

SELECTING WISE RULERS? INSTITUTIONAL DETERMINANTS OF POLITICAL
LEADERS' PREFERENCES AND BEHAVIOR

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ABSTRACT

Guzel Garifullina: Selecting wise rulers? Institutional determinants
of political leaders' preferences and behavior
(Under the direction of Graeme Robertson)

Numerous studies explore the effects of leader selection institutions, such as meritocratic appointments or popular elections and their properties, on leader quality and policies. Taking this scholarship one step further, I focus on specific mechanisms connecting selection institutions and leader behavior. In the three articles that constitute this dissertation, I analyze the less studied effects of selection with a particular emphasis on the way it affects perceptions and behaviors of political actors, specifically through mechanisms of self-selection, blame-shifting, and perception of central signals. In the first paper, I demonstrate that the properties of the selection process change the way citizens think when deciding whether to pursue a political career. In a lab experiment, I show that properties normally associated with popular elections lead to the self-selection of more risk-seeking candidates. In the second paper, I demonstrate how the selection of subnational leaders is only a part of the multi-level governance system, in which autonomy also means fewer opportunities to shift blame for policy failures upwards. Based on observational data on Russian municipalities, popularly elected and financially more independent municipal officials make decisions with shorter time horizons – compared to appointed or financially dependent on higher-level budgets. In the third paper, I further explore subnational selection with a focus on appointed governors in Russia. I show that in the years before appointment events, governors adjust regional budget spending to demonstrate alignment with centrally declared policy priorities.

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INTRODUCTION

The behavior of political leaders is at the center of attention for political scientists and citizens alike. Why do they choose the policies they do? How can we predict their behavior, and what influences it? Many have focused on the role of selection institutions and the specific incentives these institutions create. The three papers presented in this dissertation use various approaches to trace very specific connections between the features of the institutional environment and political leader behavior. Some of the claims put forward here pertain to particular populations of leaders, such as subnational leaders in clearly defined national contexts, while others are more widely applicable. What unites them all is that they all explore the ways in which the properties of selection interact with the way individuals perceive political reality and, through that, shape the outcomes we care about: political behavior and policy decisions.

The first paper explores the effects of selection properties on candidate motivation and candidate characteristics. I theorize that individuals considering political office will evaluate the properties of selection and react according to their inherent predispositions towards certain behaviors, specifically their preferences for risk. Such properties of the selection procedures as higher costs of candidacy, low probability of winning due to structural unfairness, or accountability to the citizens, will attract, all else equal, more risk-seeking candidates. A lab experiment with a student sample (N=172) set up in Russia demonstrates that higher costs of candidacy and accountability to citizens – properties associated with popular elections of public officials – are indeed more likely to attract risk-seekers. From that, I conclude that both the average candidate pool and likely the pool of selected leaders under selection procedures with

those properties will be more risk-seeking. Therefore, the immediate implication of these findings is that leader selection institutions affect nascent political ambition among citizens. It is also reasonable to assume that the downstream effect of this process will lead to more risk-seeking leaders.

The second paper uses the institutional variation between Russian municipalities to explore the factors that affect municipal officials' time horizons. Based on a set of homogenous decisions about private-public partnerships regarding local utilities infrastructure signed by the municipalities, I argue that previous executive turnover and the level of municipal (political and fiscal) autonomy affect how comfortable officials are making the decisions with delayed benefits. Specifically, I demonstrate that higher autonomy as a result of political and fiscal decentralization shortens officials' time horizons, meaning that the terms of the contracts they sign are shorter. I posit that the mechanism behind this change is the ability of less autonomous leaders to shift blame for potential policy failures and therefore decrease the short-term costs of a decision – making the delayed benefits relatively more attractive. Furthermore, previous executive turnover acts as a moderator and reinforces this effect.

The third paper continues to explore the way public officials perceive time and adjust policies accordingly. In this paper, I try to identify political budget cycles (PBC) under appointed governors in Russia in 2005-2012. Elections have long been demonstrated to provoke cycles in public spending, encouraged by the reelection concerns of the public officials – both at the national and subnational level. In the absence of elections, how do reappointments shape policies, and do similar repetitive patterns arise when it's not the voters but the higher-level authorities who are the audience that ultimately determines the possibility of staying in office? I argue that even in the absence of clear reappointment criteria, subnational appointed officials can

use policy priorities declared by the center to demonstrate policy alignment and efficiency. I use data on regional budgets to show that in the years prior to appointment events, spending on healthcare and education in Russian regions is significantly higher – which corresponds to the two national policy priorities that were being implemented in the period.

These findings demonstrate how the way we select political leaders can affect their behavior. Initially, institutions can have a self-selection effect so that individuals with specific characteristics – in particular those that can have direct behavioral and policy implications, like risk attitudes – will be more or less likely to consider a political career in the first place. Once in office, officials will face the incentives created by these and other institutions if they want to stay in power. Some of these effects can be cyclical in nature, while others affect officials' long-term outlook. For subnational political offices, selection rules will be part of the overall system of relations with the higher authorities. Findings presented in the following papers, therefore, contribute to our understanding of the specific mechanisms connecting institutions, leader behavior, and policy choices.

PAPER 1: AMBITION WITHOUT DEMOCRACY: CANDIDATE RISK ATTITUDES UNDER ELECTIONS AND APPOINTMENTS

Like many Russian cities, Irkutsk underwent an institutional reform in recent years. The last popular mayoral elections occurred in 2010 and featured at least two serious candidates. One was the candidate from the communist party with extensive managerial and political experience. The other, the candidate from the dominant party, United Russia, used to be the mayor of the neighboring large city and continued his political career afterward. In 2015, the city switched to a council-appointed mayor, eliminating popular elections of the top municipal executive. In that year, a political nobody from an influential family with a suspect past and methods was the single candidate considered by the council¹.

While the effects of leader selection institutions on behavior and characteristics of public officials have been studied extensively (Besley and Reynal-Querol 2011; Buckley, Frye, et al. 2014; Carnes and Lupu 2016; Wong et al. 2017), we know much less about who decides to seek a political position under different institutions. As we see in the example above, the sets of candidates under different selection rules in the same city with a minimal time difference were drastically different. Observably, after the shift from elections to appointments, political experience was no longer a necessary characteristic for a candidate, while informal elite connections became crucial. Are there other meaningful effects?

¹ For details, see “Candidates for the position of the mayor...” (2010), “Dmitry Berdnikov did not like ...” (2019), “Political scientist Shmidt ...” (2019).

I focus on a critical dimension along which the candidates may vary – how comfortable they are with taking risks – and explain how selection procedures can encourage more or less risk-seeking people to run. I select risk attitudes as a key candidate characteristic due to their potential implications for leader behavior and policy decisions: if some selection properties attract primarily risk-seeking candidates, we could expect the average selected leader to be more risk-seeking as well, which would affect their behavior in office (Kowert and Hermann 1997; Vis 2009).

To develop my theory, I draw upon scholarship on political ambition (Rohde 1979; Kam 2012; Lawless 2012) and experimental research on candidate behavior (Kanthak and Woon 2015; Bol et al. 2016; Kamm 2016). I expand this work, which has mostly focused on the democratic electoral process, by comparing the institutional traits observable in democratic and non-democratic settings.

My main argument is that certain properties of leader selection institutions will deter risk-averse candidates from running. I posit that candidacy is always risky because the outcome is unknown, but the expected value of candidacy changes depending on the institutions. The lower the expected value of candidacy as compared to the risk-free option of not running at all, the more likely we are to see risk-seeking individuals still deciding to pursue candidacy, while the risk-averse will choose not to run. I explore three properties of the selection procedure that influence the potential candidates' decision: running costs, level of competition during selection, and the presence of accountability to the population once in office.

I rely on laboratory experiments² conducted in Russia (N=172) to trace this mechanism at the individual level. At the beginning of the experiment, I measure individuals' risk attitudes. I then simulate different properties of leader selection and offer individuals to participate in the selection as candidates. Using the data on their choices, I test the association between risk attitudes and the willingness to run under different conditions. Relying on the experimental approach allows me to focus on three specific institutional properties while holding other elements of a simulated political environment constant.

I find that two properties customarily associated with elected as opposed to appointed office attract more risk-seeking candidates: higher costs of running and accountability to citizens. The level of competition, which can be higher or lower under both elections and appointments, does not lead to any significant differences in the desire to run between risk-seeking and risk-averse individuals. These results imply that certain properties of elections attract more risk-seeking candidates. In contrast, appointed positions may attract risk-averse individuals into pursuing a political career – something they would not consider under elections.

This project, relying on an empirical test in Russia, complements observational studies of Russian subnational institutions (Buckley, Frye, et al. 2014; Rosenberg, Kozlov, and Libman 2018; Vasilyeva 2010) by showing how the shift from elections to appointments of subnational leaders affects citizen behavior, specifically their political ambition. More broadly, this study contributes to the political economy literature that focuses on the institutional factors and policy effects of leader quality (Acemoglu, Egorov, and Sonin 2010; Besley and Reynal-Querol 2011;

² The study received an IRB approval prior to data collection. IRB number: 18-2479 (University of North Carolina at Chapel Hill, 2018). The research design was pre-registered, EGAP registration ID: 20190515AC.

François, Panel, and Weill 2020). By replacing leader quality with candidate risk attitudes, I explain the mechanism connecting institutions and future leader behavior.

Furthermore, this research contributes to the studies of hybrid regimes. Elections in these regimes lack certain fundamental properties (Diamond 2002; Levitsky and Way 2002) and may put unfair costs on some participants or not hold politicians accountable. By modeling these properties separately in my experiments, I demonstrate the effects of the institutions in hybrid regimes on citizen behavior and elite characteristics.

Finally, I bridge the gap between the studies of democracy and authoritarianism by focusing on the candidacy. While extensively studied for democracies (Black 1972; Fox and Lawless 2005; Schlesinger 1966), political ambition and competing for public office in authoritarian settings remain heavily under-researched (Lerner and Wood 2019). I contribute to this research area by demonstrating how the properties of authoritarian selection affect which individuals decide to enter a political career.

Towards a theory of self-selection of risk-seekers

To build a theory of self-selection based on risk attitudes, I rely on existing literature exploring the role of risk in politics and the motivations of office-seekers.

Risk and risk attitudes in politics

A situation involves risk if the outcome of a decision is unknown, and an individual makes a choice between options based on their perceived probabilities (Tversky and Fox 1995).

Individual preferences regarding options of varying risk levels are known as risk attitudes³ and

³ Also sometimes referred to as risk propensity or risk preferences

are often represented as a scale between risk-seeking and risk-aversion. The more risk-seeking an individual is, the more likely they are to reject a certain payoff for a gamble of an equal or lower expected value – because it offers some probability of a much higher payoff (Friedman and Savage 1948). Individual differences in risk attitudes have been used as both explanatory and dependent variables in numerous studies in psychology (Eckel and Grossman 2002), economics (Caliendo, Fossen, and Kritikos 2009), public administration (Nicholson-Crotty, Nicholson-Crotty, and Fernandez 2017), and management (Koudstaal, Sloof, and Van Praag 2016), as well as political science (Rose-Ackerman 1980a; Weyland 1996; Kam and Simas 2012; Sweet-Cushman 2016; Linde and Vis 2017; Sheffer et al. 2018).

Research in psychology offers deeper insights into the nature of risk attitudes. Specifically, scholars have noted that some elements of risk attitudes can be interpreted as relatively stable individual characteristics (Mishra and Lalumière 2011), while others depend on the context and framing of a decision (Kahneman and Tversky 1979; March 1988; Nosić and Weber 2010). I am interested in the stable elements of an individual's risk attitudes because they will consistently manifest both during the process of political selection and later on, once an individual is in office, thus making my theory's predictions especially valuable. To ensure I measure stable individual risk attitudes, I use instruments available in a lab experiment to minimize the variation of context that can affect behavior under risk.

In political science, the concept of risk attitudes has been useful for explaining both popular and elite behavior. For example, it has been argued that risk-seeking affects voting behavior (Kam and Simas 2012) and politicians' investment in swing as opposed to core voters (Cox and McCubbins 1986). Most relevant for this study, risk-seekers appear to be more likely

to participate in politics in general (Kam 2012), while risk-seeking politicians – to seek higher office (Rohde 1979).

To compare the effects of different political selection rules, we would need to measure the risks associated with each set of institutions. From existing literature, we can generally infer that electoral procedures are normally associated with higher risks (Black 1972; Dietrich et al. 2012), but there is much less clarity regarding the structure of those risks and the level of risks associated with non-electoral institutions. I address these shortcomings in my theory.

Factors and models of political ambition

Political ambition has long attracted scholarly attention because it allows us to better understand who becomes a politician and why politically ambitious individuals have certain characteristics. If certain individuals are more likely to exhibit political ambition, they will constitute a larger share of the candidate pool. The nature of the candidate pool is, in turn, directly linked to the characteristics of the leaders selected from it⁴.

Most studies of political ambition concentrate heavily on elected offices in democracies. One set of studies focus on the political opportunity structure. Classic works in this tradition include Schlesinger (1966) and later scholars of political ambition and politicians' careers in US (Rohde 1979; Stone and Maisel 2003). Related research investigating the influence of context and electoral rules has shown that individuals may consider running for office encouraged by the existing political actors (Broockman 2014) or available compensation schemes (Braendle and Stutzer 2017). Another line of inquiry highlights individual characteristics behind political ambition, such as extraversion and openness to new experience (Blais and Pruyers 2017; Dynes,

⁴ See Besley and Reynal-Querol (2011) on military regimes selecting less educated leaders from a less educated pool

Hassell, and Miles 2019), empathy (Clifford, Kirkland, and Simas 2019) or higher socio-economic status (Carnes 2018; Fox and Lawless 2005; Lawless 2012)⁵.

I build on this literature's findings by looking at the interaction between individual characteristics of potential candidates (their risk attitudes) and one element of context (properties of the selection procedure). This interaction can be traced most carefully in a controlled experimental setting, where it's possible to both measure individual-level traits and model particular institutional features. To build an experimentally testable theory of self-selection, I rely on the citizen candidate model (Besley and Coate 1997; Osborne and Slivinski 1996). The original model describes an electoral framework with two stages. In the entry stage, citizens decide whether to run based on the costs of candidacy and the desire to implement their preferred policies. In the voting stage, voters decide which candidate to support. I am interested in self-selection, which happens during the entry stage.

Studies applying and expanding the citizen candidate model often analyze the effects of selection properties on candidate entry. For example, it has been demonstrated that the increase in net benefits of winning (Cadigan 2005) and lower candidacy costs (Großer & Palfrey, 2019) encourage entry. A separate body of research shows that the use of proportional representation (PR) as opposed to plurality voting encourages entry (Kamm 2016), that electoral rules affect the entry of candidates with different policy preferences (Elbittar et al. 2009), and that both entry and the choice of more radical policy platforms are greater under PR than under a plurality

⁵ A study by Fox and Lawless (2011) adds a further, dynamic, dimension to the studies of political ambition, by focusing on the way changes (as opposed to stable institutional or personal features) affect fluctuations in individual political ambition

system (Bol et al. 2019). In a similar vein, I will identify the properties of selection and test their effects on the entry of candidates with varying risk attitudes.

Extant research tends to focus on popular elections as a method of leader selection, but this leaves a series of unanswered questions. What are the risks of candidacy for non-elected officials? How can we talk about candidacy and political ambition for non-elected public offices? In this study, I compare the elements of electoral and non-electoral selection and introduce the possibility of a differentiated effect of institutional rules of selection on the political ambition of more or less risk-seeking individuals.

Theory: The conditional effect of risk attitudes on political ambition

As the first step of my theory building, I define candidacy to make it an observable measure of political ambition that is applicable to a non-electoral context. A non-electoral procedure is an appointment by a power-vested individual or body⁶. Candidacy or running for a political office would be an explicit willingness to be considered for a position, expressed through legally specified channels. This definition is applicable to both electoral and non-electoral procedures and will be implied in the rest of the paper when I mention running or candidacy.

When making the decision about candidacy, an individual will manifest their risk attitudes because one of the options (running) includes a probability. Not running leads to receiving a predictable citizen payoff and is, therefore, a riskless option. That is, a candidate under any institutions should be more risk-seeking than a citizen – but how do candidates under different institutions compare to each other?

⁶ An example would be the city manager model of local government, such as the one currently used in many Russian municipalities, where the city manager is selected by the local council. Such a selection process starts with a call for applications from eligible candidates. These individuals can then register and will later be considered by a specialized commission.

Equation 1 shows the expected value of candidacy:

$$EV_{run} = leader\ payoff * p(win) - costs_{run} \quad (1)$$

where costs of running are paid by all candidates irrespective of the outcome.

I will explore all elements of Equation 1 in turn, starting with the costs of running and the probability of winning, and formulate my hypotheses.

Elections, appointments, and the costs of running

Electoral campaigns are associated with various costs: time, money, personal, emotional, and even health costs (Black 1972; Robins and Dorn 1993). For the non-electoral procedures, such as appointments or indirect election, costs of running are, at least formally, minimal - for example, in a city-manager selection model, the candidates need to provide some documents and present evidence of their competence before they are voted on by a special committee and then by the local council.

All else equal, higher costs will decrease the expected value of candidacy (Equation 1). As a result, compared to all the candidates under low costs, only more risk-seeking individuals will agree to a gamble of lower expected utility and to run. By implication, the candidate pool will be more risk-seeking, on average.

Hypothesis 1. Selection procedures with high costs of running (elections) will attract more risk-seeking candidates than selection procedures with low costs of running (appointments)

Competition and the presence of a dominant actor

Higher competition will decrease the probability of winning ($p(win)$ in Equation 1) and, therefore, the expected value of candidacy. Importantly, competition is a relevant characteristic of both electoral and non-electoral selection procedures. For example, we can identify cases of high competition under indirect elections or appointments of city managers when there are several equally strong candidates, and the voices of the city council members in the final vote on candidates are divided⁷. On the other hand, elections often lack even a semblance of competition, especially at the subnational level and in electoral authoritarian regimes.

One of the dimensions of competition is the relative strength of the contestants. I argue that the presence of a dominant candidate, who has administrative resources or access to public funds, is more informative for a candidate when evaluating their chances than a mere number of candidates⁸, making it a better measure of competition during selection. Furthermore, this approach captures competition as a characteristic of the selection environment as opposed to competition as an outcome (Hyde and Marinov 2012).

Importantly, this approach reflects the fact that the level of competition may differ for individual candidates going for the same public office. We can think of two ideal situations: one of high competition (where all candidates have equal chances of winning) and one of low competition (where one or more dominant candidates have much higher chances). In the latter

⁷ Russian experience demonstrates that sometimes the council voting process needs to be repeated several times before an agreement is reached - that was the case in the city of Tymovsky in January 2019 (Maksimova 2019).

⁸ The philosophy of this approach is similar to measuring post-factum electoral competition based on the margin of victory (see, for example, Galasso and Nanniccini (2011)), thus taking into account relative strength of the competitors

case, the probability of failure will be radically lower for the dominant candidate compared to the remaining candidates, who I will call minor candidates. Based on these considerations, I compare three values of the “candidate status” variable. The probability of winning is the lowest when one runs against a dominant candidate and the highest when one is the dominant candidate, with the highly competitive situation in the middle. The lower the probability of winning, the lower the expected value of candidacy (all else equal) - the less likely we are to see risk-averse candidates in the pool.

Based on this logic, I formulate the following hypotheses:

Hypothesis 2. Less competitive selection environments with dominant candidate(s) will attract more risk-averse individuals as dominant candidates and more risk-seeking individuals as candidates running against dominant candidates.

Hypothesis 3. Competitive selection environments will attract candidates that are more risk-seeking than dominant candidates and less risk-seeking than other candidates in an environment with dominant candidate(s).

Elections, appointments, and the mechanism of accountability

The value of office is also affected by selection rules because once in office, politicians will want to retain this position. I call this the mechanism of accountability – elected and appointed leaders expect different mechanisms of accountability, which will affect how potential candidates think of the value of these positions. I expand the first part of Equation 1 by making the leader payoff itself dependent on the probability of staying in office: an official will receive the payoff if they are able to stay in office and won't receive anything if they can't retain it. This reflects the situation when a politician's rent is higher the longer they manage to stay in office.

$$EV_{run} = [leader\ payoff * p(stay)] * p(win) - costs_{run} \quad (2)$$

The potential candidates can't observe the probability of retaining office directly, but they are aware of the institutional factors that define how this probability is determined. For an appointed official, a common scheme is a performance-based evaluation (technocratic or managerial approach)⁹. In this case, the probability of losing office is directly determined by the leader's ability to meet performance criteria - for example, regional officials in China being evaluated based on their territories' performance¹⁰. For a popularly elected office, the determining factor would be accountability to the citizens: high levels of popular support will translate into a longer time in office. Popular support is complex, though - it depends not only on the leader's own actions but also on the perception and the evaluation of these actions by a large number of citizens with different, often conflicting needs.

⁹ Here, I mean policy as opposed to political performance – that is, the ability to deliver certain policy outcomes

¹⁰ It has been demonstrated that, while not universally applied, meritocratic criteria are important for promotion decisions in China (Choi 2012; Lee and Schuler 2020; Hui Li and Gore 2018)

Based on these considerations, the probability of retaining office can be formulated as:

$$p(stay)_{appt} = p(perform) \quad (3a) \quad \mathbf{appointed}$$

$$p(stay)_{elect} = p(perform) * p(support) \quad (3b) \quad \mathbf{elected}$$

An appointed official needs to meet performance indicators. An elected one needs not only to perform but also to make sure these efforts are perceived favorably by numerous voters. As is evident from Equations 3a and 3b, $p(stay)$ is always higher for an appointed official. As a result, the expected value of candidacy (Equation 2) will also be always higher for appointed officials. Compared to the candidate pool under appointments, only the more risk-seeking individuals will still choose to run for office under elections.

Hypothesis 4. Selection procedures leading to accountability to citizens (elections) will attract more risk-seeking candidates than selection procedures associated with objective performance criteria (appointments).

The experimental design

I use an incentivized interactive computer-based experiment programmed in z-tree (Fischbacher 2007). The experiment consists of 12 rounds. Each of the twelve rounds of the game includes a candidacy/leader selection stage and a cognitive task stage to measure running and performance correspondingly. The experiment is framed as a decision game.

At the core of the experiment is the individual decision to run for the group leadership (the position of the “group representative”). This decision will be used as an outcome variable in subsequent analysis, and the design of the experiment allows me to model the effect of both institutional treatments and individual risk attitudes on the individual decision to run.

A participant decides whether to run based on the pieces of information provided as treatments: the costs of running, their candidate status with the corresponding probability of winning, and the type of accountability associated with the office. Once the pool of candidates forms, the group leader is selected by the computer, using the probabilities of winning that the players were informed about.

After selection, all participants face a cognitive task that determines individual payoffs. The cognitive task consists of adding up pairs of 2-digit numbers within a time limit of 1 minute (such as tasks in Niederle and Vesterlund (2007), Kanthak and Woon (2015)). The players receive a specified sum for each correct answer and half of that for each of their representative's correct answers. The representative receives a private payoff for performing this function in a given period. Specific rules, according to which the representative's payoff is determined, are one of the experimental treatments¹¹.

Treatments and sample

The experiment is based on three treatments: costs of running (two conditions), candidate status (three conditions), and accountability mechanism (three conditions). The treatments model individual properties of the selection process. As such, I do not simulate all features of an election or an appointment, but the dimensions along which they may differ the most. Individual treatment conditions, as seen by the participants, are presented in Appendix 1A. Table 1.1 below summarizes the treatments.

¹¹ Details of the experiment (sequence, incentives and payoffs etc.) are presented in Appendix 1A. Appendix 1B contains the examples of the screen as the participants saw them at various stages of the experiment. Appendix 1C provides the Russian translation of the treatments used in the study

Experimental sessions were conducted in Moscow (52 participants), Samara (60 participants), and Tomsk (60 participants) in Russia, in June and September 2019¹². The sample includes undergraduate and graduate students from multiple universities. Based on its educational and age profile, this sample provides an approximation of one potential population of interest: individuals who may consider running for their first local-level political offices. I argue that the approximation is sufficiently accurate to ensure the external validity of my findings as I am not studying the progressive ambition of current politicians. Instead, my theory focuses on “citizen candidates” or citizens who may (or may not) consider running for political leadership.

¹² The experiments were possible thanks to the organizational support from Alexis Belyanin and the International Laboratory of Experimental and Behavioral Economics (Higher School of Economics, Moscow), Olga Kuznetsova at Samara University, and Marina Ryzhkova at Tomsk State University

Treatment	Condition	Description
Costs of running	Low costs	RUR 10 ¹³ out of the future round earnings ¹⁴
Candidate status	High costs	RUR 80 out of the future round earnings
	Dominant candidate	The probability of winning is twice as high as any other candidate's
	Equal status	Everyone has an equal probability of winning
Leader accountability ¹⁵	Minor candidate	The probability of winning is half as high as any other candidate's
	Performance	Leader payoff is dependent on task performance
	Citizen accountability	Citizens evaluate the round (knowing that their payoffs reflect their leader's efforts as well), leader payoff is based on that evaluation
	Fixed	Fixed payoff

Table 1.1: Treatment summaries

I used a combination of between-subject and within-subject treatment assignment. The leader accountability treatment was assigned at the group (session) level, running separate sessions with each of the three conditions. The participants were informed about the way the representative's payoffs were calculated once, at the beginning of the session.

Two other treatments were assigned within subjects; therefore, each subject experienced all treatment conditions of the costs of running and candidate status. Out of the twelve game rounds, six were played with low costs of running and six – with high costs of running for the leadership position. The order of this treatment assignment was determined randomly. Due to the

¹³ An average round payoff for a citizen was around RUR 160

¹⁴ The costs of running are subtracted from the future earnings to avoid endowment effect and due to the fact that only one of the rounds was randomly selected for payoff

¹⁵ The size of expected leader payoff was calibrated to be the same under different conditions - only the way it was calculated was changed

way it was assigned, exactly one-half of the subject-round observations were under the high costs treatment condition and one-half - under the low costs treatment condition.

For every round, participants were separated into groups of 4-5 players. The level of competition for a given round was determined randomly based on the pre-defined probabilities. There was a $2/3$ probability of a round being a low competition one with dominant and minor candidates, and a $1/3$ chance of a round being a competitive one with all candidates having an equal chance. Each player in a low competition round was then randomly assigned a candidate status (“dominant candidate” or “minor candidate” with a $1/2$ probability each). The shares of each candidate status (a dominant candidate, a minor candidate running against a dominant candidate, a candidate under equal competition) in the observed data are approximately even - 33.1%, 33.3%, and 33.5% of subject-round observations, respectively. Table 1.2 summarizes the treatment assignment and de facto sample structure.

Office benefits	Fixed			Performance			Citizen accountability		
Costs of running: low	DC	EQUAL	MC	DC	EQUAL	MC	DC	EQUAL	MC
Costs of running: high	DC	EQUAL	MC	DC	EQUAL	MC	DC	EQUAL	MC
N	50			59			63		

Notes: DC means “dominant candidate” (a player is the dominant candidate), EQUAL – “equal chances” (all candidates have equal chances to win), and MC – “minor candidate” (a player is running against the dominant candidate). Within each of the two ‘costs of running’ conditions, competition level and candidate status are assigned randomly in every round.

Table 1.2: Summary of the treatment assignment

Measuring risk attitudes

To minimize the effect of the complex nature of risk attitudes on my study’s findings, I evaluate individual risk preferences through a standard task in a controlled lab setting. That allows me to effectively compare individuals to each other in their risk attitudes.

There are various approaches to measuring individual risk attitudes (see Charness et al. (2013)). I use incentivized tasks to capture the behavioral aspect of risk attitudes and present the subjects with a series of lotteries modeled after Holt and Laury (2002). Individual risk attitudes are compared based on the number of “risky” choices made across all lotteries¹⁶. This measure is most relevant for the present study as the decision I am most interested in – the decision to run for a political office – is framed within the experiment in a manner similar to the risk elicitation task. This similarity further reinforces the internal validity of the measure.

The measurement is administered before the main treatments to avoid contaminating the independent variable. To prevent wealth effects due to using an incentivized task with real payoffs, I use the lottery task that makes it hard to predict the outcome and put it before the

¹⁶ The details of this lottery task are provided in Appendix 1D.

treatments - but resolve the uncertainty (which lottery was selected for payoff) after the treatments, at the end of the experiment, as suggested in Crosetto and Filippin (2016).

Results

172 subjects, students of several Russian universities, participated in the experiments. There were 78 women and 74 men in the sample¹⁷. The majority of participants were between 18 and 22 years old. About one-third of the participants were pursuing a degree in some field of economics or management at the time of the experiment.

Subjects' risk attitudes were measured using a lottery task. The resulting measure varies from 0 to 1, where 0 is the most risk-averse and 1 is the most risk-seeking, with a mean of 0.48 and a median of 0.50. The distribution is shown in Figure 1.1. Based on the histogram, the measure is close to a normal distribution, skewed to the right (indicating a higher number of relatively risk-averse individuals, which corresponds to the existing understanding of human behavior). There is no significant correlation between gender and risk attitudes.

The main outcome during the experiment is the decision to run for a group representative. Summary statistics and distribution for candidacy and becoming a group representative is presented in Table 1.3 and Figure 1.2.

I also calculate willingness to run by gender, as women may be less willing to run for reasons not connected to their risk attitudes (Kanthak and Woon 2015). On average, the probability of running in any given round is 0.62 for a male player and 0.54 for a female. A Welch Two Sample t-test shows that there are significant differences between groups ($p=0.02$,

¹⁷ Full demographic questionnaire is included in Appendix 1E. Due to technical issues, demographic data from one of the sessions could not be retrieved, therefore sample size in all corresponding descriptive statistics is 152.

one-tailed)¹⁸. Therefore, women are less likely to run, and I will control for gender when running the models for between-subject treatment.

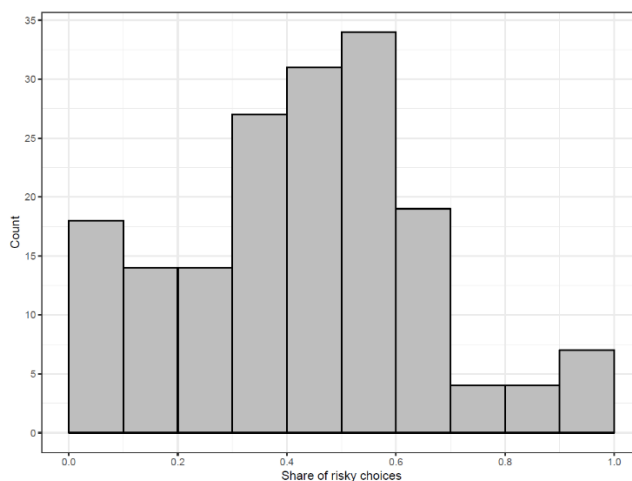
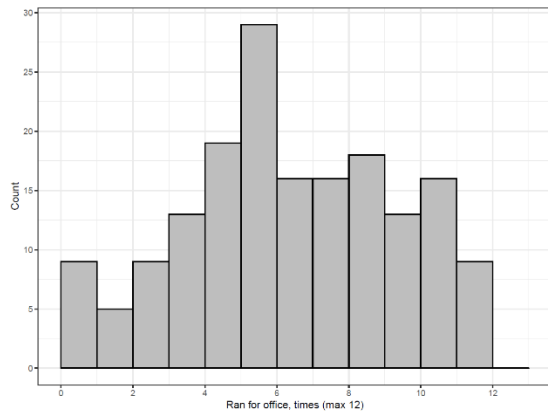


Figure 1.1: Lottery task (share of risky choices)

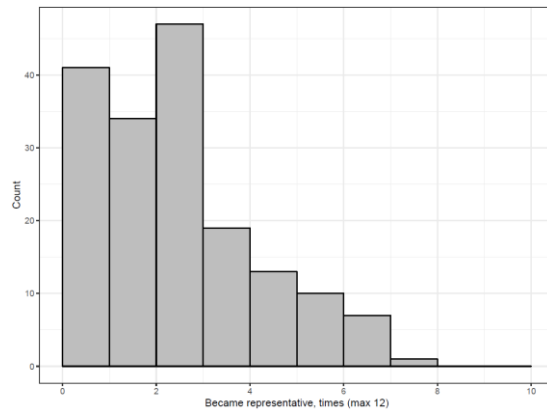
	min	max	median	mean	var	std.dev
Running for office	0.00	12.00	7.00	6.84	9.21	3.03
Becoming a representative	0.00	8.00	3.00	2.86	3.35	1.83

Table 1.3: Statistics of running for the position and becoming group representative, by person (rounds)

¹⁸ I also ran a Wilcoxon rank sum test with continuity correction and got a one-tailed p-value = 0.017, so men do run for the group representative position significantly more often than women.



(a) Running for the position of a group representative



(b) Becoming a group representative

Figure 1.2: The number of times (out of 12) a person ran for the position/became group representative

A simple comparison of means demonstrates that candidate risk attitudes under different treatments do differ. Figure 1.3 below presents mean risk attitudes, measured through the lottery task, for candidates (citizens displaying political ambition) under each condition.

In the first graph, we see that on average, candidates under high costs are more risk-seeking (risk-seeking of 0.55 as opposed to 0.49 for the low costs). This corresponds to my expectations. The second graph illustrates how dominant, “equal chance”, and minor candidates are almost indistinguishable in terms of their risk attitudes (0.51 for dominant and 0.52 for “equal chance” and minor candidates). Finally, the last graph shows that when the selected leader is evaluated by citizens, candidates are more risk-seeking than when the leader is evaluated and rewarded based on objective performance – 0.49 as compared to 0.45. This finding also corresponds to expectations.

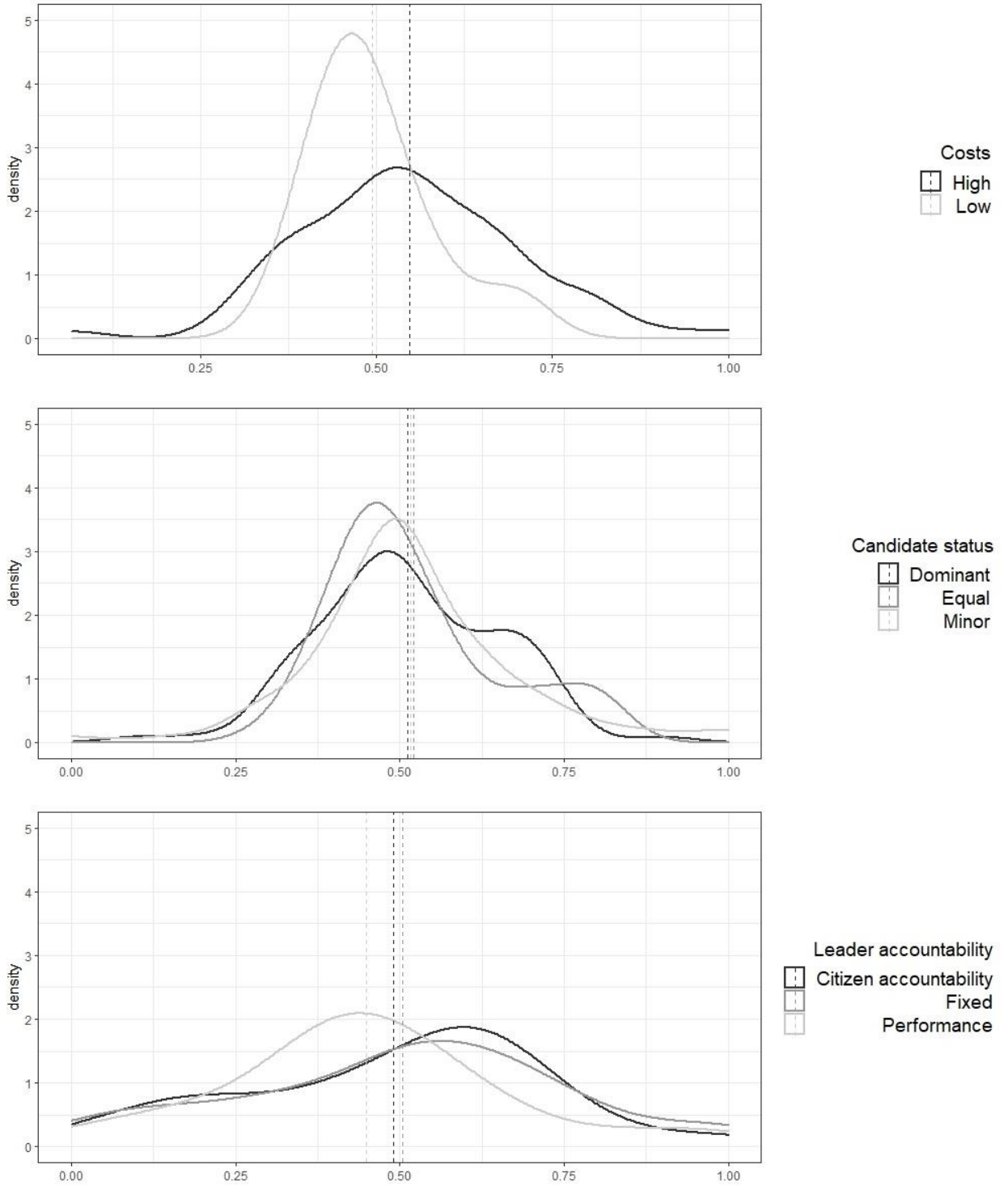


Figure 1.3: The distribution of risk-seeking scores among candidates under different treatments

To statistically explore these differences, I run several regression models with selection institutions as a moderating variable (MacKinnon 2011), expecting that depending on institutional parameters, individuals with given risk attitudes should be more or less willing to run for group leadership.

To test hypotheses 1-3, I run a logit model with a binary outcome (running as a candidate) and two independent terms - individual risk attitudes and the relevant treatment variable. As the treatments of interests for these hypotheses are assigned on a within-subject basis, I get multiple measurements of the outcome and treatment for each individual and therefore use a mixed-effects model with random intercept.

For hypothesis 4, both explanatory variables are stable at the individual level (risk attitudes and accountability treatment) because the corresponding treatments are assigned on a between-subject basis. I use a Poisson regression with the number of times a person ran as a candidate being the dependent variable. Their risk attitudes and the assigned leader evaluation scheme treatment are the independent variables. I also control for gender¹⁹.

Hypothesis 1: costs of running and candidate risk attitudes

The first model shows that both risk attitudes and costs of running have significant effects on the probability of running as a candidate (Table 1.4). As can be seen from the table, higher risk-seeking makes running as a candidate more likely, and so does lowering the costs of running. The interaction term is also significant: the effect of risk-seeking is reversed for the low costs.

¹⁹ I additionally tested for location/lab effects by adding the corresponding variable to all my regression models. I have not discovered any significant lab effects.

If we estimate the probabilities based on the coefficients in Table 1.4, the probability of running for the most risk-averse individual (risk-seeking score equals 0) under high costs is just 0.15. For the most risk-seeking person under the same conditions, the probability of running is 0.54. Risk-seeking is therefore much more important in determining candidacy under high costs, making risk-seekers more prominent among candidates in that case. Under low costs, though, the probability of running is 0.83 for the most risk-averse and 0.88 for the most risk-seeking. The graph of predicted probabilities in Figure 1.4 demonstrates different slopes for the high costs treatment and the low costs treatment - risk attitudes are not an important factor of candidate self-selection when costs of running are low. This corresponds to expectations formulated in Hypothesis 1.

	P (run)
(Intercept)	-1.75*** (0.34)
Risk seeking	1.91** (0.63)
Low costs	3.31*** (0.31)
Risk seeking*Low costs	-1.43* (0.58)
N	2064

Notes: Logit mixed-effects model with random intercept for individual subjects; standard errors in parentheses; . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 1.4: Candidacy as a function of candidate risk-seeking and running costs

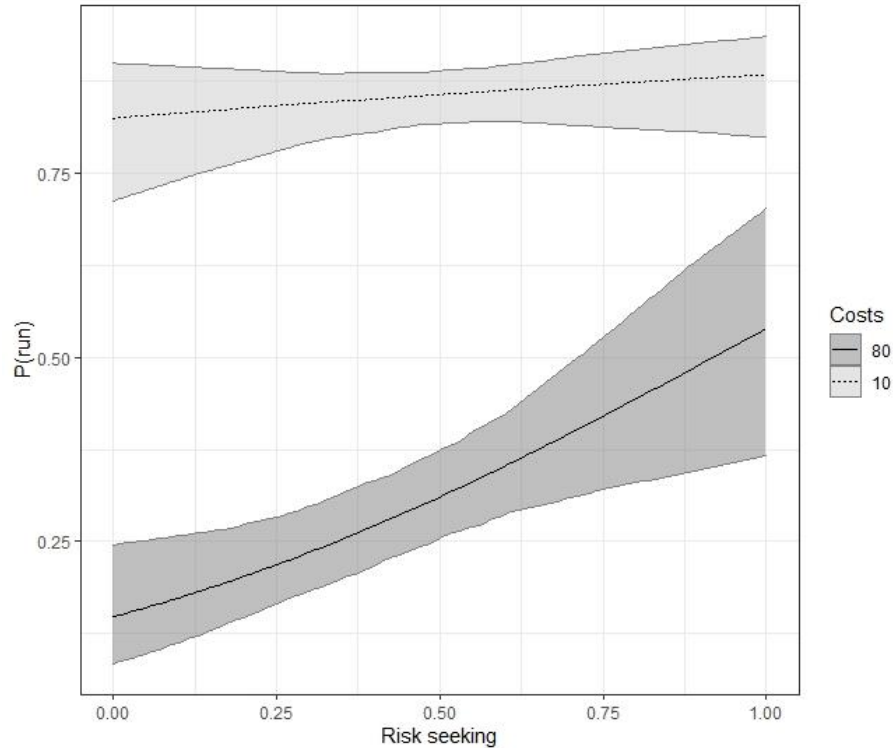


Figure 1.4: Running as a function of candidate risk-seeking, by running costs

Hypotheses 2 and 3: candidate status and candidate risk attitudes

As can be seen from Table 1.5, the effect of the candidate status on the willingness to run is not significant – not on average and not depending on the risk attitudes of potential candidates. Risk seeking itself remains a positive and significant factor contributing to an individual decision to run. That is, I do not find support for Hypotheses 2 and 3²⁰.

As is clear from Figure 1.5, the predicted probabilities of running as a candidate increase with higher risk seeking at approximately the same rate, no matter which competition

²⁰ I tested for the interaction of treatments by adding the costs of running as a control variable in the initial model. In the resulting model, costs turn out to have a significant effect on the decision to run (low costs make the players more likely to run), yet the effects of the candidate status on this decision don't change.

environment a potential candidate is facing. For the dominant and minor candidates, the shift from the most risk-averse to the most risk-seeking (0 to 1) is associated with a change in the probability of running from 0.53 to 0.80 and from 0.43 to 0.65 correspondingly (that is, a difference of 0.27 and 0.22). In a fully competitive environment, the most risk-seeking candidates' probability of running is 0.65 - as compared to 0.47 for the most risk-averse (a difference of 0.18).

Being a dominant candidate makes people more willing to run than any other assigned candidate status – even though the effect is not significant, it points in the expected direction. The fact that changing the probability of winning – even from the lowest for the “minor” candidate to the highest for the “dominant” candidate – does not attract more risk-averse individuals may be due to a variety of reasons, which I will bring up in the discussion section.

	P (run)
(Intercept)	0.11 (0.29)
Risk seeking	1.25* (0.55)
Candidate status: equal	-0.24 (0.29)
Candidate status: minor	-0.38 (0.30)
Risk seeking*equal	-0.51 (0.56)
Risk seeking*minor	-0.36 (0.57)
N	2064

Notes: Logit mixed-effects model with random intercept for individual subjects; standard errors in parentheses; . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 1.5: Candidacy as a function of candidate risk seeking and candidate status

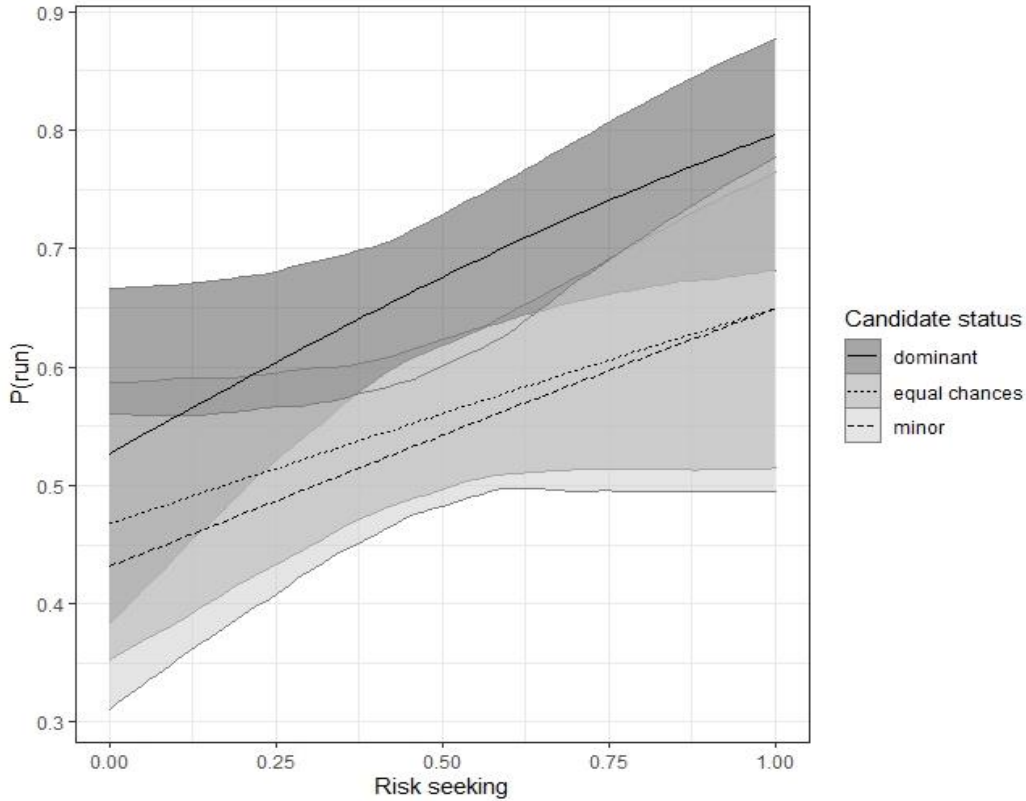


Figure 1.5: Running as a function of candidate risk seeking, by candidate status

Hypothesis 4: leader accountability scheme and candidate risk attitudes

Finally, I run a Poisson model²¹ to test the effects of the last treatment. Table 1.6 presents the results of the estimation. From Hypothesis 4, we would expect that under the citizen accountability treatment condition, when group members define leader payoff, risk seekers will be more likely to run, while risk-averse individuals will shun away from running. Based on the presented results, the effects are very pronounced. A switch from the accountability system to one where leader payoff is directly proportional to objective performance leads to a drastic

²¹ Pearson Chi2 dispersion statistic for the Poisson model equals 1.3, indicating some overdispersion. Re-running the model as a negative binomial does not change the results.

change in willingness to run. The risk-averse go from being much less likely to run to being much more likely to run than the risk-seekers. This is further supported by a negative coefficient on the interaction term and corresponds to the expectations regarding these two models of leader evaluation. Figure 1.6 illustrates the predicted frequencies of running for individuals with different risk attitudes under different treatment conditions²².

A surprising effect is observed for the fixed leader payoff. It is a situation of no risk associated with the office; therefore, I expected it to attract even the most risk-averse individuals, compared to two other treatments. In fact, based on the regression results, it does not differ significantly from the accountability treatment: risk-seekers are more likely to run than risk-averse individuals. It appears that a guaranteed payoff for the leader did not attract the risk-averse, and experimental data does not provide an obvious explanation for this outcome.

²² I find no significant correlation between risk seeking and performance in the task, which may have produced such an effect: Pearson correlation coefficient is 0.08, p-value 0.29

	Rounds (run)
(Intercept)	1.57*** (0.12)
Risk seeking	0.56** (0.21)
Leader payoff: fixed	-0.02 (0.17)
Leader payoff: performance	0.40* (0.18)
Gender (male)	0.15* (0.06)
Risk seeking*fixed	0.09 (0.30)
Risk seeking*performance	-0.81* (0.36)
N	152

Notes: Poisson regression; standard errors in parentheses; . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 1.6: Candidacy as a function of candidate risk-seeking and leader accountability

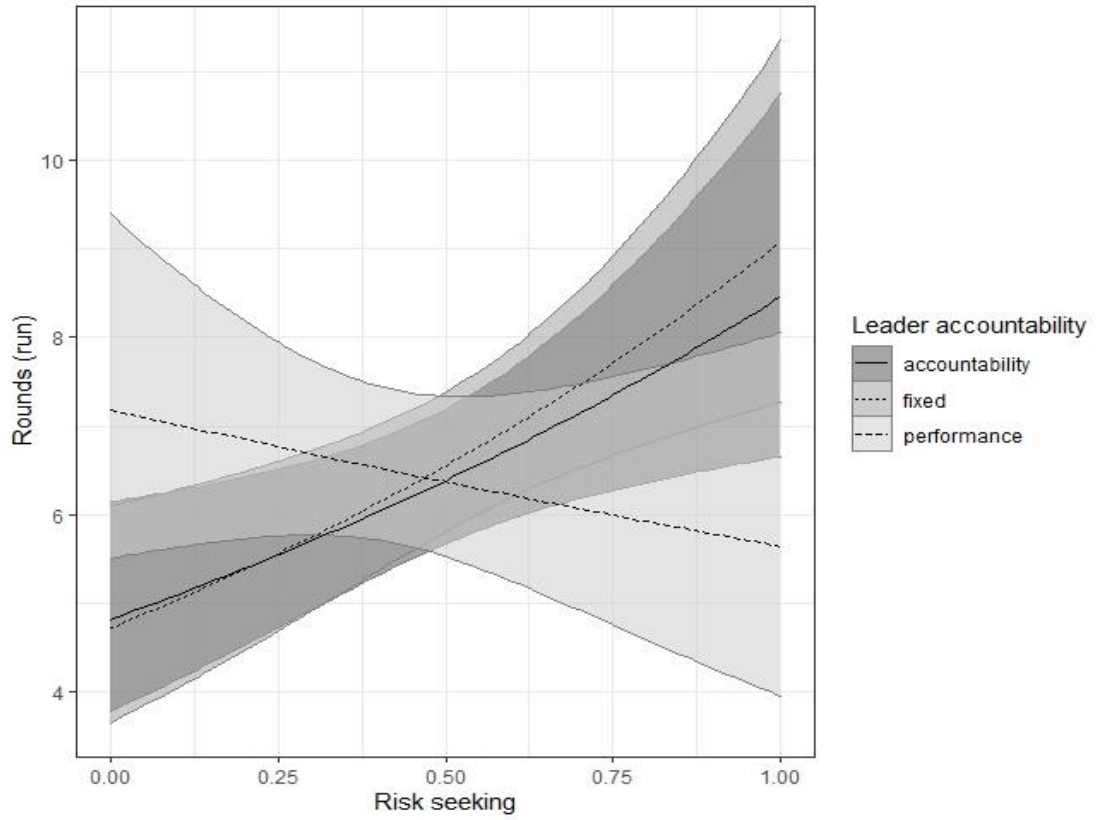


Figure 1.6: Running as a candidate (number of rounds) as a function of individual risk attitudes, by leader accountability scheme

Discussion

Will we see different candidates under different selection institutions? I argue that individuals use selection rules to determine the value of a political office when they decide to self-select into candidacy. My hypotheses connect the expected value of candidacy with three properties of the selection procedures: costs of candidacy, competition, and accountability mechanism. These properties allow me to predict how willing risk-seeking and risk-averse individuals will be to run for office. If a certain property makes the expected value of candidacy lower, risk-averse individuals will choose not to run. If, instead, a property of selection makes the expected value of candidacy higher, even risk-averse individuals will self-select into candidacy. The main implication of this theory is that the cumulative effect of individual decisions will affect the overall candidate pool, making it more or less risk-seeking.

The experimental evidence supports two of my hypotheses: Hypothesis 1 and Hypothesis 4. Hypothesis 1 stipulates that higher costs of candidacy will be more encouraging for risk-seeking than for risk-averse candidates. In the experiment, risk-seeking increases individual willingness to run under high non-refundable running costs. Hypothesis 4 states that a leader's accountability to the citizens will encourage risk-seeking rather than risk-averse candidates. Indeed, when leaders know that at the end of term, they will be evaluated by citizens, as opposed to being judged by objective performance, risk-seeking individuals are more likely to run. These findings suggest that risk-averse individuals are more likely to self-select into political offices that do not require high upfront running costs and those that do not subject them to citizen evaluation.

The hypotheses regarding the effects of competitiveness and candidate status (Hypotheses 2 and 3) do not find empirical support: whether an individual faces a competitive or

non-competitive selection, being a dominant or a minor candidate, risk-seeking and risk-averse candidates do not differ in their willingness to run. Risk-seeking itself remains an important factor for running as a candidate, but candidates facing different levels of competition display the same level of risk-seeking. This finding requires additional exploration in further experiments. If the non-effect is due to the chosen probabilities of winning, which were all relatively high given the group size (4-5 individuals on average), repeating the experiments with a greater variety of group sizes and probabilities may be a useful direction of further testing.

One way of interpreting these results is by analyzing the outcomes associated with a particular type of selection. “Perfect” democratic elections would feature higher costs of candidacy and accountability to the citizens, while “perfect” technocratic appointments – lower costs of candidacy and evaluation based on objective performance. Based on the experimental results, in the democratic elections, we should expect more risk-seeking candidates due to the higher costs and because of the implicit evaluation scheme. That is, there are two separate reasons to expect more risk-seekers among candidates in democratic elections than among those applying for identical but appointed offices.

Another way of interpreting these findings is by exploring the effects of specific institutional features on individual decision-making. As a result, we can imagine complex scenarios that more closely model real-life situations. For example, from observation, scholars of politics know that not all candidates in one race bear comparable costs of running. Furthermore, even elected officials who bear higher costs of candidacy may be mostly unaccountable to voters if the votes are acquired through electoral manipulation. Based on my experimental findings, we can speculate that reduced costs of running for the representatives of one party will lead to this party’s candidates being more risk-averse. Similarly, manipulated elections without the core

characteristic of building accountability to voters will result in a more risk-averse candidate pool compared to the “perfect” democratic elections. This interpretation is particularly useful for the studies of hybrid regimes, which feature such institutional combinations.

To apply the present findings to a specific context, we can reevaluate the changes in the subnational selection procedures in Russia. At the regional level, popular elections were first replaced with appointments of governors and then returned in most of the regions, with added protection against opposition participation. Introducing requirements for registering opposition candidates and waiving them for the candidates from one of the “systemic” parties increased running costs for the former and decreased them for the latter. Widespread electoral engineering and electoral malpractice in subnational elections (Smyth & Turovsky, 2018; Turchenko, 2020) diminished the influence of the popular support on staying in office (accountability to the citizens). At the municipal level, a switch from popularly elected mayors to those selected by the municipal council or a specialized commission replaced accountability to voters with a technocratic evaluation. All these institutional changes are diminishing or eliminating the risks associated with an elected office to make the elections more “manageable” for the authorities, at the same time increasing the expected value of the office for the candidates. The present findings demonstrate that they also have a direct effect on who decides to run for these positions. We should see more cautious, risk-averse candidates as a result. Returning to the opening example of Irkutsk, there is a reason to expect that candidates under the new selection scheme are not only politically inexperienced (which is easily observable in the example) but also more risk-averse (an unobservable but consequential characteristic). Interestingly, because the risks are the lowest for the dominant party candidates, who experience lower costs of running, this subset of candidates will be the most risk-averse.

I posit that these findings are generalizable beyond Russian context, due to the use of context-free incentives in a controlled environment. Even as risk attitudes are known to be culturally specific, the relative effects of their combination with specific selection properties examined in this study will stay the same, with some selection properties attracting relatively more risk-seeking individuals from the available population. At the same time, setting the experiment in Russia was valuable because other factors that have been shown to affect political ambition – such as political party activities and recruitment strategies, politicians’ remuneration schemes, or campaign funding, – are either absent or do not vary in the Russian case. As a result, the importance of my findings is greater for Russia and similar cases: the identified mechanism can be assumed to play a greater role in nascent political ambition in this context.

Two major limitations of this study are theoretical and methodological. Theoretically, I focus on political ambition under different institutions. I do not imply this is the only mechanism connecting institutions and candidate behavior. Several other factors, such as party politics (Siavelis and Morgenstern (2008)) may influence candidacy. Even more factors need to be considered once we are interested in the downstream effects of institutions on leader risk attitudes and behavior. Methodologically, the factorial design (relying on separate consideration of individual treatments and their effects) makes it harder to draw definitive conclusions about the combinations of factors. Any real-life set of selection institutions will, by necessity, be a combination of multiple characteristics, including those that were the focus of this project. For example, a popularly elected office means both high costs and (likely) accountability to the voters, and we can only suggest that the combination of two effects will potentially reinforce the political ambition of the risk-seeking individuals resulting from each of them. Additional experimental testing will help bring statistical power to such conclusions.

Within its scope, the study delivers reliable and insightful findings. Using a laboratory experiment made it possible to isolate and explore a commonly ignored mechanism that connects selection institutions and the selected officials' characteristics: candidate self-selection. And recording actual subject behavior of running for office (as opposed to reported measures of political ambition or interest in a political career) reinforced the study's internal validity.

My findings also open the possibility of exploring new topics. The first group of questions relates to other properties of a given political office and their effect on self-selection based on risk attitudes. For example, how do risk-seeking and risk-averse candidates react to offices requiring political loyalty and support instead of policy performance? To answer these and similar questions, the experimental setting offers an ample opportunity to model various characteristics of leader selection institutions, including party identities and factional politics, voter preferences, incumbency advantage, and others. The second group of questions includes the observable effects of candidate self-selection identified in a lab setting. Are leaders selected in different institutional environments significantly different in their risk attitudes?²³ What are the expected effects on their policy choices? Besides large-N studies of political units using selection institutions with different characteristics, a productive approach to examine these questions may be comparative case studies, employing the most likely case approach to focus on political units that differ by one aspect of their selection institutions.

²³ To address such question, one would need to follow through the entire process of selection and estimate the effects of selection features on candidate pool characteristics and the behavior of those selected in the end – see, for example, a paper by Ashraf et al. (2020) for a field experiment on the selection and behavior of community healthcare professionals in Zambia

PAPER 2: POLITICAL SPACE AND POLITICAL TIME: THE EFFECTS OF DECENTRALIZATION ON SUBNATIONAL LEADERS' TIME HORIZONS

Policy decisions often have delayed benefits, such as public goods that require the building of infrastructure before they can provide benefits to the population. In these situations, a political leader's time horizons (or how much they tend to value delayed benefits) become critical in determining whether such a decision would be made: leaders with short time horizons may avoid such choices even if the benefits are significant as they are focusing on the immediate. This tradeoff is brought up by Pierson (2011) when he discusses how politicians tend to discount the long-term effects of policies in favor of the short-term effects of a decision, mostly due to electoral pressures. For authoritarian settings, Olson (1993), through his classic argument of roving and stationary bandits, explains how rulers in a hereditary autocracy have longer time horizons because there is no uncertainty of succession, so immediate survival does not outweigh longer-term considerations. As subnational officials often make significant policy decisions that directly affect the lives of the citizens – what shapes their time horizons, and how can we make sure that socially desired policies with longer-term payoffs are not ignored at this crucial level of governance?

Political science research has explored the issue of politicians' time horizons and attempted to understand what affects them (Wright 2008; Dionne 2011; Leguizamon and Crowley 2016). The major factor behind leaders' time horizons is argued to be political turnover or the perceived threat of losing office due to the prior history of turnover in one's position (Cheibub 1998). At the same time, how leaders change their time horizons in response to

observed turnover can be moderated by specific institutional features, such as post-tenure prospects and predictability of turnover events (Q. Li 2009).

Research on the time horizons of subnational leaders is limited, however. A number of studies focus on China and the way local turnover combined with career incentives for subnational officials shape their time horizons. For example, frequent turnover, with average tenure between 2 and 4 years (Pierre Francois Landry 2008; Hou et al. 2018), has been shown to lead to short-sighted environmental policies (S. Eaton and Kostka 2014). In the same setting, “outsider” local officials in China with better career prospects tend to have shorter time horizons and disregard long-term social effects of their policies, while “local” officials who count on being promoted to a different position within the same locality have longer time horizons (Hou et al. 2018). Personnel control and central incentives for promotion are at the center of these studies, but one could argue these features are more relevant for the Chinese context and less applicable to other cases where subnational officials make decisions.

Existing studies, therefore, demonstrate that turnover combined with other institutional incentives can affect how short-sighted politicians are. For subnational officials, major institutional incentives will be created by the central (or higher) authorities. One example of such incentives is personnel control, widely used in research on China. Yet, the major dimension of center-local relations, the level of decentralization itself, is missing from the discussion on subnational officials’ time horizons. I argue that the level of local autonomy in policymaking will have an impact on subnational leader’s time horizons. Importantly, I examine Russian subnational politics, where this autonomy varies across territorial units, allowing me to conduct a comparative study to test this more general theory.

I propose a theory of subnational leaders' time horizons and posit that greater subnational autonomy will make local leaders more sensitive to the short-term consequences of their policy decisions and more short-sighted, especially when high turnover makes them feel precarious in their position. Centralization, on the other hand, shields them from the short-term costs by creating a venue for blame-shifting to a higher authority.

To test my theory, I use observational data on Russian municipal officials and their policy decisions. I construct a database of over 1700 municipal private-public partnerships, contracts in which municipalities concede objects of public property to private investors for a given period of time in exchange for the reconstruction of these objects, signed by municipalities between 2014 and 2019. All the projects are in the sphere of utilities (water, sanitation, heating, etc.), making it one of the primary responsibilities of municipal authorities and creating a type of decision with relatively homogenous long-term benefits for their communities. I pair the data about the projects (size of investment, duration, and other details) with information about the local officials and the municipality, testing the effects of political and fiscal autonomy, and the interaction between local autonomy and prior turnover, on local officials' time horizons.

I find support for most of my expectations. Political autonomy (having local executive elections) has a negative effect on time horizons (measured as project duration). Both political and fiscal autonomy is associated with shorter time horizons when turnover is high than when turnover is low.

This study contributes to the existing literature exploring the effects that the variation in selection institutions has on the behavior of Russian subnational officials and on the national political dynamics (Buckley, Frye, et al. 2014; Reuter et al. 2016; Rosenberg, Kozlov, and Libman 2018; Sharafutdinova 2010a; Vasilyeva and Nye 2013). Beyond the Russian case, it

seeks to expand our understanding of the various effects that selection procedures have on political leader behavior, speaking to the literature on comparative behavior of [elected] mayors and [appointed] city managers (Coate and Knight 2011). Finally, it contributes to research on decentralization and its effects (Schneider 2003; Rodden 2004; Falleti 2005; Escobar-Lemmon and Ross 2014; Martínez-Vázquez, Lago-Peñas, and Sacchi 2017).

Literature: Time, political institutions, and subnational politics

The way individuals perceive time affects their behavior. The origins of these perceptions and their effects have been studied within social psychology and political science, where the concept is applied to political actors – such as voters and political leaders.

Social psychology has a long tradition of scholarship dedicated to the human perception of time, with two closely related and somehow overlapping concepts that offer insights into the origins and behavioral outcomes of this perception – time horizons and time perspectives. A time horizon describes the subjective value of future choices for an individual. Observable outcomes of shorter time horizons (making important decisions sooner in life, discounting future in financial decisions) were shown to result from the experience of loss, among other things (Pepper and Nettle 2013). Most studies of the topic within social psychology use the concept of time perspectives (Lewin 1951; Stolarski, Fieulaine, and Van Beek 2015; Zimbardo and Boyd 2015) that refers to an individual’s focus on a particular time frame: whether it’s located in the past, present, or future, and how far it extends in either direction. Relevant research indicates that shorter time perspectives are associated with risky behavior (Zimbardo, Keough, and Boyd 1997; Ciccarelli et al. 2016; Jochemczyk et al. 2017), while individuals with “high future time perspective” are more likely to invest and less likely to make risky investment choices (Sekścińska, Rudzinska-Wojciechowska, and Maison 2018). One’s time perspectives can be

shaped by socialization in a particular socio-economic environment (Trommsdorff 1983) and shortened by the experience of poverty and precariousness (Fieulaine and Apostolidis 2015).

Political science uses the concept of time horizons and applies it to analyze political behavior – both of citizens (Pérez and Tavits 2017) and political leaders (Wright 2008; Dionne 2011; Leguizamon and Crowley 2016). For the remainder of this article, I will be using the term time horizons as it is more widely used in political science. Time horizons here can be defined in terms of preferences over payoffs located at different points in time. While time horizons are themselves not directly observable, the choices made as a result of such preferences are. For example, a leader with short time horizons will choose policies with immediate payoffs, such as expropriation of foreign direct investment (FDI) (Q. Li 2009). Conversely, a leader with long time horizons will choose policies with distant payoffs, such as trade liberalization that promotes economic growth (Kono and Montinola 2015).

Political leaders' time horizons are closely linked to their expected time in office. That is, a leader is considered to look as far into the future as they can be sure to maintain power. Such interpretation of political leaders' time horizons explains why the major factor thought to determine them in existing studies is the past turnover in a given position (Cheibub 1998; Lapuente and Nistotskaya 2009; S. Eaton and Kostka 2014)²⁴. High past turnover acts as an informational cue, affecting the leader's time horizon in a similar way the experience of precariousness shortens people's time horizons, according to social psychology research. Seeing that the previous holders of a given position did not stay in it for long makes the leader more

²⁴ An alternative approach builds empirical model predicting turnover based on a variety of observable characteristics of the office holder and/or context – such as economic situation, presence of armed conflict, education level or personal connections of the leader, etc. (Wright 2008; Song, Sesmero, and Delgado 2021)

concerned about short-term payoffs as they might not stay in office long enough to benefit from the long-term ones.

The exact effect of prior turnover on leader time horizons can vary depending on the institutional setting they are in. For example, democratically elected and authoritarian leaders face different incentives both in office and after leaving it, which have important consequences for their time horizons when in office. The scholars of democratic leadership, therefore, focus on the effects of term limits and post-resignation career prospects on leaders' time horizons (Leguizamon and Crowley 2016) – factors that are not normally considered in the studies of autocracies. In a comparative study, Li (2009) shows that low costs of failure and a predictable turnover pattern of democracies lead to democratic leaders being much more likely to adopt short time horizons when observing high turnover in the previous periods than authoritarian leaders observing high turnover.

Predictable patterns created by specific institutions are also at the core of the political budget cycles (PBC) literature (Nordhaus 1975a). The main argument behind PBCs is that elections make politicians' time horizons shorter at the time of the election (Clinger et al. 2008), leading leaders to spend on consumption over investment before an election to ensure victory. This creates a cycle where leaders' time horizons get longer between elections and shorter around them. This effect is greater when the probability of losing their respective elections is higher (Schultz 1995). Interestingly, elections in authoritarian systems have the same effect - but the scope of the cycles changes depending on the competitiveness and fairness of the elections (Higashijima 2016).

So far, this review has demonstrated that in existing studies, political leaders' time horizons, or their preferences for immediate or distant payoffs, are assumed to be closely

connected to their expected tenure. Because of this, a major determinant of a leader's time horizon is prior turnover in a given position, which works as an informational cue. In addition, institutional differences – such as the presence and competitiveness of elections – both have independent effects on leaders' time horizons and modify the effects of observed turnover.

Most of these studies deal with national-level leaders, however. Descending to the subnational level, other institutional parameters would define leaders' incentives and how they evaluate the parameters of specific policy choices. I believe that the literature on decentralization can provide some useful insights into these changes.

Three dimensions of decentralization are normally distinguished - administrative, fiscal, and political, which involve the transfer of service delivery, revenue sources, and electoral capacities respectively to the lower level of government (Falleti 2005). Decentralization can affect the calculations of local officials. For example, it can make policy experimentation more costly and therefore less likely (Cai and Treisman 2007) or make patronage more beneficial and therefore more widespread (Sadanandan 2012). I, therefore, argue that because decentralization will directly affect the costs and benefits of specific behaviors for the local officials, a theory of subnational time horizons (or preferences for time-specific payoffs) needs to incorporate the parameters of decentralization.

As has been shown in earlier studies, a public official's time horizon is closely connected to their perception of security in office. Existing research has demonstrated how the probability of losing office shortens leaders' time horizons and makes them present-oriented. One of the major cues that leaders use to judge their own security in office is the turnover rate in a given position. If previous officeholders often left abruptly – that is a fair sign this can happen again. At the same time, institutions, such as contested elections, can reinforce or weaken the

predictable nature of turnover patterns. At the subnational level, the level of subnational autonomy (as a result of decentralization) has been shown to affect leaders' evaluation of policy choices and is a better summary of the institutional environment these leaders operate in. I will rely on these findings in constructing my theory.

Theory: Decentralization and subnational time horizons

To build a theory of subnational leaders' time horizons, I rely on existing findings regarding the determinants of politicians' time horizons within the studies of decentralization and the incentives that decentralization creates for local officials. I argue that decentralization will shorten local officials' time horizons and that local turnover will moderate the incentives created by decentralization. I start with describing the properties of the decisions that make leaders' time horizons important – decisions to which this theory will be applicable – and then discuss how local autonomy affects these properties and how local turnover intervenes.

Policy decisions: the temporal dimension

Policy decisions often come with both costs and benefits, but the temporal distribution of those costs and benefits can differ. In this project, I specifically focus on decisions with mostly short-term costs and mostly long-term benefits. This choice is deliberate because this configuration describes a lot of decisions that are both socially desirable and less likely to be made. An example would be an unpopular policy reform (e.g., privatization), which costs the decision-maker votes or elite support in the short run but brings long-term benefits, such as the production of a public good or the decision-maker's career prospects.

Looking at the structure of a policy decision, this temporal discrepancy happens because the decisions themselves are not immediate and instead are better presented as a process that

takes time. The implementation of a policy or project is associated with costs (implementation costs), while the results of implementation (policy benefits) start to accrue once the policy has changed or some part of the work on a project has been finished. Implementation costs can include administrative and human resources required for implementation, but most importantly for a political decision-maker - reputation costs and social backlash if the status quo that was changed by the decision was supported by the public or influential groups, which is often the case.

As clearly demonstrated in the existing studies, short-term concerns over pleasing their audience and keeping their current office would be the most important considerations for a public official. As a result, implementation costs would systematically outweigh longer-term benefits – leading to the short time horizon lamented by social scientists.

What affects this tradeoff – specifically, in a subnational setting? I argue that how the subnational unit is integrated into the larger polity will affect the incentives and calculations of subnational officials. The key parameter here would be the level of subnational autonomy as a result of decentralization.

Decentralization and blame-shifting

Depending on the level of a given subnational government's autonomy, the potential implementation costs of an individual policy decision can vary. I argue that subnational leaders can reduce the immediate implementation costs of a decision by shifting blame in case a decision backfires. The more dependent they are on the higher level of government, the more integrated into the decision-making chains of the multilevel system, the easier it is to shift blame to the higher authorities and therefore decrease the negative effects this decision has on their

popularity, elite support, or in general – short term chances of keeping their office²⁵. The more autonomous the lower-level government is, the less it is able to shift blame upwards, and therefore, the more blame it faces in case of failures, which increases the immediate costs of many policy decisions.

Existing research has demonstrated that in Russia, for example, political centralization (absence of local executive elections) encourages blame-shifting upwards as it is the national ruling party that is held responsible for policy shortcomings and the behavior of its appointees (Beazer and Reuter 2019). Conversely, in China, elected village leaders who can be blamed for the systemic shortcomings to insulate higher levels of authority (Kennedy 2013) are the victims of political decentralization. This doesn't only operate on political autonomy but fiscal as well. Low levels of fiscal decentralization (fiscal dependence on budget transfers instead of local taxes) have been argued to allow local politicians to blame central authorities for lack of support (Oates 2005). Governors in Latin America, for example, even prefer transfers over taxes because taxing is politically costly – that is, in a fiscally more centralized setting, they get to leave the blame for taxes with the center and get the credit for spending (Remmer and Gélineau 2003; K. Eaton and Dickovick 2004; Rogers 2021). We can safely assume that subnational leaders know about these (largely unintended) effects of their level of autonomy, and that affects how they perceive the costs of implementation of a policy decision.

We would expect, therefore, that higher autonomy will be associated with higher implementation costs simply because the decision-maker will have fewer opportunities to blame

²⁵ I believe the same logic will work for national officials, suggesting that further studies of national leaders' time horizons might benefit from taking into account the level of decentralization and the ability of the central government to shift blame to subnational level as an instrument of neutralizing downwards pressures on national leaders' time horizon

someone else. In turn, higher implementation costs would encourage shorter time horizons by making the decisions with delayed policy benefits increasingly unattractive.

Decentralization and turnover

Simultaneously, the sensitivity of a given leader to implementation costs as affected by decentralization will vary depending on the local political context. Just as national-level leaders, local officials can use prior turnover in a given office to evaluate the precariousness of their position. If prior turnover is very low and they can feel safe – implementation costs have higher chances of being offset by longer-term benefits of the policy or project. In this case, officials believe they will be in office long enough to reap the long-term benefits that will offset their short-term costs. However, the higher the turnover – the higher the probability that longer-term benefits of a decision will not kick in before the time's up, leaving the official with only the costs.

In short, local executive turnover will moderate the effects of decentralization on time horizons. Specifically, I expect decentralization to have a stronger effect on subnational leaders' time horizons when prior turnover is high, and they are feeling unsure of their job security²⁶. I will elaborate on the case-specific hypotheses after discussing the case and measurements.

²⁶ A potential counterargument is the presence of an omitted variable that affects both local autonomy and turnover and the decision-making horizons of local officials. For example, it has been demonstrated that within the overall centralization process in Russia, local executive elections are more likely to be retained in municipalities where officials control powerful political machines (Reuter et al. 2016). Such politically autonomous localities should be less sensitive to prior turnover, and their officials might therefore have longer time horizons. This is opposite to my expectations.

Case: Russian municipal officials and their time horizons

To test my proposed theory, I examine the case of Russian municipalities. This case is suitable for comparative analysis because there is significant variation between municipalities both in terms of political and fiscal autonomy²⁷, as well as local executive turnover. Importantly, the focus on municipalities is theoretically relevant because being the lowest level of government, they can only shift blame up, making the effects of autonomy on leader incentives clear.

Russian municipalities: decentralization and leader turnover

Starting from the mid-2000s, there has been a growing divergence in the institutional models applied at the municipal level. As part of increased political centralization, particularly after 2014, more and more officials were not popularly elected but selected through one of the models relying on appointments with heavy involvement of regional authorities (Buckley et al., 2014). By 2017, a major share of larger municipalities²⁸ had non-elected mayors (Panov 2018). It is important to note that elected and non-elected mayors do not significantly differ in their decision powers. There is also significant variation in the municipalities' dependence on the regional and federal budget transfers (Yushkov 2015). Own revenues include, most importantly, land and property taxes in addition to the shares of federal and regional taxes that are legally fixed and left

²⁷ I don't examine the effects of the third potential type of decentralization - administrative decentralization (Schneider 2003; Falletti 2005), because systematic data on this dimension of decentralization at the municipal level is not available. Furthermore, it is often correlated with fiscal decentralization as much as the responsibilities assigned are funded.

²⁸ That is, most tier two municipalities. There are four main types of municipalities in Russia: urban districts (gorodskoi okrug), municipal districts (municipal'nyi raion), urban settlements (gorodskoe poselenie) and rural settlements (sel'skoe poselenie). The first two are higher-level tier two municipalities, which include the settlements as their lower-level municipalities. In the following analysis, I focus on the first three types of municipalities but exclude rural settlements due to difficulties finding selection information about their officials.

at the local level. While the overall drive was towards greater fiscal centralization, up until today, there are municipalities that are more self-sufficient (have a higher share of own revenue) compared to others.

Local executive turnover also demonstrates significant variation. Local executive offices often don't have term limits, leading to cases when the same officials have occupied their posts for over 15 years. Due to historical trends in the selection models, this is almost exclusively the case for the popularly elected mayors. Appointed officials have higher turnover than their elected counterparts (in large cities) (Buckley et al., 2014) and are less likely to be criminally persecuted (Buckley et al. 2020); anecdotally, appointees are also more likely to take on higher posts in the regional administration once their tenure is over.

Private-public partnerships in the municipalities

In addition to information about the institutional variables at the local level, I need data about municipal-level decisions that exhibit the temporal discrepancies I identified earlier: costs that manifest immediately and longer-term benefits. For such decisions, the decision-makers' time horizons will be important, and the effects of decentralization on the short-term costs would affect the politicians' choices. I argue that the duration of contracts signed by the local officials are a reflection of their time horizons. I focus on the utilities sphere and specifically private-public partnerships that the municipalities are a party of.

For this project, I focus on concessions in the sphere of utilities (water provision, heating, garbage collection, etc.) because those are in the area of responsibility of the municipal authorities, and citizens, as well as higher authorities, have a clear way to attribute this responsibility to them. The state of the utility infrastructure is the major concern for the

municipal officials, as 16% of all heating networks and 30% of water and sewage networks across Russian municipalities require immediate replacement (cite needs to go here).

Private-public partnerships allow municipalities to address long-overdue problems of degrading infrastructure in the situation when their own resources are limited. For Russian municipal authorities, private-public partnerships often take the form of concessions²⁹. That involves making a contract with a private investor to repair or modernize a piece of municipal property (such as a water treatment facility, for example) in exchange for the right to use this facility to provide services to the population for a given number of years and collect payment for these services. Concessions are considered a solution to the current situation in the utilities when most municipally-owned public enterprises that provide the services are deeply indebted and systematically unprofitable (Sivayev 2018).

The municipality's incentive to engage in such an agreement is getting necessary repairs and modernization to their infrastructure as well as providing higher quality service for the population in the situation when local governments themselves are severely underfunded (Seleznev 2015). The municipality trades these long-term benefits for a potential of immediate backlash associated with the implementation of the project: this sector is highly socially sensitive (Sivayev 2018), and its performance is important for the local officials' evaluation both by population and by the higher authorities. A concession project is a commitment on the part of the municipal authorities. As soon as they cede the rights on a piece of municipal property and delegate service provision to a private contractor, they make themselves vulnerable to public critique over the quality of services they no longer directly control. There were numerous

²⁹ Concessions in Russia are regulated by a federal law adopted in 2005 (Yarmal'chuk et al. 2015), seriously amended in 2014, after which we see a boom of concessions as they were prioritized by federal and regional authorities.

examples when the private investors were unable to fulfill their obligations, but it was still the local authorities – not the private investor – who faced public protests. The longer the project's duration, the greater are opportunities for something to go wrong. At the same time, a longer project term, all else equal, increases the chances that the (re)construction involved will be executed properly and fully, which is in the municipality's long-term interest. That makes the signed project duration an indicator of the local authorities' time horizons or the reflection of how much they value the long-term benefits of the project as opposed to immediate implementation costs.

Following my theory, local autonomy (political and fiscal) will affect the short-term implementation costs of a decision to sign a concession agreement with delayed benefits. Specifically, I expect more autonomous local leaders to face all the potential drawbacks, such as interruptions in service provision and the resulting public or elite discontent, on their own. Less autonomous leaders, on the other hand, are more integrated into the hierarchy and, by that, shielded from at least some of the potential fallout, decreasing the perceived decision implementation costs for them. As a result, more autonomous leaders will feel less secure and will therefore adopt shorter time horizons and sign concession agreements for shorter terms (all else equal) – especially when they already feel precarious due to high prior turnover.

Based on these considerations, the hypotheses can be specified as follows:

Hypothesis 1a: Being popularly elected will be associated with shorter contract durations

Hypothesis 1b: Higher share of own revenue in the municipal budget will be associated with shorter contract durations

Hypothesis 2a: High local executive turnover will increase the effects of local executive elections on contract durations

Hypothesis 2b: High local executive turnover will increase the effects of the share of own revenue in the municipal budget on contract durations

Data and modeling approach

The core observational data I use in this project comes from two original datasets. The first dataset contains variables on investment projects and was created by the author in June 2019 using the information provided in an online depository of infrastructure investment in Russia, “Rosinfra”. The database is maintained by the National Center for Public-Private Partnership in Russia, formed by the leading national business associations and public entities (VEB, which supports development projects across the country). The goal of the database is to provide information about existing projects and their participants and outcomes to both private investors and public entities who want to engage in public-private infrastructure partnerships³⁰. This is the most complete relevant database in Russia that includes federal, regional, and municipal projects³¹.

The second database contains the mode of selection for the chief executives of all municipalities appearing in the concessions database and a random sample of municipalities that do not have any concession projects in the period under scrutiny. The database covers the period of 2011-2020 and was created based on open sources, such as official municipal websites,

³⁰ Importantly, a project enters the database at the initiation stage, when the public partner might be seeking for a private investor, and remains there after the contract is signed and even after it is fulfilled

³¹ A random check of 20 regional and municipal projects that are mentioned in other sources indicated that they are all represented in the database.

electoral data, and local media³². The database includes information on 2980 unique municipal-level officials (including temporary officeholders and dual executives³³) across 859 municipalities in 71 regions, many of them serving multiple terms. Only part of this dataset is used for analysis.

For each project in the concession database, information about the chief municipal executive in office in the corresponding year was matched. The following analysis is based on this dataset. As such, it does not cover all Russian municipalities or regions, only those that had concession projects in the utilities. I will address some potential implications of the sample structure in the discussion.

Dependent variable: contract duration

The outcome of interest is local officials' time horizons. As discussed earlier, all else equal, the duration of concession contracts signed by the municipality reflects these time horizons because the payoff of reconstructing utilities infrastructure gets farther in the future as the term of contract increases³⁴. A close examination of the contracts reveals that the longer the contract, the farther down the road one can see all the objects constructed or reconstructed.

³² The data was collected and coded by a group of trained research assistants in May-September 2020. The funding for the data collection was provided by the Harriman Institute research grant for Ph.D. candidates in the social sciences and UNC CSEES summer research grant.

³³ Some of the current municipal selection models feature dual executives: head of municipality (coordination and interaction with both citizens and elected representatives) and head of administration (day-to-day administrative decisions). In the final analysis, I focus on the officials fulfilling the function of the "head of administration," who have concentrated executive powers and can be generally assumed to be responsible for the bulk of policy decision-making. An example of a dual executive is a mayor-city manager model.

³⁴ One might argue that because the concession agreements are signed by the municipality and a private investor, their duration is a reflection of the investor's time horizon, not the leaders – or at least some combination of both. There is ample research on FDI and private investment in general (Julio and Yook 2012) and their relation to political risk that is relevant here. It shows, for example, that political leader turnover shortens investors' time horizons. My argument here

The information about contract duration comes from the database on municipal concessions in utilities. I selected municipal-level projects specifically in the utilities sphere³⁵ (heating, water supply, trash collection, etc.) as this policy area is universally the responsibility of the municipal authorities, meaning they can make their own decisions regarding these projects and services. I further selected the projects implemented in urban districts, municipal districts, and urban settlements. The resulting database contains information about 1774 projects across 70 regions and 693 municipalities. Most of the projects are in the period of 2014-2019. The database contains all the basic information about the concession contracts signed by municipalities, including the total sum of investment from both the private partner and (if applicable) the municipality, the duration of the contract, and the names of the firms acting as private investors. I use contract duration as an outcome variable in the analysis. Figure 2.1 demonstrates the distribution of contract duration across the sample.

would be that the logic of the private investor would be very similar to the logic of the public official on the other side of the deal: it is safer to deal with a leader with longer time horizons, leading to a longer time horizon on such contracts. The incentives for the leader and for the investor would therefore reinforce each other. Furthermore, it is the public official who has the final call on decisions regarding public property, which justifies the measure.

³⁵ Projects not included would be, for example, reconstruction of objects of social infrastructure (health clinics or kindergartens).

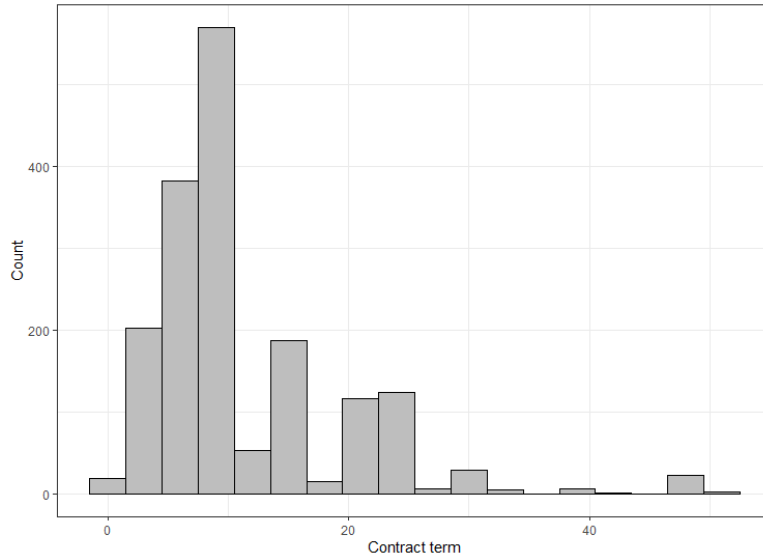


Figure 2.1: Contract duration distribution

Independent variables: turnover and decentralization

Following my theory, local officials’ time horizons are an outcome of two groups of factors: the observed turnover that serves as a default informational cue about expected time in office and the level of decentralization that defines the opportunity for blame-shifting.

To measure this, I create a variable of local executive turnover, specifically the number of municipal officials who served at a given municipality in the past five years. The period of 5 years allows me to capture both regular and irregular turnover, as the normal term in office at the municipal level is four years³⁶. I construct this variable based on the data about chief municipal executives I have collected. Executive turnover for elected and non-elected officials is presented in Table 2.1.

³⁶ I also ran the analysis using turnover in the past 3 years and past 8 years (see Robustness checks section)

N of chief executives in an office	Elected	Non-elected	Total
1	308	399	707
2	303	291	594
3	27	109	136
4	14	16	30
Total	652	815	1467

Table 2.1: Executive turnover in municipalities (in the previous five years)

I measure political decentralization through a dummy variable indicating whether the chief executive in office in the year when the contract was signed was popularly elected for this position. For 1623 contracts (91.5% of the sample), there is information about the selection model of the signing municipal official³⁷, who are popularly elected in 46% of those cases. To measure fiscal decentralization, I use the share of own revenue (compared to income coming from transfers from the higher level budgets) in the municipal budget income. This creates a measure that is higher in cases where localities are more financially self-reliant, and therefore, are less dependent on the center. These data come from the Russian statistical service Rosstat that publishes relevant municipal statistics. Descriptive statistics for that variable are presented in Table 2.3.

Control variables

I use several control variables to account for the differences between municipalities that may affect both the contract parameters and the institutional characteristics of the municipalities.

Those include how rural a municipality is (measured through the share of rural population) and

³⁷ The database used for analysis contains 703 unique municipal officials for the municipalities that had concession contracts

how wealthy (total municipal budget income per capita). The more urban a municipality is, the higher its dependence on shared utilities infrastructure, which may put pressure on the decision-making. Officials in wealthier municipalities, even having smaller shares of their own revenue, can have longer time horizons and feel more comfortable in their everyday functioning. I also control for the size of the project and its specific sphere (e.g., water treatment or waste management). The size of the project can have a clear connection with its duration, with larger projects taking longer time. The same is true for the specific sphere of the project, as there might be unobservable characteristics of infrastructure in that sphere that affects project dynamics. Finally, I use region and year fixed effects to account for the fact that regions can affect the behavior of the municipal officials, and there is a time trend in concessions that may affect the parameters of the contracts as well.

I use these variables to build a model predicting municipal officials' time horizons based on the proposed theory:

$$\begin{aligned}
 \text{HORIZ} = & \text{Turnover}_{5\text{yr}} + \text{Own revenue}_{\text{budget}} + \text{Elected} + \text{Turnover}_{5\text{yr}} * \text{Elected} \\
 & + \text{Turnover}_{5\text{yr}} * \text{Own revenue}_{\text{budget}} + \text{Invest} + \text{Rural} + \text{Budget}_{\text{pc}} \\
 & + \text{Sphere} + \text{Region} + \text{Year}
 \end{aligned}$$

Table 2.2 describes the full list of control variables, and Table 2.3 summarizes descriptive statistics for the major variables used in the analysis³⁸.

³⁸ The analysis of missingness is provided in Appendix 2A

Variable	Type/construction	Source, notes
Concession contract duration	Continuous	Concessions database (created by author)
Turnover	Count, number of chief executives in a given municipality in the previous five years	Municipal officials' database (created by author)
Share of municipal budget income that comes from own revenues (fiscal autonomy)	Continuous, 0-1	Rosstat (BDMO – Municipal units' database)
Elected (official)	Dummy 1 if the official was elected in popular elections, 0 otherwise	Municipal officials' database (created by author)
Investment size	Continuous	Concessions database (created by author)
Contract sphere (specific area of utilities)	Categorical	
Share of the rural population	Continuous, 0-1	Rosstat (BDMO – Municipal units' database)
Municipal budget income, per capita	Continuous	

Table 2.2: Variables used in the analysis

	Min	Max	Mean	Std.dev	N	N/A
Fiscal autonomy	0	0.889	0.327	0.202	731	1043
Share of rural population	0	1	0.573	0.384	1012	762
Budget per capita, thousand rubles	0.56	325.56	27.18	25.37	722	1052
Contract investment size, mln rubles	0	58029.4	169.3	1734.4	1774	0

Table 2.3: Descriptive statistics

Results

The effects of local executive turnover and autonomy (political and fiscal) and their interaction on leaders' time horizons were estimated using a gamma GLM model³⁹. Table 2.4 presents the results of running this model. Due to the presence of several interactions in the model, interpretation of the coefficients is less than straightforward, so Figure 2.2 provides some graphic illustrations for analysis. As can be seen from these results, both political and fiscal decentralization are associated with shorter time horizons than centralization – but the effect depends on the observed turnover levels.

As I am primarily interested in the differentiated effects of decentralization under various rates of local executive turnover on the incumbent's time horizons, I focus on the interaction terms (Baron and Kenny 1986). To interpret the results of running the model, I will rely on predicted values and first differences (Brambor, Clark, and Golder 2006; Tsai and Gill 2013).

The first panel of Figure 2.2 presents the effects of political autonomy (elected local executive). The graph on the left shows predicted time horizons of popularly elected and non-elected officials at different levels of turnover. Consistently with a significant and negative interaction term, popularly elected officials have shorter time horizons as turnover increases, in line with Hypothesis 2a. The graph on the right shows first differences between predicted values or the effect of switching from a non-elected to an elected local executive, with 95% confidence intervals. As can be seen in that illustration, the effect is negative and significant for all observed

³⁹ I use gamma GLM as the outcome variable (contract duration) includes only positive values and has a right skew

levels of turnover: elected officials sign shorter contracts, all else equal (which supports Hypothesis 1a).

The second panel of Figure 2.2 presents the effects of fiscal autonomy (share of own revenue in the local budget). The graph on the left shows predicted time horizons of officials under two selected levels of fiscal autonomy⁴⁰ at different levels of turnover. Just as indicated by a significant and negative interaction term, under high fiscal autonomy, an increase in turnover is associated with shorter time horizons, supporting Hypothesis 2b. The graph on the right in the same panel shows the first differences between predicted values or the effect of switching from 30% own revenue to 80% own revenue in the budget (all else equal), with 95% confidence intervals. What we can see is that the effect of decentralization is different for very low and very high turnover rates. Under low turnover, greater fiscal autonomy is associated with longer time horizons, while under high turnover – with shorter time horizons.

Some examples can help understand the model's predictions. An elected local executive in a municipality with no turnover in the past five years and mean fiscal autonomy would have a time horizon of 3.73 years, while their counterpart who isn't elected – 5.05 years. If both municipalities were experiencing political turbulence and had four different leaders in the past five years, the elected leader's time horizon would still be shorter: 2.62 years as opposed to 6.65 of the one who isn't elected. Both under low and high turnover, elected officials would have shorter time horizons – but increasing turnover makes the difference even starker.

⁴⁰ The mean value of own revenues in municipal budgets across the sample is around 0.6. Here, I selected 0.3 and 0.8 as illustrative examples of low and high fiscal autonomy

In a municipality with a non-elected executive⁴¹ that has had the same chief executive for the past five years, a change from 30% of own revenues to 90% of own revenues would lead to the leader's time horizon becoming longer, changing from 3.2 years to 7.5 years. Under high turnover (four chief executives in the past five years), the same change in fiscal autonomy is associated with a shorter time horizon, which would change from an average of 10 years to 4.2 years. Under low turnover, officials in financially autonomous municipalities have longer time horizons than those in financially dependent municipalities. Under high turnover, their time horizons are reversed, and financial independence is associated with short-sightedness.

⁴¹ Used as a base category

	Contract duration
Intercept	0.36 (0.68)
Turnover	0.67*** (0.15)
Own revenue	2.37*** (0.48)
Elected	-0.08 (0.18)
Turnover*elected	-0.21* (0.09)
Turnover*own revenue	-0.95 *** (0.21)
Contract: total investment	0.00 (0.00)
Share of rural population	-0.30** (0.10)
Budget income per capita	0.00 (0.00)
Region FE	Yes
Year FE	Yes
Sector FE	Yes
N ⁴²	441
AIC	2666.6

Note: the outcome variable is contract duration in years; standard errors in parentheses; . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 2.4: Subnational time horizons

⁴² See Appendix 2A for a discussion of missing data

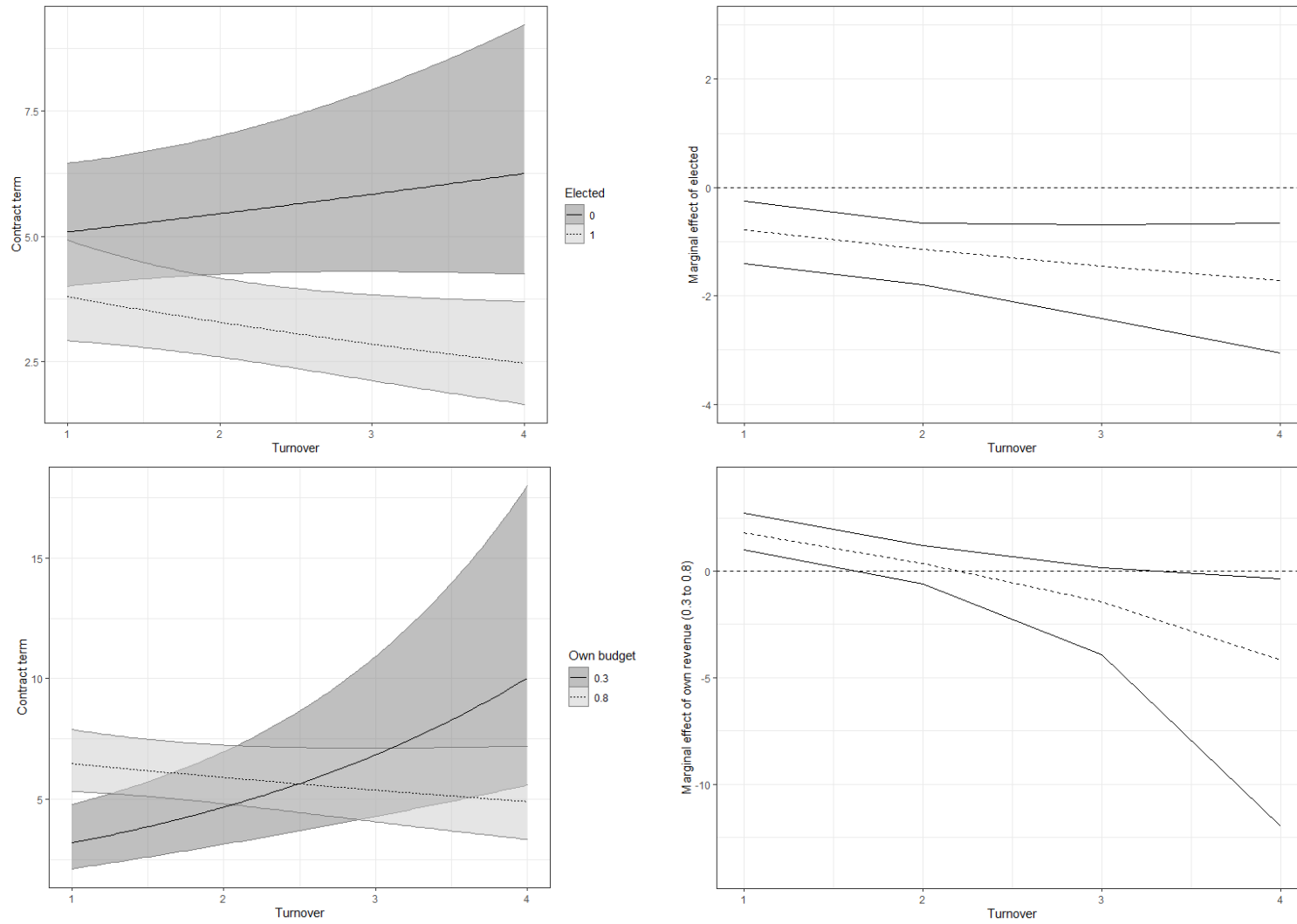


Figure 2.2: Decentralization and turnover effects on time horizons

Robustness checks

Table 2.5 brings together the results of running several models – with and without the key interactions that I focus on. Model 1 is the basic model predicting contract duration based on the observed leader turnover and a set of controls. Model 2 adds measures of decentralization without any interactions. Models 3 and 4 use one interaction at a time. Model 5 uses the final specification without fixed effects. The comparison demonstrates that adding the interactions improves model fit.

To mitigate some of the problems with missing data due to the quality of municipal statistics, I also run the model dropping total budget income per capita and share of the rural population as control variables, which increases the number of observations from 441 to 633 (or from 25% to 36% of the full sample). All main results hold.

I also run the model with turnover measured as the number of officials in a given position in the past three years and the past eight years (as compared to the original measure that looked at the past five years). In both cases, the main results do not change, but due to an even smaller sample size with turnover measured in the past eight years (for many municipalities, data does not go far enough in the past), p-values on the coefficients in that model are generally larger (while still indicating statistical significance).

Contract duration					
	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	2.58*** (0.05)	2.98*** (0.16)	2.44*** (0.11)	1.47*** (0.29)	1.78*** (0.28)
Turnover	-0.07. (0.03)	-0.13** (0.04)	0.10* (0.05)	0.66*** (0.15)	0.62*** (0.14)
Own revenue		-0.13 (0.18)		1.91*** (0.40)	1.31** (0.40)
Elected		-0.26*** (0.06)	0.53 *** (0.13)		0.42** (0.15)
Turnover*elect ed			-0.47*** (0.07)		-0.43*** (0.08)
Turnover*own revenue				-1.13*** (0.20)	-0.83 *** (0.2)
Contract: total investment	0.00*** (0.00)	0.00** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00** (0.00)
Share of rural population	-0.22** (0.07)	-0.33*** (0.09)	-0.29 *** (0.07)	-0.34*** (0.09)	-0.45 *** (0.08)
Budget income per capita	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.0)
Region FE	No	No	No	No	No
Year FE	No	No	No	No	No
Sector FE	No	No	No	No	No
N	547	446	547	446	446
AIC	3529.3	2900.7	3479.1	2891.6	2848

Table 2.5: Additional models

Discussion

In this paper, I argued that local autonomy can be an important factor in determining subnational leaders' time horizons in a multilevel setting and used the case of Russia, when local autonomy varies across municipalities, to test my theory. The proposed mechanism connecting autonomy and time horizons is based on blame-shifting – higher autonomy decreases the ability to shift blame and reduce potential short-term fallout of a decision, leading to shorter time horizons, especially when high prior turnover in a given position makes an official feel precarious. I expected higher political and fiscal autonomy, in the form of local executive elections and reliance on own sources of revenue, to have both independent negative effects on time horizons and reinforce the negative impact of high local executive turnover. I found that this indeed seems to be the case for political autonomy: popularly elected officials have shorter time horizons, and this effect gets stronger with higher local turnover. Fiscal autonomy has an even more pronounced effect under high turnover – but under low turnover can actually extend local leader's time horizon, so only the conditional effect follows the predicted pattern.

These findings confirm that turnover is an important moderating variable that affects how political leaders see their future – just like earlier studies in different national contexts and at different levels of government have demonstrated. A key innovation of this study is the argument that turnover will be interacting with the local institutional setting in creating the incentives for leaders' perception of time.

Based on the presented evidence, political decentralization, all else equal, can lead to shorter time horizons for subnational officials. This corroborates existing literature on subnational policy experimentation, which has been argued to be suboptimal under local elections due to local officials' risk aversion (Rose-Ackerman 1980b; Strumpf 2002; Galle and

Leahy 2008). Furthermore, this study demonstrates that different types of decentralization – in this case, political and fiscal – can have slightly different effects on local officials' calculations when making policy decisions.

There are certain traits of the Russian case that might restrict the applicability of these findings. I believe specifically that the overall level of centralization and the post-tenure fate for local officials can have such consequences for the scope of the presented theory. The past 20 years have been the years of centralization, so in the period under study, the Russian system of governance, while definitely multilevel, does not qualify as a federation (Golosov 2018). Chief executives in the municipalities are the bottom elements of this centralized multilevel system tasked with a variety of goals – including delivering electoral results as parts of the regional political machine (Gilev, Semenov, and Shevtsova 2017; Shkel 2021) and implementing national policy promises. Even the most autonomous municipalities in the sample are controlled by the higher-level authorities through financial instruments, set policy priorities, and the ability of the regional authorities to remove the municipal leaders from office in certain cases. In a more decentralized setting, politically and fiscally autonomous local officials might be able to do more themselves to offset potential implementation costs of a decision with delayed benefits, therefore avoiding the need to consider blame-shifting and lengthening, not shortening, their time horizons. Such strategies, unavailable to Russian mayors, could include tax policy or public sector spending.

Regarding post-tenure prospects, a significant number of Russian mayors face criminal persecution while still in office or after leaving it (Buckley et al. 2020); sometimes, that happens

for several consecutive mayors in the same municipality⁴³. Such prospects create an overall level of precariousness, which should affect leaders' sensitivity to turnover and, therefore, their time horizons. I believe that keeping those two features – overall degree of centralization and post-tenure prospects – in mind is important when generalizing the presented findings to other national contexts.

A particular structure of the sample may also affect the interpretation and generalization of results. Specifically, the sample only includes the municipalities that had at least one concession project signed, and less than half of Russian municipalities are included as a result. The question is then whether these municipalities are systematically different from those that were excluded by this design. It is reasonable to assume, for example, that they have greater administrative capacity and expertise – which are some of the key requirements for preparing a complex concession agreement. Because such an agreement requires a private investor, some municipalities may not have any concessions and are therefore absent from the sample because there are no private companies specializing in utilities and construction in a given locality, or the potential projects are for some reason not attractive for private investors. There is a possibility that leaders of the municipalities in the sample generally have longer time horizons due to this greater capacity and availability of policy options. Further exploration of this issue on a different set of policy decisions and analysis of municipal leader characteristics may reveal more about the potential bias and the broader applicability of results.

⁴³ For example, in the city of Tomsk three mayors in a row had criminal charges against them - see (“Law enforcement ...” 2020)

This study contributes to the literature on political leaders' time horizons, specifically the studies on subnational time horizons that have mostly been explored using the case of China. Furthermore, I contribute to the literature on decentralization as I explore how both political and fiscal decentralization have discernable effects on local officials' time horizons.

These findings have potential policy implications as well. First, we may want to understand whether longer time horizons are a desirable social outcome. On the one hand, as discussed earlier, important reforms and the production of public goods are often long-term endeavors that take time to pay off. On the other hand, as noted by some researchers of time perspectives, "in time of crisis and in insecure contexts, a present orientation is necessary and perhaps more adaptive" (Fieulaine and Apostolidis 2015). Second, this study brings to our attention the spatial dimension of policymaking. It may well be the case that an optimal combination for a given situation and policy sphere includes longer time horizons for the central authorities and shorter time horizons for the local authorities to ensure both strategic planning and quick adaptation to the environment. The findings presented here allow for a better understanding of institutional settings that would make that possible.

**PAPER 3: POLITICAL BUDGET CYCLES UNDER APPOINTED GOVERNORS:
THE ANALYSIS OF RUSSIAN REGIONS IN 2005-2012**

A 2015 report by “Golos” (an NGO that focuses on election observation) stated that during Russian gubernatorial electoral campaigns, regional budget expenses in the social and cultural spheres tended to increase, citing the example of Kaliningrad, which saw a twofold increase in road reconstruction projects in the year of elections (Dergachev 2015). This is consistent with the findings, both in Russia and in other national contexts, of the political budget cycles (PBCs) literature that has explored these predictable patterns of public spending that form around elections.

Generally, scholars argue that budget cycles arise out of an incumbent's desire to ensure victory in their upcoming election and their willingness to use available resources, specifically public funds, to shore up electoral support (Nordhaus 1975b; Brender and Drazen 2005; Dubois 2016). However, studies of political budget cycles in non-electoral contexts are rare. Most of the relevant scholarship is dedicated to the case of China (Guo 2009; Gong, Xiao, and Zhang 2013; Vortherms 2019) and emphasizes the importance of the cadre incentive system, with the central authorities replacing the electorate as the key constituency for ambitious subnational leaders. This leads to an interesting question regarding spending cycles in other non-electoral contexts, such as Russia, where governors were centrally appointed in 2005-2012, but the system of cadre promotion and rotation is very different from China. Were there political budget cycles at the regional level in that period? What can serve as an equivalent of the centrally set promotion criteria that creates the incentives for the governors to adjust public spending if they want to

remain in office? This project is the first step in a larger effort to establish the existence and nature of political budget cycles in the Russian regions across different selection procedures and construct a general theory that will connect changing spending patterns to changing incentives of regional leaders under different institutional conditions.

In this article, I concentrate on the period when Russian regional governors were appointed (2005-2012) and argue that centrally appointed governors are incentivized to care about the criteria that make their reappointment more likely. These criteria are aligned with central policy priorities. While criteria for reappointment were vague throughout the entire period, social peace and issues highly relevant for the national political agenda have been cited by observers as important determinants of a governor's ability to stay in office. Furthermore, the central authorities implemented the National Priority Projects (NPPs), which can be reasonably assumed to act as indicators of the central policy priorities that the incumbents hoping for reappointment would want to align with, demonstrating both efficiency and loyalty. That allows me to hypothesize that we will observe increases in spending categories associated with the national policy priorities in the reappointment years.

To test these expectations, I use published data on Russian regional budgets and information on the dates of governor reappointment by region in 2005-2012. Based on the budget data, I explore the dynamics of various elements of social spending, such as healthcare, education, and housing/utilities, to identify potentially divergent patterns across subcategories.

I find cyclical spending in certain budget categories in the appointment era. Most notably, education spending and spending on health 'workers' salaries increase in the years before the appointment years. These spending categories align with two major NPPs that were being implemented in this period, showing that appointed governors might indeed use public spending

to demonstrate their efficiency in achieving the policy goals declared as important by the central authorities.

This study contributes to the literature on Russian regional spending and its determinants (Vasilyeva 2010; Nye and Vasilyeva 2015; Demidova, Kayasheva, and Demyanenko 2021; Freinkman and Plekhanov 2009) by focusing on the politically determined yearly changes in spending. It also adds to the existing research on political budget cycles in Russia (Treisman and Gimpelson 2001; Akhmedov and Zhuravskaya 2004) by looking at the period of appointment of subnational officials. Importantly, understanding what Russian appointed governors consider important for their reappointment provides an insight into the highly informal practices of governance in Russia. In a way, identifying political budget cycles can be a means to an end of uncovering the de facto incentives created by the central government in Russia – incentives that may not be intentional but nevertheless affect the behavior of the army of public officials and therefore have wide consequences. I will return to these and other implications of my findings in the discussion.

Literature: Spending cycles in different environments

Elections and political budget cycles

Most research about political budget cycles has been carried out in democracies⁴⁴. The theory of political budget cycles focuses on the fact that certain economic policies get synchronized with the political process (Nordhaus 1975b; Drazen 2000; de Haan and Klomp 2013; Dubois 2016; Philips 2016; Mandon and Cazals 2019). Democratic elections have been shown to promote budget cycles as incumbents introduce fiscal policies that are aimed at improving the economic situation right before the elections in order to ensure 'voters' support. These theories implicitly assume that voters are short-sighted and that the decision to support or oppose the incumbent is made around the election event (and therefore, a voter can be swayed by a short-term increase in the economic situation right before the election).

Total spending is not always the best indicator of spending cycles. Increasing total spending is hard and requires additional sources of funding. Instead, electoral cycles encourage a shift in spending priorities from some categories to others. One of the instruments used for the analysis of public spending in this regard is the identification of at least two broad categories – public investment and public consumption. A mechanism that explains the connection between specific spending types and elections was proposed by Drazen and Eslava (2006; 2010). They argue that incumbents manipulate the structure of the spending rather than the spending in total and that those temporary spending changes act as signals to the voters who are deciding whether the current leader has policy preferences aligned with theirs, with different groups of voters

⁴⁴ Brender and Drazen (2005) note that existing evidence indicates that political budget cycles are more prevalent in young, than established democracies.

having different preferences. Therefore, they expect an increase in spending targeted at the groups with the most electoral importance. Empirically, they find an increase in spending on “health, water and energy infrastructure, and housing” and a simultaneous decrease in transfers and payments to temporary workers, which supports their hypotheses.

Similar shifts in spending to the groups that matter most for reelection have been identified in electoral autocracies or hybrid (national or subnational) regimes, where redistribution of public resources to certain elite groups serves as a mechanism of political management. For Argentina, Remmer (2007) shows how redistribution to a specific elite group – bureaucrats – follows election cycles: in the year after⁴⁵ gubernatorial elections, there is an increase in this category of spending (salaries of bureaucrats), explained by the functioning of patronage networks and co-optation built around access to state public offices.

At the same time, the specifics of the subnational level of authority can change the incentives in a way that creates very different expectations regarding public spending. For example, as specifically noted by Gupta et al. (2016), while national-level findings most often indicate a shift in public investment to public consumption around elections, subnational research has found the opposite tendencies: “local elections are correlated with a shift toward “visible” investment (which at the subnational level takes the form of local infrastructure) together with targeted public transfer programs.”

⁴⁵ It’s important to note here that the spending in that case increases after elections because most governors didn’t serve consecutive terms due to the nature of political competition and party politics in Argentina. Once in office, challengers spent retroactively. We should expect a different situation in a country like Russia, when consecutive terms for governors are a norm, and incumbents can increase this type of spending before or during the elections.

These differences in strategies explain why expectations driven by national-level theories do not always find confirmation at the subnational level. Some of the most informative findings for the subnational level budget cycles were obtained in studies that focused on a few very specific types of public spending. For example, Kneebone and McKenzie (2001), looking at Canadian provinces, discover no cycles in aggregate spending but find an elections-associated cycle in investment expenditures on roads and infrastructure. Sjahrir et al. (2013) show that in Indonesian districts, only discretionary spending (on social projects, cultural buildings, etc.) shows political budget cycles. Khemani (2004) demonstrates that elections have a large and positive effect on road construction in Indian states.

Public spending in the absence of popular elections

While the previously described literature is dedicated to spending cycles which can be observed around elections, the question of the effect of other leader selection institutions on the appearance of spending cycles is much less researched.

Sjahrir et al. (2013) show that spending cycles in Indonesian districts are only observable for the cases of direct elections, whereas the election of the district head by the local legislature does not lead to budget cycles. Yet in China, appointed subnational-level officials schedule major public investments towards the end of their expected tenure to demonstrate visible economic successes to their superiors and increase the chances of promotion. Guo (2009) shows that local leaders in China start massive investment projects towards the end of their tenure to impress their superiors – just like democratic leaders try to impress their voters. He argues that highly visible projects allow officials, whose fate depends on higher-level party authorities, to be noticed for their effort in encouraging economic development – which, in the current period, is a

major criterion of political promotion in China (Hongbin Li and Zhou 2005; Shih, Adolph, and Liu 2012; Jia, Kudamatsu, and Seim 2015; Pierre F. Landry, Lü, and Duan 2018).

A new perspective on political budget cycles in China is brought forward by Vortherms (2019). They point out that spending has an additional dimension – the time horizon of its effects. The officials are constantly facing a tradeoff between spending on economic development such as large infrastructure projects that create jobs and are highly visible (therefore associated with immediate gains) and social spending, such as spending on education and health care (with diffused, delayed gains). Vortherms demonstrates that at the municipal level in China, spending on welfare is the highest at the beginning and the end of the official's term in office, as the officials balance the timing of the expected returns and the opportunity costs of different types of spending.

This literature demonstrates the importance of specific incentives and constituencies created by the selection institutions, specifically for subnational leaders. While indirect elections by local legislatures take the electoral spending pressures away, they might not create equally strong incentives for the incumbents to direct public funding to something else. Centrally appointed leaders in a system with clear policy priorities (such as economic development) respond by redistributing public funds towards projects visible to the central authorities and their corresponding priorities⁴⁶.

⁴⁶ Subnational officials can also respond to national-level political cycles. For example, certain spending in China seems to follow the timing of the National Congress of the Communist Party (NCCP) meetings (Gong, Xiao, and Zhang 2013)

Subnational leader selection and political budget cycles in Russia

Several characteristics of the Russian case justify the need to explore the nature of spending patterns under appointed subnational officials. Earlier studies have identified spending cycles – but those were conducted in the period subnational officials were popularly elected.

Russian regional governors were popularly elected in most regions throughout the period of 1996-2004 (in some regions, first direct elections were held as early as 1991). In December 2004, new legislation replaced gubernatorial elections with a system of appointments⁴⁷ which started in 2005. The system was in place until elections were reintroduced in May 2012.

Russian governors have some discretion when it comes to public spending, and researchers have generally noted significant variance among regions not only in quantities spent but also in strategies of reactions to similar exogenous events. Thus, consecutive surveys of the Social Atlas of the Russian Regions⁴⁸ as well as a recent study on social expenditures⁴⁹ show that regions demonstrated different dynamics of response to the financial crisis of 2008 in terms of spending on economic development, social policy, and other major categories. The presence of such variation provides rich material for subnational comparative studies. Furthermore, inside the region it's the governor who can introduce changes in spending priorities as other institutions

⁴⁷ Formally, a candidate would be nominated by the president and voted on by the regional legislature. The majorities held by the dominant party in regional legislatures and the fact that in case a legislature rejected the proposed candidate three times, it faced dissolution, though, did not leave a chance for a federally nominated candidate to not be voted into the office. Therefore, the system is generally regarded as one of central appointments, not indirect elections. For more details on the procedure and its slight transformations during that period, see Sharafutdinova (2010b), Ivanov (2011) and Buckley et al. (2014).

⁴⁸ See Social Atlas of the Russian Regions (2016)

⁴⁹ See the report “Social Expenditures in Russia: Federal and Regional Budgets” (2015)

are too weak to control him (Turovsky 2011). This allows researchers to interpret public spending as one of the policy instruments available to the governors as they try to ensure reappointment.

Certain studies based on Russian regional data in the period the governors were popularly elected identified political budget cycles (Akhmedov and Zhuravskaya 2004). At the same time, others note that political budget cycles, although having a long history as an academic subject, have found at best mixed empirical evidence (Treisman and Gimpelson 2001). Akhmedov and Zhuravskaya (2004), similar to some of the studies mentioned earlier, find that there is a shift in public spending – towards direct monetary transfers to voters, through “repayment of wage arrears⁵⁰ and social expenditures comprised of welfare, child benefits, veteran allowances, social insurance, and other public assistance programs.” Evidence from public policy statements they cite also suggests that there is “manipulation with compensation of medical workers, teachers, and other government employees.” Summing up, they observe a shift towards more easily observable spending as a strategy of attracting voters. Gimpelson et al. (2000) identify increases in public administration employment in the pre-electoral year and a decrease in the year after the elections⁵¹.

However, all these studies look at political budget cycles during the period when Russian governors were elected – the 1990s and the early 2000s. The transition to centrally appointed

⁵⁰ Wage arrears were a significant policy issue in the 1990s

⁵¹ Besides public spending, cycles in corruption as perceived by the private firms, synchronized with the governors’ tenure cycles and probability of remaining in office, were identified by Sidorkin and Vorobyev (2018)

governors had effects on their incentives and, therefore, spending priorities, which have gone understudied

As demonstrated in several studies, the strongest incentive created by the federal center for appointed governors was ensuring sufficient electoral support for the dominant party in federal and regional legislative elections. For example, Reuter and Robertson (2012) show that the ability to mobilize voters, as opposed to economic performance, is associated with (re)appointment of the Russian governors. As an illustration, it can be noted that after December 2007 federal legislative elections, governors of the two Russian regions with some of the lowest share of votes for the dominant party “United Russia” in the country were replaced (Turovsky 2009). Importantly, these incentives would not create region-specific cycles around reappointment events as federal elections timing is determined externally and is the same for all regions. Furthermore, there is suggestive evidence that short-term public spending increases are not associated with United Russia's better performance in federal elections in a given region (Reuter 2013).

Political budget cycles in the Russian regions have been studied for the period of popular elections. At the same time, there is a lack of understanding of specific incentives that existed around reappointment events for Russian governors and the patterns of public spending that may help them extend their tenure. While we know that one of the strong incentives governors were facing at the time was providing electoral results for the dominant party, how this could inform region-level spending cycles is unclear. This study is an attempt to shed light on these puzzles.

Argument: Political budget cycles under appointed governors in Russia

The existing literature allows us to formulate some expectations regarding subnational budget cycles in Russia. Elections-induced public spending patterns under elections are created by incumbents redistributing resources in a way that will ensure reelection by focusing on specific groups of voters, who are assumed to be short-sighted (which leads to increases in short-term spending, like redistribution from investment to consumption spending). In the non-electoral context, there either 'isn't evidence of spending cycles (indirect elections in Indonesia – see Sjahrir et al. (2013)) or they are the result of the existing clearly imposed promotion criteria or policy priorities set by the central authorities (as in the example of China – Guo (2009)). To create a theory of political budget cycles under appointed governors in Russia, we need to identify whether there were central policy priorities (because there is no centralized cadre rotation system), and what they were.⁵²

I argue that the criteria and priorities set by the central government will influence policy adjustments governors will be willing to make to ensure reappointment. Such criteria are context-specific, and for the case of Russia in 2005-2012 can be captured by the National Priority Projects. The program, introduced in 2005, included a series of major policy priorities and initiatives widely aimed at developing human capital and promoting social investment in Russia. While there were separate funds associated with the programs, the incumbent could also

⁵² It is important to note that the central authorities have established and maintained, through that entire period, numerous indicators that were supposed to matter for reappointments. It is a general consensus, though, that because of the mere number (up to several dozens) of these sometimes purely statistical indicators, quality of reporting (and incentives to misreport), and numerous examples when governors were reappointed or not reappointed despite their regions' formal performance, such formal indicators are of little use when trying to understand what really went into the center's decisions.

align the 'region's own initiatives and spending with the federal priorities to signal efficiency and loyalty.

Importantly, while voters can be assumed to be making the decision about supporting the incumbent during elections, central appointments change the timing of the cycles. One of the factors that contribute to such an incentive is that finding a suitable replacement for an incumbent takes time, so the center would be evaluating the incumbents and making preliminary decisions about their quality the year before reappointment. I, therefore, posit that the incumbent is more likely to try and demonstrate policy alignment not the year their term ends but the year before that, to enter the reappointment year with better prospects. In the period under study, governor appointments and reappointments were often happening in groups, but no formal coordinated schedule was introduced. The term in office for appointed governors remained the same – most often five years⁵³.

As demonstrated earlier, it is often the redistribution between types of spending rather than the overall spending that changes in accordance with the political cycle. The general expectation for the appointments era is that spending on categories prioritized by the federal center will increase around reappointment events, while other categories will not. I will introduce specific expectations after discussing the data and measurements.

Data and empirical strategy

I use public spending by the Russian regional governments in 2005-2012 as an approximation for policy priorities – an approach used in multiple other studies both at the national and subnational

⁵³ For more information on the appointment and reappointment dynamics and the characteristics of the new governors and the incumbents, see Turovsky (2009), Reisinger and Moraski (2012), and Buckley et al. (2014)

level. This allows me to quantitatively assess the dynamics of policy decisions across a wide variety of territorial units, homogenous in regard to basic institutional, cultural, and historical characteristics while showing sufficient variation in the variables of interest.

As described in the theory, I will use several specific spending categories relating to the National Priority Projects, as discussed in the previous section. There were three major National Priority Projects in the period under study: “Education”, “Healthcare”, and “Housing”⁵⁴. The part of the projects that was especially sensitive was the need to increase the salaries in the healthcare and education sectors⁵⁵. I, therefore, separate spending in these spheres into spending on salaries and everything else to trace the potential differences.

It is important to remember that the national projects themselves were funded separately. Here, I use them as an indication of the general policy priorities of the central government and expect that governors who want to demonstrate policy alignment with the center will use the categories within their own regional budget to contribute to these policy priorities. Relevant categories that I identify within the regional budgets are: healthcare spending (salaries and other), education spending (salaries and other), and spending on housing and utilities⁵⁶.

Spending data come from the yearly reports of the Russian Federal Treasury, which publishes data on the realized federal and regional budgets of the previous year. The variables were constructed by the author by summing up specified lines of spending selected from the

⁵⁴ The fourth project that started in the same period, “Agriculture”, received less public attention and is therefore not examined here

⁵⁵ See, for example, a review by Gontmakher (2007)

⁵⁶ Specifically, the spending marked as “zhilischno-kommunal’noe khozyaystvo” – that is targeted at the housing infrastructure

budget. Based on the sums, I estimated the shares of corresponding categories in the yearly spending for each region. This approach allows me to capture the tradeoffs the governors are facing as opposed to absolute changes in spending. Besides the categories of interest, I create a variable of total spending per capita to model the overall budget dynamics.

A particular difficulty of studying political budget cycles under appointed leaders is the difficulty of identifying the exogenously defined periods of uncertainty, when the decision about reappointment is made, and when the incumbent may try to influence it through redistributing public spending. While elections are most often predictable by design, an appointed governor can in theory be appointed and reappointed at any moment, and if they cannot predict the timing of the decision, they cannot try to influence it⁵⁷. I argue that in the Russian case, most reappointments can be considered “scheduled”, made after regular terms in office, which allows me to treat them as generally predictable events and build a corresponding theory of governor behavior. Following my earlier discussion of the timing of the reappointment decisions, the main independent variable is the dichotomous variable coded 1 in the year before the (re)appointment event⁵⁸.

Based on my theory and empirical approach, I formulate the following hypotheses:

⁵⁷ In this regard, Valerie Bunce (1980) identifies changes in policy priorities after leadership changes in the Soviet bloc, specifically a shift towards more mass-oriented economic policies. That is, there might still be a spending or policy cycle – but it will be connected to leadership change, and the theory would be describing the incentives of a new individual in office, instead of an incumbent willing to maintain his position.

⁵⁸ That is, the year when either a new governor was appointed, or an incumbent was reappointed. I have no reason to expect any spending changes in the year before leader change, at least in the categories of spending that I analyze. This construction of the variable, if anything, makes it harder to find spending cycles conforming to my expectations.

Hypothesis 1: Share of spending on healthcare will be higher in the year before appointments

Hypothesis 2: Share of spending on education will be higher in the year before appointments

Hypothesis 3: Share of spending on housing and utilities will be higher in the year before appointments

There are additional controls to account for other factors that may explain the observed variation in spending. These indicators describe the regions' social and economic situation (economic situation, unemployment etc.) and come from the database on the Russian regions created and published by the International Center for the Study of Institutions and Development⁵⁹.

I control for the basic indicators of the demographic structure, which should be important for public spending - more specifically, the percent of persons under and over the working age. In some cases, there are specific and unidirectional expectations concerning the effect of these factors on outcome variables. The percent of the young (under the working age) population can have a positive effect on spending on welfare (programs supporting families with children), health care (higher priority given to children's health), and education. Percent of old (over the

⁵⁹ Databases created by the International Center for the Study of Institutions and Development as parts of the project “Institutions and Economic Development: The Role of Bureaucracy and Experiments and an Instrument for Reform Analysis and Evaluation” (2011-2013), supported by the Basic Research Program of the National Research University “Higher School of Economics”, <https://iims.hse.ru/en/csid/databases>

working age) population should be positively associated with spending on welfare (pensions) and health care.

As an important political variable, I control for the share of "United Russia" votes in the latest Duma elections in a given region – this can indicate a stronger regional political machine and, therefore, the governor's strength (and therefore how concerned a given governor will be with maintaining their position). Finally, I also control for the regional regime's competitiveness based on the regional legislative elections (proportional representation at the regional level was introduced in 2003). Competitiveness was constructed based on the margin of victory of the winning party. The measure was centered and scaled to create an indicator. The values range from -1.65 to 2.81 with a mean of 0. Smaller values represent the cases of initially smaller margins of victory and, therefore, higher competitiveness. Studies of governors' spending behavior (Nye and Vasilyeva 2015) have identified political competition (or the share of the dominant party in the regional legislature) as an important factor affecting spending on public goods.

Variable	N	Mean	Std. Dev.	Min	Max
School education	664	8922.79	10141.17	419.78	110639.60
Health care	664	8377.99	11807.76	143.85	143040.60
Housing and utilities	664	8820.29	20221.58	178.90	254589.20
Total budget	664	72612.24	107307.60	3398.55	1161162.00

Table 3.1: Total spending (million rubles)

Variable	N	Mean	Std. Dev.	Min	Max
School education	664	6459.35	7255.82	501.41	87873.81
Health care	664	5549.57	7040.33	241.51	100891.20
Housing and utilities	664	5780.15	7725.82	351.69	53025.58
Total budget	664	48414.50	57424.24	3998.28	686972.80

Table 3.2: Spending per capita (rubles)

Variable	N	Mean	Std. Dev.	Min	Max
School education	664	13.71	2.73	3.68	22.91
Health care	664	13.98	8.43	0.56	33.16
Housing and utilities	664	11.03	5.01	2.37	41.99

Table 3.3: Percent of total spending, by category

Tables 3.1-3.3 show descriptive statistics for the budget data used in the analysis⁶⁰. As it can be seen, regions demonstrate impressive variation in terms of public spending (“other” is the residual category that includes everything not named in the list to constitute the total sum of the regional spending in a given year).

Given the generally incremental nature of budget allocations, using a lagged dependent variable is necessary for the correct model specification. Yet, the T (8) is small compared to N (>80), which leads to biased estimation in case a fixed-effects model will be used (Nickell 1981). Based on these considerations, I will use a standard Arellano-Bond estimator (Arellano and Bond 1991) to estimate a dynamic panel model of the following general form:

$$y_{i,t} = \sum_{j=1}^k \gamma_j y_{i,t-j} + \sum \alpha x_{i,t} + \beta APP_{i,t} + \mu_i + \varepsilon_{i,t},$$

where $y_{i,t}$ is the policy choice (share of a given spending category) in year t in region i, $x_{i,t}$ is a vector of control variables, $APP_{i,t}$ is a dummy variable which equals 1 in the years before an appointment event in region i, μ_i is unobserved region effect and $\varepsilon_{i,t}$ is the error term.

⁶⁰ I exclude Baikonur (reported by the Kaznacheistvo, but not legally a region, as it is a city rented from Kazakhstan, near which Russian space launches take place), as well as districts which are part of larger regions.

Results

Table 3.4 shows the results of the estimation, and Figure 3.1 presents the illustrations of specific effects. I run separate models for the budget share of each type of spending and also for the total spending per capita. Overall, there is no significant change in total spending per capita in the years of appointments – yet the results demonstrate several important structural changes consistent with my expectations.

The lagged values of the dependent variables are significant predictors of the outcomes. Arellano-Bond tests provide evidence that the Arellano-Bond model assumptions are satisfied in all models when using two lags of the dependent variable (but not when using one lag of the dependent variable), except for the model of non-salary spending in healthcare.

The share of spending on salaries in the education sector increases in the years prior to appointment events. There is also an increase in the other educational spending in the years before appointment events. The changes are statistically significant, and these findings support Hypothesis 1. The same is true for the share of spending on salaries in the healthcare sector, but not for the rest of the spending in this sphere – providing partial support for Hypothesis 2. There is no significant change in spending on the housing/utilities sector, so I do not find support for Hypothesis 3.

Some illustrations provide a context for the identified effects. Based on the regression results, the share of health workers' salaries in the regional budget, all else equal, goes up 0.5%, while the share of educators' salaries goes up 0.8%, and other educational spending increases by 0.2%. For a median regional budget size of about RUR 50 billion, that change translates into an increase of RUR 250 million in a year for health care salaries and RUR 400 million a year for

salaries in the education sector, as well as an increase of RUR 100 million for the other spending in education.

An additional interesting effect is observed for regional political competitiveness as measured by the electoral outcomes at the regional level. As competitiveness is measured by the margins of victory, higher values of the variable indicate lower competitiveness. And based on the estimation results, a decrease in political competitiveness at the regional level is associated with a greater share of spending educators' salaries. This suggests that studying the conditional effects of the regional governor's time in office under different levels of competitiveness might prove useful.

Changes in the regional GDP per capita are a significant predictor of per capita spending, with wealthier regions having predictably larger budget spending. Increases in the share of retired in the population drive total per capita spending up.

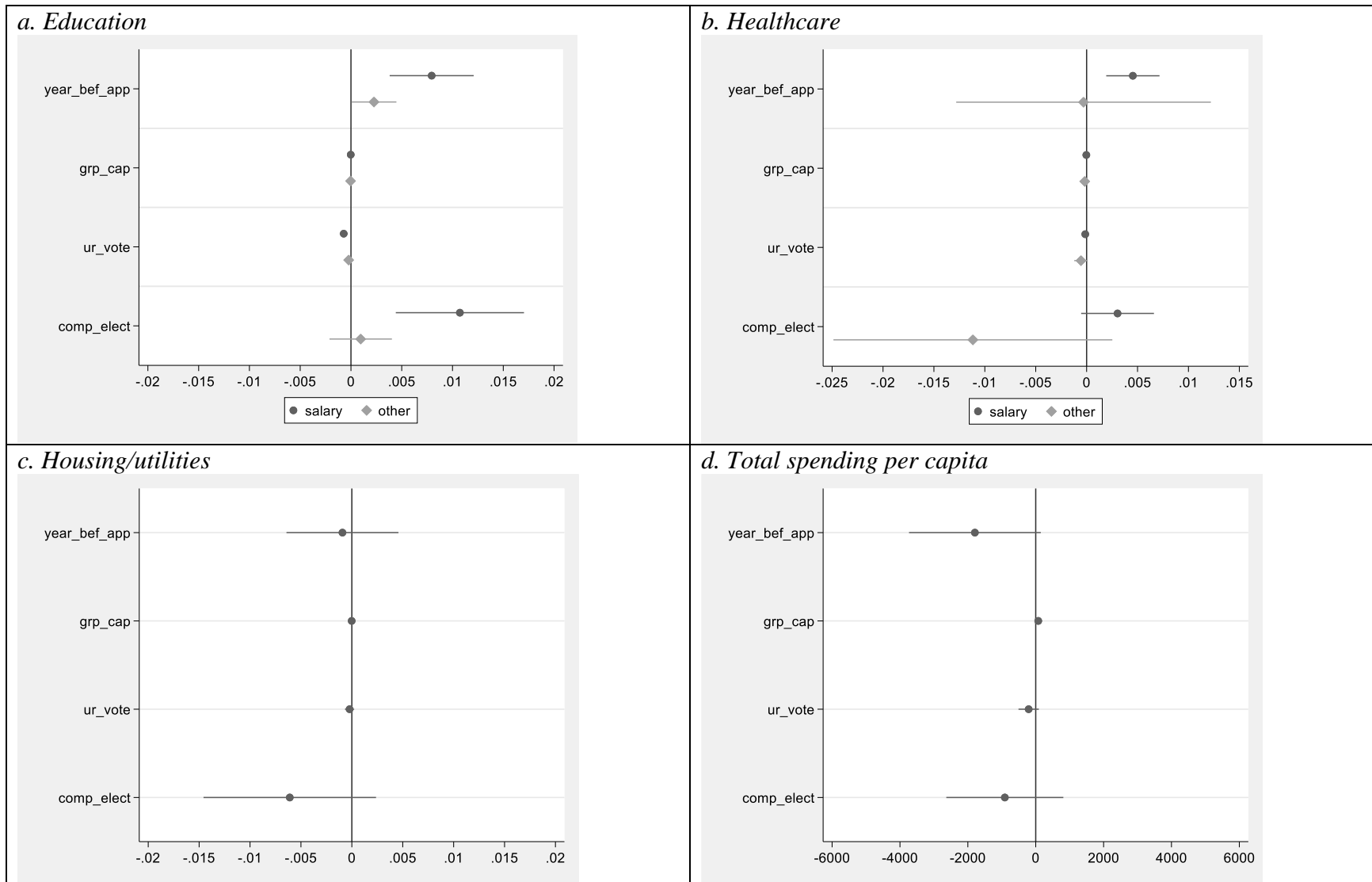


Figure 3.1: Selection events and public spending

	Education (share)		Health care (share)		Housing /utilities	Total (mln per
	Salaries	Other	Salaries	Other	(share)	capita)
L.1	0.274 (0.242)	0.286** (0.100)	0.824*** (0.172)	0.626*** (0.036)	0.315*** (0.049)	0.766*** (0.092)
L.2	-0.029 (0.140)	-0.084 (0.054)	-0.191* (0.095)	-0.226*** (0.031)	-0.143* (0.066)	-0.137* (0.057)
Year before (re)appointment event	0.008*** (0.002)	0.002* (0.001)	0.005*** (0.001)	-0.000 (0.006)	-0.001 (0.003)	-1792.165 (990.624)
GRP per capita, mln	-0.000 (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	74.665*** (6.141)
UR vote	-0.001*** (0.000)	-0.000* (0.000)	-0.000 (0.000)	-0.001 (0.000)	-0.000 (0.000)	-207.952 (153.038)
Unemployment, %	0.005*** (0.001)	-0.001** (0.000)	0.002** (0.001)	0.001 (0.001)	0.004** (0.002)	-739.990 (535.220)
Youth per 1000	-0.002*** (0.000)	0.000** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.001*** (0.000)	-219.325 (138.684)
Retired per 1000	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000* (0.000)	0.000 (0.000)	58.950* (26.054)
Population, mln	0.000 (0.000)	-0.000 (0.000)	0.000* (0.000)	0.000* (0.000)	0.000 (0.000)	0.080 (0.052)
Urban , mln	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.110 (0.058)
Competitiveness	0.011*** (0.003)	0.001 (0.002)	0.003 (0.002)	-0.011 (0.007)	-0.006 (0.004)	-910.279 (879.794)
Constant	0.625*** (0.090)	0.046 (0.038)	0.173*** (0.051)	0.009 (0.134)	0.507*** (0.144)	68435.643 (42385.292)
N	415	415	415	415	415	415
AB test (p-value) ^a	0.324	0.363	0.236	0.001**	0.058	0.336

Notes: Robust standard errors in parentheses. ^aArellano–Bond test that average autocorrelation in residuals of order 3 is 0. No autocorrelation of order 1 is always rejected, no autocorrelation of order 2 is rejected for some models

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3.4: Selection events and public spending

Discussion

This study's goal was to identify patterns in public spending of the Russian regions during the period of appointed governors. Most earlier work deals with political budget cycles centered around elections, therefore researching other conditions might help identify the elements of an integrated theory of public spending at the subnational level.

I argued that appointed governors would be oriented towards the central authorities as their constituency and in the years when their candidacy for reappointment is most likely to be considered (the year before the appointment event) will try to demonstrate policy alignment with the center. I further hypothesized that for the case and period at hand, Russian National Priority Projects present a potential approximation for the central government's policy priorities. I identified three relevant projects – those focusing on health care, education, and housing – and explored the changes in related categories of regional spending in the years before appointment events in 2005-2012.

I found partial support for my expectations. Education spending increases in the pre-appointment year, both the part dedicated to salaries and other educational spending, supporting Hypothesis 1. Part of the healthcare spending – that dedicated to salaries, which were separately emphasized within the national policy priority – increases in the pre-appointment year as well, providing partial support for Hypothesis 2. Finally, I don't find evidence supporting Hypothesis 3 with the housing/utilities spending.

My findings suggest that there may indeed be patterns consistent with the political budget cycles expectations under appointed governors in Russia – at least regarding education and healthcare spending. I believe that the lack of evidence for Hypothesis 3 may be in part due to the incomplete congruence between the selected measurement (housing and utilities spending,

mostly supporting existing infrastructure) and the central policy priority (replacing decrepit housing, reconstruction, and construction of new housing). Further search for more appropriate measures for this particular indicator may therefore prove useful.

One can bring up alternative explanations behind spending increases in these areas, not connected to the central policy priorities. For example, increased spending on health care (salaries) and education (both salaries and other categories) targets key groups of public sector workers in Russia. They are not making or affecting the decisions about reappointment, but this population is one of the important groups supporting the current regime. While appointed governors themselves may not care about voters, there are national level elections, which matter for the governors' constituency – the central authorities. As such, governors may be willing to demonstrate their ability to control and appease these key populations when the center is considering their reappointment. This makes the argument presented in this paper a special case of a larger theory of central priorities' effects on subnational cyclical spending, which can be tested in subsequent studies.

Another alternative interpretation would be that spending of these categories just returns to its “normal” levels prior to appointment events, while in the years immediately following the appointment event governors prioritize other categories exactly at the expense of the education and health care. This doesn't mean that the present findings are invalid but once again makes them a part of a larger pattern. I believe there are modeling approaches that would allow, based on the present findings, to explore this pattern. In such model, one would want to distinguish between appointment and reappointment events as well as predicted and unpredicted turnover or reappointment. Some of the recent research dedicated to cyclical policy changes in China offer useful insights into the possibility of modeling the perception of the approaching reappointment

event by the incumbent. Song et al. (2021) use a nonparametric approach to model the anticipated turnover and demonstrate that only when turnover (and promotion) is anticipated there is a significant policy change. Furthermore, one would look at the spending structure for every year of the governor's term – similar to Vortherms (2019) who discovered some categories of Chinese local budgets going up in the early years of the term and some – in the years before the end of the term.

Another way of developing the present study is exploring the moderating effects of political competitiveness. As suggested by earlier studies (Nye and Vasilyeva 2015) and the results of my analysis, political competitiveness affects the governors' incentives and spending priorities. Furthermore, bringing in other categories of budget spending in the analysis would allow us to see not only which priorities become more important around reappointment events but also which categories suffer from lower spending in the same period – that is, which categories are used as a reserve for redistribution. An additional test could rely on using other approaches to identifying central policy priorities – after all, the one explored here, the National Priority Projects, is but one potential approximation. Using text analysis to find the most relevant (domestic) policy goals in Putin's public addresses, for example, might prove useful.

Finally, this study aimed to identify average fluctuations in public spending across Russian regions – but Russian regions and governors are diverse. Some of the elements of this diversity may offer new interesting insights into the nature of subnational spending cycles. Regional governor's age and tenure is one factor that can affect their willingness to engage in spending manipulations for reappointment or promotion. Their background may matter as well. Some potentially important characteristics include experience working in private companies, as well as embeddedness in the local elite networks.

Wider implications of this project are connected to the nature of PBCs. Detecting PBCs allows the researchers to identify what political actors consider important, which spending priorities they are willing to prioritize in the period when, according to our theories, their current or future office is at stake. This knowledge is especially valuable in the political environments where, like in Russia, the level of informality is high, so that deducing existing incentives as perceived by political actors from their observed behavior might be a useful analytical tool.

Looking at PBCs at the subnational level additionally allows us to explore the effects that the relations between the center and the subnational governments can have on local policies and their cyclical patterns. Subnational governments have at least two constituencies that affect their incentives – local population and higher authorities, – even though depending on the parameters of decentralization the balance between the two would change. While studies of China emphasize the effects of centrally imposed promotion criteria as the main source of incentives for the appointed officials, Russian case demonstrates that even in the absence of an effective set of reappointment or promotion criteria, subnational governors can align with what they perceive as the central policy priorities. If anything, that underlines the importance of adjusting the expectations of national-level PBC theories when studying subnational budget cycles to take into account the priorities translated from above as much as they are connected to the probability of reelection or reappointment.

CONCLUSION

What are political leaders thinking and which factors are likely to affect their behavior? Without reading their minds, we have to rely on other instruments and empirical approaches to answer that vital question. This is especially true for scholars of authoritarian political regimes where politicians are most often not eager to disclose information or participate in studies. The three articles presented in this dissertation tried to address this challenge by focusing on the links between specific features of the institutional environment and political actors' behavioral responses and using a variety of empirical strategies. In each paper, I emphasized how the way political actors subjectively perceive political reality – be it time, costs and benefits of an action, or expectations of other actors – determines their behavior.

In the first paper, I argue that selection rules will encourage or discourage the desire to consider a public career among citizens with different risk attitudes. Using a lab experiment to model specific properties of political selection, I demonstrate that higher costs of running and accountability to citizens make political ambition more likely among risk-seekers, while risk-averse individuals choose not to run. I argue that these properties are some of the key features of electoral as opposed to non-electoral selection procedures, so that the main implication of my findings is that under public elections we should see more risk-seeking candidates.

In the second paper, I demonstrate that decentralization can have unforeseen effects on subnational leader behavior. Specifically, political and fiscal decentralization, reinforced by high executive turnover in a given locality, shorten an incumbent's time horizons. I use observational

data on Russian municipalities to show that popularly elected leaders and leaders of financially independent municipalities have shorter time horizons. Once again, selection rules matter as appointed local leaders may find it easier to shift blame for potential decision failures – making it easier for them to make decisions that will only bring payoffs in the more distant future. Elected officials, on the other hand, are more likely to be held responsible by the local population and therefore more likely to be concerned about the short-term consequences of their decisions.

In the final paper, I focus on the regional governors in Russia in 2005-2012 when they were centrally appointed rather than popularly elected and test whether they adjust their region's public spending redistribution before their reappointed. This paper applies the political budget cycles framework in a non-electoral setting and explores whether appointed governors try to maximize their reappointment chances by demonstrating policy alignment with centrally declared priorities. I find some evidence supporting this expectation as the shares of regional budgets dedicated to educators' salaries and healthcare do increase in the years before reappointment events. Here, I demonstrate that subnational selection rules can be used as an instrument of policy alignment – either consciously applied by the central authorities or emerging naturally because of reappointment incentives.

APPENDIX 1A: DETAILS OF THE EXPERIMENT

The experiment consists of 12 rounds. It starts with a short introduction and instructions. Once the session begins, the participants first answered a series of questions to elicit their risk preferences. As discussed in the corresponding section, I used an incentivized task from Holt and Laury (2002). The subjects did not know the outcomes of the lottery until after the rounds were over. They also answered a series of other questions, such as a short Big Five personality traits questionnaire, which were not included in the present analysis. After the 12 rounds of the game, the participants filled in the demographic questionnaire and received the payoffs for the incentivized risk task and a randomly selected round of the game. An experimental session lasted on average 1 hour 20 minutes including instructions, questionnaires and payments period. The participants were paid in Russian rubles. On average, they received 500 rubles for their participation, including 200 rubles of the guaranteed participation payment. For comparison, a basic lunch on campus would be about 150 rubles.

Each round of the game consisted of two main stages – leader selection and a cognitive task. In the leader selection stage, the participants were presented with information about running for the position of the group representative, determined by a combination of treatments. Based on that information, they made the decision to run for the position. Once everyone made their decision, one of those who decided to run was randomly selected for the position. This person was selected by the program, with the probability of being selected adjusted to the treatments received (i.e. twice the chance everyone else has if the individual is a dominant candidate).

There were two special cases discussed with the participants. If there was only one volunteer, they became the group representative with all the associated benefits. If there was none, one group member became the 'acting' group representative, having the social function (influencing the payoffs of the group members), but not receiving the leader payoff. As a result, the payoff of such leaders was similar to an average payoff in the group, while regular leaders normally made noticeably more. These two special cases do not bear special effects for the hypotheses of the study, which focus on the initial decision to run. They present a separate interest for the future study of leader behavior, as they allow to explore how much leader behavior is determined by voluntarily going through the selection procedures (as opposed to being “drafted”) and the private as opposed to social payoffs associated with leadership.

In the second stage of each round, once the leader was selected, everyone in a group completed a simple addition task. The subjects had one minute to add up as many pairs of 2-digit numbers as they could. Each correct answer was associated with a small payoff. On average, a participant gave 12 correct answers in one minute, with a range between 9 and 20 correct answers.

The participants' payoffs were determined by several factors. The major one was whether one was a group leader or a regular group member (“citizen”). The group leader's payoff was structured based on the corresponding accountability treatment. It could be (1) fixed, (2) based on the objective performance in the task or (3) based on group evaluation of the round. The expected payoff for a leader in all these treatments was set to be the same – approximately 300 rubles. The citizens received payoffs proportional to the number of correct answers they gave, at the rate of 10 rubles per answer. In addition to that, they received 5 rubles for every correct answer given by the group's leader. If the person ran for the position of a group leader (whether

they won or not), the costs of running were deducted from their earnings in that round. High costs of running were 80 rubles, low costs of running – 10 rubles. At the end of the round the subjects saw this round's payoff. After all 12 rounds were played, one was randomly selected for payment. In addition to the randomly selected round payment, everyone received a flat participation payment and the sum they won in the risk elicitation lottery.

I expected the subjects to be interested in running for the leadership because it offered, on average, a higher payoff. Furthermore, there was a certain “social” function of leadership, which consisted of the ability to influence other people's payoffs. At the same time, running for leadership was associated with risks that explain the self-selection of individuals with specific risk attitudes. That is, I expect the subjects to evaluate these higher payoffs against the risks of running – which depend on the costs of running, the probability of winning, and the accountability scheme.

Costs of running treatment

The first treatment models the presence (or absence) of an electoral campaign, with high costs of running indicating an elected office and low costs of running indicating an indirectly elected/appointed office.

1. To run for the group representative for the next round, a candidate will need to pay RUR 10⁶¹ out of the future earnings in the game⁶² [low costs]

⁶¹ An average round payoff for a citizen was around RUR 160

⁶² The costs of running are subtracted from the future earnings to avoid endowment effect and due to the fact that only one of the rounds was randomly selected for payoff

2. To run for the group representative for the next round, a candidate will need to pay RUR 80 out of the future earnings in the game [high costs]

Candidate status treatment

The second treatment has three conditions – each describing the competition a potential candidate will be facing.

1. In this round, if you decide to run for a group representative, your chances of winning will be twice as high as that of any of other candidates [dominant candidate]
2. In this round, everyone running for the group representative in this round will have an equal chance [equal status]
3. In this round, if you decide to run for a group representative, your chances of winning will be half as high as those of one of the other candidates [minor candidate]

*Leader accountability treatment*⁶³

The final treatment represents the model of leader accountability for a given office: performance-based (as for appointed officials) or based on the citizen evaluation (as for elected officials). Citizen evaluation is based on performance indirectly as the citizens' payoff depends on the leader performance. In addition, here I add a control condition of a fixed payoff (no risk situation) to use it as a reference category for the other two conditions.

1. The representative will receive a payoff that will be proportional to their performance in the task [performance]

⁶³ The size of expected leader payoff was calibrated to be the same under different conditions - only the way it was calculated was changed

2. The representative's payoff will depend on how group members evaluate the round.

Group members will evaluate their satisfaction with the round's outcomes on a scale from 1 to 5, and a fixed sum will be multiplied by this score [citizen accountability]

3. The representative will receive a fixed payoff [fixed]

APPENDIX 1B: SCREEN EXAMPLE WITH TREATMENTS

This is a scheme of the screen as the participants saw it. This screen would appear at the self-selection stage. This example refers to the “accountability to the citizens” treatment, with high costs and a low competition environment (this player is the dominant candidate).

Period: 1 of 12	Time remaining (sec): 28
<p>In this round, the costs of running for the position of the group representative is 80 rubles, which will be deducted from your payoff in this round, whether you are selected as a group representative or not.</p> <p>At the end of the round, all group members will evaluate their satisfaction with the results of the round, on a scale from 1 to 5. The average score will be multiplied by 100 rubles, and the resulting sum will constitute the group representative's payoff.</p> <p>In this round, if you run for the position of group representative, your chances of winning will be twice as high as those of any of your opponents.</p> <p>Do you want to run for the position of group representative in this round?</p> <p>Yes No</p>	
	OK

APPENDIX 1C: TREATMENTS IN RUSSIAN

Costs:

1. В этом раунде издержки отбора составят 10 рублей, которые мы вычтем из вашего выигрыша в данном раунде, если Вы решите участвовать в отборе.
2. В этом раунде издержки отбора составят 80 рублей, которые мы вычтем из вашего выигрыша в данном раунде, если Вы решите участвовать в отборе.

Competitiveness of selection:

1. В этом раунде, если вы выдвинете свою кандидатуру, Ваши шансы на победу будут в два раза ниже, чем у одного из Ваших оппонентов.
2. В этом раунде, если вы выдвинете свою кандидатуру, Ваши шансы на победу будут в два раза выше, чем у любого из Ваших оппонентов.
3. В этом раунде, если вы выдвинете свою кандидатуру, Ваши шансы на победу будут такими же, как у всех остальных участников.

Leader accountability:

1. Вознаграждение лидера будет зависеть от средней оценки раунда участниками группы и составит 100 рублей за каждый балл (из 5).
2. Представитель группы получает 25 рублей за каждый правильный ответ в раунде.
3. Представитель группы получает фиксированный бонус в размере 300 рублей за раунд.

APPENDIX 1D: RISK MEASURE

The payoffs are in rubles. One line was selected randomly for payoff. Players learned about lottery outcomes after the main experiment was over.

Period: 1 of 12				Time remaining (sec): 28					
<p>In this question, we will ask you to make a few choices. You can earn an additional payoff.</p> <p>Look at the first row – in it, you can pick either lottery A, which means getting 200 rubles in 10% of the cases and 0 rubles in 90% of the cases, or lottery B, which means getting 100 rubles in 10% of the cases and 50 rubles in 90% of the cases. Which lottery would you rather play?</p> <p>Pick one lottery in every row. Pay attention to the probabilities – they change from row to row.</p> <p>Once you make your choices, one row will be selected randomly, and the lottery you picked in this row will be played to determine your payoff. You will see the result at the end of today's session, and if your payoff is greater than 0, it will be added to your final payment.</p>									
Lottery A				Your choice		Lottery B			
A1	p(A1)	A2	p(A2)	A __ B		B1	p(B1)	B2	p(B2)
200	0.1	0	0.9	A __ B		100	0.1	50	0.9
200	0.2	0	0.8	A __ B		100	0.2	50	0.8
200	0.3	0	0.7	A __ B		100	0.3	50	0.7
200	0.4	0	0.6	A __ B		100	0.4	50	0.6
200	0.5	0	0.5	A __ B		100	0.5	50	0.5
200	0.6	0	0.4	A __ B		100	0.6	50	0.4
200	0.7	0	0.3	A __ B		100	0.7	50	0.3
200	0.8	0	0.2	A __ B		100	0.8	50	0.2
200	0.9	0	0.1	A __ B		100	0.9	50	0.1
200	1	0	0	A __ B		100	1	50	0
						Next			

APPENDIX 1E: DEMOGRAPHIC QUESTIONNAIRE

Please answer several questions about yourself. You can skip any question if you don't want to answer it or it does not apply to you.

1. Please indicate your age (in years)
2. Please indicate your gender
3. Are you religious?
4. If you are religious – which religion do you adhere to?
 - Catholic
 - Protestant
 - Orthodox Christian
 - Judaic
 - Muslim
 - Buddhist
 - Other
5. If you selected “Other” – clarify here, please
6. What is the highest level of education for which you have a diploma or certificate?
 - High school
 - Tertiary (trade school)
 - Undergraduate (baccalaureate)
 - Undergraduate (specialist)
 - Master's degree
 - Graduate degree (candidate/doctor)

- Other

7. If you selected “Other” – clarify here, please

8. If you have or are pursuing a university degree – please indicate the major field of your studies

9. Do you have any experience of civic or political engagement (select all that apply)?

- Volunteer work, participating in the activities of non-governmental organizations (including human rights organizations)
- Participating in the activities of professional organizations and labor unions
- Participating in public gatherings, hearings, and other venues created to address public issues
- Voting in local and national elections
- Being an observer in the elections
- Participating in political actions and protests
- Participating in the activities of a political party
- Other
- No

10. If you selected “Other” – clarify here, please

11. Do you have experience of holding an elected position (select all that apply)?

- Class or school president
- Member of student government in the university
- Club or association chairperson
- Local housing association chairperson or a similar position in your apartment home

- Other
- No

12. If you selected “Other” – clarify here please

13. Please imagine a set of stairs with 9 steps, where the poorest are on the first step, and the richest are on the ninth step. How would you evaluate your family wealth on a scale from 1 to 9?

14. You were born

- In a city/town
- In a small town
- In a rural settlement
- Other

15. If you selected “Other” – clarify here, please

16. With which of those statements do you agree the most?

- Most people can be trusted
- One should be cautious when dealing with other people
- It depends on the person and the situation

APPENDIX 2A: MISSING DATA

Due to data quality, there is a significant amount of missing data in the dataset I use for analysis. The models above use only complete cases, leading to the sample going from over 1700 observations to a little under 450. I, therefore, additionally explore the patterns of missingness to ensure the robustness of the results.

Table 2A-1 presents a comparison of available descriptive statistics for the sample used in the final model and the dropped observations, using the available data for the latter. While there is no significant difference in the outcome variable, one of the key independent variables, local elections (political autonomy) are observed more often in the part of the sample that is dropped from analysis – a result more worrying and reliable as this variable itself has good coverage.

	Main analysis sample	Dropped observations (N non-missing)	Difference (p-value)
Contract duration	11.4	11.6 (1294)	0.2 (0.72)
Turnover	1.62	1.67 (1026)	0.05 (0.06)
Observations with elected executive	44.2%	53.2% (1182)	9% *** (0.00)
Own income	0.634	0.732 (290)	0.104*** (0.00)
Budget income per capita	28.2	25.5 (281)	-2.7*** (0.00)
Rural share	0.653	0.511 (571)	-0.142*** (0.00)

Note: for continuous variables, mean values are reported; the difference column for these variables includes the p-value of an unpaired two-samples Wilcoxon test; for the count variable (observations with elected executive) it includes the p-value of a two-sample test of equality of proportions; . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table 2A-1: Descriptive statistics comparison

Little’s (1988) test statistic indicates that the data are not missing completely at random (MCAR), that is, the patterns of missingness may bias the results. Further exploration reveals two variables with the highest share of missingness, describing municipal budgets – the share of

own income (58.8% missing), which is one of the key independent variables, and the total budget income per capita (59.3% missing). Other variables are much less problematic. Turnover is missing for 17.3% of cases, while the presence of local elections is missing for 8.5% of observations.

Visual inspection of plotted missingness confirms that in a significant share of cases, all municipality-related statistics used in regressions (budget and population) are missing simultaneously – that is, there is something about these municipality-years that might explain the missingness.

The inspection of missingness by municipality reveals that it is indeed a municipality's issue: most municipalities are either fully missing (74.4% - including those that have up to 19 contracts) or don't miss any observations (21.2%). To identify the characteristics of these observations, I look at missingness by municipality type, region, and year. There is no difference in missingness patterns across types of municipalities (municipal districts, urban districts, and urban settlements). Missingness varies by region, but regions with the most missing data are very different and, at first glance, do not seem to follow a recognizable pattern. They are located in different parts of the country, some of them are ethnic republics while others are regular regions, some of them are traditionally associated with low administrative capacity, while others are not, some are resource-rich and wealthy, while others survive on federal financial transfers. Furthermore, some of the regions that end up completely dropped have only a few concession projects, while others – over a hundred. The years with the most missing data are 2006-2009 and 2018-2019. This is most likely due to the changes in statistical reporting standards and the failures of some local authorities to keep up with them. Further exploration of the reasons behind these patterns would require additional municipal data collection from alternative sources.

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