Voting for a Better Future: The Promise and Reality of Digital Ballot Processing Systems in Russian Elections

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Author's Declaration

I, the undersigned, Nadezhda Boitsova, candidate for the MA degree in Political Science declare herewith that the present thesis is exclusively my own work, based on my research and only such external information as properly credited in notes and bibliography. I declare that no unidentified and illegitimate use was made of the work of others, and no part of the thesis infringes on any person's or institution's copyright. I also declare that no part of the thesis has been submitted in this form to any other institution of higher education for an academic degree.

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Abstract

Russian elections, like all other elections held around the world, are gradually transitioning towards increased digitalization. This MA thesis investigates the patterns of electoral fraud in the 2021 elections and explores causal relations between the usage of KOIBs (Kompleks obrabotki izbiratel'nykh byulleteney, which stands for Digital Ballot Processing Systems) and the amount of electoral fraud in the polling stations during the State Duma elections. Employing a case study approach, the research provides a comprehensive examination of electoral manipulation in Russia. The findings reveal that while KOIBs have proven effective in reducing certain types of manipulations, they are not designed to address fraud occurring outside the polling stations. The thesis underscores the significance of a multi-method approach during the research on fraud and contributes to the ongoing debate on the efficacy of digital technologies in democratizing the electoral process. By analyzing a wide range of resources, including legal documents, expert opinions, and observers' reports, the study enhances understanding of the complex dynamics of electoral fraud in Russia. The conclusion emphasizes the need for further research and the development of comprehensive strategies to strengthen electoral systems, ensuring their integrity and the accurate representation of the people's will.

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Introduction

Despite the effectiveness of electoral manipulation, in recent decades, many authoritarian regimes have begun to introduce technologies that combat fraud. Such technologies include webcams, transparent ballot boxes, and ballot processing systems (Sjoberg 2014). Former Head of the Central Election Commission of the Russian Federation, Vladimir Churov, addressing international concerns about the credibility of Russian elections remarked: "Honesty means people, and webcams and transparent voting boxes help people organize open, transparent, and honest elections, as in Russia. Such elections are now only in Russia" (Interfax 2012). Russia has a long history of electoral fraud and manipulations, that are documented by researchers and international organizations. Churov himself played an important role in the facilitation of fraudulent technologies in Russia, which even made public name one of the statistical peculiarities when studying vote count for United Russia as "Churov chainsaw". At the same time, Russia is a prominent example of an authoritarian regime that has relatively long ago started implementing digital technologies to combat electoral fraud. Russia introduced one such technology, Digital Ballot Processing Systems, back in 2004 (Wijermars 2021, 24). KOIBs (Kompleks obrabotki izbiratel'nykh byulleteney, which in Russian stands for Digital Ballot Processing Systems) are electronic systems that scan and count ballots, potentially reducing the human factor and the possibility of fraud like ballot stuffing or forgery of final protocols. Despite the initial skepticism and distrust, as time passed, civil society and researchers became convinced of the effectiveness of the KOIBs.

Current research on electoral fraud overwhelmingly suggests that the use of KOIBs, as opposed to manual counting, reduces the incidence of falsifications (Buzin 2019; Kalinin 2019). However, most of this research has been exclusively quantitative in nature, establishing a correlation between the presence of KOIBs at precincts and reduced electoral fraud. There is a lack of understanding of the causal dynamics that produce this outcome. Therefore, this thesis aims to fill this gap in scientific knowledge and by employing a mixed-methods approach, uncover the mechanisms underpinning the relationship between KOIBs and electoral integrity. By examining the potential of new digital technologies to make elections more efficient and transparent, this research adds to the ongoing debate on the efficacy of KOIBs and similar technologies in the democratization of the electoral process.

The research puzzle can be divided into two questions:

(1) What patterns of electoral fraud are present in polling stations?

This is a *what* type of question, which following Robert Yin (2009, 9), aims to explore a certain phenomenon. In this case, I investigate the presence of electoral fraud in the polling stations to identify potential patterns. I collected and analyzed a broad range of resources, such as legal documents, expert opinions and analysis, and observers' reports. The findings revealed certain patterns of fraudulent activity, including the most used types of manipulations such as multiple voting and rewriting of the final protocols, which despite being easily witnessed and reported, remain the core of the menu of manipulations in Russia.

(2) How does the presence of KOIBs change these patterns?

This is a *how* type of question, which aims to explain the connection between variables rather than just their frequencies (Yin 2009, 9–10). In this study, I investigate the operational links between KOIBs and different patterns of electoral fraud identified in the earlier stage of my research. By doing this, I gain insights into the effectiveness of KOIBs in preventing fraud. The results indicate that while KOIBs are effective in curbing certain types of manipulations, they are not designed to address fraud occurring outside of the polling stations.

The thesis adopts an exploratory cause-centered case study approach (Rohlfing 2012, 40–42) as it concerns the nature of the cause's impact. Being aware that multiple factors influence falsifications, the focus of this research is the investigation of the role of a specific X (KOIBs)

on Y (electoral fraud) with no intention of explaining all the possible factors. The case study approach is particularly suitable as it allows for an in-depth examination of a specific phenomenon within a real-life context. St. Petersburg, the second most important city in Russia, was selected as the study's focal point. While it is acknowledged that the city does not fully represent the entire country, it presents an ideal case for conducting the first qualitative analysis of electoral falsifications. This choice is driven by the unique combination of factors found in St. Petersburg: a government known for employing a significant amount of manipulation techniques and an active civil society that closely monitors elections, producing numerous reports on violations annually. Furthermore, St. Petersburg stands out in terms of its relatively high usage of KOIBs compared to other regions of Russia. This aspect offers a valuable opportunity to gain a comprehensive understanding of the technology's effectiveness in combating fraud. By examining the interplay between the extensive utilization of KOIBs and the context of electoral manipulations in St. Petersburg, this study aims to provide insights that contribute to the broader discourse on the efficacy of such technological interventions. It is important to note that while the study's focus is concentrated on St. Petersburg, the findings and implications derived from this analysis can be valuable for enhancing electoral observation and integrity not only in the city itself but also potentially in other regions across Russia and beyond.

The paper is structured as follows: Chapter 1 introduces the literature on electoral fraud and the digitalization of authoritarian elections. Chapter 2 provides the context of the research, discussing the specifics of elections in Russia and introducing KOIBs, including their principles of operation and potential circumventing methods. Chapter 3 explains the research design of the study and the rationale for choosing St. Petersburg as a case to study, the data collecting process, and the analysis of the particular sources. Chapter 4 presents an extensive empirical analysis, that contains an overview of the electoral cycle and its peculiar properties, the identified patterns of electoral fraud, and in ways how KOIBs influence these patterns. Finally,

the thesis concludes with a summary of the main findings of the research, their potential applications in future studies, and their implications for improving the quality of electoral observation in Russia.

Chapter 1. Literature review

The use of technology in authoritarian elections has sparked a debate among scholars. While some argue that digitalization can improve electoral practices and make the electoral process more democratic, others argue that institutional innovations may only change the patterns of electoral fraud without addressing the fundamental issues of authoritarian elections. To shed light on this issue, this chapter aims to investigate the mechanism behind the digitalization of electoral dilemma they face, and the role that technology can play in this context. The review will begin by examining the literature on authoritarian elections and the role of mobilization capabilities in resolving the electoral dilemma. It will then move on to the notion of electoral fraud and different techniques used by autocrats, and finally, discuss the impact of digitalization on electoral integrity.

1.1 Authoritarian elections

Scholars have long scrutinized the role of elections in authoritarian regimes. While these elections do not serve the same purposes as democratic ones, they still play a significant role in maintaining the regime. Researchers have identified several key functions of authoritarian elections. Jason Brownlee (2007) highlights the importance of gathering information about the regime's popularity and the loyalty of its elites through elections. Election results provide an autocrat with information on the potential threats to the regime and the state of the internal stability of elites. Beatriz Magaloni (2006) and Alberto Simpser (2013) argue that authoritarian elections can demonstrate the regime's invincibility, making it clear to both the opposition and the elites that there is no alternative to the current regime. Based on the election results, the incumbent either rewards or punishes municipalities, undermining the efforts of the opposition and ensuring the loyalty of elites. This can be especially important in regimes where there is a significant risk of coups or other forms of political instability. Ellen Lust-Okar (2005)

emphasizes the role of elections in dividing and ruling over the opposition. By allowing multiple opposition candidates to run, the regime can split the opposition's vote and make it difficult for them to unite against the regime. Dividing the opposition into systemic and non-systemic also creates a controlled environment that ensures the sustainability of the regime. Despite their limitations, authoritarian elections are a crucial tool for maintaining authoritarian regimes. By providing the regime with information about its popularity and internal stability, demonstrating its invincibility, and dividing and ruling over the opposition, these elections can help the regime maintain its grip on power. However, it is important to recognize that these functions are not unique to authoritarian regimes, and even democratic elections can serve similar purposes in certain contexts.

Various studies on authoritarian regimes demonstrate that elections can serve as either a way to extend the regime's lifespan or a destabilizing force. The fate of the regime hinges on how the incumbent handles the electoral dilemma. Arturas Rozenas (2016) argues that autocrats have two options: either obtain reliable information or manipulate the election to win big. The decision depends on the incumbent's mobilization capabilities (Higashijima 2022). These capabilities are influenced by a range of factors, including the level of popular support, the strength of the opposition, the regime's organizational capacity, and the availability of natural resources. The choice of electoral fraud is therefore not arbitrary but reflects the autocrat's calculation of the costs and benefits of different strategies to handle the electoral dilemma. However, deciding whether to manipulate the election is not the only decision in the dictator's electoral engineering process. Every authoritarian election is distinct in terms of its set of falsifications.

1.2 Electoral fraud

Elections can be problematic even in established democracies, however, what makes irregularities fraud is the intention behind it. The issue of electoral fraud poses numerous

challenges to researchers. These challenges are multifaceted, encompassing not only the definition of the term but also the identification of appropriate indicators and the establishment of reliable measures for its presence. Defining electoral fraud is no easy task as it can manifest in a multitude of forms and vary considerably depending on the context and culture in which it occurs. Fabrice Lehoucq proposed a broad definition of electoral fraud, defining it as "clandestine efforts to shape election results" (2003, 233). This understanding gives a general idea of the issue but fails to identify the concrete actors responsible for these actions. In contrast, Chad Vickery and Erica Shein offer a more precise definition, describing electoral fraud as "deliberate wrong-doing by election officials or other electoral stakeholders, which distorts the individual or collective will of the voters" (2012, 9). It should be distinguished from electoral malpractice, which may also result in the distortion of electoral results but is caused by personal neglect or the incompetence of electoral officials.

Fraudulent activities in elections can take various forms from voter intimidation to falsifying vote counts. One of the possible ways of ordering the menu of manipulations in autocracies is to divide it into three categories: the manipulation of rules, the manipulation of voters and the manipulation of voting (Popescu 2013, 96). Manipulation of rules refers to the changing of electoral legislation in a way that creates unequal conditions for the competition between the incumbent and the opposition or complicates public control. Manipulation of voters involves different pressure on them, bribery, forced mobilization in the workplace, or propaganda. This type of manipulation influences the preferences and perceptions of voters, making it difficult for them to make informed and personal decisions. The third type of manipulation is the most obvious and includes falsifications during or after the voting process. It is often this type of fraud that civil society can have an impact on and reduce its usage.

The division of election fraud into the groups is rather conditional since many fraud techniques overlap and can be found in the border zone between the categories. As Fabrice Lehoucq points

out, "[t]hough there may not be an infinite number of ways to rig electoral results, the techniques for manipulating the vote are varied and artful" (2003, 245). This highlights the complexity of the phenomenon and the challenges of creating and using a comprehensive typology. Nonetheless, understanding the nature of election fraud is critical, as it can have a significant impact on the stability of the regime. One fraud technique that can be particularly destabilizing is the use of repression against the opposition forces. As Valerie Bunce and Sharon Wolchik (2010) note, such actions may result in increased levels of protest activity and instability among the population. Hence, the incumbent usually chooses safer options, such as vote-buying or ballot-stuffing. These more subtle forms of fraud can still ensure the desired results while providing at the same time a façade of fairness and legitimacy to the election process.

1.3 Digitalization of elections

The introduction of digital technologies, such as web cameras, ballot processing systems, and electronic voting, to the electoral process has both potential benefits and drawbacks. These technologies can reduce human factors and fraud, through the improvement of transparency and integrity. At the same time, authoritarian regimes have learned to mimic democratic ones, using traditionally democratic tools for their purposes. The same can be attributed to the improvement of elections. There is a fair concern among scholars and civil society that autocrats may use digital technologies to change their methods of manipulating elections and maintain their rule. Scholars name different reasons behind autocrats' investment in these expensive technologies.

On the one hand, digital technologies can reduce the human factor, enhance transparency, and increase the accuracy of vote counting (Alvarez and Hall 2010). Since ordinary citizens who often lack skills and proper knowledge usually work at precincts, technology can reduce their workload. This can have a positive effect on the electoral process by reducing, what Vickery and Shein call 'electoral malpractice' that results from carelessness or neglect of electoral

officials (2012, 10). Web cameras at polling stations improve transparency, allowing anyone to monitor the voting process and detect irregularities from the comfort of their homes (Herron 2010). Furthermore, digital technologies can help provide real-time information on voter turnout, which additionally increase the transparency of elections. Additionally, technology reduces the opportunities for election fraud. For example, ballot processing systems and electronic voting machines can improve the accuracy of vote counting and reduce the number of hands that touch the ballot. As electoral fraud is something done by people, the less they are involved in the process, the safer the elections are.

On the other hand, as was mentioned before, digital technologies are not a panacea for authoritarian elections. As with other democratic institutions, autocrats have learned to manipulate these same technologies, that improve the election process in democracies, for their purposes. Taking this into account, scholars researched the reasons why autocrats might introduce new technologies that are often expensive and require significant infrastructure. One of the reasons is the preservation of the democratic image of the regime. Susan Hyde (2015) explains that no regime wants to publicly declare its authoritarian nature, as a democratic appearance can improve its international standing and attract foreign investment. Another reason is the external pressure from international organizations, such as the United Nations or the European Union, which may require countries to meet certain electoral standards in exchange for trade agreements and support. For example, the Organization for Economic Cooperation and Development requires its participant states to regularly invite observers to elections ("Charter for European Security" 1999, par. 25). Finally, another reason for investing in fraud-reducing technologies is to lower population expectations of how much fraud is committed. This is an important issue for the regime as if people believe that fraud is widespread, it can lead to loss of trust and the collapse of the fragile democratic façade, that the government is trying to maintain. Andrew Little (2015, 22-23) discusses the invitation of domestic and international monitoring of the electoral process as a possible way to reduce the population's perception of fraud. As fraud is a partially hidden action, the incumbent introduces some restrictions on his action, so that the audience perceives fraud as an expensive decision and believes more in the legitimacy of the process.

Chapter 2. Electoral fraud and technologies in Russia

This chapter serves as an introduction to the specific focus of this thesis, which explores the utilization of digital technologies in authoritarian elections, using Russia as a case study. First, it starts by explaining the rationale behind selecting Russia as an appropriate example for investigating the influence of digital technologies on electoral fraud. Second, the chapter introduces in detail the specific technology under examination, namely, the digital ballot processing system (KOIB), and highlights the types of electoral falsifications that this system has the potential to mitigate. Then, it explores the previous research on KOIBs with an emphasis on their quantitative nature. Lastly, the chapter delves into the various types of electoral fraud that fall outside the capabilities of KOIBs and could potentially be used by electoral officials to circumvent the technology.

2.1 Case study of Russia

Russia has a long history of unfair elections and electoral fraud, dating back to the Soviet era. After a brief period of liberalization in the 1990s and 2000s, the Russian political regime eventually sacrificed democratization to economic reforms. Consequently, electoral fraud has continued to be a common practice in the Russian political system, serving as a tool for manipulating election outcomes and maintaining power. The Russian electoral system is predominantly defined by laws developed in the 1990s, which were then gradually supplemented and tightened over time. Since 2012, elections to the federal parliament are held according to the mixed parallel system, according to which seats are given equally to candidates from party lists and candidates from single-mandate constituencies. The existence of strict institutions and laws that may suggest a robust electoral framework, however, does not stop falsification as the Russian government has been systematically accused of using various forms of fraudulent actions to change election outcomes. Despite the implementation of institutional manipulations and clientelism, the government extensively uses blatant electoral fraud as a means of influencing electoral outcomes. Notably, Masaaki argues that the extent of electoral fraud in Russia is far more extensive than in some other autocracies, such as Malaysia (2022, 269). These findings underscore the importance of studying the case of Russia, as it defies the expectations of scholars. In such a strong regime like Russian, it should be unnecessary to use electoral fraud at the polling stations. Indeed, the Russian incumbent has large finances due to natural resources; regional elites are heavily dependent on the center and are controlled by the party of power, and the opposition has been systematically suppressed and destroyed. Nevertheless, domestic and foreign observers every election report a huge number of violations in precincts.

Such widespread blatant electoral fraud that is present in Russia requires an established bottomlevel mechanism of actors who are willing to manipulate election results with a high risk to themselves. Academic and journalistic research demonstrates that the Russian government heavily relies on schoolteachers and other social public sector employees (Forrat 2018). While Russia has strict legal regulations of electoral procedures, election officials still have considerable discretion. The election commissions, which oversee the entire electoral process, including candidate registration, vote counting, and result announcement, are formed and controlled by the state (Gel'man 2021). This lack of independence leaves them vulnerable to manipulation by higher-ranking officials, which leads to widespread electoral fraud. In essence, the Russian electoral system is susceptible to falsifications due to its lack of autonomy and extensive control by the state. While legal regulations are in place, their presence is not enough to safeguard the integrity of the electoral process.

According to the official data, around half of the polling stations in Russia are located in educational institutions ("Information about the Ongoing Elections and Referendums" 2023). In St. Petersburg, this number is even higher. In 2021, 1718 out of 1940 (88.6%) precincts were located in schools and universities. This means that a high majority of election commission

members are schoolteachers. According to Natalia Forrat, the unique social position of these people allow them to successfully influence voters and manipulate the vote count (2018). The combination of vulnerable electoral commissions, influenced by higher-ranking officials, and the significant presence of schoolteachers within these commissions, thus creates an environment conducive to electoral fraud.

By analyzing the prevalence and methods of blatant electoral fraud in Russia, we can uncover how digitalization might shape or amplify these practices. As technologies continue to advance, their influence on electoral processes becomes significant. Russia's history of unfair elections, relatively high use of digitalization, the strategic balance between democratic institutions and autocratic tendencies, the existing legal framework, and the extent of blatant electoral fraud make it an ideal case to study the effect of digitalization on electoral falsifications.

2.2 Digitalization of elections in Russia

Digitalization has transformed many aspects of society, including elections. In Russia, digital technologies have been increasingly adopted in recent years in an attempt to improve the quality of elections. It should be clarified here that the quality of elections does not mean their fairness. It is more about their efficiency and processability. The use of digital technologies can be traced back to 1995 when the State Automated System, "Vybory", was first used nationwide. Since then, various technologies have been introduced to the electoral process, including web cameras, KOIBs, electronic voting complexes, and recently electronic voting. The introduction of digital technologies has been viewed by some as a way to improve the transparency of the electoral process. As discussed in the previous chapter, this is partly true. However, electronic technologies also simplify electoral fraud and change its traditional forms. This thesis is primarily focused on KOIBs; however, the entire electoral process is carried out via "Vybory". I will start by exploring the state-automated system first, and then move to KOIBs and their specifics.

The State Automated System, which in Russian is called Gosudarstvennaya Avtomatizirovannaya Sistema "Vybory" (GAS "Vybory"), automates the electoral process in Russia and is used to plan and conduct elections, register voters, keep information about candidates, and sum up and process the results of elections. It coordinates the work of election commissions at different levels, which allows for quick processing and publication of the results ("GAS «Vybory»" 2017). Due to the federal form of government, the architecture of the GAS "Vybory" includes three levels: the level of territorial election commissions, the level of election commissions of subjects, and the highest level - the central election commission of the Russian Federation (Erokhina 2019). They are arranged hierarchically, and information about the election results passes sequentially through each level. However, below the territorial election commission are the precinct election commissions which are not connected to this system, which makes the moment of data transmission vulnerable to fraud. The protocols of precinct election commissions are transferred to the database by the system administrator, which does not exclude the possibility of information distortion.

Apart from GAS "Vybory", another major voting technology, ballot processing systems (KOIBs) were introduced at the beginning of the 2000s. KOIBs are designed to assist election commissions with processing and counting ballots. It has several features that make it particularly useful for ensuring the integrity of the electoral process. First, this technology completely replaces the members of the election commission in the process of working with ballots after it has been issued to the voter. Instead, voters place the ballot into the machine, which scans its content and stores this information. KOIB independently counts the number of votes for each candidate/party and issues a final protocol at the end of elections. The information is printed in a required number of copies and then automatically recorded on external readers. These readers are then transferred to a higher-level commission. Thanks to

this device, a KOIB can eliminate several methods of falsification common in Russia: ballot stuffing and vote count manipulation.

The primary method of electoral fraud at the polling stations is ballot stuffing. This method of manipulation involves the addition of fraudulent ballots to the ballot box by some fake voters or corrupt election commission members during the voting process. Alternatively, pre-filled ballots can be prepared and used after the closure of the precinct during the counting process. Bader's (2013a, 3) analysis of reports from election observers and voters demonstrates that this form of fraud was reported most frequently during the 2011 and 2012 elections. This manipulation technique is usually facilitated by using fake registration lists or manipulating information in real ones. It is not uncommon that a person arrives at the polling station and sees that they have already been marked in the registration list as having voted ("Taking into account the singular nature..." 2021). Moreover, voters or electoral officials can insert all falsified ballots at once as traditional voting boxes have wide holes for them, which makes this type of fraud relatively easy to commit. KOIBs, on the other hand, are designed to prevent this. The scanning devices can process only one ballot at a time. If a voter attempts to put two or more ballots at the same time, KOIB creates a warning message and loudly announces that something is wrong (Khachatryan and Lipsky 2012).

Another common technique of electoral fraud is vote count manipulation, which typically means altering the number of votes cast for a particular candidate or party. This is done by changing the vote count on the official protocols or by altering the results during the transmission of numbers from local precinct to the central election commission. Russian researchers have noticed that in all elections since 2004, distributions of turnout and leader's results show peaks at round percentages (Kobak, Shpilkin, and Pshenichnikov 2016). Their evidence shows that this result is very hard to achieve randomly in one election, let alone in each one. Kobak et al. believe that the prevalence of round percentages of votes for United

Russia has therefore been consciously created by people who manipulated the election results (2016). This type of fraud can also be mitigated by KOIBs. As was mentioned before, the process of counting votes in polling stations with KOIB is fully automated. At the end of the election day, the KOIB switches to the vote counting mode and the chairman of the election commission only needs to press the button so that the device prints the final protocol with the results. Thus, it is impossible to somehow influence the results of the elections in the protocol. Later, the printed protocol and the USB flash drive with the KOIB data are taken to a higher commission. The system administrator enters the data of the precinct commission protocol into the GAS "Vybory" by scanning a machine-readable code printed directly on the protocol and printing them out for verification with the first copy. Thus, the automatization of the whole process and its connection to the main system makes it virtually impossible to rewrite the protocol or falsify the vote count.

2.3 Previous research on KOIBs

Considering the advantages of KOIBs described above, the study of electoral fraud and the role of ballot processing systems has been a subject of growing interest among researchers. In this section, I explore the previous studies that provide valuable insights into the effect of KOIBs on falsifications. These papers present quantitative evidence of the effectiveness of digital technologies and lay the foundation for this thesis's focus on a qualitative method of studying elections.

There are two main challenges in electoral forensics: how to not only spot electoral fraud but to count its magnitude, and how to distinguish it from results caused by fraud from results produced by strategic behavior or any other natural phenomenon. For the time being, only two methods have been successful in coming up with the number of stolen votes: the nonparametric method developed by Sergei Shpilkin (2016); and the finite mixture model developed by Walter Mebane (2016; 2022). Despite their effectiveness, these methods are relatively new and

complex, so they are not widely used. However, Russian election researchers have discovered a correlation that allowed them to detect fraud without directly counting stolen votes. Previous studies have shown that turnout is closely associated with votes for United Russia. Mebane and Kalinin (2009), Myagkov et al. (2009), and Kobak et al. (2016) showed that in districts and precincts with high turnout, support for United Russia is much greater. At the same time, support for all other parties, especially KPRF tends to be low. These data helped researchers identify patterns of fraud and draw conclusions about the fairness of Russian elections.

Max Bader's research (2013a) employs a difference-in-difference design, building upon the concept of the "flow of votes" introduced by Myagkov et al. (2009). Bader's study focuses on precincts equipped with KOIBs in different election years and examines the subsequent changes in voter behavior and outcomes. According to his results, precincts equipped with KOIBs in 2011 experienced a decrease in turnout by 3.8% and a decline in United Russia's vote share by 4.8% (Bader 2013a). These quantitative findings demonstrate the influence of KOIBs on voter behavior and electoral outcomes. Kirill Kalinin's research (2019) uses a different research strategy and focuses on the effects of KOIBs on vote shares, specifically examining the impact on incumbent candidates such as Putin. His findings indicate that the presence of KOIBs harms Putin's vote share, reducing incumbent support by 3.6 percentage points. Conversely, for other candidates, the effects remain positive or statistically insignificant. Additionally, the paper presents measures of incremental fraud developed by Mebane (2016) that consistently show a reduction when KOIBs are present, further supporting the negative effects of KOIBs on fraud. These two papers offer valuable insights into the significance of KOIBs' influence on electoral fraud. Both studies highlight the role of KOIBs in influencing voter behavior, incumbent support, and ultimately electoral fraud. The findings reveal that traditional ballot boxes are associated with higher instances of falsifications and inflated support for United Russia candidates. However, these papers do not research the reasons behind these correlations. Due to the quantitative nature of the previous studies, we can only assume that the patterns of electoral fraud are somehow changed without a clear understanding. The question remains: why United Russia always win even in the presence of vote-reducing technology?

2.4 Circumventing KOIBs

Despite the great advantages of this technology, previous studies do not take into account that KOIBs can recognize and stop only a limited type of fraud. This means that, if necessary, the incumbent can simply change its manipulation menu and thus bypass the technology. This part will consider two types of KOIBs and what their fundamental difference is for falsifications, and will also analyze frequent methods of manipulation in Russia that cannot be registered by ballot processing systems.

When analyzing the election results at a precinct with a KOIB, it is necessary to take into account the device model. Currently, there are two types of KOIBs in Russia: KOIB-2010 and KOIB-2017, which are manufactured at the concern "Avtomatika", a part of the "Rostec" State Corporation ("Ballot Processing System (KOIB)" 2023). One of the main differences between the models is the way the printer is connected. While the new 2017 model only works with the supplied printer, connecting a printer for the 2010 model is optional (Khamraev 2019). This means that KOIB-2010 can be connected to any printer at the polling station and controlled even remotely, which casts doubt on its security against substituting voting protocols and fraud. In 2018, the Golos movement conducted an investigation, during which it turned out that falsifications using KOIB-2010 were revealed in the election of the governor of Primorsky Krai ("Does the result depend on KOIB?" 2018).

However, it is not just the device model that matters. Having discussed the positive influence of KOIBs above, it is important to note that this technology, although effective against certain types of electoral fraud, is not a definite solution against it. Unlike a similar electronic system, one significant limitation of KOIB is its inability to provide an effective voter identification system. It mainly functions by reading information from a paper ballot, which opens the opportunity for repeated voting by the same persons. One advantage of KOIB is that it is not connected to the Internet. This protects the system from the usual threats that digital technologies face, namely, external influences during voting (Erokhina 2019, 7). However, KOIB requires electricity to operate. Any temporary loss of power at the polling station can cause the devices to malfunction and remain incapacitated until power is restored.

KOIB reads the information on the ballots that are dropped into it. However, Russian election researchers identify several common types of fraud that can be used by electoral officials to bypass ballot processing systems. These manipulative tactics include the exploitation of administrative resources and forced voting, as well as mobile voting.

The abuse of administrative resources is a frequent manifestation of electoral fraud in Russia. A noteworthy facet of this type of manipulation involves the mobilization of public sector employees to vote in favor of the ruling party through the utilization of state resources. These resources comprise mandatory transportation to precincts and the application of workplace pressure in the form of threats. Frye, Reuter, and Szakonyi (2014) analyzed the use of administrative resources to mobilize voters in Russia. They found that state employees are especially dependent on their workplaces and are frequently pressured to vote for United Russia. Their compliance is secured by incentives or threats from employers. In a separate study, Harvey (2020, 841–42) also described how local school administrators pressure their employees by threatening them with risks of job loss or promising bonuses. These forms of pressure from employers are so embedded in modern Russian culture that civil servants often go to vote for the party in power even without the need for explicit intervention from the authorities. Given that this type of pressure on voters occurs outside the polling station, on the actual day of voting, people willingly register themselves and drop the ballot into the ballot box

or KOIB. Consequently, this type of fraud cannot be effectively stopped with the help of the ballot processing system. Therefore, this manipulation can be used as a replacement for the traditional method of ballot stuffing or vote count manipulation.

Another extremely common form of electoral fraud is through mobile voting, which in Russia is often called "home-voting". Russian electoral legislation allows for the possibility of remote voting for citizens who are unable to physically come to the polling station ("Article 83. The Procedure for Voting Outside the Voting Room" 2023). This is achieved through the use of a portable ballot box, which is delivered to the home of the voter by two members of the election commission. This form of voting, however, is susceptible to fraudulent activities. Such remote procedures as home voting take place outside of the direct supervision of election officials and monitoring devices. As highlighted by Smyth and Soboleva, these procedures move electoral fraud beyond the reach of observers so that they cannot witness and report it (2016, 368). Every election in Russia produces numerous reports of irregularities and fraud during home voting. These reports include instances of voters being coerced to vote for the ruling party or ballots being tampered with. Unlike in precincts where KOIBs are employed, the mobile voting system does not incorporate their usage within voters' homes. Instead, a conventional portable ballot box is used, which does not have the same protection mechanisms as in KOIBs. After voting at home, the ballots from the portable box are transferred to the KOIB, but at this stage, the votes can already be falsified, which makes their verification with the help of the KOIB useless. Thus, mobile voting opens up wide opportunities for electoral fraud, enabling such activities as ballot stuffing, that would happen outside the reach of KOIB.

In conclusion, this chapter provides an introduction to the topic of electoral fraud and digital technologies in Russia. It highlights the selection of Russia as a case study and explores the digital ballot processing system (KOIB) as a specific technology under examination. KOIBs have features that prevent certain types of electoral fraud, such as ballot stuffing and vote count

manipulation. However, the chapter acknowledges that this technology can only recognize and stop a limited type of fraud, and there are methods of manipulation that cannot be detected by ballot processing systems. It sets the stage for further exploration of the effect of digitalization on electoral falsifications in Russia that are presented in the next chapters.

Chapter 3. Research design

3.1 Case selection

The election structure in Russia is organized according to the federal composition of the country. Between the Central Election Commission (CEC) and around 96,000 precinct election commissions (PECs), there are two more levels: 85 Election Commissions of the 'subjects' of the Russian Federation, and nearly 2,600 Territorial Election Commissions (TECs). Due to the enormous size of the country and available data, it is impossible to qualitatively analyze electoral fraud at all the polling stations in Russia. Due to this, I have chosen one 'subject' of the Russian Federation – Saint Petersburg. In Yin's terms, this is a "revelatory case" as through it I will observe and analyze the phenomenon that has been previously inaccessible to other researchers (2009).

St. Petersburg has been chosen as an appropriate case for analysis for several reasons. First, the city has a relatively high number of KOIBs used at the polling stations. Since the usage of this technology varies across the regions, it is crucial to examine its performance in areas with a substantial deployment of these devices. In St. Petersburg, on the other hand, KOIBs were used in 18% of precincts in 2021. Notably, during the 2018 presidential elections, St. Petersburg had a higher percentage of polling stations with KOIBs (23,4%), but the figure was reduced without a clear justification ("Alexander Shishlov requests CEC to increase in St. Petersburg the number of KOIBs in the elections in September 2021" 2021). This suggests that the technology may have proved to be effective against electoral fraud, and therefore was reduced. Second, St. Petersburg presents an intriguing context for studying electoral fraud given the combination of strong authoritarian tendencies and active civil society. The city is known for instances of rigidity and unscrupulous behavior by the government and a strong and active civil society. This unique dynamic offers valuable insights into the tactics and strategies employed by authorities, as well as the vigilance and resilience of the citizens and observer groups in detecting and

reporting instances of electoral fraud. The presence of documented cases of manipulation, along with the active involvement of observers and voters in exposing these irregularities, provides a rich dataset for in-depth analysis.

3.2 Empirical strategy

This research aims to explore the patterns of electoral fraud in 2021 and uncover the possible causal mechanism between the presence of KOIBs at polling stations and the potential reduction in electoral fraud. Traditionally, scholars seek to identify causal mechanisms via process-tracing. However, the possible cause (KOIB) and the outcome (lower level of electoral fraud) of my study are situated too close in temporal and analytical proximity, which prevents one from developing a thorough causal mechanism. Therefore, an alternative approach is employed to analyze the relationship between these variables. The primary method utilized in this thesis is a within-case study. This method is particularly suitable for investigating such a complex and dynamic phenomenon as electoral fraud, which cannot be fully captured by quantitative methods alone. The primary units of analysis for this study are the individual polling stations located within St. Petersburg. Each precinct represents a unique setting with its specific characteristics, including the composition of voters, the presence of observer groups, the deployment of technology such as KOIBs, and the behavior of election commission members. Analyzing these specific units enables a more detailed assessment of electoral fraud, enabling the identification of site-specific vulnerabilities and irregularities.

The analysis of electoral fraud patterns and the influence of digitalization on these patterns contribute to our understanding of the dynamic of electoral fraud and factors that modify it. While the focus of this research is on election results and the presence of electoral fraud in St. Petersburg, the intention is to develop theoretical mechanisms and explanations that can be applied beyond the scope of this specific study. By employing a within-case study approach and examining individual polling stations, this research aims to provide valuable insights into

the relationship between the presence of KOIBs and the potential reduction in electoral fraud within the city.

3.3 Data

To support my research, I utilize two primary sources of data. First, I use the official data provided by the Central Election Commission (CEC). Unlike in many other authoritarian countries, the CEC of Russia publishes the results of every election on its website. This data does not represent the real votes of the population; however, it is a good source for conducting the analysis required for this thesis. Specifically, my research is concentrated on the electoral landscape of St. Petersburg. The city is divided into eight single-mandated districts (№211-218). Each of these district election commissions further encompasses territorial election commissions, and subsequently precincts. To conduct a thorough investigation of blatant electoral fraud, I have collected data from all the polling stations within the city. By utilizing the official data from CEC, I can access accurate information on electoral outcomes. This allows me to examine patterns, trends, and potential irregularities that can indicate the presence of electoral fraud. Additionally, the comprehensive nature of the data ensures that the analysis is not based on a small sample, but presents a throughout examination of fraud in the city.

In the State Duma, St. Petersburg is traditionally represented by eight deputies who are elected in the relevant district election commissions. The city is divided into 64 Territorial Electoral Committees, each of which consists of around 37 precincts making the total number of polling stations in 2021 of 2,398. 472 of these precincts had a special status, meaning that they are located on the territory of pre-trial detention centers, hospitals, continuous cycle enterprises, social service institutions, as well as ships and polar stations. They were excluded from the analysis since their closeness and the impossibility of control by civil society do not allow an assessment of electoral violations proposed by the research design of this paper. Thus, the final number of polling stations for analysis was 1,926. In comparison with the previous elections, there was a notable decrease in the number of KOIBs deployed during 2021 in St. Petersburg, amounting to approximately a 25 percent reduction. According to the decision of the St. Petersburg Election Commission of July 21 2021 No. 248-10, only 352 KOIBs were used during the elections, which allowed only 18 percent of polling stations to be equipped. The distribution of KOIBs across the city was not uniform. They were present only in 7 districts of St. Petersburg.¹ It is worth noting that the number of KOIBs placed at precincts in electoral district No. 212 has been significantly reduced compared to previous election campaigns. As a result, 64 KOIBs (more than 20% of the polling stations of the distribution of KOIBs highlight the dynamic nature of technology deployment in the electoral process. The decision to reduce the number of KOIBs and relocate them to different districts suggests a deliberate shift in the allocation strategy. It raises questions regarding the rationale behind these changes and their potential impact on the effectiveness of electoral monitoring and fraud prevention.

Second, this thesis incorporates a qualitative approach to complement previous quantitative research. Therefore, I analyze electoral fraud through several resources, that can be divided into the following five groups:

1. Legislation and Official Documents: I explore the legislation of the Russian Federation, as well as various resolutions and decrees of the Central Election Commissions and the St. Petersburg Election Commission. These data are publicly available on the websites of the commissions and the State Duma. As was described in the previous chapter, the Russian electoral process is based on the existing laws and different flaws found by election commission members in them. Therefore, by studying

¹ Vasileostrovsky, Kirovsky, Kolpinsky, Krasnogvardeysky, Krasnoselsky, Kronshtadtsky, Petrodvortsovy districts

these legal frameworks, it becomes possible to gain insights into how elections are conducted and what the possible 'legal' ways of electoral fraud are in Russia.

- 2. Karta Narusheniy (Map of Violations): Another significant resource employed in this research is the crowdsourcing web-based database Karta Narusheniy, created by the GOLOS movement in 2011. This platform contains information about instances of electoral violations across Russia, reported by election officials, observers, media representatives, and voters via telephone hotline or text messages. The database primarily consists of written reports, which are often accompanied by additional evidence in the form of videos, photos, and documents. Karta Narusheniy is considered a valuable source of data on electoral fraud as it only includes verified information that is later forwarded to the police and CEC. Similar electoral fraud maps proved useful for information sharing and are utilized in other countries, including Armenia, Liberia, Mexico, Nigeria, and Tanzania (Bader 2013b). In 2021, Karta Narusheniy published 5,849 reports of possible violations, of which 681 messages were specific to St. Petersburg. To construct a comprehensive dataset for this thesis, I manually collected these messages, filtered out irrelevant data for my research, and distinguished the reports with information about fraud from those with information about misconduct or other irregularities. As a result, I obtained a dataset of 642 messages.
- 3. Independent Expert Opinions and Reports: In addition to the aforementioned sources of data, I have incorporated the significant contributions of two prominent public organizations that control the quality of elections in St. Petersburg: the *Golos* movement and the *Observers of St. Petersburg*. These organizations operate independently of the state and have earned recognition from both the Russian and global public for their credibility and reliability. For this thesis, I have gathered analytical reports on the state of the electoral system and legislative changes from the *Golos* website. These reports

provide valuable insights into the recent changes in the political climate in Russia and how they affected elections. Additionally, I have thoroughly examined the comprehensive report of *Observers of St. Petersburg* titled "Everything is possible in the elections in St. Petersburg!". This report consists of accounts from over 2,200 commission members and observers who were present at more than 800 polling stations across the city. Moreover, I have collected and incorporated information from social media posts of *Observers of St. Petersburg*, which featured real-time updates regarding electoral violations that were not included in the final report. The analysis of this extensive collection of first-hand observations provided additional insights into instances of electoral fraud in the city.

4. State Expert Opinions and Reports: To further enrich my research, I have analyzed two reports of the monitoring working group of the Council under the President of the Russian Federation on the development of civil society and human rights. This monitoring group conducted an extensive investigation in 12 out of the 18 districts of St. Petersburg and inspected each polling station for compliance with the legislation. Their access to all precincts and the assistance provided by members of the commissions and observers were facilitated through an agreement between the CEC and the Human Rights Council. These reports offer valuable insights into the violations recorded by the monitoring group at precincts, as well as information provided by observers. Furthermore, I have sourced expert opinions of members of Territorial Election Commissions, as well as documents on the consideration of complaints by these commissions. To compile the data, I collected all available documents from the official websites of the 64 commissions involved in the 2021 elections. Subsequently, I sorted out irrelevant or redundant information and focused on analyzing the remaining set of documents. These expert opinions and complaints proved invaluable in identifying

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cases of falsifications that had not been published in the aforementioned sources but remained in the internal documents of the commissions.

5. Biased Sources: In addition to the previously mentioned data sources, I have also considered information from media outlets and political actors. It is important to note that these sources may carry inherent biases or political agendas. However, for the sake of comprehensiveness, I included them in my analysis while being cautious about their potential biases. To gather the data, I have collected reports of violations from highly active and respectful media websites. While recognizing the potential biases associated with these sources, I deemed it necessary to include them to capture a wider broad of perspectives and ensure a comprehensive examination of electoral fraud in the city. Moreover, I examined posts on social networks and websites of regional branches of political parties. Notably, A Just Russia – For Truth, the Communist Party of the Russian Federation, and the candidates from the Yabloko party deployed a large number of observers who were present at almost every polling station. I have collected all relevant posts from their social networks and articles published on official websites that were related to the elections in 2021. To ensure the reliability of the data, I used only data that was confirmed by multiple sources or documented with photos or videos. This approach allowed me to maintain the integrity and credibility of the collected data despite potential biases.

Chapter 4. Electoral cycle 2021

The Chairman of PEC 332 was in the voting room with a weapon that fell out of the holster during the counting of votes and summing up the voting results. ("Report of the monitoring working group of the Presidential Council for the Development of Civil Society and Human Rights in the 2021 elections in St. Petersburg" 2021)

4.1 Three-day voting

The most important innovation of recent years is multi-day voting. It was first tested in 2020 at a constitutional referendum. Back then the voting was held for seven days: the so-called "voting before the voting day" from June 25 to June 30, and on the official voting day on July 1. However, the multi-day voting procedure was then formalized using separate normative acts. On July 21, 2020, a new law was adopted, according to which elections at any level can be held for several days in a row, but no more than three ("The History of Multi-Day Voting in Russia" 2022). The maximum possible number of days was chosen for the elections to the State Duma in 2021, so the elections were held from September 17 to September 19.

However, these conditions are favorable only for elites, and not for real voting participants. The introduction of multi-day voting has created an additional burden on both electoral officials and observers. Members of election commissions were forced to work 12 or more hours daily. Such a load leads to a decrease in alertness and fatigue. This, in turn, contributes not only to a lot of technical mistakes made due to inattention but also to falsifications. The co-chairman of the Golos movement, Andrei Buzin, stressed during the consideration of the introduction of multi-day voting that it is difficult for civil society to control elections for several days (Zotova and Ilyin 2020). In 2021, elections were held from Friday to Sunday, which meant that observers had to take time off from work for the voting period. Many could not afford it, which led to a decrease in public representation.

4.1.1 Safe bags and ballot storage

The main disadvantage of multi-day voting is the impossibility of permanent independent control over the storage of ballots. For the safety of the ballots for several days, the CEC has developed special safe packages. During the first two days of voting on September 17 and 18, all ballots from portable and stationary boxes were moved to special safe bags, which were then sealed and signed by at least two members of the election commission. The safe bags, in turn, were stored in a separate safe on the territory of precincts. This policy did not apply to KOIBs. When using this digital technology, ballots were stored in devices until the end of voting on September 19.

Despite the high importance of safe packages, their issuance to election commissions was negligent. Observers and public organizations noted that the safe bags were issued to the commissions in ordinary plastic bags, without signing any documentation (Antonova 2021). Thus, the number of safe packages and their serial numbers were not recorded anywhere, which provided a wide opportunity for the substitution of packages and their contents. The safety of the ballots was further compromised by the problems with safes. In St. Petersburg, election documentation is traditionally stored in the safes of institutions where precinct commissions are located. Saint Petersburg Election Commission buys additional safes only on rare occasions. The 2021 elections complicated the situation, as each commission was required to use two safes: one for documentation and one for storing safe bags with ballots. In most cases, there were not enough safes. In some districts, the shortage of safes led to the fact that cabinets and utility rooms were used to store ballots ("Everything is possible at the elections in St. Petersburg!" 2021, 4–5). All this has opened up a huge possibility for fraud, which was previously unavailable. The ballots were stored at night in an unprotected place, without the possibility of control by civil society.

4.1.2 Three election campaigns in one election

In 2021, three election campaigns were held simultaneously in St. Petersburg. The whole city participated in the federal elections to the State Duma and regional elections to the Legislative Assembly of St. Petersburg. Additionally, elections for deputies of municipal councils were held in two municipalities (Avtovo and Lanskoye). Elections to the federal and city parliament are held according to a mixed electoral system, where half of the mandates are chosen by a proportional system, and half by a majoritarian one. This means that four ballots were issued by the voter, and at 24 polling stations where the elections to the municipality were held, the commissions issued five ballots each. The voting procedure for such a large number of ballots created a burden on both voters and electoral officials. Voters, especially the elderly, had to carefully check the ballots and not confuse them. For electoral officials establishing the results of voting on four or five ballots has become more difficult and longer, especially at polling stations without KOIB, where members of the commission counted the results manually. Additionally, Observers of St. Petersburg notes that the receipt of ballots from the printing house by the territorial commissions was organized just five days before the start of voting ("Everything is possible at the elections in St. Petersburg!" 2021, 5). After receiving the ballots, the election commissions must count them, as well as affix signatures and seals on each of them. Given that there were four or five types of ballots, the commissions could not cope with the load. Some commissions continued to issue ballots even after the start of voting.

In conclusion, well before the beginning of the elections, it was abundantly clear that the circumstances surrounding them were far from ideal. The introduction of new legislation, which has never been put to the test before, created significant technical problems that left commission members, observers, and ordinarily voters perplexed. It posed a lot of challenges to civil society and opened up new possibilities to turn the results of elections in favor of the ruling party.

4.2 Patterns of electoral fraud

Analysis of the collected data revealed instances of electoral fraud at 537 polling stations, which account for approximately 28% of the total number of precincts. To enhance convenience and comprehension, all falsifications and irregularities were categorized and summarized in tables. Bold font in the tables indicates precincts where multiple types of manipulations from the respective group were detected. The main text focuses on the analysis of fraud, while a comprehensive list of the irregularities is provided in Appendix A. This approach ensures a clear presentation of the findings and facilitates a more in-depth exploration of the detailed analysis of irregularities.

4.2.1 Ballot stuffing

In the three-day voting period, information was received from various districts of St. Petersburg about instances of ballot stuffing. A distinctive feature of this electoral cycle was stuffing into safe bags, which, together with traditional stuffing into voting boxes, were recorded at 6,5% of fraudulent polling stations (see Table 1). All these precincts were equipped with traditional ballot boxes and used safes to store ballots at night, which provided an additional opportunity for fraud. Moreover, a separate precinct №1945 emerged as a hotspot with a combination of two types of stuffing.

The evidence of ballot stuffing can be classified into two categories: direct witness accounts and indirect indicators. Approximately a quarter of all reports on ballot stuffing were recorded by observers who were physically present during the commission of the crime. These reports were substantiated with videos, photographs, and complaints to the commission. The remaining messages provided indirect evidence. Indirect indicators included the discovery of voluminous, most often evenly folded, bundles of ballots found during the transfer of ballots to safe bags or the sorting before counting votes. These bundles often contained ballots marked consistently, indicating support for a specific candidate or party.

Table 1. Records of ballot stuffing

Type of ballot stuffing	Polling stations
During the voting into the ballot box	16, 33, 270, 341, 453, 1086, 1485-1487, 1555, 1612, 1615,
	1662, 1754, 1770, 1782, 1793, 1794, 1803, 1804, 1806-
	1809, 1842, 1945, 2115, 2195
With the help of a safe package	1185, 1484, 1607, 1942, 1945, 2114, 2117
During counting	1445

4.2.2 Carousels

Another prevalent form of manipulation observed during the elections in St. Petersburg was multiple voting, commonly referred to as the "carousel" in Russian. Unlike ballot stuffing, tracking this type of fraud is more challenging as it involves voting at different polling stations. However, thanks to the development of technology and the active use of the Internet, observers were able to report violations at their precincts in real time. This enables them to timely detect suspicious voters appearing at multiple precincts.

Similar to the previous type of fraud, messages regarding carousels can be divided into two categories: direct observation of the act and indirect indicators. The majority of reports concerning multiple voting were based on personal observations made by observers who were present at the polling station during the commission of the crime, often accompanied by photographic or video evidence. One noticeable case involved a young man wearing a beige coat, who was able to vote in at least four precincts ² ("Permanent carousel person in the Central district" 2021" 2021). Another significant incident in 2021 involved the use of identification marks by individuals participating in carousels. In at least five precincts, people received ballots upon presenting a passport with a Pepsi logo sticker.³ Such incidents highlight the creative

² Precincts 2255, 2258, 2259, 2261

³ Precincts 104, 110, 114, 134, 139

methods employed by fraudsters to engage in multiple voting. It is highly likely that recorded incidents happened in a far bigger number of polling stations but were left undetected by observers. However, even the reported number of carousels at 18,4% of fraudulent precincts (see Table 2) allows to conclude that this type of fraud is an important part of the manipulation menu in St. Petersburg.

An alternative way to identify instances of carousels is through the forgery of signatures in voter books. Ballots without signatures in the books hold no value,⁴ therefore, individuals seeking to vote at multiple polling stations must register at these precincts and put their signature in the book. Such forged signatures, placed for a voter who did not vote, serve as a clear indicator of fraudulent activity. According to the data collected, in 2021, such cases were recorded at 6% of fraudulent precincts, where a voter arrived to find their entry in the book already filled with someone else's passport data and signature.⁵ Particularly indicative are the cases of polling stations №11 and №30, where 10 and 11 such cases respectively were recorded ("Taking into account the singular nature..." 2021).

Type of precincts	Polling stations
With traditional ballot boxes	7, 12, 14-20, 23, 28, 30, 37, 217, 272, 303, 306, 309, 331, 372,
	392, 397, 459, 468, 481, 493, 520, 551, 555, 570, 616, 624, 768,
	998, 1162, 1398, 1459, 1612, 1614, 1615, 1617, 1628, 1637, 1641,
	1662, 1758, 1796, 1810, 1812, 1825, 1871, 1893, 1897, 1913,
	2056, 2183, 2188, 2189, 2210, 2219, 2224, 2225, 2234, 2235,
	2237, 2238, 2241, 2242, 2255, 2257-2261, 2264
With KOIBs	104, 110, 112, 114, 115, 117, 119, 120, 122, 126, 130, 133, 134,
	139, 146, 147, 152, 161, 166, 170, 830, 1064, 1717

⁴ The number of signatures in books and ballots in the KOIB/ballot box did not converge in 16 precincts.

⁵ Precincts 7, 14-20, 23, 28, 30, 37, 133, 147, 161, 170, 217, 272, 303, 306, 309, 372, 570, 768, 1398, 1758, 1796, 1637, 1641, 2056, 2210, 2225

4.2.3 Manipulation of electoral lists

As was mentioned above, the validity of ballots relies on the accompanying signatures in voter books. This makes books a very important element of elections. The handling of these books by the election commission and the accessibility granted to observers serve as an indicator of the commission's transparency. Instances, where lists are concealed or contain extraneous marks, suggest potential manipulation. According to the data collected, observers and members of the monitoring group were denied access to the lists at 15,3% of fraudulent precincts. Table 3 showcases the polling stations where observers were prohibited from accessing voter lists, categorized by the type of precinct. Additionally, this table includes cases where the commission granted access but only from a distance of 1.5-2 meters and with the lists quickly flipped through by a commission member. Such limited access prevents observers from adequately verifying the accuracy of entries in the books and detecting additional marks. Therefore, I consider this practice equivalent to denying access to books and hindering the observation process.

One may argue that denial of access to voter books alone may not be sufficient evidence of electoral fraud. However, it is noteworthy that most reports of such violations (72%) were accompanied by other fraudulent activities such as ballot stuffing, carousels, or protocol rewriting, which is presented later in the text. Based on this correlation, it can be inferred that denying access to the books serves as an indicator of fraudulent activities taking place at the respective polling station.

Type of precincts	Polling stations
With traditional ballot boxes	20, 61, 167, 178, 201, 221, 228, 232, 234, 294, 306, 309, 341, 346,
	349, 352, 356-359, 376, 435, 454, 461, 471, 479, 481, 496, 502,
	506, 538, 555, 576, 963, 964, 996, 1093, 1280, 1303, 1500, 1561,
	1612, 1615, 1627, 1628, 1641, 1642, 1651, 1656, 1664, 1731,
	1793, 1796, 1810, 1812, 1813, 1874, 1897, 1924, 1942, 1987,
	2180, 2181, 2269, 2311, 2312
With KOIBs	104, 113, 120, 122, 124-126, 136, 139, 145, 147, 181, 183, 827,
	849

Table 3. Polling stations where observers were not allowed to access voter lists

4.2.4 Home voting

According to Shpilkin's statistical analysis, in the 2021 election, there was a significant disproportion in favor of the ruling party and its candidates once the home voting turnout reached over 3% (2021). The scientist notes that the data obtained does not mean that all falsifications were committed with the help of home voting, however, a strong correlation with the victory of United Russia must be taken into account. Following the CEC, in St. Petersburg, 4.55% of the voters who took part in the elections voted outside the polling station ("Information about the Ongoing Elections and Referendums" 2023). This is 2.25 times more than in the State Duma elections in 2016. However, this is the average data for the entire city. In constituency №214, this share was 5.13%, and in constituencies №216 and №213, this share was 6.26% and 9.85%, respectively.

The high turnout for home voting raises suspicions, particularly when considering that the overall average turnout across all precincts is around 35%. Thus, home-based voting significantly affects the results of the parties. Observers and electoral experts note that it is almost impossible to pass more than 30 polling stations in one day, as it takes a lot of time. The commission needs to come home to every voter who has applied for home-based voting. Next,

the voter is introduced to the voting procedure, after which he fills in his passport data and receives ballots ("Voting outside the voting room" 2021). Because of the required procedure, usually, it takes at least 10 minutes to communicate with one voter. Therefore, it is highly unlikely that election commission members could process hundreds of people in such a short amount of time. Additionally, it is worth noting that home voting is limited to individuals who have applied in advance, and the commission carries with them only the number of ballots corresponding to the applications received and no more than five additional ones. Thus, no additional voters can vote during the work of the home-based group.

However, the collected data indicate that in 2021 home voting was conducted at an impossibly fast pace. Table 11 in Appendix B contains 142 polling stations with an unusually high home voting turnout. These cases are particularly suspicious because they lack clear justification for such abnormal numbers of voters choosing to vote from home. For instance, on September 18, at precinct №133, 160 people voted at home within five hours, averaging less than two minutes per voter, including travel time ("Less than two minutes per voter. Home-based voting in St. Petersburg showed record speeds" 2021). This rapid processing of voters raises doubts about the authenticity and fairness of the process. In reality, a commission conducting home voting with a portable voting box would need sufficient time to visit multiple addresses and interact with elderly or infirm individuals.

Evidence of electoral fraud goes beyond mere voter numbers and extends to reports from observers. Table 4 presents additional indicators of fraud during home voting, which were recorded at 10% of fraudulent precincts. Among these indicators, the most obvious one is the discovery of stacked bundles of ballots that are found after voting. Another pattern associated with the abnormal number of those who voted at home is the prohibition of observers' access to control. In total, cases were recorded at 20 polling stations where observers were denied access to the register of applications for home voting or were prevented from joining the group

responsible for conducting home voting. This deliberate exclusion of independent observers raises suspicion and casts doubt on the legitimacy of the process. Thus, in a scenario where a group went to a home vote without independent observers and returned with an abnormally high number of ballots, to the point where they barely fit into a portable box, there are strong grounds to suspect that fraud has taken place.

Table 4. Irregularities during home voting.

Type of irregularities	Polling stations
No marks were made in the voter books	237, 287, 302, 309, 35 7, 2258, 2269
Observers were not allowed to view the	120, 124, 145, 357 , 1045, 1430, 1446
register	
Non-admission of independent observers	28, 127, 146, 225, 234, 236, 252, 398-401,
	1025, 1043
Ballot stuffing	130, 133, 134, 136, 137, 170, 177, 180, 233,
	267, 269, 272, 303, 306, 336, 341, 345, 832,
	834, 835, 839, 854, 858, 864, 876, 1185, 1591

4.2.5 Abuse of administrative resources

Abuse of administrative resources, although more commonly observed in Moscow, also emerged as a form of fraud in St. Petersburg. The collected data (see Table 5) on the elections in 2021 reveals 39 instances where voters were coerced by their employers to vote in specific ways, indicating the misuse of administrative power. These cases can be divided into two groups: precincts where military and police officers and cadets voted, and precincts where state employees voted.

In the first group, observers identified cases of disciplined collective voting, where senior officers accompanied their subordinates to the polling station, ensuring their voting process was closely monitored. This method of voting indicates coercion, as military personnel are brought to the precinct under strict control by their superiors. The same applies to cadets. Notably, three

polling stations (1088, 1089, 1093) with military deputy chairman drew special attention. Members of the monitoring group visiting these precincts reported that the deputy officer, "commands the cadets as on the parade ground, there is no question of any free voting" ("Report of the monitoring working group of the Presidential Council for the Development of Civil Society and Human Rights in the 2021 elections in St. Petersburg" 2021). An additional argument in favor of raising suspicion about coercion to vote is a sharp increase in the number of voters at certain polling stations just weeks before the vote. An illustrative case is the precinct №343 which initially declared 539 voters, but on September 7, the territorial election commission increased the number by 3,100 people ("The results of voting at polling station No. 343 hardly correspond to the real will of citizens" 2021). According to the results of the voting, the turnout at this polling station was 95.6%, which is significantly different from neighboring precincts, further indicating fraud.

The second group subjected to forced voting is government employees. Various media, political actors, and citizens even before the voting day reported that employees of state institutions were compelled to vote in the morning on September 17. Evidence of this coercion can be found on the Map of Violations, where it was stated that kindergarten employees were forced to go to polling stations and report the fact of their voting with the indication of the precinct number ("ID59353" 2021). At the same time, it should be borne in mind that September 17 was Thursday, a working day. In this and similar cases, people were also released from work for a few hours so that they could vote. Numerous cases of voters being photographed at polling stations also provided evidence of coercion. People asked to take a picture of themselves with an empty ballot or were taking photos at the entrance. One particularly alarming case involved a voter who requested a certificate of voting for her, stating that "otherwise she will be deprived of her bonus" at work ("ID64046" 2021).

 Table 5. Abuse of administrative resources

Type of employees	Polling stations
Military, police and cadets	105, 114, 128, 134, 343, 397, 509, 641, 1045, 1088, 1089, 1093,
	1094, 1247, 1645, 1654, 1656, 1657, 1662, 2180, 2181, 2234, 2237
State employees	39, 134, 178, 542, 901, 945, 1122, 1293, 1298, 1481, 1893, 2193,
	2194, 2240, 2241, 2359

4.2.6 Vote count manipulation

A large group of manipulations traditionally refers to the counting of votes. This type of fraud is unique for sites with traditional ballot boxes since it is when working with them that the counting of ballots is required. However, the analysis showed that some violations also occurred in the areas with KOIBs. Further, the cases of falsifications during the counting are considered in detail, starting with the rewriting of protocols, and continuing with more inventive methods of falsification.

4.2.6.1 Protocol rewriting

Protocol rewriting as another form of fraud was identified by observers through two primary methods: witnessing changes in protocol numbers in their presence or discovering discrepancies between the votes in the printed version of the protocol and the official results on the CEC website. All reports on this falsification were accompanied by convincing evidence in the form of photographs of the final copies of the protocols and their discrepancies with the data on the website.

The extent of this type of fraud varied across different areas (see Table 6). Notably, territorial election commission 19 attracts significant attention as observers did not register many other types of violations but recorded eight polling stations with altered final protocols. Additionally, special attention should be given to precincts 104, 112, 115, and 949. These precincts were

equipped with KOIBs which introduced an interesting aspect to the analysis. As was discussed in Chapter 2, KOIBs are not directly connected to the GAS "Vybory", which makes it virtually impossible to rewrite the protocols during the vote count at the stations. However, the occurrence of such falsifications in these 4 precincts highlights a critical area of concern. It demonstrates that protocol tampering may take place during the transfer of information from the protocol to the central system itself.

District	Polling stations
211	1430, 1441, 1443, 1470, 1477, 1478, 1483, 1496, 1515, 1525, 1529, 1605, 2247,
	2359, 2368
212	758, 789, 1130, 1185, 1193
213	221, 230, 294, 330, 332, 333, 356, 364, 402-406, 538, 563, 571, 572
214	471, 475, 479, 490, 497, 949
215	1748, 1795, 1804, 1817, 1896, 1938
216	3, 33, 49, 104, 112, 115, 1616, 1636, 1647, 1651
217	2074, 2093, 2094, 2125
218	589, 613, 620, 625, 633, 1285, 1286, 1298, 1301-1303, 1306, 1307, 1325, 1328,
	1337, 1348, 1349, 1402, 1990, 1996, 2000, 2005, 2006, 2020

Table 6. Polling stations with rewritten protocols.

4.3 General assessment of the election and fraud

Based on the comprehensive data collected and the analysis conducted, it is evident that the 2021 elections were marred by electoral fraud at a significant number of precincts. A total of 537 polling stations have been identified where fraudulent activities have been confirmed either by observers or commission members. Among these stations, the most problematic district was 216, where violations were recorded at a staggering 113 precincts. It is worth noting that in 2021 Boris Vishnevsky, the most famous and respective representative of the Yabloko party, ran there. The influence of the party in that area is substantial, which could explain the high

number of falsifications and attempts to manipulate the results in favor of the ruling United Russia party. Conversely, the analysis revealed that the least problematic area was District 214, where violations were recorded at only 40 precincts. In this area, Elena Drapeko, an administratively coordinated candidate from the *A Just Russia – For Truth* party, ran for the State Duma in a single-mandate constituency. The relatively lower incidence of irregularities in this area suggests a comparatively fairer electoral process. These findings highlight the concerning presence of electoral fraud in the 2021 elections, with a significant concentration of violations in certain districts.

The analysis conducted reveals that the elections in 2021 were plagued by several prevalent methods of falsifications, with carousel voting and rewriting of final protocols emerging as the most common tactics. Carousel voting was identified in 18,4% of fraudulent precincts while rewriting of the protocols was reported in 16,4% of precincts. These electoral fraud accounts were accompanied by various other violations at polling stations, further reinforcing the suspicion of deliberate manipulation. In addition to these primary methods of fraud, several other patterns of irregularities were detected. Irregularities related to the proper storage of ballots and the sealing of the ballot boxes were found in 14,2% of fraudulent precincts, indicating a disregard for the integrity of the electoral process. Similarly, issues concerning electoral lists were observed in 33,9% of fraudulent precincts, raising concerns about the accuracy and fairness of voter registration. Furthermore, irregularities during the vote count were documented in 11,2% of fraudulent precincts. It is noteworthy that these various irregularities were often found to coexist with one another at the same polling stations. This correlation strengthens the case for deliberate manipulation and suggests a systemic effort to undermine the integrity of the electoral process.

The widespread presence of these fraudulent patterns and their interconnections highlight the alarming state of the elections in 2021. While certain methods of falsification were more

frequently observed, it is important to recognize that no single method overwhelmingly dominates the landscape of electoral fraud. Instead, what emerges from the analysis is a conclusion that a wide menu of falsification techniques was employed throughout St. Petersburg, making their detection, monitoring, and prevention significantly more challenging.

4.4 Influence of KOIBs on electoral fraud in the 2021 election

The analysis of violations in 2021 reveals that 89 precincts equipped with KOIB experienced different manipulations. This account for approximately 25% of the total number of polling stations with this technology. Table 7 provides a breakdown of the types of violations and fraud that occurred at these precincts. Similar to traditional polling stations, carousel voting emerges as one of the predominant methods of fraud in precincts utilizing KOIB. Additionally, issues related to voter list manipulation and other violations within these lists indicate a distinct pattern of fraud employed to circumvent the KOIB system. As previously mentioned, KOIB does not authenticate individual voters, enabling commission members to tamper with the lists and add the necessary signatures. Consequently, falsified ballots can be discreetly uploaded into the KOIB system without detection.

Home voting deserves special attention. The collected data indicates problems at 28 polling stations. Considering that 53 such violations have been registered throughout the city, half of these violations occur in areas with KOIB. This aligns with the theoretical expectations outlined in Chapter 2. Since home voting takes place outside the precinct, KOIB is unable to prevent ballot stuffing during this time. A telling instance occurred at polling station 136, where evidence of ballot stuffing during home voting was found. According to the report of the monitoring group, all ballots from the portable box were discarded. However, after the end of the voting, the commission members uploaded these discarded ballots into the KOIB system, resulting in their inclusion in the final vote count (2021).

Type of irregularities	Polling station
Carousels	104, 110, 112, 114, 115, 117, 119, 120, 122, 126, 130,
	133, 134, 139, 146, 147, 152, 161, 166, 170, 830, 1064,
	1717
Voter lists irregularities	119, 127, 133, 148, 168, 180, 183 , 833, 864, 849 , 958,
	1026, 1066, 1081, 1699
Observers were denied access to	104, 113, 120, 122, 124, 125, 126, 136, 139, 145, 147,
voter books	167, 181, 183 , 827, 849
Rewritten protocol	104, 112, 115, 949
Observers did not receive copies	135, 144, 1203, 1708
of the protocols	
Home voting	119, 120, 123, 124, 127, 130, 133, 134, 136, 137, 145,
	146, 170, 177, 180, 832, 834, 835, 839, 853, 854, 858,
	861, 864, 876, 1025, 1043, 1045
Abuse of administrative resources	105, 114, 128, 134, 945, 1045
Problems with web cameras	1045, 1058-1060, 1068, 1182, 1199, 1201, 1214
Not properly sealed KOIBs	123, 133, 134, 137, 832, 835, 856-858, 880, 1066

 Table 7. Irregularities in polling stations with KOIBs.

It is important to highlight that the remaining 75% of polling stations equipped with KOIBs did not encounter any problems. This suggests the overall effectiveness of the technology. The identified patterns of fraud further support the notion that the technology is working properly, as commission members are trying to find ways to bypass it. This is achieved through two mechanisms: either the menu of manipulations at the precinct changes towards methods that cannot be detected through KOIB, or falsifications are transferred to other polling stations. The conducted analysis reveals a significant volume of fraud in St. Petersburg. This implies that the KOIB system can reduce falsifications at specific precincts, but it does not directly impact the overall magnitude of fraud across the city. The shift in fraudulent activities away from KOIB- equipped precincts signifies an adaptive response by those seeking to manipulate the electoral process, indicating the need for continuous improvement and updates to the technology.

These findings emphasize the complex nature of electoral fraud and the ongoing cat-and-mouse game between fraudulent actors and the election monitoring systems in place. While KOIB has shown effectiveness in preventing certain types of fraud, it is imperative to recognize that people who commit fraud can adjust their tactics to exploit vulnerabilities or find alternative avenues for manipulation. The lack of voter authentication and the potential for manipulation of voter lists highlight the need for enhanced safeguards and robust measures to ensure the integrity of the voting process. Efforts should be directed towards strengthening security protocols, improving transparency and accountability in the handling of ballots, and developing mechanisms to authenticate voters during all stages of the election, including home voting.

Conclusion

In conclusion, this thesis aimed to examine the utilization of technologies in authoritarian elections, with a specific focus in Russia, and explore the impact of digitalization of electoral fraud. Despite the limitations of case study method, this research provided a fresh perspective on electoral fraud and its underlying mechanisms.

Through an analysis of the prevailing literature, empirical studies, and case studies, several key findings have emerged. First, electoral fraud continues to be a significant issue in the Russian electoral system. The combination of historical patterns, the strategic balance between democratic institutions and strong autocratic tendencies, and the existing legal framework have created an environment susceptible to manipulations. The COVID-19 pandemic further worsened the quality of the elections, enabling the government, under the guise of caring for citizens' health, to introduce new reforms that complicated the work of observers and election commissions, and thereby opened up new opportunities for fraud. Examples include multi-day voting, the use of safe packages for storing ballots at night, and the creation of additional reasons for home voting, which are not adequately controlled by fraud-reducing technologies.

Second, digital technologies have played a complex role in shaping the landscape of electoral fraud in Russia. While the adoption of fraud-reducing technologies in the electoral process has the potential to improve efficiency and transparency, it has also introduced new challenges. The utilization of technologies such as KOIBs has demonstrated some success in mitigating certain types of falsifications. In line with the previous research, precincts with KOIBs have less irregularities and, therefore, fairer elections. However, this technology is not a panacea. They reduce the risk of manipulation inside the precinct, but is absolutely ineffective if falsifications occur outside it. Moreover, KOIBs are used only on a small percentage of the total number of

precincts, so falsifiers can simply transfer their efforts to polling stations with traditional ballot boxes.

The findings of this thesis underscore the significance of studying electoral fraud not solely by quantitative methods but also through in-depth qualitative analysis. While statistics are effective in determining correlations and the total number of falsified votes, without a deeper understanding of what happens at the polling stations, it is impossible to understand how fraud operates and identify areas for improvement. Future research should combine both quantitative and qualitative approaches to gain a comprehensive understanding of authoritarian elections and enhance the effectiveness of counter-fraud measures. Therefore, the completion of this thesis is not the end of the study but rather a starting point for further research and efforts towards creating robust electoral systems that truly reflect the will of the people and ensure the integrity of the democratic process.

Appendix A

Irregularities related to ballot stuffing

An additional indicator that suggests possible stuffing is the presence of problems related to the sealing of the ballot box, as well as the storage of ballots and documentation. While these violations could potentially be attributed to the human factor or improper work of the commission members, their significance increases when coupled with other observed irregularities and falsifications at the precinct.

Several specific irregularities were identified in the data (see Table 8), each of which carries its implications regarding potential fraud. First, instead of using safes, election commissions utilized stationery cabinets. This happened either because the commission didn't have a safe or it was too small to accommodate all the ballots. The use of inappropriate storage facilities or inadequate space may have created opportunities for unauthorized access to the ballots and manipulation of their contents. This conclusion is confirmed by reports from several polling stations where the final figures did not converge during the vote count, or observers found notes in the books that appeared overnight. Second, numbered seals on the voting boxes without the presence of observers were absent or replaced at 7,3% of fraudulent polling stations. Numbered seals serve as a safeguard to ensure the integrity of the ballot box. If these seals are missing or have been tampered with, it becomes difficult to establish whether the ballots have been tampered with or replaced. Such incidents increase the risk of unauthorized individuals gaining access to the ballot box and potentially introducing fraudulent ballots without detection. Other irregularities included the absence of indicator tape on the safe packages and the presence of safes with unscrewing bottoms. When these irregularities are observed alongside other violations and falsifications, their significance is heightened. They serve as potential indicators of fraudulent activities, suggesting a deliberate attempt to manipulate the election process.

Table 8. Recorded irregularities with ballot boxes and storage

Type of irregularities	Polling stations
The ballot box/KOIB is not sealed or is poorly	123, 133, 134, 137, 435, 469, 577, 578, 636,
sealed (also includes cases when the seal was	758, 761, 769, 832, 835, 856, 857, 858, 880,
changed in the absence of observers)	1066, 1241, 1332, 1429, 1563, 1615, 2052-
	2054, 2082, 2087-2089, 2094, 2096-2098,
	2117, 2169, 2250
Lack of proper storage of ballots (safe, safe	18, 53, 305, 306, 309, 475, 538, 542, 619-622,
package, building)	630, 636, 799, 811, 1138, 1282, 1289, 1321,
	1349, 1354, 1390, 1397, 1787, 1628, 1656,
	1657, 1795, 1804, 1805, 1898, 1986, 2135-
	2137, 2172, 2234, 2243

Irregularities related to voter books

Lack of stitching and numbering

Improper preparation of voter books emerged as another notable violation that observers have identified, potentially indicating fraud. The collected data reveals that the most common complaint raised by observers pertained to unstitched and unnumbered lists.

According to Russian legislation, the territorial election commission is responsible for providing voter lists to polling stations, which are then required to verify their accuracy and make necessary exclusions or inclusions of voters who want to cast their votes at that particular location ("Algorithms for the PEC course" 2021, 5). The day before the start of voting, the list of voters is signed by the precinct chairman and the secretary, and authenticated with the precinct seal. Next, the list is stitched into one or more voter books that the commission members will utilize throughout the election process. Each book must have a title page with the book's serial number, a sequential numbering of lines, and the seal of the chairman and the precinct commission. Furthermore, the sheets within the book are stitched together so that they

cannot be replaced or manipulated ("Algorithms for the PEC course" 2021, 19). This meticulous procedure emphasizes the significance of properly prepared and secured voter books.

In 2021, at least 8,2% of fraudulent polling stations encountered problems with stitching and numbering in the voter books, as indicated in Table 6. Similarly, to the previous category of irregularities, approximately half of the reports concerning problems with the books were accompanied by some other types of falsifications. Instances of loose sheets falling out from the books, the absence of consecutive numbering, and the commission's refusal to correct these violations serve as potential indicators of impending falsification.

Absence of marks about the day of voting and home voting

Another pattern of manipulation observed during the election was the missing of necessary marks. This type of fraud involves the deliberate omission of marks indicating the day on which a voter cast their ballot or the absence of marks for home voting. The three-day voting period allowed citizens to independently choose the day on which they would come to the polling station. For members of the commissions, however, this meant a mandatory record in the lists on which day each person voted. This recording is crucial to ensure that the number of ballots and signatures for each day is aligned during the vote count. Similarly, home voting also requires entries in the book.

When a group visits a voter's home to facilitate their voting, the appropriate marks should be made in their designated lines in the book. This practice is necessary to prevent multiple voting, where an individual could vote both at home and at the polling station. The absence of these marks may indicate two scenarios: the members of the commission are either negligent in their work, or deliberately falsify the lists. To refine the analysis, I excluded from the final dataset precincts where the only issue reported was the absence of marks in the books. Instead, I focused on cases where these reports were accompanied by other documented violations. Based on the collected data in Table 9, we can identify 10 precincts where this violation appears to probably have been deliberately carried out to distort the election results.

Pencil marks and other prohibited notes

The presence of unauthorized notes or marks in voter books raises significant concerns about potential falsifications and fraudulent activities during the election process. In general, commission members do not require additional notes when working with the voter books, as the voters are listed according to their place of residence and in alphabetical order. Therefore, any notes or marks in the books automatically give rise to suspicions of potential manipulation. Furthermore, the presence of stickers or other identification marks on the books introduces the possibility of unauthorized individuals, such as potential forgers, identifying the specific commission members involved.

According to the data compiled in Table 6, a total of 13 cases of illegal marks in voter books were recorded in 2021. This indicates that this type of irregularity was not isolated and occurred in multiple polling stations. The presence of these illegal marks and annotations is a clear violation of election protocols and raises serious doubts about the accuracy and legitimacy of the recorded voter information. The response of commission members to remarks about erasing pencil notes is also concerning. In half of the cases documented, commission members reacted with hostility and displayed aggressive behavior ("ID64617" 2021). Such reactions suggest an attempt to resist or conceal potential irregularities, further undermining the credibility of the election process.

Table 9. Polling stations with voter books irregularities

Type of irregularities	Polling stations
Lack of stitching and numbering	119, 127, 168, 183, 349, 352, 425, 461, 553, 575, 777,
	864, 1066, 1081, 1138, 1162, 1263, 1288, 1309, 1335,
	1651, 1657 , 1699, 1702, 1794, 1805, 1810, 1946,
	2052-2054, 2075, 2087, 2089, 2096-2098, 2114, 2128,
	2169, 2193, 2197, 2311
Absence of marks about the day of	6, 237, 302, 306, 309, 345, 357, 1555, 2258, 2269
voting and home voting	
Pencil marks and other prohibited	125, 168, 349, 454, 506, 849, 958, 964, 1026, 1377,
notes	1645, 165 7, 2252

Irregularities during the vote count

The process of counting ballots in 2021 was marked by its complexity due to the presence of multiple types of ballots at each polling station, as mentioned earlier in this chapter. This meant that the commission members first had to sort them out, and then consistently count the results for each type of election. Table 10 presents the most common irregularities that occurred during the vote count in 2021.

The first two types of irregularities pertain to the order of counting. Firstly, for the transparency of the process, the ballots must be counted separately, displayed to everyone present, and placed in a separate pile. This method ensures the integrity of the process and prevents electoral fraud. However, the data collected in Table 10 indicates that in 12 polling stations, this procedure was not followed. Instead, ballots were counted by the "corner", without being raised or accurately demonstrated. Consequently, it was impossible to verify the accuracy of the count, and had to rely solely on the person who conducted it. Secondly, the law stipulates a specific sequence of actions during the counting of ballots, which organizes the process and minimizes the possibility of last-minute fraud. However, this prescribed process was not observed in 23

polling stations. According to observers' reports, commission members counted the ballots simultaneously, started working with the books until the unused ballots were redeemed, and deliberately created a chaos at the polling station to impede observers from accurately recording the results.

The following three types of falsifications, as presented in Table 10, can be combined with a common objective of creating unfavorable conditions for observation. At 11 polling stations, observers were not allowed to observe the counting of votes, or they were moved to such a distance that it was impossible to see the marks on the ballots. At five polling stations, observers were not provided with protocols documenting the vote results, thereby preventing them from verifying the accuracy of the figures reported on the official website. Additionally, at five precincts, the counting process was deliberately delayed and could reach up to 27 hours. Since observers are not permitted to leave the polling station during the counting process, they were compelled to spend an extensive amount of time on-site, adversely affecting their mental and physical capacity to monitor the accuracy of the count.

The last two types of manipulations outlined in Table 10 were less widespread but highly significant, warranting inclusion in this analysis. In seven polling stations, commission members did not complete the counting process or finalize the protocol, hastily leaving the polling station. Observers referred to these instances as the "escape" of commission members. In five polling stations, the commissions did not leave the polling station but secluded themselves in separate offices along with documentation and ballots. In both cases, the ballots and documents were left unattended by observers or web cameras, making it impossible to determine what manipulations were carried out.

 Table 10. Irregularities during the vote count

Type of irregularities	Polling stations
Counting without shifting ballots	6, 50, 356, 1130, 1515, 1528, 1642, 1731, 1810,
	1874, 1879 , 2189
Violation of the counting sequence	6 , 50 , 201, 228, 232, 272, 306, 345, 367, 590, 949,
	1130 , 1280, 1327, 1332, 1375, 1528 , 1722, 1761,
	1812, 1923, 2036, 2130
Non-admission of observers to the counting	394, 424 , 449, 461, 496, 601, 1607, 1813, 1879 ,
control	1885, 2199
The observers were not given copies of the	135, 144, 1203, 1479, 1708
protocols	
Protracted counting	28, 576, 2237, 2311, 2312
The commission did not finish the protocol	1088, 1320-1322, 1333, 1347, 1348
and ran away	
Members of the commission closed in the	424 , 1626, 1642 , 1868, 2224
office with documents	

Other irregularities

Another significant pattern of falsifications was discovered regarding the safety of ballots and documentation at night. On the nights of September 17-18 and September 18-19, unauthorized individuals were observed at several polling stations, engaging in activities in which they should not have been involved. A total of 28 cases of nighttime activity at polling stations were recorded.⁶ These incidents involved unknown individuals or members of election commissions who accessed the polling stations during the night to handle documents, manipulate ballot boxes, and open safes.

While the two cases stand out from the rest, they share a similar context and have been included within this group of falsifications. In one instance, a member of the territorial election

⁶ Precincts 16, 88, 284-287, 294, 394, 444, 474, 490-492, 614, 615, 626, 757, 808, 809, 1088, 1115, 1116, 1189, 1662, 1803, 1995, 2190, 2220.

commission arrived at precincts 614 and 615 at about 10 PM on September 19 ("All documentation has been removed from precincts 614 and 615 of the Kirovsky district" 2021). This individual proceeded to take all the documentation from the polling stations and left. Although the documentation was eventually returned to the polling stations, it remains impossible to ascertain the exact actions taken by the territorial election commission member concerning the voter lists and other crucial documentation. In another concerning incident, the chairperson of polling station 2190 was found to have accessed the safe containing ballots and documentation early in the morning on September 19, even before the arrival of other commission members and observers (*fontanka.ru* 2021). These cases of nighttime activity at polling stations raise serious doubts about the integrity and security of the electoral process in the respective polling station. The unauthorized presence of individuals, tampering with documentation, and unauthorized access to ballot safes, especially without observation, present yet another way to change the electoral results in favor of a particular party.

In addition to the previously mentioned violations, there are two more types of irregularities, which, although not directly related to the electoral process, were reported by observers as actively exploited by the election commissions. First, a traditional situation in St. Petersburg is the exertion of pressure on observers and the use of physically imposing individuals to disrupt the control of the counting process or engage in ballot theft. In 2021, such cases were recorded at 32 polling stations.⁷ Typically, these people would arrive at the end of the last day of voting and remain present during the vote count. They presented themselves as observers, however, the Observers of St. Petersburg reported that their presence at polling stations was not properly registered and, therefore, illegal. Furthermore, these people would behave aggressively,

⁷ Precincts 88, 133, 293, 303, 332, 333, 340, 346, 359, 497, 538, 1088, 1130, 1306, 1307, 1325, 1352, 1613, 1639, 1642, 1643, 1645, 1649, 1658, 1802, 1810, 1867, 1871, 2049, 2053, 2054, 2193.

threaten observers and members of commissions, and actively interfere with the process of vote count.

Second, an innovation of this election cycle was the so-called mandatory "opening the window for fresh air" in some areas. The chairpersons of 13 precincts⁸ regularly expelled all observers from the polling stations for sanitary treatment of the precinct and cleaning. During this time, a chairperson and several commission members would typically remain in the room. A slightly different tactic, but with a similar result, was used in polling stations 1190, 1991, and 1993. There were found notes with a message about mining, after which everyone was temporarily removed from the building ("How the first election day-2021 was held in St. Petersburg" 2021). The absence of observers during this time creates a potential loophole for unauthorized actions, such as tampering with ballots or altering protocols, which can significantly impact the accuracy and validity of the election results.

⁸ Precincts 61, 122, 133, 336, 349, 370, 371, 375, 376, 394, 1377, 1379, 1697

Appendix **B**

Distric	TE	Precinc	Commission	Home	United Russia	KOI
t	С	t	Ballots	Ballots	result	В
211	24	1545	707	210	356	0
211	24	1550	554	225	313	0
211	24	1551	779	151	452	0
211	30	2240	1292	186	465	0
211	49	1492	1238	139	814	0
211	5	1508	325	279	493	0
211	5	2342	669	348	517	0
211	51	1538	1084	115	409	0
211	51	1540	290	314	350	0
211	53	1595	1070	103	778	0
211	64	2265	507	160	235	0
212	46	1172	204	194	283	0
212	8	1692	135	178	179	0
213	10	221	516	115	294	0
213	10	222	777	102	315	0
213	10	223	524	180	355	0
213	10	224	563	199	374	0
213	10	225	747	213	429	0
213	10	226	703	170	407	0
213	10	234	618	108	305	0
213	10	235	737	177	396	0
213	10	237	663	110	300	0
213	10	243	770	130	562	0
213	10	244	758	104	350	0
213	14	295	487	131	260	0
213	14	308	1037	190	399	0
213	14	309	881	101	394	0
213	17	2286	453	500	703	0
213	22	332	687	176	170	0
213	22	341	672	192	349	0
213	22	343	2710	600	1871	0
213	22	344	752	151	378	0
213	22	345	609	100	247	0
213	22	346	615	147	300	0
213	22	349	634	169	271	0
213	22	350	973	170	355	0
213	22	352	542	163	301	0
213	22	353	481	126	228	0
213	22	355	627	139	176	0
213	22	356	753	146	221	0

 Table 11. Polling stations with suspicious number of home ballots.

213	22	357	726	139	281	0
213	22	358	714	173	312	0
213	22	366	463	118	124	0
213	34	201	603	102	365	0
213	34	205	682	243	446	0
213	34	206	659	205	415	0
213	34	207	492	137	287	0
213	34	208	906	103	293	0
213	34	209	650	130	220	0
213	34	214	786	245	496	0
213	34	217	794	233	480	0
213	34	220	704	123	362	0
213	35	253	802	228	447	0
213	35	254	602	173	359	0
213	35	256	924	257	516	0
213	35	257	493	152	283	0
213	35	258	883	249	511	0
213	35	259	917	339	743	0
213	35	260	393	124	251	0
213	35	261	726	237	349	0
213	35	263	823	245	485	0
213	35	267	462	135	283	0
213	35	268	901	160	390	0
213	35	269	495	149	148	0
213	35	271	624	209	522	0
213	35	272	732	150	387	0
213	35	273	828	245	360	0
213	35	274	727	108	340	0
213	35	278	635	124	310	0
213	35	279	774	136	348	0
213	35	281	456	155	283	0
213	35	282	869	195	433	0
213	35	283	889	263	402	0
213	35	284	606	126	228	0
213	35	285	768	166	385	0
213	35	286	486	138	256	0
213	35	287	613	233	379	0
213	35	288	544	243	213	0
213	36	388	817	128	359	0
213	36	396	888	142	400	0
213	36	400	431	104	208	0
214	25	987	415	152	289	0
214	25	988	731	184	337	0
214	25	989	476	130	239	0
214	25	1018	728	101	375	0
214	4	903	821	105	344	0

214	4	905	964	359	490	0
214	4	963	609	144	267	0
214	45	1028	433	111	234	1
214	45	1036	670	139	334	1
214	45	1041	941	104	416	1
214	45	1042	837	161	414	1
214	45	1043	641	151	340	1
214	45	1046	1048	164	530	1
215	13	1256	416	127	146	0
215	13	1257	537	161	239	0
215	13	1268	243	297	397	0
215	13	1272	146	345	371	0
215	15	1221	804	131	498	1
215	15	1231	736	102	381	1
215	56	1941	133	162	119	0
215	56	1947	285	322	261	0
215	56	1948	178	124	131	0
215	57	1916	747	122	381	0
215	58	1820	923	138	610	0
215	9	1800	1067	105	657	0
216	1	15	663	153	275	0
216	1	28	423	275	285	0
216	1	31	1110	658	600	0
216	1	32	922	203	485	0
216	18	1665	60	106	100	0
216	2	159	606	139	351	1
216	2	161	655	132	346	1
216	2	170	892	209	439	1
216	2	177	721	247	410	1
216	32	132	812	189	376	1
216	32	133	844	173	359	1
216	32	137	537	115	286	1
216	32	140	632	114	235	1
216	32	145	823	171	348	1
216	32	148	984	133	412	1
216	32	150	657	166	359	1
216	32	153	814	233	478	1
216	33	116	732	356	533	1
216	33	118	1072	204	527	1
216	33	119	709	143	332	1
216	33	120	604	197	358	1
216	33	124	683	246	453	1
217	21	826	803	166	220	1
217	21	861	759	113	310	1
217	21	896	3786	212	2970	0
217	23	2058	777	158	390	0

218	20	1954	956	125	481	0
218	20	1958	582	120	292	0
218	20	1961	1070	192	908	0
218	20	1965	878	122	386	0
218	20	1973	862	163	443	0
218	20	1982	707	134	324	0
218	20	1986	698	119	289	0
218	59	2001	942	118	357	0
218	59	2009	781	206	230	0
218	59	2019	595	138	333	0

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