(k \in C_i) e^{x_{ik}^T \beta}} = \frac{logit^{-1}(\gamma_0 + z_{ij}^T \gamma) e^{x_{ij}^T \beta}}{\sum_k logit^{-1}(\gamma_0 + z_{ik}^T \gamma) e^{x_{ik}^T \beta}}$$

To estimate the β, γ, γ_0 Moral and Zhirnov use the likelihood function

(2018):

$$L(\beta, \gamma, \gamma_0) \propto \prod_{i \in N} \prod_{j \in J} (\pi_{ij}^{y_{ij}}),$$

where y_{ij} is an indicator that takes value 1 if voter i chose party j and 0 if not. Thus, the estimation problem is to find such β, γ, γ_0 that maximize L.

2.2. Data Analysis

The Data

The analysis is based on a survey conducted under the leadership of T.Colton and H. Hale in 2012[4]. This survey is devoted to the Russian post-presidential election period and contains the questions about Russian Federal Duma election in 2011. The sample represents the voting-eligible Russian citizens.

To analyze the data correctly we have selected from the sample 1024 respondents who gave an answer on the survey question about the party for which they had voted in the latest State Duma election. In 2011, only seven parties were allowed to participate. There were A Just Russia (JR), the Liberal Democratic Party of Russia (LDPR), United Russia (UR), Communist Party of the Russian Federation (CPRF), Yabloko, Right Cause (RC), Patriots of Russia. The respondents who chose the Patriots of Russia (6 observations) were excluded from the analysis because they did not answer the question about left-right position of the party.

It is worth noting that this legislative election has several distinctive features. First of all, the strictest requirements for the political party registration were enforced resulting in the dried political competition. That is to

[4]Colton T.J., Hale H.E., Kosolapov M., Tonis E., Prudnikova A., "Russian Post-Presidential Election Survey in 2012", 2014. Access to the dataset: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/24202.

say, the incumbents via the strict rules of electoral law created an artificial choice set to win the election. Eventually, the incumbent party the United Russia received almost 50% of vote share and won an absolute majority of seats in State Duma. At the same time the non-systemic opposition whose parties were not allowed to participate in the Federal election organized a campaign under the slogan "Vote for any party except the United Russia", which was likely to provide some votes to the CPRF and A Just Russia. The strategic voting logic was very important because voting for parties who are less likely to pass through the 5% barrier (like Yabloko) essentially meant wasting a vote (only votes for parties who pass the threshold participate in the seat allocation process). That is why it is curious to apply the consideration set approach to the data.

The Variables

The dependent variable is the respondent's answer on the survey question: "Would you mind saying for which party or bloc you voted?" The options are a list of the parties and blocs whose names were included in the electoral ballot.

The independent variables of the CCCL are divided into two groups. The first group models voters' effective choice set composition, whereas the second one models the actual electoral choice from the viable alternatives.

Concerning the first group of variables, it is reasonable to add to the first part of the model the non-policy factors that probably influence the voter's effective choice set. Moral and Zhirnov use in their analysis such variables as strong affinity to another party (or party identification), policy extremity and electoral viability of a party (2018). Referring to the Russian case and the survey data on post-presidential election period, the party identification of a respondent is derived from the respondent's answer on the following survey question "Please tell me, is there any one among the present parties, move-

ments, and associations about which you would say, "This is my party, my movement, my association"?" The other factor that covers strategic voting phenomenon expressed in the party's electoral viability is approximated by multiplication of its vote share with the number of seats in parliament (450). At last, voters are likely to eschew the parties that make too extreme political statements. The extremity of a party is found by calculating the Euclidean distance between the party's position in policy space and the neutral point (N_m). Formally that is, $\mathrm{R} = \sqrt{\sum_{m \in M}(q_{jm} - N_m)^2}$, where j is the party and m is the specific policy dimension.

Besides these three factors, there is another determinant that affects voting behavior and is especially important under electoral authoritarianism. That is how mass media highlights the political actor's performance. A number of studies demonstrate the significant influence of the media representation on the voter's choice in contemporary Russia (Enikolopov, Petrova, and Zhuravskaya 2011; S. White, Oates, and MacAllister 2001). Therefore, it is important to capture this effect by including the parties' media representation variable at the first stage of CCCL. To operationalize the determinant we checked how often on average each of the parties was mentioned by mass media during the electoral campaign (from November 2nd till December 2nd). The data were requested from Russian agency "Medialogia". Additionally, the overall number of mentions for each political party during the period is in Appendix B.

In contrast to the first level, the variables at the second level of the model are primarily policy-related factors. The main challenge here is the identification of the specific policy dimensions. Existing studies devoted to the structure of Russian political space point out several divisions whose priority have changed over time. First, the most distinctive dimension is an attitude to incumbent (Akhremenko 2007; Anokhina and Meleshkina 2007;

Korgunyuk 2013; Makarenko 2013). It is usually reflected in to what extent a voter supports V. Putin's policy or opposes his course. Second, there is a division between those who supports increasing government intervention in the national economy and those who prefers the liberal economic policy and the development of market economy (Korgunyuk 2013; Zakharov 2008). Third, the scholars identify the policy issue linked with the type of political regime appropriate to Russian reality (Korgunyuk 2013; Makarenko 2013). Some voters want to see a strong leader as a head of state, the others insist on the development of democratic institutions in Russia. Fourth, the other issue is how Russia ought to relate to the Western countries (Colton and Hale 2008; Makarenko 2013). Finally, policy space probably contains the classic division into the left and right forces (Colton and Hale 2008).

To reveal the policy issues in the Russian political space some scholars have used qualitative methods such as expert surveys, the others have resorted to the quantitative methods and have performed exploratory factor analysis. As the political space is vulnerable to changes we have decided to apply the statistical method to the post-presidential election survey data in order to detect the latent dimensions of the data. Having included in the analysis the questions related to ideologies and possible dimensions we have gotten the five interpretable and reasonable factors and the factor loadings for each variable.

Table 1 shows that the political space of 2011-2012 period is likely to consist of the following five dimensions: 1) Putin's approval, 2) nostalgia for the Soviet times, support for USSR political regime and its economic system, 3) opposition to the current regime, 4) request for increasing the government intervention in the national economy and keeping the confrontation with NATO, 5) liberal values. Table 2 contains the mean factor scores for each political party that can be regarded as their positions in the obtained policy

	Putin's Approval	USSR	Protest	Big Government	Liberalism
Putin's Approval	0.785		-0.218	0.104	
Medvedev's Approval	0.780		-0.222		
Democracy	0.309	-0.197		-0.192	
Strong Leader		0.203		0.238	
Confrontation with NATO				0.537	
Political Competetion					0.230
CPSU's Approval		0.543			
Big Government			0.189	0.423	
Economic Inequality					0.633
Direct Gubernatorial Elections			0.408		
Protests			0.631		
Russia for Russians			0.269		
Socialism	-0.262	0.331			-0.208
West Countries as an Enemy		0.149			
Decentralization					
USSR		0.534			
Current Economy is good	0.344			-0.233	

The proportion of variance explained = 0.269.

Table 1: Factor loadings obtained via exploratory factor analysis.

space. Although these dimensions are linked meaningfully with the policy issues found in the previous works, the proportion of variance explained is rather small and the results of the analysis do not cover all the relevant dimensions. That is why another way to identify the policy issues relying on the previous scientific findings in this field and the results of exploratory factor analysis is the confirmatory factor analysis.

We suppose that the Russian political space in 2011-2012 had the following seven dimensions: 1) the Western countries are enemies, 2) the most suitable regime for Russia is a democracy, 3) support for socialism and nostalgia for the USSR life, 4) market economy, 5) Putin's approval, 6) nationalist sentiments, 7) the party's position on the left-right scale according to the respondents perceptions. The first four dimensions are derived via confirmatory factor analysis. The other variables are simply relevant questions in the survey.

Concerning the confirmatory factor analysis we have selected the fol-

	Putin's Approval	USSR	Protest	Big Government	Liberalism
Just Russia	11.112	10.175	7.245	10.081	6.108
LDPR	10.279	10.231	6.776	10.407	5.595
CPRF	9.548	11.817	7.706	10.907	5.143
Yabloko	10.238	8.001	8.315	8.062	7.801
United Russia	14.155	9.486	4.903	9.845	5.802
Right Cause	7.848	10.456	8.576	11.699	4.300

Table 2: Factor averages across the respondents who chose a certain party.

lowing survey questions that are probably influenced by the relevant latent variables:

- Western countries as an enemy: 1)"What do you think of how Russia should relate to the West?", 2) "The USA and NATO will weaken Russia if our president does not do enough to resist their influence".

- Democracy: 1) "What do you think, to what degree are the political systems that I mention here a good fit for our country?" a) a democratic system, b) not a strong leader, 2) "Direct gubernatorial elections should be restored", 3) "Competition among political parties makes our political system stronger", 4) "Some people think that in Russia everything should be decided by the top organs of government in Moscow, that the center should be strongest. Others think that everything should be decided in the regions, that the regional authorities should be strongest. What do you think about this?".

- Socialism and USSR: 1) "The rule of the CPSU, from 1917 to 1991, did our country more good than harm", 2) "Some people feel pride regarding the Soviet Union, while others feel shame. What do you feel?", 3) "The state should play a bigger role in the economy than it does now".

- Market Economy: 1) "What do you think, is it necessary to return to

the socialist economy, to leave everything essentially as it is now, or to continue and deepen market reforms?", 2) "It is normal when the owner of a prosperous enterprise, using the labor of his workers, becomes richer than other people".

The answers on the questions were recoded in such a way as to make the effect of a latent variable on the questions only positive.

It is quite challenging that some survey questions imply "yes" or "no" answers, whereas the others are a four-point or five-point Likert scale. The mixed item-response theory (IRT) model seems to be an appropriate method for obtaining the four latent variables from ordered and binary manifest variables. To estimate the parameters of mixed IRT we use a Bayesian approach because it has several significant advantages over maximum likelihood estimation. This approach allows introducing information on the distribution of parameters as well as copes with the missing data problem, and what is more crucial for this research is adopted to the estimation of models with multiple item types (Glas and Meijer 2003). The following specification of mixed IRT model is exploited:

$$y_{ij} \sim Bernoulli(\pi_{ij})$$

$$\pi_{ij} = F(\alpha_j + \xi_i \beta_j)$$

$$z_{ik} \sim OrderedProbit(\mu_{ik}, \tau[j, 1 : t_k])$$

$$\mu_{ik} = \delta_k + \gamma_k \xi_i$$

where $y_{ij} \in \{0, 1\}$ is a matrix of j dichotomous manifest variables for i observations; z is a matrix of k ordinal manifest variables for i observations; ξ_i is an unobserved attribute of i; β_j is a vector of discrimination parameters for j variables and α_j is a vector of difficulty parameters for j variables; τ is a vector of threshold parameters for k variables; δ_k is a vector of difficulty

parameters for k variables; γ_k is a vector of discrimination parameters for k variables; t is the maximum in a Likert-scale (in this case $t \in \{4, 5\}$); $F(\cdot)$ is the standard normal cumulative distribution function (probit and ordered probit).

As there is a lack of additional information on distribution of the parameters, the mixed IRT models have noninformative priors:

$$\beta_j, \alpha_j, \gamma_k, \delta_k \sim Uniform(0, 1)$$

All the four latent variables have the normal distribution priors with mean zero and standard deviation one:

$$\xi_i \sim Normal(0, 1)$$

The posterior distribution of the model parameters is obtained via Markov Chain Monte Carlo (MCMC) algorithm and a Gibbs sampling mechanism (Albert 1992). The confirmation of convergence, the Gelman and Rubin test ($\hat{R}$), is in the Table A.1 of Appendix A[5].

Table 3 shows the average value of seven variables (policy dimensions) for each political party. These values can be interpreted as the aggregated positions of parties in the 7-dimensional space. However, the identification of parties positions is rather problematic in terms of methodology. It can be expert survey, own judgment, analysis of party programs or voters' perceptions. For this research, we calculate the party position as the average positions of those respondents who had chosen this party answering the question about State Duma election.

After finding the policy dimensions and deciding on party positions, it

[5]Besides, to obtain latent variables "West countries as an enemy", "socialism and USSR", "Market economy" we have generated 3 chains with 200 000 iterations, discarding the first 100 000 samples (burn-in). As for "Democracy" variable, it required more iterations, 400 000 and 3 chains, 200 000 burn-in.

	West. Countries as an Enemy	Democracy	Socialism and USSR	Market Economy	Putin's Approval	Nationalism	Left-Right
Just Russia	0.11	0.14	0.13	0.05	3.27	2.48	4.896
LDPR	0.10	-0.00	0.10	0.07	3.07	2.73	4.709
CPRF	0.08	0.08	0.57	-0.15	2.91	2.52	3.978
Yabloko	-0.18	0.42	-0.42	0.48	2.67	2.21	5.633
United Russia	-0.04	-0.05	-0.15	0.01	4.09	2.39	7.298
Right Cause	0.03	0.17	0.04	-0.12	2.25	3.75	5.956

Table 3: Latent variable averages across the respondents who chose a certain party.

is necessary to define how to measure the congruence between voter's and party's stances. There are two main approaches: proximity and directional theories. Proximity theory of voting relies on the assumption that the less Euclidean distance between a voter's and a party's positions, the more a voter's utility from choosing the party. According to the directional theory of voting a systematic component of voter's random utility is calculated by the scalar product of the voter's and party's policy positions substracting the neutral point from each position in the policy dimension. Here, the neutral point is an average of all respondents' positions on a certain policy dimension. Thus, for this research, the two theories are applied to measure the congruence between party positions and voter ideal points. These variables are included in the second step of voting decision-making process in the two-stage approach.

The Results

To test the hypotheses we exploit four specifications of the constrained choice conditional logistic regression. Two of them rely on proximity theory (CCCL_Euc1, CCCL_Euc2), the rest are based on directional theory of party choice (CCCL_Sc1, CCCL_Sc2). Models CCCL_Euc2, CCCL_Sc2 include the variable that operationalizes the party media representation which probably influences the individual choice set composition. All these specifications of regression equations are necessary to compare the two theories and get some additional information on the effect of media.

Table 4 illustrates the estimates of the four model specifications. It turns out the issue dimensions except "Western countries as an enemy" have

statistically significant effects on the party choice in both proximity theory and directional theory models. Consequently, such dimensions in the Russian policy space as left-right scale, democratic values, support for socialism and nostalgia for the USSR times, market economy, approval of Putin's policy as well as nationalistic sentiments were relevant for the 2011 Russian legislative election. The directions of spatial variable effects reflected by the sign of estimate confirm the H1 and H2 hypotheses. As far as the proximity theory is concerned, the negative effect means that the more distance between a voter ideal point and party position on a policy dimension, the less probability that a voter will choose the party. The interpretation of the estimates in the directional theory model differs from the proximity theory one. Here, the positive effect of a statistically significant spatial variable indicates that the higher the directional effect of an issue (the scalar product of the direction and the intensity of voter and party stances), the higher the probability of choosing a party.

However, the influence of the policy extremity of party position and the voter strong affinity to another party on the choice set composition is not obvious and insignificant in some models. We suppose that, in the proximity models, the insignificant estimate of voter strong affinity to another party effect might be explained by the fact that in the 2011 legislative election the leaders of non-systemic opposition persuaded their supporters to vote for different systemic opposition parties and in no case for the United Russia. Some followers of small opposition parties, the Yabloko in particular, were likely to choose the more politically powerful parties the CPRF or A Just Russia, which is proved by the significant effect of the electoral viability variable reflecting the strategic voting behavior.

Besides, the impact of media representation on the party probability to be in the effective choice set appears to be significant in both proximity

	Proximity *CCCL_Euc1*	**Theory** *CCCL_Euc2*	**Directional** *CCCL_Sc1*	**Theory** *CCCL_Sc2*
Left-Right	-0.01*	-0.01**	0.028**	0.024**
	(0.004)	(0.004)	(0.009)	(0.009)
West. Countries as Enemy	-0.208	-0.216	0.378	0.433
	(0.141)	(0.147)	(0.283)	(0.292)
Democracy	-0.394***	-0.454***	0.702***	0.905***
	(0.093)	(0.105)	(0.176)	(0.2)
Socialism and USSR	-0.376***	-0.355***	0.91***	0.763***
	(0.064)	(0.06)	(0.124)	(0.121)
Market Economy	-0.353**	-0.435**	0.634*	0.893**
	(0.132)	(0.149)	(0.258)	(0.292)
Putin's Approval	-0.469***	-0.471***	0.877***	0.898***
	(0.05)	(0.051)	(0.099)	(0.101)
Nationalism	-0.404***	-0.445***	0.397*	0.519*
	(0.107)	(0.12)	(0.199)	(0.222)
Intercept	-4.273***	-4.168***	-3.653***	-3.499***
	(0.312)	(0.318)	(0.398)	(0.376)
Electoral Viability	0.013***	-0.067***	0.013***	-0.069***
	(0.001)	(0.017)	(0.001)	(0.019)
Policy Extremity	-0.294	-1.871***	-1.252***	-2.874***
	(0.182)	(0.412)	(0.202)	(0.449)
Strong Affinity	13.579	10.318	4.731***	5.167***
	(143.828)	(16.274)	(0.79)	(0.967)
Media Representation		43.38***		44.227***
		(9.405)		(10.091)
Log-likelihood	-712.368	-696.123	-715.256	-699.976
AIC	1446.736	1416.247	1452.512	1423.952
BIC	1520.692	1496.926	1526.467	1504.631
Observations	1024	1024	1024	1024

Table 4: Estimation of the constrained choice conditional logistic regression. Note: Dependent variable is party choice. Models CCCL_euc1, CCCL_euc2 are based on proximity theory. Models CCCL_Sc1, CCCL_Sc2 rely on directional theory. *p=0.05, **p=0.01,***p=0.001, two-tailed test.

and directional theory models. This confirms the H3 and the findings in the previous research on the role of media in the elections with restricted party competition and incumbent's control over mass media. Furthermore, the results of goodness of fit tests show that the models with included party media representation have considerably better scores than the models without media effect.

In addition to the four models we have implemented the estimation of the conditional logistic regression with variables responsible for choice set composition. The results are in Appendix A, Table A.3. As expected, the different

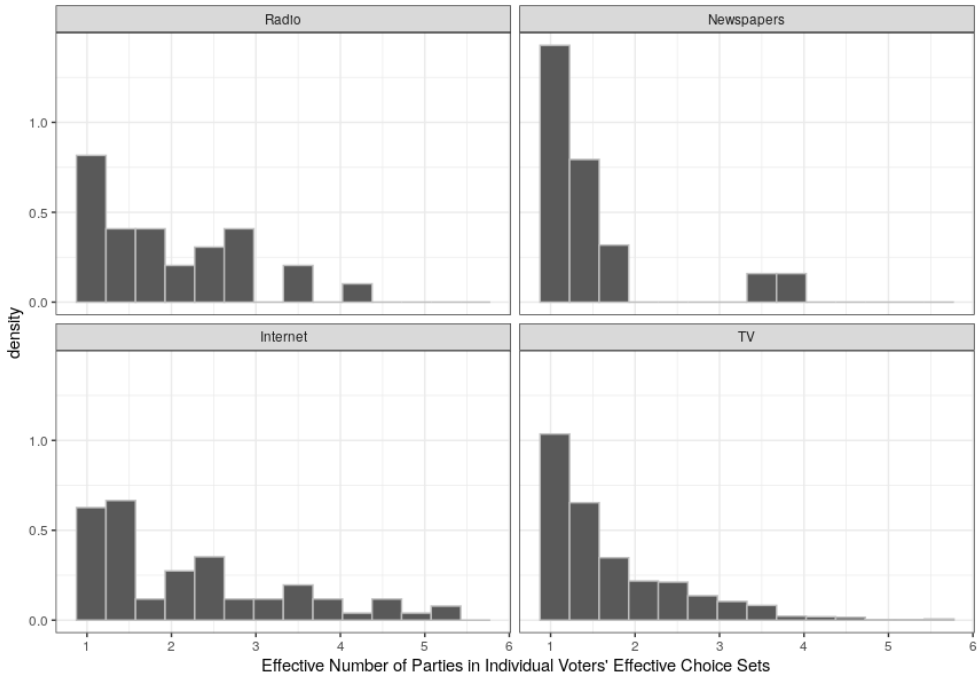


Figure 1: Effective number of parties in individual choice sets depending on the main source of information (proximity model, CCCL_Euc2).

CCCL model specifications significantly outperform the simple conditional logistic regression. Also, the predictions of parties' vote shares obtained via all the regression equations can be seen in Appendix A, Table A.2.

As it was mentioned earlier the consideration set approach, particularly the CCCL model, has an advantage over the previous models. It allows finding out the individual effective choice set compositions. Thanks to the feature, we have an opportunity to analyze the differences in consideration sets among various groups of voters. Using the advantage we test the fourth and fifth hypotheses.

Figure 1 shows the distribution of effective number of parties in individual choice sets[6] according to the voter's main source of information. The histograms reflect the noticable contrast in the number of parties that a voter considers while making a decision. Those who prefer getting information by watching TV tend to take into account only one or two parties in general.

[6]The effective number of parties is calculated as Herfindahl-Hirschman fractionalization index (Hirschman 1964). Formally that is, $PENP_i = 1/\sum_{j \in J}(Pr_{ij}(j \in C_i))^2$, where i is the voter and j is the specific party.

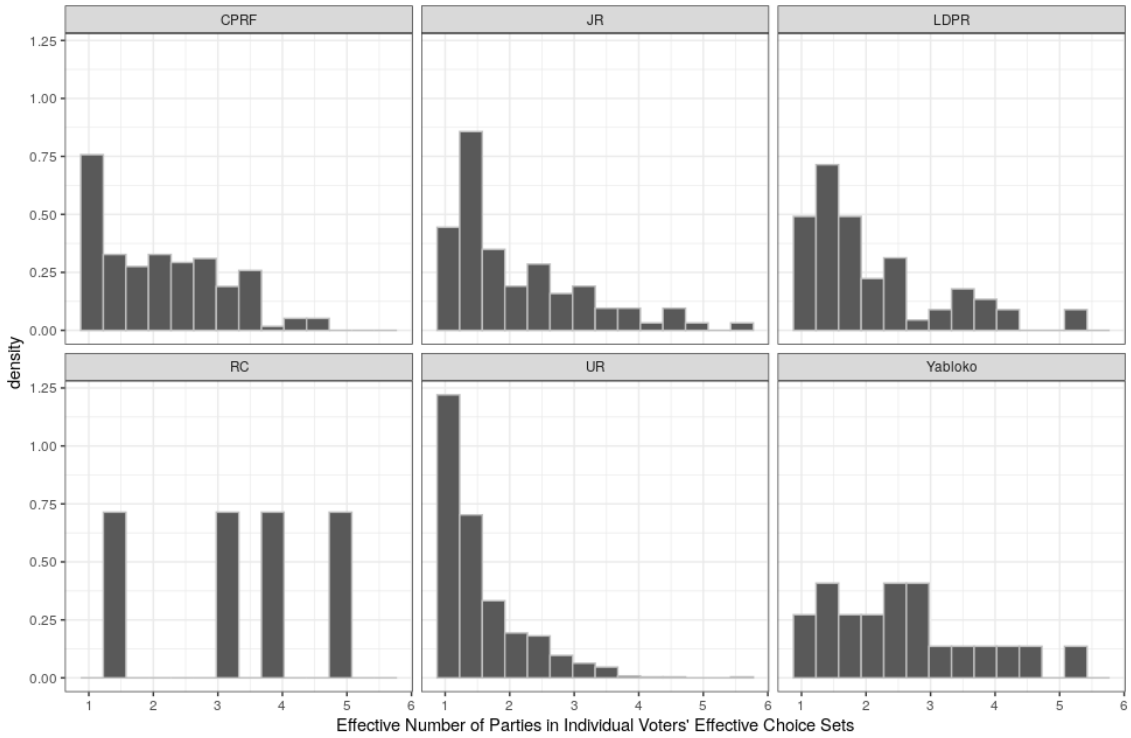


Figure 2: Effective number of parties in individual choice sets depending on the chosen party (proximity model, CCCL_Euc2).

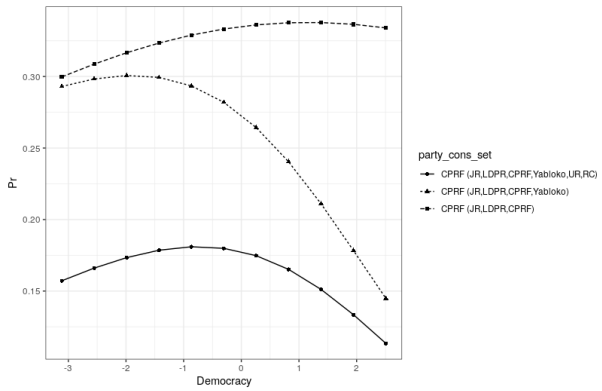
While the active users of the Internet have more heterogeneous choice set with larger number of parties. In this case it is worth noting that the vast majority of respondents, 88%, usually get information from TV, 2.7% from the radio, 1.7% from newspapers, and 7.3% use the Internet to stay informed. This probably can explain the long-term success of a dominant party under the Russian authoritarian regime.

Furthermore, we have found how the effective number of parties in a voter individual choice set is distributed depending on the party a voter selected. The histograms are in Figure 2. The voters who reported casting their ballots in the State Duma election for the United Russia appeared to have only one or two parties in their consideration set. Those people who chose the Yabloko consider in general more parties than the others as the distribution of their effective number of parties in choice sets has the highest variance. The most curious result is obtained for the CPRF. We can observe that a part of the respondents who has the effective number of parties

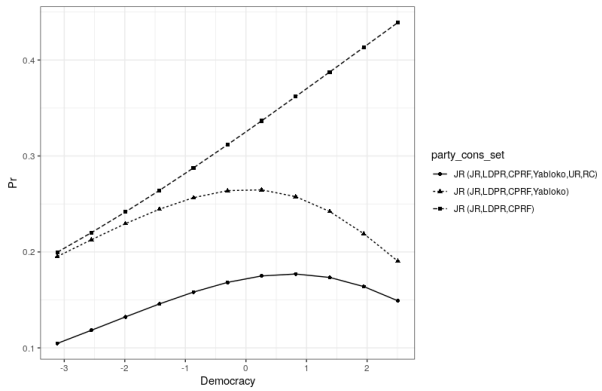
close to one is the core electorate of the CPRF. However, the other part of voters were thinking to choose not only the CPRF, but also its competitors. Moreover, the distribution differs greatly from the distributions of effective number of parties for the LDPR and A Just Russia. The possible reason for that is the campaign "Vote for any party except the United Russia" which was held by the opposition forces whose political parties had not been allowed to participate in the State Duma election. The results might be the evidence for the presence of strategic voting in that election.

The key hypothesis of the study states that a choice set composition conditions the effect of policy-related factors on voter's behavior and choice. In order to test the hypothesis we have done a number of simulations via including or excluding some parties from consideration set. We trace how these changes influence the party choice on each of the policy dimensions. Figure 3 shows an example of the simulations. Additional plots can be found in Appendix D. For more simulations visit website where dashboard with convenient design for modelling is hosted: PartySim.

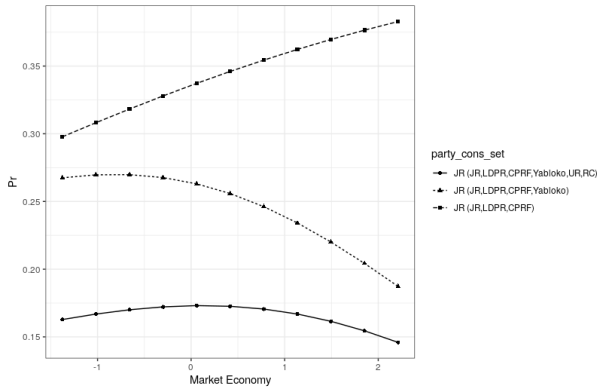
The plots in Figure 3 illustrate the reaction of a voter to the Yabloko inclusion in the consideration set. Take the first plot where three curves reflect the changes in predicted probabilities of voting for the CPRF. The top curve shows how the predicted probabilities alter depending on the changes in the ideal point of a voter. The stronger support of a voter for democratic values, the higher the probability that she will choose the CPRF providing her consideration set consists of the CPRF, LDPR, and A Just Russia. If we add to the choice set the Yabloko, the probability to vote for the CPRF will sharply fall with the increase in the voter's support for democratic regime. The similar tendency is observed in simulations with other systemic opposition parties. It might happen because the policy dimensions linked with democratic values and market economy are of crucial importance for the



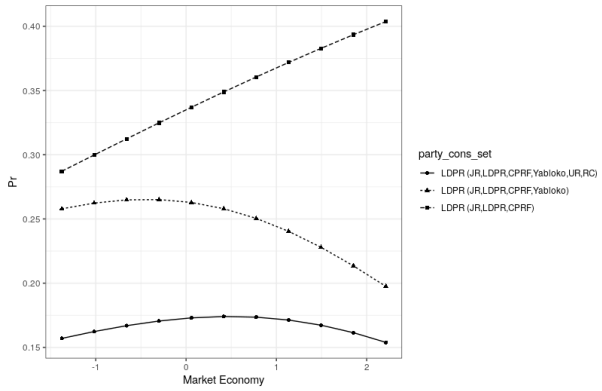
(a) CPRF. Democracy.



(b) A Just Russia. Democracy.



(c) A Just Russia. Market Economy.



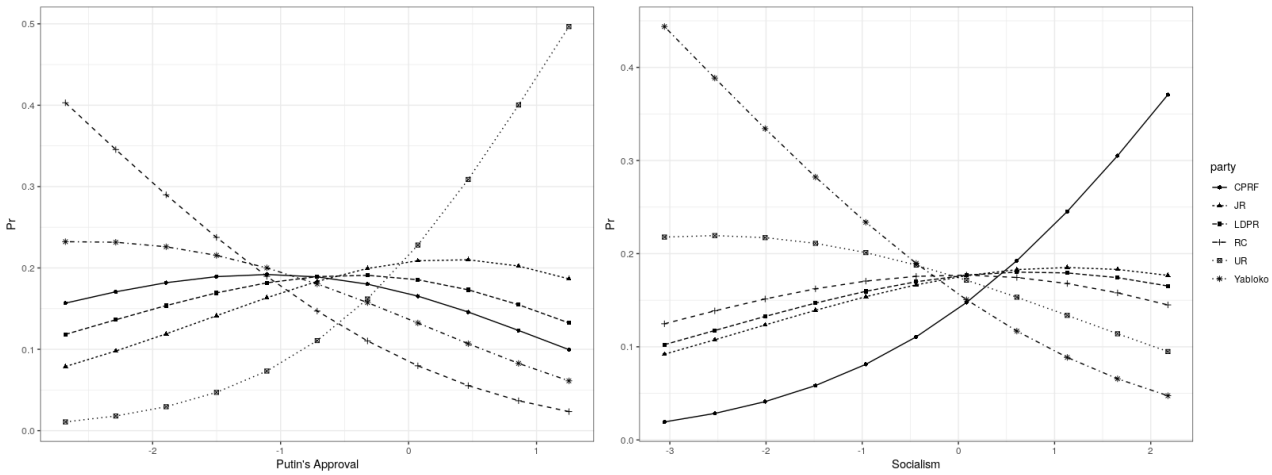
(d) LDPR. Market Economy.

Figure 3: Predicted probabilities of voting for a) CPRF, b), c) A Just Russia, d) LDPR on the "Democracy" and "Market Economy" policy dimensions (a choice set composition).

Yabloko positioning and image (issue ownership). The same is observed in the set of plots in Appendix D, Figure D.1 (a), (b).

Figure 4 (a) illustrates the evidence that the United Russia has its issue ownership too. The voters who support the policy carried out by Vladimir Putin are more likely to vote for United Russia. This finding only confirms the results of previous research that the United Russia image is tightly linked with Putin's performance. And Figure 4 (b) demonstrates the strong association between the CPRF and socialism values that can be considered also as an issue ownership.

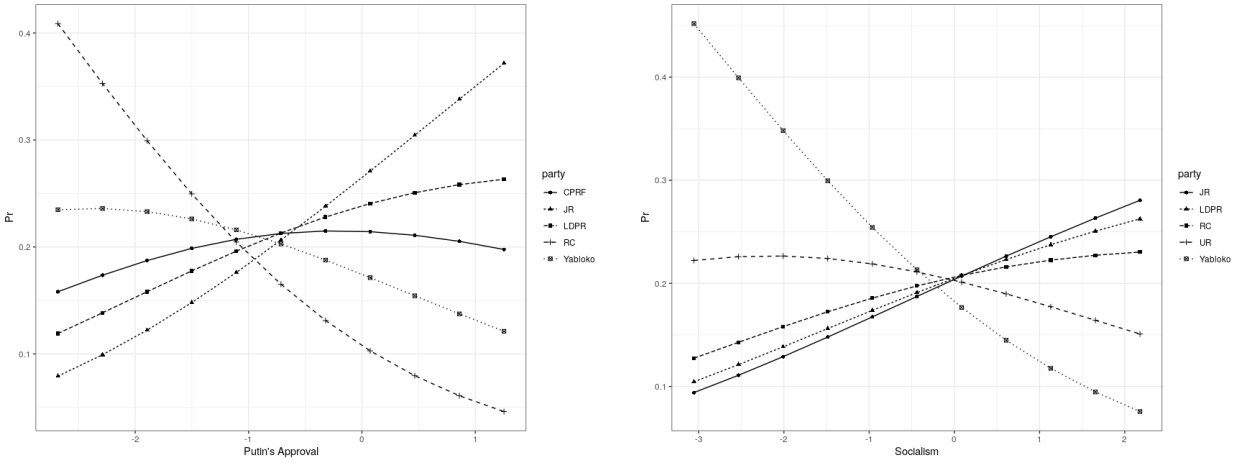
If this is the case, it is curious to observe which party the voters who supported the socialism and the USSR or Putin will choose if we exclude from the choice set the CPRF or United Russia respectively. As Figure 5 shows, in these situations the voters are more likely to vote for A Just Russia



(a) Putin's Approval. (b) Socialism.

Figure 4: Predicted probabilities of voting for a certain party if the consideration set includes all the parties.

party. Consequently, A Just Russia is suspected to be a spoiler to the CPRF as Gill and other researchers have assumed (Gill 2012).



(a) Putin's Approval. The choice set without United Russia.

(b) Socialism. The choice set without CPRF.

Figure 5: Predicted probabilities of voting for a certain party if the consideration set includes all the parties except United Russia or CPRF.

After doing these simulations, we can conclude that the exclusion or inclusion of parties in the choice set definitely lead to the changes in voting behavior. Moreover, the CCCL model allows indicating the key ideology of political party (issue ownership) and identifying a spoiler party.

Conclusion

Our research makes one step further in modelling voting behavior under electoral authoritarianism. We applied two-step approach to catch a number of features belong to this regime that were not sufficiently analyzed in the previous research. The key detail of this approach is that it relaxes the constant choice set assumption due to predicting the individual choice set composition. In this research, we use the constrained choice conditional logistic regression (Moral and Zhirnov 2018) that outperforms the models created earlier. Besides, this regression model allows making simulations with individual choice sets, which is crucial for modelling the voting behavior under electoral authoritarianism.

We used survey data that contained the questions on election in the Russian federal parliament in 2011. The results of the empirical analysis confirmed the six hypotheses we had set earlier. It turned out that the congruence between a voter and a party positions in a policy space has almost the same explanatory power in both proximity and directional theory models. All the policy dimensions we identified except Western Countries as an Enemy influence significantly the voter's electoral decision. This indicates that these dimensions were relevant to the policy space in that period.

Additionally, our findings illustrate the presence of strategic voting in 2011 federal election. Therefore, we can conclude that the campaign headed by Alexey Navalny "Vote for any party except United Russia" affected voting behavior and final results.

Moreover, we showed that the individual choice set composition of Russian voters depends on the overall media representation of a political party. Also, it is linked with the source of information the voter uses most often

to be informed. Those who watch TV is more likely to vote for pro-Kremlin party, whereas those who use the Internet usually consider more parties while making their decision. It can be explained by the fact that opposition parties due to restricted access to the mass media are obliged to use alternative channels such as new media.

The crucial part of the research is devoted to the simulations with party choice set compositions. We found out that the changes in the set of parties in the simulated elections influence the voter's choice. Also, we use the CCCL model to perform the scenarios without the ruling party and identify the suspected spoiler party.

Besides, we observed the issue ownership phenomenon. The image of CPRF is tightly linked with socialism and the USSR, United Russia – with support for Vladimir Putin's policy, Yabloko attracts the voters who uphold democratic and liberal economy values.

In terms of practical outcomes, the research can help parties under electoral authoritarianism understand their positions in the policy space and choose the most optimal positioning that maximize their vote share. Also, the true opposition parties are able to identify the spoilers and explore the possible reasons behind their failure.

Finally, the two-step approach appears to be more than suitable for modelling the voting behavior under electoral authoritarianism where the party competition is regulated by the ruling elite with the aim to provide the dominant party with the victory in legislative elections.

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Appendices

A

	max Rhat	Multivariate psrf
West countries as an Enemy	1.005	1.34
Democracy	1.024	1.37
Socialism and USSR	1.034	1.37
Market Economy	1.034	1.37

Table A.1: The results of Bayesian estimation of parameters in the item-response theory models.

Party	Observed	cccl_Euc1	cccl_Euc2	cccl_Sc1	cccl_Sc2	cl_Euc	cl_Sc
CPRF	16.20	10.20	12.00	10.60	11.60	10.40	10.80
JR	8.80	2.60	2.70	2.70	2.70	2.60	2.70
LDPR	6.20	2.20	2.10	2.10	2.10	2.20	2.10
Right Cause	0.40	0.60	0.50	0.40	0.50	0.50	0.30
UR	66.30	83.10	81.70	82.80	82.10	83.00	82.60
Yabloko	2.10	1.30	1.00	1.30	1.00	1.30	1.40

Table A.2: Predictions of Parties' Vote Shares (%).

	CCCL_Euc1	CCCL_Euc2	CCCL_Sc1	CCCL_Sc2	CL_Euc	CL_Sc
Left-Right	-0.01*	-0.01**	0.028**	0.024**	-0.01*	0.028**
	(0.004)	(0.004)	(0.009)	(0.009)	(0.004)	(0.009)
West Countries as Enemy	-0.208	-0.216	0.378	0.433	-0.21	0.38
	(0.141)	(0.147)	(0.283)	(0.292)	(0.139)	(0.279)
Democracy	-0.394***	-0.454***	0.702***	0.905***	-0.405***	0.705***
	(0.093)	(0.105)	(0.176)	(0.2)	(0.092)	(0.173)
Socialism and USSR	-0.376***	-0.355***	0.91***	0.763***	-0.382***	0.932***
	(0.064)	(0.06)	(0.124)	(0.121)	(0.064)	(0.124)
Market Economy	-0.353**	-0.435**	0.634*	0.893**	-0.315*	0.56*
	(0.132)	(0.149)	(0.258)	(0.292)	(0.128)	(0.248)
Putin's Approval	-0.469***	-0.471***	0.877***	0.898***	-0.451***	0.832***
	(0.05)	(0.051)	(0.099)	(0.101)	(0.05)	(0.097)
Nationalism	-0.404***	-0.445***	0.397*	0.519*	-0.352***	0.32
	(0.107)	(0.12)	(0.199)	(0.222)	(0.104)	(0.192)
Intercept	-4.273***	-4.168***	-3.653***	-3.499***		
	(0.312)	(0.318)	(0.398)	(0.376)		
Electoral Viability	0.013***	-0.067***	0.013***	-0.069***	0.011***	0.011***
	(0.001)	(0.017)	(0.001)	(0.019)	(0.001)	(0.001)
Policy Extremity	-0.294	-1.871***	-1.252***	-2.874***	-0.324	-1.227***
	(0.182)	(0.412)	(0.202)	(0.449)	(0.167)	(0.188)
Strong Affinity	13.579	10.318	4.731***	5.167***	3.311***	3.24***
	(143.828)	(16.274)	(0.79)	(0.967)	(0.242)	(0.24)
Media Representation		43.38***		44.227***		
		(9.405)		(10.091)		
Log-likelihood	-712.368	-696.123	-715.256	-699.976	-722.761	-724.13
AIC	1446.736	1416.247	1452.512	1423.952	1465.522	1468.26
BIC	1520.692	1496.926	1526.467	1504.631	1532.754	1535.492
Observations	1024	1024	1024	1024	1024	1024

Table A.3: The comparison between the performances of conditional logistic regression and constrained choice conditional logistic regression.

Note: Dependent variable is party choice. Model CL_euc is based on proximity theory. Model CL_SL is based on directional theory. *p=0.05, **p=0.01, ***p=0.001, two-tailed test.

B

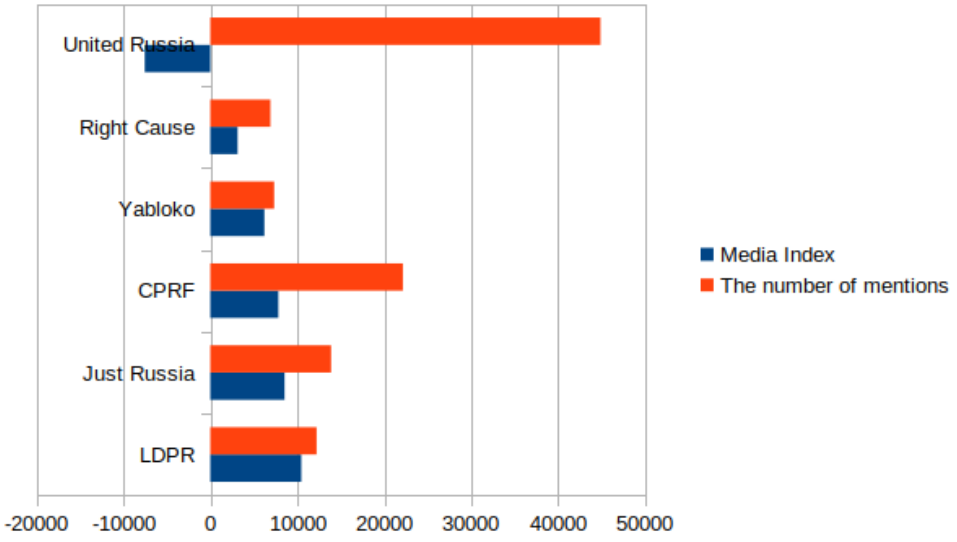


Figure B.1: Media Index and the number of mentions in mass media of each party from November 2th to December 2th in 2011 (the active campaigning period). Data were received from "Medialogia".

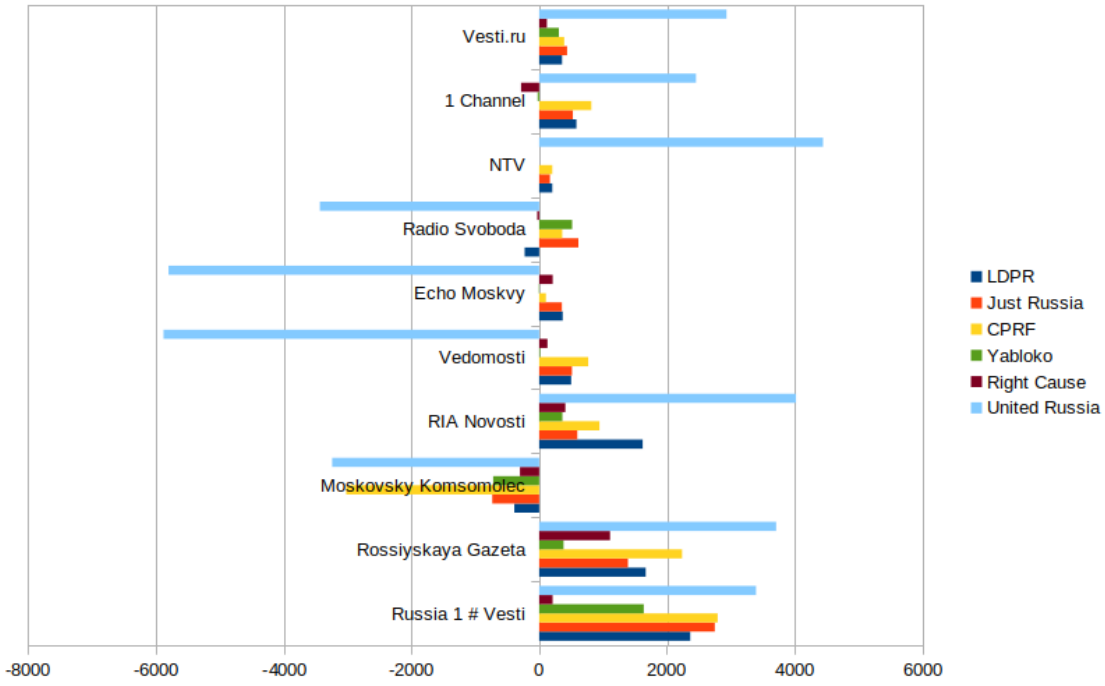


Figure B.2: Media Index of each party by the source of information from November 2th to December 2th in 2011 (the active campaigning period). Data were received from "Medialogia".

C

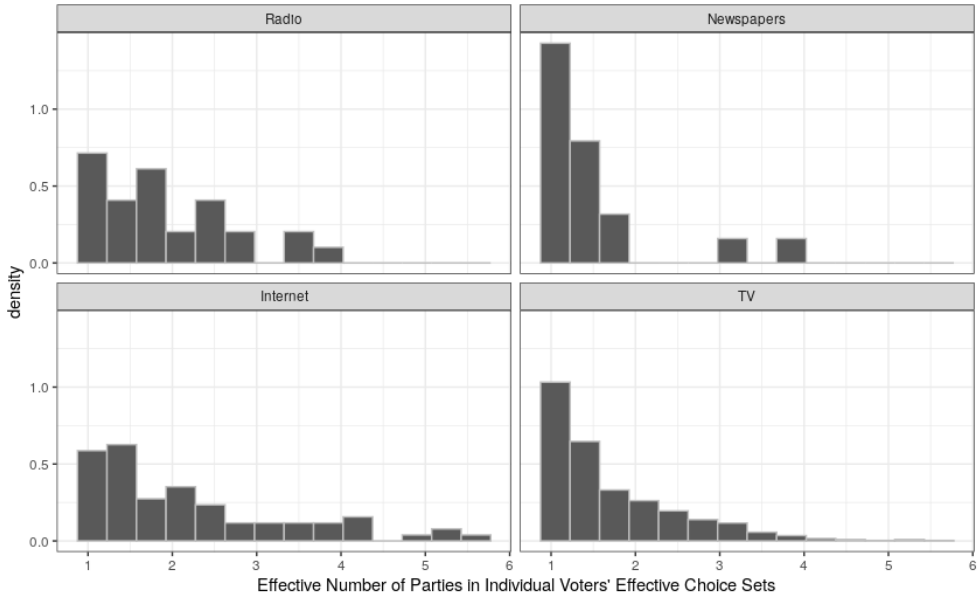


Figure C.1: Effective number of parties in individual choice sets depending on the main source of information (directional model, CCCL_Sc2).

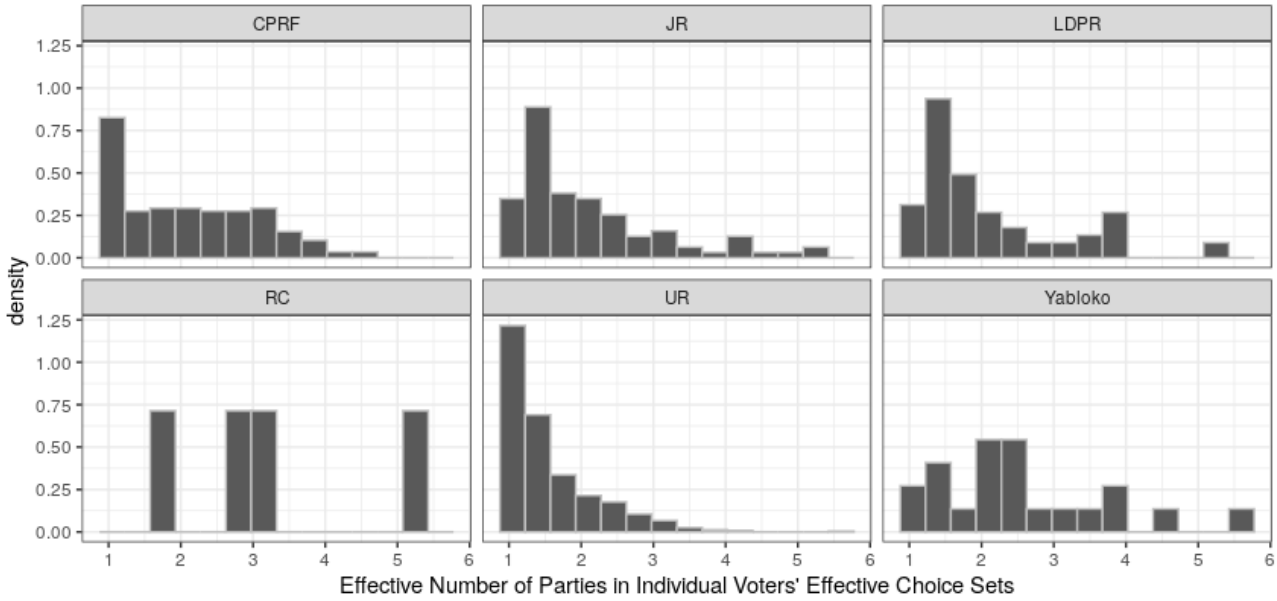
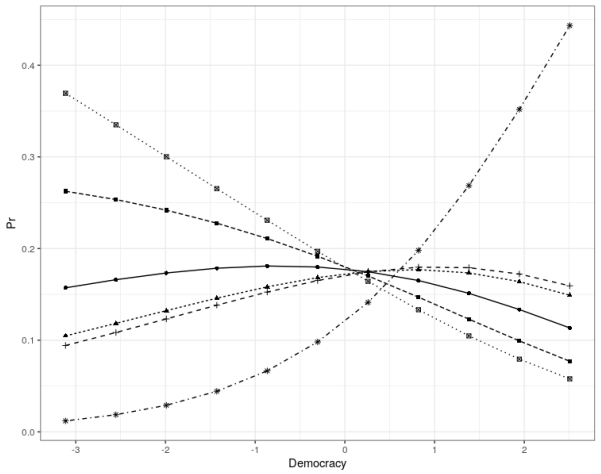
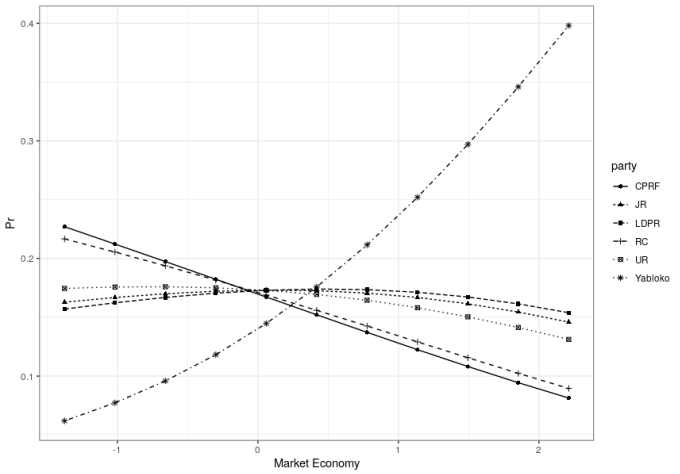


Figure C.2: Effective number of parties in individual choice sets depending on the chosen party (directional model, CCCL_Sc2).

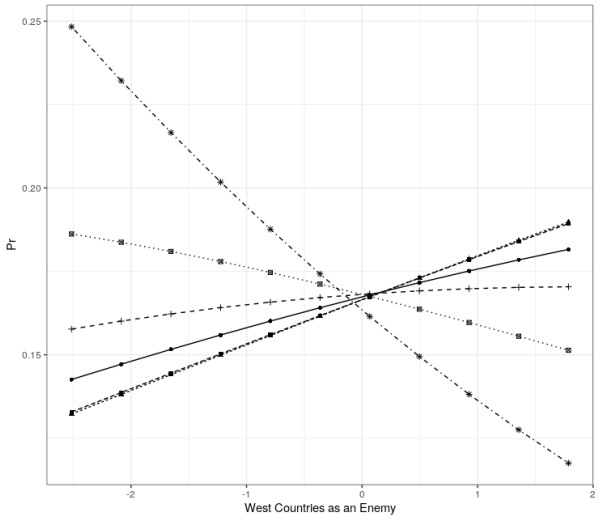
D



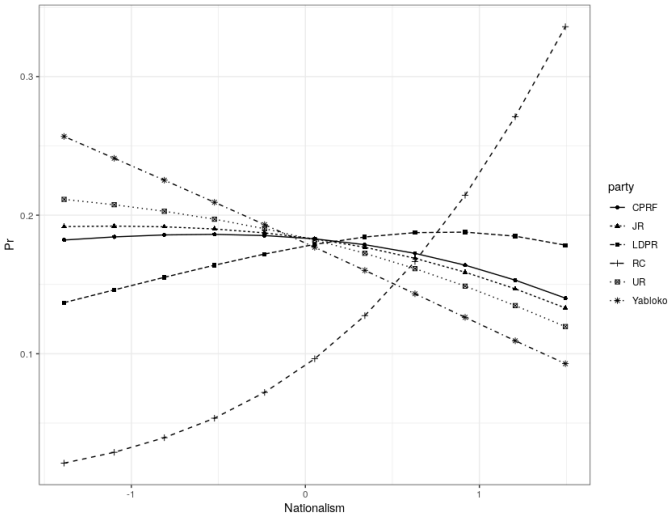
(a) Democracy.



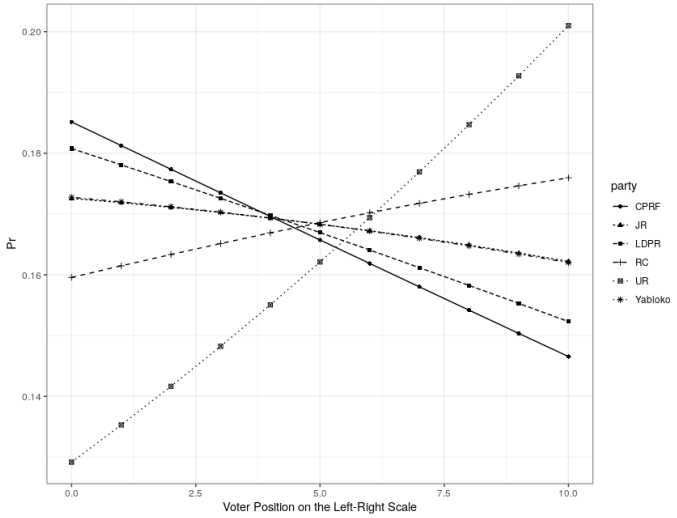
(b) Market Economy.



(c) Western Countries as an Enemy.

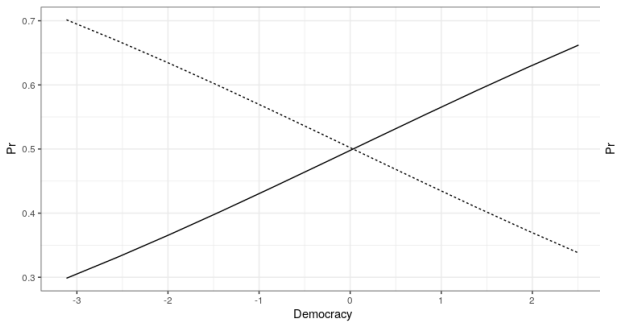


(d) Nationalism.

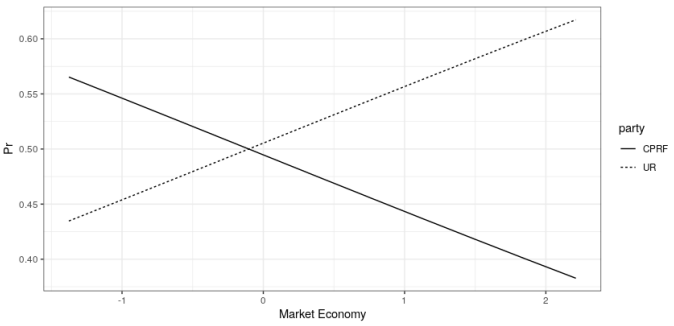


(e) Left-Right Scale.

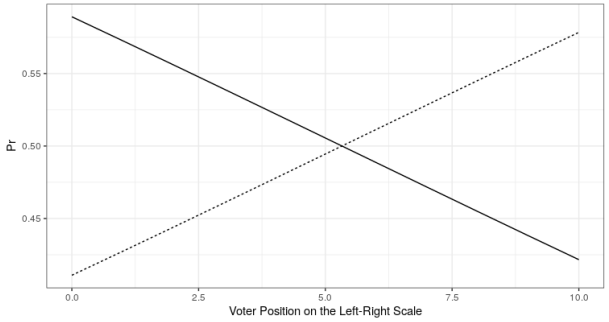
Figure D.1: Predicted probabilities of voting for a certain party if the consideration set includes all the parties.



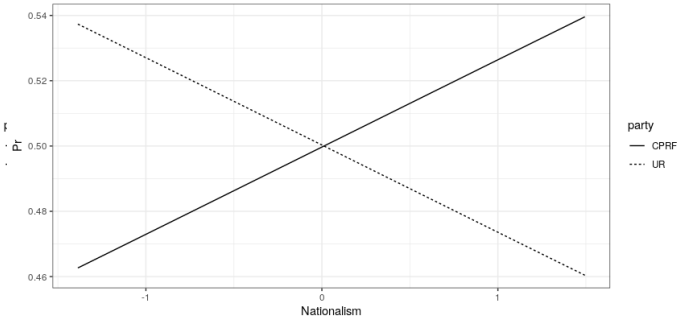
(a) Democracy.



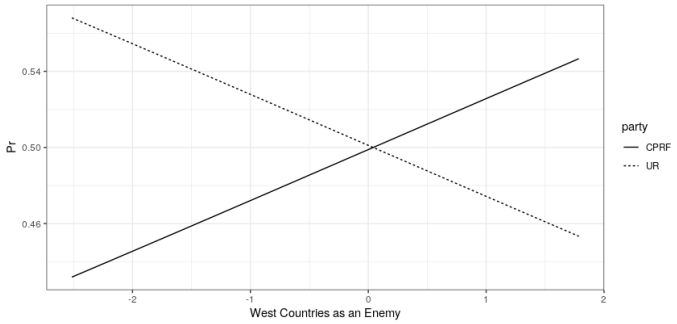
(b) Market Economy.



(c) Left-Right Scale.



(d) Nationalism.



(e) Western Countries as an Enemy.

Figure D.2: Predicted probabilities of voting for United Russia and CPRF parties if the consideration set includes the CPRF (the strongest opposition party) and United Russia.