

# Fraud and Legitimacy: The Economics of Autocratic Elections\*

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## Abstract

Why do autocrats commit seemingly excessive electoral fraud when victory is virtually guaranteed? This paper examines whether an autocratic government can use fraud to improve its perceived legitimacy, especially when it is damaged by unrest or unpopular policies. Through a survey experiment with a representative sample of Russian voters, I demonstrate that reported election outcomes can influence voters' perceptions: information about high (low) turnout increases (decreases) trust in the government. Next, analyzing data from Russian legislative elections, I identify electoral manipulations via the excess integer values method and hypothesize that legitimacy concerns can explain their spatial distribution. Utilizing a novel dataset on the 2018 anti-pension reform protests, I provide evidence suggesting that protests informed fraud allocation: places with higher protest participation saw an increase in electoral fraud in subsequent legislative elections.

**Keywords:** autocracy, legitimacy, electoral fraud, voter turnout, protest, survey experiment

**JEL Codes:** C93, D72, P00

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*We will no longer tolerate criticism  
of our democracy... Our democracy  
is the best.*

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Dmitry Peskov,  
Kremlin Press Secretary

## 1 Introduction

In recent decades, authoritarian regimes have come to increasingly mimic democracies ([Gurieva and Treisman \(2019\)](#)). Many autocrats not only organize elections but to also allow multiple parties on the ballot and the presence of international observers. While elections are conducted in a seemingly democratic manner, some autocratic governments simultaneously go to great lengths to rig them. This raises a critical question: why bother going through the trouble of holding the election?

Elections are fundamental to democratic governance because they allow the state to derive its power from the people. However, even in competitive authoritarian regimes where elections may not be free and fair, de-jure democratic institutions are widely regarded as the primary means for obtaining political authority ([Levitsky and Way \(2002\)](#)). While authoritarian institutions, particularly the phenomenon of authoritarian elections, have been extensively studied (see reviews by [Gandhi and Lust-Okar \(2009\)](#), [Gehlbach et al. \(2016\)](#), and [Egorov and Sonin \(2020\)](#)), theoretical and empirical evidence on the legitimizing role of institutions like elections in non-democracies remains both scarce ([Dukalskis and Gerschewski \(2017\)](#)) and necessary<sup>1</sup>.

There are alternative ways of gaining political authority. While common in the 20th century, methods of tyranny and violence have become less prevalent ([Treisman and Gurieva \(2023\)](#)). Modern dictatorships seek to gain public approval rather than relying exclusively on intimidation. Leaders like Viktor Orbán in Hungary and Recep Tayyip Erdoğan in Turkey exemplify this trend by fostering support through populist rhetoric and controlled media narratives. This shift has given rise to a new type of authoritarian leader—informational autocrats ([Gurieva and Treisman \(2019\)](#))—who carefully shape their public image. Their main technique is manipulating information to convince both domestic and international audiences of their competence and popularity and tighten the grip on power ([Gurieva and Treisman \(2020\)](#)). Is electoral fraud one of the tactics in an autocrat’s manipulation toolkit?

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<sup>1</sup>The need for such evidence is underscored by the commissioning of a report on the topic for the European Parliament ([Demmelhuber and Youngs \(2023\)](#)).

In this paper, I address these gaps by examining the legitimizing role of elections within a non-democratic setting. Specifically, I investigate whether the generation and reporting of inflated election results can enhance perceptions of government legitimacy. Russia serves as an ideal case study, as it continues to organize elections despite the concentration of power in single hands and without the inherent risk of electoral loss. This context is particularly puzzling because the level of electoral fraud appears to exceed what is needed for a victory. Why would a regime employ excessive manipulation when success is virtually guaranteed?

I hypothesize that one of the primary objectives of electoral fraud is to enhance perceived legitimacy, particularly when it has been undermined by social unrest or unpopular policies. This legitimacy hypothesis is supported through two lines of evidence. To briefly summarize, first, utilizing a survey experiment with a representative sample of the Russian population, I demonstrate that reported election outcomes can significantly influence perceptions of government legitimacy. This finding provides a rationale for autocrats' use of excessive electoral fraud: generating overwhelming victories can increase trust in the government, while delivering "poor" performance can have a reverse effect. Second, I note the key trade-off faced by an autocrat: although fraud can bolster legitimacy, it also incurs costs (related to both implementation and potential damage to the regime's image). To better understand the trade-offs involved in optimal fraud allocation, I investigate the spatial heterogeneity of electoral fraud and, exploiting two waves of anti-government protests, show that regions with higher protest participation received more fraud in subsequent legislative elections. This finding suggests that electoral manipulations in the most recent Federal Duma elections could have been employed strategically in places with the highest benefits, i.e., those where government legitimacy was most threatened by protests.

To guide my analysis, I propose to extend the model of protests as informational cascades developed by [Lohmann \(1994\)](#) and introduce government as a player, who can influence public beliefs via electoral fraud. The key insight of the original model is that in each period individuals decide whether to protest based not only on their private information but also inferring government characteristics from the observed behavior of others. Elections, in this context, can act as another period of political action. By allowing individuals to update their beliefs based on election results, there arises an opportunity of gains from electoral fraud. The government can manipulate public opinion by reporting fraudulent election outcomes, thereby preventing the cascade from unraveling. I expect this framework to deliver the following two testable predictions: turnout induces stronger updating of public beliefs for any given vote share (or, put simply, turnout matters on its own) and that the net benefits of conducting fraud increase with the number of protesters.

Does turnout affect perceptions of government legitimacy? While a positive relationship

between voter turnout and trust in government might be intuitive, the direction of causality is less clear. I designed a survey experiment that creates exogenous variation in election results presented to participants. The survey involved 1,600 participants from Russia, who were asked to assess the legitimacy of a government slated for election the following day based on a hypothetical election outcome. The respondents were randomly assigned to one of five groups: no information, low turnout, high turnout, low turnout combined with a high leading party result, or high turnout combined with a high leading party result. By comparing responses of each treated group to the control, I show that exposure to high voter turnout increases trust in the government, whereas low turnout diminishes it. These results suggest that high turnout enhances legitimacy on its own, and also that should government demonstrate weakness by reporting low turnout in the election, it may negatively impact its image and reduce legitimacy.

Interestingly, not all respondents adjust their perceptions in response to turnout information. In a set of heterogeneity analyses, I show that the primary effects are driven by respondents who expressed a willingness to vote for the ruling party, United Russia. In contrast, opposition supporters exhibit no significant response to any information treatment, with trust levels statistically indistinguishable from those in the control group. This finding aligns with the work of [Ananyev and Poyker \(2022\)](#), which shows that fraud was more prevalent in regions with stronger United Russia support. I further explore this direction and analyze heterogeneity based on respondents' perceptions of electoral fraud: those who view elections as non-transparent display no significant changes in trust in any treatment group. These results shed light on informational manipulation strategies employed by autocrats: given the limited potential to sway opposition members or those who view election results as uninformative, legitimacy-building efforts through displays of high electoral outcomes should be aimed at convincing government supporters.

I turn to the mechanisms driving shifts in legitimacy in response to information about election outcomes. I find that respondents anchor their expectations about future election results to their perceptions of past outcomes, and that presenting them with hypothetical scenarios creates a shock to these expectations. Specifically, a positive shock (when the difference between the respondent's guess about past results and the provided value is greater than zero) leads to increased trust, while a negative shock results in decreased trust. Moreover, the magnitude of the shock intensifies the effect of the information provided—larger shocks elicit stronger responses. This insight is particularly valuable for interpreting the main findings: if information about future election outcomes yields differential impacts based on the size of the shock, autocrats have stronger incentives to ensure higher reported results and greater concerns about disclosing lower outcomes. This suggests that the strategic ma-

nipulation of election results becomes essential not only for immediate legitimacy but also for managing public expectations over time.

After showing that electoral fraud, as a means of achieving elevated results, could be beneficial for an autocrat, I explore the question of fraud allocation. According to the reasoning outlined in the conceptual framework, an autocrat may shape public perceptions by reporting high election results, thereby reducing the risk of protests resulting in regime collapse. I examine whether benefits of fraud indeed outweigh the costs by testing whether manipulations are allocated to places with largest threat to legitimacy, as those with high protest participation. I focus on the two most recent legislative elections in Russia (2016 and 2021) and large country-wide protest waves occurring prior to each election: the anti-corruption protests of 2011-2012 and the anti-pension reform protests of 2018. I investigate whether protests have influenced fraud allocation in both instances. For the latter analysis, I construct a novel dataset of protest participation by scraping websites of regional news outlets and publicly available rally schedules. Given the endogeneity of protests, I employ an instrumental variable strategy.

Identification in the analysis of the anti-pension reform protests relies on the initial demographic composition of regions and the phased implementation of the reform. Each locality exhibited a distinct distribution across gender and age groups prior to the reform introduction. Although the reform was implemented at the federal level and raised the retirement age by five years for most of the population, it was rolled out incrementally, resulting in variation in additional waiting periods for individuals. For instance, men aged 57 in 2018, who were originally set to retire in 2021, faced an additional three-year delay due to the reform, while those aged 59 in 2018 experienced only a half-year extension. A shift-share instrument aggregates resulting disutility of additional waiting years across all age and gender groups within each locality (shift) and weights these impacts by the proportion of each group within the total working-age population (share). The key assumption of this strategy is that the demographic composition of locality is not correlated with the government's ability to manipulate elections. I then instrument protest activity related to the reform. I find a positive relationship between the size of the protests and electoral manipulation in the 2021 Federal Duma elections: regions with higher protest participation saw an increase in electoral fraud compared to the 2016 levels.

The second complementary empirical exercise identifies a similar pattern in an earlier wave of the 2011-2012 anti-government protests. I leverage an existing protest dataset and an instrumental variable from [Enikolopov et al. \(2020\)](#) to examine the effect of protests on electoral fraud in 2016. Using an instrumented causal mediation strategy, I decompose the impact of social media penetration on electoral fraud into two effects: an indirect effect via

protests and a direct effect of social media. The results indicate that V Kontakte penetration primarily influenced electoral fraud through its positive impact on protests. In contrast, the direct effect of social media on fraud was negative.

This paper contributes to the extensive literature on the motivations for holding elections in non-democracies by providing novel empirical evidence on autocratic legitimization through electoral fraud. An autocrat’s main objective is to maintain power, with revolutions posing a primary threat, as power transitions do not occur through elections as in democracies. Early models of democratization suggest that rent-sharing agreements, policy concessions, and institutionalizing certain practices ([Acemoglu and Robinson \(2005\)](#), [Gandhi and Przeworski \(2006, 2007\)](#)) can mitigate these threats from below. Existing research has examined how elections are conducted in authoritarian regimes, including decisions about allowing limited competition ([Gandhi and Przeworski \(2007\)](#), [Egorov and Sonin \(2021\)](#)), permitting freer media ([Egorov et al. \(2009\)](#)), manipulating information ([Edmond \(2013\)](#)), and exploring potential benefits of elections, such as signaling strength to opposition and exerting bureaucratic control ([Gehlbach and Simpson \(2015\)](#)).

In a recent study closely related to this paper, authors have tested the “signaling strength” theory ([Ananyev and Poyker \(2022\)](#)) to explain the spatial fraud allocation in the 2011 Russian elections. Interestingly, authors find evidence contradicting the initial hypothesis: higher levels of manipulation appeared in regions where the regime was already more popular. My findings offer a potential explanation for this outcome and address a noted gap in the literature on the 2011 Russian elections. Specifically, I show that the influence of reported election outcomes is not homogeneous and only affect perceptions of legitimacy among United Russia supporters.

This paper adds to the discussion of role and political organization of electoral fraud. Existing literature has established statistical methods for detecting irregularities ([McCrary \(2008\)](#), [Myagkov et al. \(2009\)](#), [Klimek et al. \(2012\)](#), [Kobak et al. \(2016\)](#), [Rozenas \(2017\)](#)) and has explored strategies for curbing manipulation. In the context of Russian elections, experimental evidence on the effectiveness of assigning observers has produced mixed results ([Enikolopov et al. \(2013\)](#), [Buzin et al. \(2016\)](#)). While the detection and prevention of electoral fraud are well-researched, its aftermath remain less examined. Emerging studies suggest that fraud can affect voter turnout: a laboratory study finds that limited electoral fraud may increase turnout, while widespread fraud reduces it ([Baghdasaryan et al. \(2019\)](#)); similarly, in Mexico, widespread electoral fraud discouraged turnout ([Simpser \(2012\)](#)). Related work using experimental reduction in electoral misconduct finds that such interventions can improve public perceptions of the government, including views on democratic legitimacy in Afghanistan ([Berman et al. \(2019\)](#)).

Conducting electoral fraud involves carefully weighing trade-offs, as it comes with both benefits and costs. Previous theoretical studies shed light on the political organization of fraud and highlight its imperfections, including unintended consequences like over- or under-supply due to conflicts of interest between incumbents and local agents ([Rundlett and Svolik \(2016\)](#)), or discouraging incumbent supporters’ participation while boosting turnout among challenger supporters ([Vorobyev \(2016\)](#)). These insights inform autocratic decision-making on fraud, the constraints autocrats face are not fully understood. Although this paper does not directly address the effects of electoral fraud, it explores a potential mechanism of autocratic legitimation: specifically, how high election results might improve public perceptions in response to protests and perceived threats to the regime.

I provide empirical evidence on autocratic legitimation, focusing specifically on trust in government, a relatively underexplored area in autocratic contexts. One view posits that well-functioning democracies rely on skepticism and accountability rather than trust ([Cleary and Stokes \(2006\)](#)). While trust can have positive effects—a recent study in an electoral autocracy found that trust in government correlated with higher compliance with COVID-19 restrictions ([Blair et al. \(2022\)](#))—the question remains whether trust serves as a stabilizing tool for autocrats. This paper suggests that autocracies may indeed seek to enhance trust to mitigate potential negative effects from protests.

By emphasizing that turnout holds particular importance for an autocrat, this paper also contributes to the literature on voter turnout. Various explanations for the voter turnout paradox have been proposed, from incorporating uncertainty into theoretical models ([Palfrey and Rosenthal \(1985\)](#)) to exploring non-pivotal motivations like ethical voting and civic duty ([Ali and Lin \(2013\)](#)). Recent studies highlight determinants such as electoral competition ([Levine and Palfrey \(2007\)](#)) and the closeness of elections ([Gerber et al. \(2020\)](#)), as well as social influences like the fear of peer punishment ([Levine and Mattozzi \(2020\)](#)) and “because others will ask” ([Dellavigna et al. \(2017\)](#)). Rather than examining these determinants, this paper shifts focus to the consequences of reported turnout, asking specifically: do voters consider participation levels when assessing government legitimacy? Survey experiments in established democracies suggest that citizens care whether a policy reflects majority preference, even if it diverges from their own views ([Wrátil and Wäckerle \(2023\)](#)). A closely related study from Norway finds that referendum legitimacy is conditional on both turnout and majority size, with experimental testing of hypothetical outcomes showing effects on perceived legitimacy ([Arnesen et al. \(2019\)](#)). Whether these dynamics hold in an autocratic setting remains an open question, which this paper seeks to address.

The rest of the paper is organized as follows: Section 2 offers a conceptual framework to guide subsequent analysis, Section 3 provides the context on Russian elections, Section 4



details the survey results, Section 5 demonstrates two empirical exercises linking protests to fraud allocation, and Section 6 concludes.

## 2 Conceptual framework

Why might an autocrat care about legitimacy? In words of Robert A. Dahl, “so long as the water [legitimacy] is at a given level, political stability is maintained”. On the contrary, if government’s authority is undermined by unrest and public dissatisfaction with policies, the regime survival is at question. Hence, one reason for caring about legitimacy can be to avoid regime collapse.

To guide my analysis, I adopt the [Lohmann \(1994\)](#) model of mass protests as information cascades and propose to introduce elections as an additional period of political action. As in other political action periods, citizens choose to participate or abstain in elections and learn about incumbent’s quality from the participation of others. In the periods following elections, citizens can choose to protest. In the first political action period, they update beliefs about the incumbent’s quality using election results in the same manner as they do with protests. Because election results are informative, gains arise from conducting electoral fraud. An autocrat, as a new player, chooses the extent of electoral fraud prior to political action periods. If vote share is sufficiently high, incumbent wins the election and stays in power. However, regime collapse might still happen due to the informational cascade. By conducting electoral fraud and demonstrating high electoral results, the government can manipulate public beliefs, thereby preventing the cascade from unraveling. In this simple framework, I assume citizens cannot observe fraud.

Another feature will include interplay between the election outcomes: vote share reveals information about government’s quality through the level of public disapproval (posterior probability of receiving a signal of poor government quality), and turnout indicates the strength of that signal. Naturally, if vote share is 100% but turnout is 10%, the result doesn’t seem that informative, while vote share of 10% with 100% turnout is more telling about country-wide support of the government or absence of thereof. I expect the model to yield the following testable prediction:

**Prediction 1** *For any given vote share, higher turnout induces stronger updating.*

Because threat to the regime comes from the protests, an autocrat wants to ensure that they don’t lead to collapse and employs electoral fraud. Protests can affect the allocation of electoral fraud both negatively and positively. An autocrat may choose to allocate less fraud to protest-intensive cities due to the high costs associated with implementing fraud, as



civically active populations are more likely to detect fraudulent activities. However, in cities with a highest incidence of protests, benefits of conducting fraud are also highest, because an autocrat might prevent the loss of support from citizens who observe the protest and may subsequently alter their opinions (cascade formation). The benefits of allocating fraud rise once the number of protesters surpasses a certain threshold, rendering the level of unrest sufficiently intimidating for the autocrat. Therefore, I expect the second testable prediction to be:

**Prediction 2** *Within a certain interval, the net benefits of electoral fraud are positive and increase with the number of protesters.*

## 3 Context

### 3.1 Elections

Russian legislative elections are held at three distinct levels: municipal, regional, and federal. This paper focuses on elections to the Russian Federal Duma, as it is the legislative body responsible for enacting key national laws, such as those pertaining to taxes and conscription.

The term length for Federal Duma members is set at five years. The 2007 and 2011 Russian legislative elections used a full party-list proportional representation system. Starting in 2016, the Duma adopted a mixed-member electoral system, where half of the 450 seats are filled through party lists, and the other half by single-member constituency winners, who can be independents or represent a party. On the United Election Day in September, voters cast two ballots to elect Duma members: one for a party and one for a candidate. If gubernatorial, regional or local parliamentary elections are also held on this day, voters receive additional ballots. A 5% threshold exists for a party to gain entry into the Duma. This paper focuses on votes cast through the proportional system, as these votes carry equal weight across the country, with mandates allocated in proportion to each party's total share of national votes. Thus, there are no direct gains in terms of winning by allocating fraudulent votes to specific regions.

In 2021, just by looking at the ballot, one might be surprised to learn that this is an autocratic country: 14 parties were competing. Moreover, that year for the first time since 1999, a five-party Federal Duma was formed. There was a significant imbalance, however, in the number of seats each party occupied. The ruling party United Russia has held a majority since 2007, running virtually unopposed, with no other party able to challenge its dominance. Starting in 2016, United Russia holds a supermajority, occupying 72 percent of the seats—a position that grants it the power to make constitutional changes. This situation

presents a puzzling case study: despite near guaranteed victory, United Russia engages in electoral fraud that goes beyond simply securing a win.

## 3.2 Fraud

Electoral fraud can take many forms, occurring both before voting day—through tactics such as intimidation of opposition candidates—and on the day itself, with ballot tampering and coerced voting of state employees. In this paper, I focus on election-day manipulations specifically related to vote counting and reporting at the precinct level, often conducted by electoral committee members who organize the elections and maintain vote tally sheets<sup>2</sup>. Information from these sheets is then published on the official Central Election Commission website, making the data publicly accessible. Details on the data are provided in Section 5.1.

With public access to data and a large number of observations<sup>3</sup>, researchers have identified statistical anomalies in Russian elections, with signs of irregularities dating back to 2007 (Kobak et al. (2016)). Figure 1 shows a pattern often cited as visual evidence of manipulation, featuring a distribution with bunching at round percentages—commonly referred to as the “Churov saw”—and a pronounced tail, known as “two-humped Russia.” The distribution of United Russia’s vote share also exhibits these characteristics (Figure A1). Notably, the 2011-2012 protests were sparked by widespread manipulations highlighted in such graphs, which became symbols of these protests<sup>4</sup>. Such patterns are uncommon in democratic countries.

A bimodal distribution, in itself, is not necessarily a direct sign of fraud; for example, two distinct types of regions might vote differently, producing two separate normal distributions around different means that, when combined, create a two-humped figure. I further decompose the distribution and provide suggestive evidence that these irregularities systematically benefit United Russia. To do this, I divide precincts into those where United Russia received a majority of votes (“won”) and those where it did not (“lost”). I find that, although precinct-level results are not inherently important, this split reveals a fat tail and more pronounced bunching in the group where United Russia “won” (Figure 2). For the second-largest party, Communist Party, this pattern is reversed: the fat right tail and bunching appear in precincts where the party received fewer votes (Figure A2).

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<sup>2</sup>Golos, a Russian election monitor NGO, has recorded incidents of this type. For instance, their [Falsifications Map](#) (in Russian) includes self-reported messages from the 2024 presidential election, where some voters reported casting votes for one candidate but later found zero votes for that candidate at their precinct, suggesting votes were miscounted.

<sup>3</sup>Each federal-level election held since 2003 has involved over 95,000 precincts.

<sup>4</sup>A [photo](#) from a 2011 protest in Moscow shows a participant holding a banner, stating “We don’t trust Churov! We trust Gauss!”

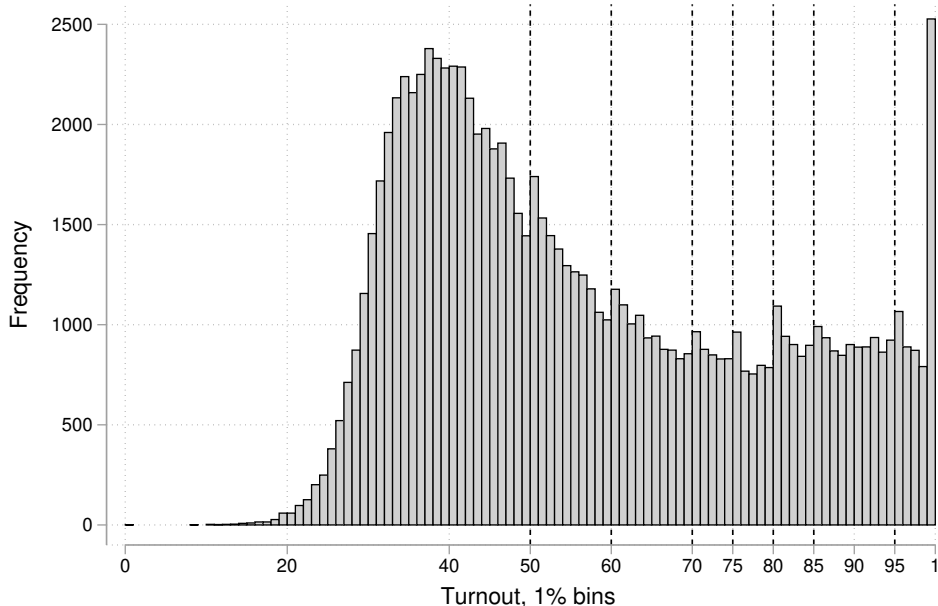


Figure 1: Histogram of Turnout

Note: This plot shows distribution of turnout in the 2021 Federal Duma elections. Unit of observation is a precinct. Each bar represents the number of precincts with turnout within a 1% bin. The horizontal dashed lines indicate bunching at round percentages (e.g., 60%, 70%).

To quantify these manipulations, I adopt the methodology from [Kobak et al. \(2016\)](#). The approach is based on the observation that humans are not good at selecting numbers randomly. Consequently, if election results are man-made, the frequency of reported integers and, “pretty” numbers like 60% and 75% specifically, might increase. By analyzing official precinct-level election data, the method simulates values of turnout and vote share to determine how often an integer value would naturally occur, then compares this to the actual data. The excess integer count is calculated as the difference between the observed frequency of integer values and the simulated mean. To assess potential fraud, this excess is compared to one standard deviation. This method is preferred because it better addresses the excessiveness of fraud (such as through “rounding up” values), rather than attempting to quantify its full extent. While other methods may estimate the total number of fraudulent votes, the excess integer method provides a conservative lower bound on manipulations by focusing on patterns that deviate from expected randomness, assuming the true intentions of voters in each precinct. For details on the methodology refer to Appendix B.

Unlike in countries such as the United States, voters in Russia are automatically registered to participate in elections. Therefore, the total number of registered voters at each precinct should accurately reflect the eligible voting population in that locality and is unlikely to be

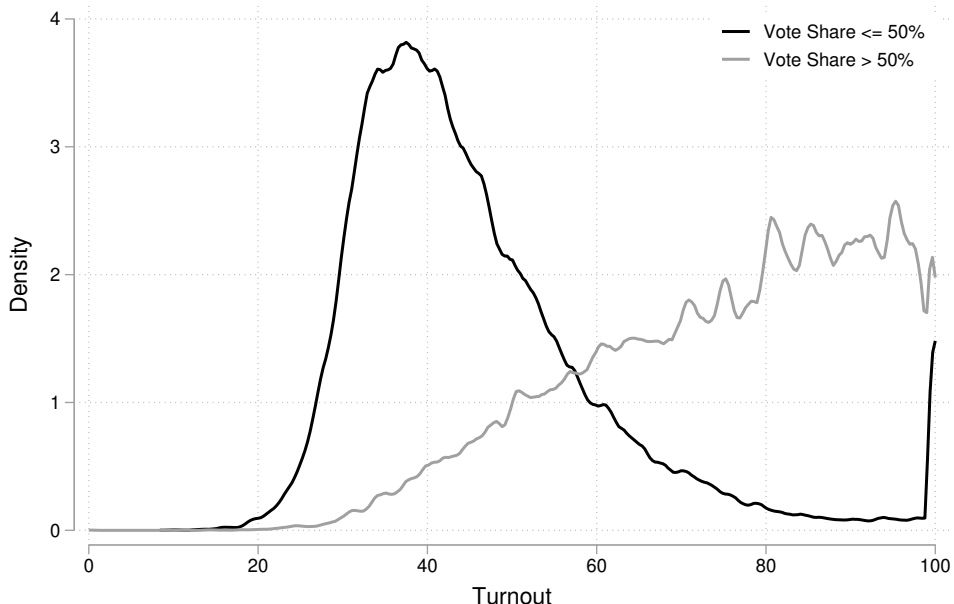


Figure 2: Kernel Density of Turnout by United Russia Result

Note: This plot shows distributions of turnout in the 2021 Federal Duma elections for two types of precincts: where United Russia got less than or exactly 50% of the votes (black solid line,  $N = 57,608$ ) and more than 50% (gray solid line,  $N = 37,807$ ). Unit of observation is a precinct. Kdensity using a bandwidth  $h = 0.005$ .

manipulated. In contrast, figures that could be subject to manipulation include the number of ballots cast (both valid and invalid), which determines turnout (calculated as the share of total ballots cast relative to the number of registered voters), and the number of votes for each party, which translates into the vote shares.

I replicate the authors' calculations of turnout and United Russia vote share manipulations at the national level (2007 and 2011) and add original calculations for the two most recent legislative elections (2016 and 2021). The results are displayed in Figure A3. Beginning in 2016, both turnout and vote share exhibit signs of manipulation, as the observed frequency of integer values for the two variables falls outside the one-standard-deviation range predicted by simulations.

Next, I analyze manipulations at a more granular level by calculating the number of excess integers at each region and constructing the spatial distribution. The resulting maps (Figure A4) illustrate the geographic spread of fraud. In about half of the regions, I cannot reject the null of no turnout-based fraud. For the other half, the extent of turnout-based fraud ranges from 1 to 9 standard deviations. The vote share fraud shows similar patterns, with about 40% of regions exhibiting signs of manipulation. However, these do not perfectly overlap

in terms of incidence and magnitude<sup>5</sup>. Given that fraud incurs costs and the immediate benefits of winning are uniform across regions (in a proportional system), the question arises as to how decisions around fraud allocation were made.

### 3.3 Protests

I study two cases of United Russia ranking dropping by most during its lifespan. First, when it was accused of committing widespread electoral fraud, which caused a series of 2011-2012 protests, the largest in modern Russian history. Second, a very different type of protest and protesters' profile, was concerned with pension reform that was adopted in late 2018. In both cases, the ranking of the government party dropped from over 50 percent to nearly 30 percent over the course of two months<sup>6</sup>.

#### 3.3.1 Anti-corruption protests (2011-2012)

In 2011-2012, Russia saw some of the biggest protests since the 1990s. More than 160,000 people participated in Moscow alone on February 4, 2012. The protests were motivated by claims that the legislative elections in September 2011 were fraudulent. The Central Election Commission of Russia stated that 11.5% of official reports of fraud are true, however, the results were not revised. Protests were suppressed, followed by repression of many opposition leaders.

#### 3.3.2 Anti-pension reform protests (2018)

On June 14, 2018, under the cover of the FIFA World Cup, the Russian government unexpectedly announced a pension reform plan. The reform was endorsed by the government, led by Prime Minister Dmitry Medvedev, and supported by almost all members of the United Russia party<sup>7</sup>. The topic was largely avoided by state media, and nothing indicated that the reform was coming, especially given the absence of commentary from President Vladimir Putin following his re-election in March 2018 and his earlier promises not to raise the retirement age during his presidency<sup>8</sup>.

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<sup>5</sup>The correlation between turnout and the vote share fraud incidence variable is positive but small (0.1183) and not statistically significant. In contrast, the correlation between the continuous measures is moderately strong (0.6522) and significant at the 0.01 level.

<sup>6</sup>From 52 percent in May to 28 percent in August 2018 (Source: [Levada Center](#)) and from 53 percent in November 2011 to 30 percent in December 2012.

<sup>7</sup>In the first reading, all 328 votes in favor of the reform came from United Russia members.

<sup>8</sup>Chronology of these promises is given by the state-owned news agency [TASS](#), including the following examples from Direct Line, an annual televised political event (in Russian): "I am against raising the retirement age. And as long as I am president, such a decision will not be made" (2005), "Are we prepared to suddenly raise the retirement age now? I believe we are not" (2015).

The pension reform quickly became a central issue in Russia. Protests during the 2018 FIFA World Cup games were suppressed for security reasons, leading to accusations that the government was using the event to divert attention from the unpopular reform. According to the polls<sup>9</sup>, 89% of respondents opposed the government’s intention to increase the retirement age for men to 65 years, and 90% opposed raising the retirement age for women to 63 years, with majority of responses begin “strongly negative”.

Beginning in July, protests and demonstrations occurred almost every weekend, and occasionally on weekdays, in major cities across the country. These were organized by opposition parties such as the Communist Party and the Liberal Democratic Party, as well as by unions and individual politicians, including Alexei Navalny. The largest protests took place at the end of July, culminating in a rally on July 28 in Moscow that drew over 10,000 participants. Some protesters carried portraits of United Russia party deputies from their regions who had voted for the reform, calling them a “shame.”<sup>10</sup>.

The initial reform project included a significant increase in the retirement age: for populations with sufficient duration of working activity from 60 to 65 for men and from 55 to 63 for women. On August 29, President Vladimir Putin proposed raising the retirement age for women to 60 instead of 63. It is worth noting that the final retirement age would not allow most of the male population to live until their retirement: as of 2021, the average life expectancy was 64 for men and 75 for women. During the second reading on September 26, the bill was passed with amendments introduced by Putin and the United Russia party, while all proposed amendments from opposition parties and labor unions were rejected.

The reform’s unpopularity significantly impacted local elections in September 2018, leading to a decline in United Russia results. Four regions required a second round of gubernatorial elections with United Russia candidates failing to achieve majority of the votes, and in at least three regional parliamentary elections United Russia placed second to the Communist Party.

## 4 Survey experiment

Can reported election results shape perceptions of government legitimacy? To investigate this question, one could examine legitimacy measures, such as trust in institutions, across countries with varying levels of voter turnout and winner party vote shares. Among OECD countries, there is a clear positive association between turnout and trust in national gov-

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<sup>9</sup>Levada Center study from July 5, 2018 (in Russian).

<sup>10</sup>A [photo](#) of banners displaying portraits of deputies with the caption “a shame from Yaroslav Oblast in the Federal Duma.”

ernments (Figure A5). However, such descriptive comparisons can be problematic for two primary reasons. First, trust in government may be affected by the prevailing economic conditions, with factors like economic growth potentially affecting electoral outcomes—a dynamic referred to as economic voting—thereby introducing potential omitted variable bias. Second, government legitimacy may itself shape election outcomes, creating reverse causality. When institutions are perceived as competent and their internal processes as lawful, procedural legitimacy is established, and, in the case of elections, can encourage greater political participation. Conversely, when procedural legitimacy is compromised, voter participation tends to decline. An example of the latter can be found in Mexico: existence of electoral manipulations before the 1990s electoral reforms was found to discourage true voter turnout (Simpser (2012)).

To address these issues, I conducted a survey with a representative sample of Russian voters. The central feature of this survey was a randomized information treatment, designed to create exogenous variation in knowledge about election outcomes and estimate the causal impact of this information on perceptions of government legitimacy.

## 4.1 Sample and randomization

A total of 1,603 participants completed the full survey. Participants were invited to partake by dialing randomly generated phone numbers<sup>11</sup>. No incentive was offered for survey completion<sup>12</sup>. Eligibility criteria included adults possessing voting rights. To ensure eligibility, respondents were screened for age (over 18 years old) and Russian citizenship. In addition, quotas on federal district, city size, gender, and age cohort, were implemented to insure that the sample is nationally representative<sup>13</sup>.

I assess potential differences in group composition using the following sets of variables: city size, age cohort, gender, party support, news source, education level, financial situation, and employment status<sup>14</sup>. I observe overall balance across the five groups (Appendix Table

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<sup>11</sup>The total number of attempts, including non-existent numbers, non-replies, refusals and incompletes, was 79,518.

<sup>12</sup>According to FOM, incentivized sociological surveys are rarely used in Russia, except in marketing studies (in Russian). The state-owned polling institution VCIOM revealed intentions to avoid adopting payments for participation for as long as possible (in Russian).

<sup>13</sup>Conducting the survey during the summer months poses challenges in recruiting certain population groups, specifically rural residents and older individuals, due to seasonal countryside work. Given the budgetary restrictions on the study duration, quotas were lifted twice after successfully recruiting 1,463 respondents (91% of the sample). First, city size quotas were removed on July 15. Then, the remaining age, gender, and federal district quotas were lifted on July 16. Population weights were calculated to accurately represent the target population. Refer to Appendix Table A1 for a comparison between the study sample and the population.

<sup>14</sup>The latter three questions were asked at the end of the survey, after the information treatment, for the



A2). While only 26 out of 248 differences are significant at the 10% level or less<sup>15</sup>, which could have occurred by pure chance, I will be including an appropriate set of controls in each specification.

## 4.2 Design

The survey questionnaire consisted of three sections and took approximately twelve minutes to complete. The first section addressed socio-demographic characteristics. The second section included questions on various forms of political participation, such as signing petitions and voting. At the end of this section, respondents were asked about their participation in the 2021 Federal Duma elections and whether they recalled the results at both the national (proportional system) and constituency (majoritarian system) levels. To elicit actual political preferences, respondents were presented with a scenario in which elections were scheduled to occur the following day and asked about their willingness to participate and, if yes, which party would they vote for<sup>16</sup>. Subsequently, respondents were exposed to a hypothetical outcome of these election results.

Each respondent was randomly assigned to one of five treatment arms, as displayed in Figure 3: Control (C), Turnout Low (TL), Turnout High (TH), Turnout Low + Result (RL), and Turnout High + Result (RH). The rationale for varying information about turnout and vote shares is to estimate their effects on perceived legitimacy. While including additional treatment arms that provide only leading party result information would allow for estimating separate turnout and vote share effects, doing so would lead to smaller sample size per group and, thus, reduce statistical power. Between including turnout only or result only groups, I chose to prioritize turnout and include the additional effect of results, based on the observed increase in turnout-based fraud in the recent years and resulting need to explain why turnout is of particular interest to an autocrat (Figure A3).

I also aim to test whether engineering overwhelmingly positive election results can en-

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following reasons: (1) plausibly, respondents' education would not be affected by information treatments, and (2) financial situation and employment status might be too sensitive to be asked early in the survey. In doing so, I follow [Stantcheva \(2023\)](#), who suggests that "more sensitive questions should ideally come later in the survey, both because they have the potential to influence subsequent answers strongly and because they may require respondents to build some trust in the quality of your survey first."

<sup>15</sup>Similar to a fraud reporting campaign intervention by [Garbiras-Díaz and Montenegro \(2022\)](#): authors perform stratified randomization at the municipality level and find 16 out of 264 comparisons significant at 10% level or less.

<sup>16</sup>This phrasing is familiar to Russian voters and is also commonly used worldwide. For example, a U.S. poll conducted by The New York Times and Siena College used the following formulation: "If the 2024 presidential election were held today, who would you vote for if the candidates were...?". In Russia, the [Levada Center](#) employs a similar question to construct party rankings: "If Federal Duma elections were to be held next Sunday, would you participate? If yes, which party would you vote for?"

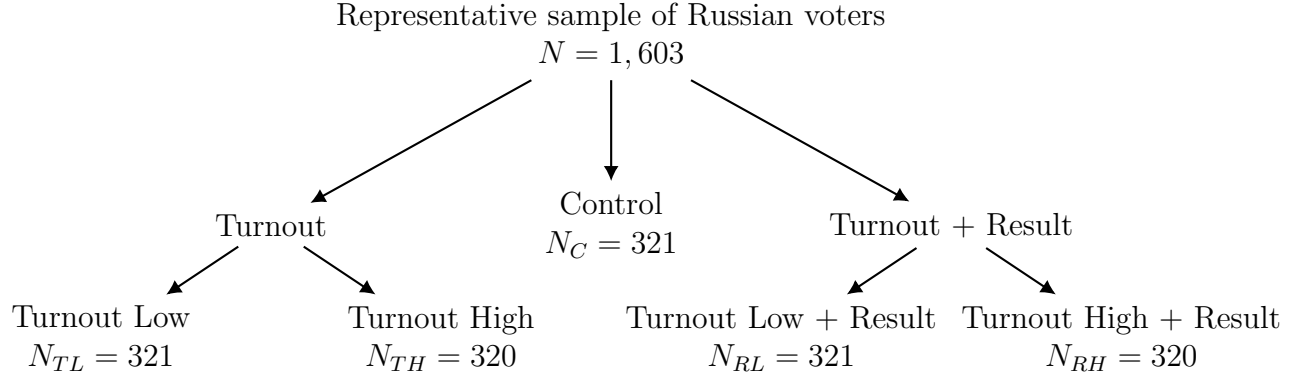


Figure 3: Participant Flowchart

hance perceived legitimacy and, conversely, whether low outcomes can undermine it. This justifies including low and high values as additional margins of comparison. Given power concerns, for the leading party result only high values were presented<sup>17</sup>, whereas turnout varied between low and high. The chosen values had to be sufficiently extreme and distinct from participants' perceptions of actual election results to induce changes in their beliefs. The challenge in selecting appropriate values arises from the fact that Russian voters might be accustomed to seeing larger numbers, especially in light of the presidential elections held earlier that year: both turnout (77.49%) and winner vote share (87.28%) were record high. Additionally, presenting results that are unrealistically low or high might be counterproductive because the hypothetical scenario should still reflect realistic change. To avoid these issues, I selected the values based on the regional distribution of turnout and United Russia vote shares in the 2021 Federal Duma elections: low (high) turnout equals the mean of regional turnouts minus (plus) one standard deviation, and vote share is set at the mean plus three standard deviations. The resulting values for each hypothetical scenario are provided in Table 1.

Using hypotheticals has both drawbacks and advantages, with the primary drawback being the risk of hypothetical bias. An alternative is to present real past election results. However, the Federal Duma holds elections only every five years, requiring respondents to evaluate both the current government (elected in 2021) and the previous one (elected in 2016). Presenting regional or foreign election outcomes may lack relevance. Although hypothetical choices might be systematically biased, they usually strongly correlate with real

<sup>17</sup>Adding low result to the analysis would require including three additional treatment groups, thereby reducing the sample size in each group to 200 respondents. However, I require a minimum of 230 respondents per group to achieve 90% statistical power to detect a 15 percentage point difference with  $\alpha = 0.05$  in responses to the binary response questions such as approval of a second wave of conscription.

Table 1: Information Treatments

Group	Subgroup	Scenario
Control	-	No information
Turnout	Turnout Low	Imagine that according to official data, turnout in these elections was <b>38%</b> .
	Turnout High	Imagine that according to official data, turnout in these elections was <b>66%</b> .
Turnout + Result	Turnout Low + Result	Imagine that according to official data, turnout in these elections was <b>38%</b> and leading party received <b>72%</b> .
	Turnout High + Result	Imagine that according to official data, turnout in these elections was <b>66%</b> and leading party received <b>72%</b> .

choices. Assessing respondents’ attitudes under hypothetical scenarios can thus offer reliable predictions of how they would update their beliefs if presented with actual outcomes. Moreover, future-oriented framing helps explore whether respondents’ expectations are anchored to past elections and how their attitudes toward newly elected governments might evolve. Further discussion on is provided in Section 4.4.3.

### 4.3 Outcomes

To understand what components comprise a government’s legitimate mandate is to answer the question of what grants the authority to govern. The literature highlights several factors: charisma, tradition, legality and procedural fairness, the effectiveness of policy outcomes (output legitimacy), and responsiveness to citizen concerns through participation (input legitimacy), among others. When people do not perceive the government as legitimate, they are less likely to comply with its laws or decisions and may resort to protest. Conversely, when people trust that the government is performing well, they are less likely to oppose even reforms they personally dislike. In the survey, I ask three questions that serve as proxies for different aspects of legitimacy: trust in government, perceived representation of both national and personal interests, and approval of, as well as willingness to comply with, laws. Refer to Appendix C for the complete survey questionnaire.

### 4.4 Experiment results

The experiment design allows me to test the key hypothesis:

**Hypothesis 1** *Information about high (low) turnout increases (decreases) legitimacy*

By varying turnout between low and high values, I examine whether high turnout can enhance legitimacy and, conversely, whether low turnout can diminish it. This hypothesis is based on the observation that autocrats place significant importance on turnout, as evidenced by the observed bunching at high turnout levels. I anticipate that the Turnout Low and Turnout Low + Result groups will exhibit lower legitimacy than the control group, while the Turnout High and Turnout High + Result groups will demonstrate higher legitimacy than the control.

#### 4.4.1 Main results

The main results of the experiment are presented in Table A3. Each column reports the effects of information treatments on different measures of legitimacy. I find support for Hypothesis 1 when using trust in government as the primary measure of legitimacy, while other measures show no systematically significant effects. The lack of impact on perceptions of representation and attitudes towards laws is expected, as these beliefs are difficult to alter, especially with a hypothetical treatment. Moreover, compliance-related questions were placed at the end of the survey and asked only to respondents who disapproved of the laws, reducing the sample size by half<sup>18</sup>. In the remainder of the results section, I focus on describing the effect of information on legitimacy using trust as the measure.

Figure 4 presents the coefficient estimates visually. I find that exposing respondents to information about low turnout reduces trust in government by 0.77 points on the 10-point scale, 0.25 of a standard deviation (p-value = 0.000). In contrast, information about high turnout increases trust by 0.68 points, 0.22 of a standard deviation (p-value = 0.000). Additionally, the inclusion of election results does not appear to yield statistically different results compared to the turnout-only groups: adding results to the Turnout Low group increases trust by 0.07 points, while adding results to the Turnout High group decreases trust by 0.40 points, with both differences being insignificant. The absence of an effect from the additional result information may indicate either that people primarily attribute legitimacy to turnout, or that the reported vote share was too close to respondents' priors, generating insufficient shock to expectations. Evidence supporting the latter explanation is given in Section 4.4.3.

#### 4.4.2 Heterogeneity

I then turn to the analysis of heterogeneous effects of informational treatments. It is reasonable to expect that these effects may differ between government supporters and opposition

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<sup>18</sup>Sample sizes for regressions on compliance in columns (8) to (11) range from  $N = 548$  to  $N = 751$  across five treatment groups.

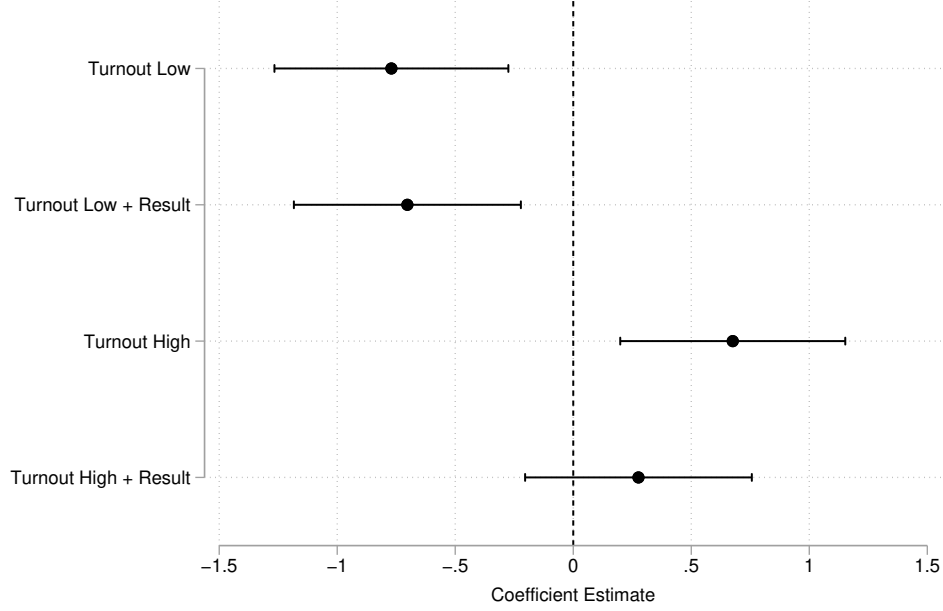


Figure 4: Effect of Information on Trust Relative to No Information Group

Note: This plot shows effects of information treatments on trust in government relative to receiving no information (control group). Black circles are coefficient estimates for each group, with horizontal lines showing 95% confidence intervals.

members. Therefore, my first task is to estimate the impact of information separately for these two subsamples. Table A4 reports the results on all legitimacy measures by United Russia support, Figure 5 presents the effect on trust visually. I find the effects on trust are driven by the United Russia supporters. In fact, information about low turnout only affects United Russia supporters: the coefficient on Turnout Low assignment in Panel A (-0.332) is almost four times smaller than the coefficient in Panel B (-1.198) and not significant at conventional levels ( $p\text{-value} = 0.214$ ).

This may explain why manipulations in the recent study by [Ananyev and Poyker \(2022\)](#) were larger in regions with higher initial support for United Russia. If an autocrat cannot shift the opinions of the opposition, it must focus on maintaining the loyalty of its support base in the event of unrest. As a result, fraud efforts are concentrated in areas with stronger United Russia support, as that group is more likely to update its beliefs based on election outcomes.

Additionally, I examine heterogeneity based on baseline perceptions of electoral fraud. Before providing information treatments, I ask respondents how often they believe certain events related to Russian elections, such as vote count violations, generally occur. Respondents who report frequent violations may already view election results as non-transparent and distrust reported outcomes, so I do not expect information about turnout and vote

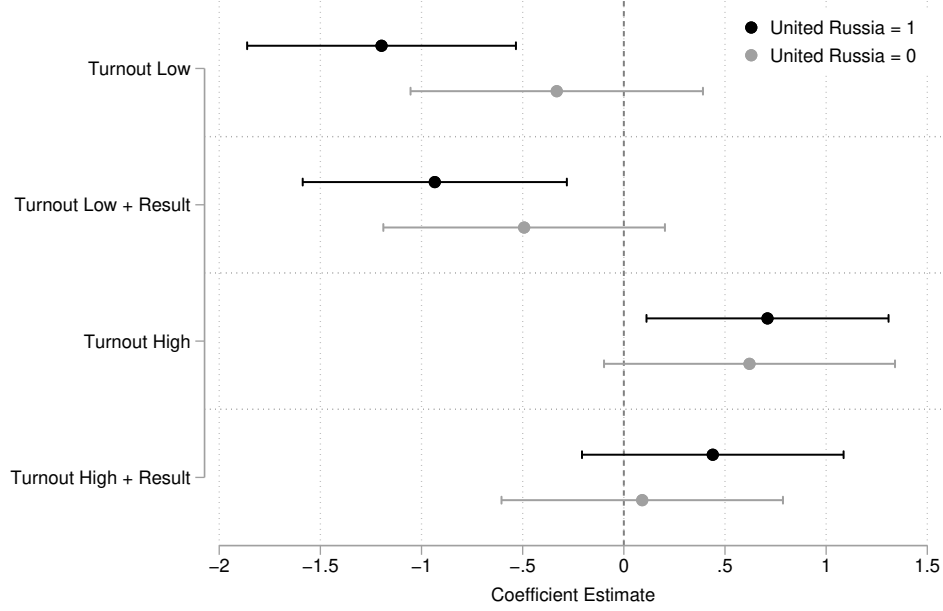


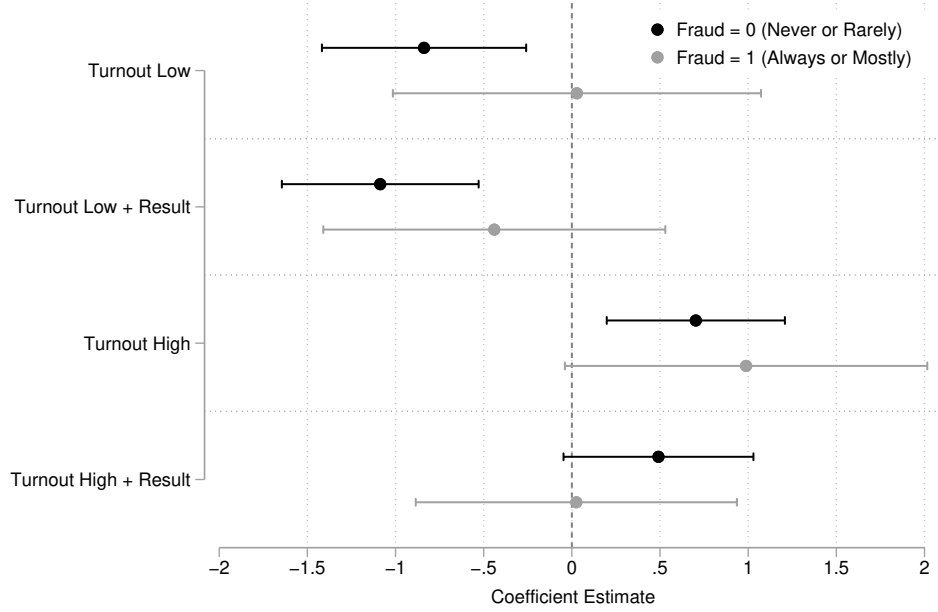
Figure 5: Heterogeneity of Information Effect on Trust by United Russia Support

Note: This plot shows heterogeneous effect of information treatments on trust in government relative to the control group by United Russia support. Black circles represent coefficient estimates for respondents who reported intention to vote for United Russia on the hypothetical elections happening tomorrow, gray circles – for respondents supporting any other party, with horizontal lines showing 95% confidence intervals

share to impact their perceptions. In contrast, for respondents who believe in the integrity of elections, reported outcomes may lead to a shift in their views. Table A5 displays the effects on all legitimacy measures by fraud perception levels, and Figure A6 visually presents the effect on trust.

Consistent with expectations, I observe no effect of turnout information on trust for respondents who report fraud. The coefficient on Turnout Low group in Panel A is small (0.029) and insignificant ( $p$ -value = 0.530), while for respondents in Panel B, who report little to no fraud, demonstrating low turnout reduces trust score by 0.838 points, 0.36 of a standard deviation. Similarly, I observe absence of effect when providing low turnout and result information to respondents who report higher fraud. Another notable observation is that when information about the election result is added to the low turnout group, trust decreases almost twice as much among those who believe in fraud, likely due to their complete mistrust of the results. Conversely, for individuals who do not believe in fraud, the election result information has no effect, possibly because low turnout and the reported results influence trust in opposite directions. Therefore, the main effects in Table A3 mask an important finding: initial beliefs about fraud can influence how informative the election results appear, and in turn, how much these results shape perceptions of legitimacy.

Figure 6: Heterogeneity of Information Effect on Trust by Fraud Perception



Note: This plot shows heterogeneous effect of information treatments on trust in government relative to the control group by fraud perception. Black circles represent coefficient estimates for respondents who report no or rare fraud, grey circles – for respondents who report fraud always or most of the time, with horizontal lines showing 95% confidence intervals

#### 4.4.3 Mechanisms

I turn to investigating how information about election outcomes can generate shifts in legitimacy. Before administering the information treatment, I included questions about political participation, asking respondents to recall the outcomes of the 2021 elections—specifically, which party received the most votes, their respective vote shares, and the overall voter turnout. These questions were designed to assess, first, the overall awareness of past election results, and second, whether individuals anchor their expectations for future election outcomes to these past results. In analyzing a potential shock to these expectations, I follow [Bursztyn et al. \(2020\)](#). Unlike the study, I do not update respondents’ beliefs about the actual election results; instead, I present them with a hypothetical scenario to consider. However, since respondents may believe that previous elections provide a reasonable estimate of future outcomes, exposing them to hypothetical information about those results might create a shock to their expectations. This would be particularly valuable for interpreting the main results: if information about future election outcomes has varying impacts depending on the extent of the shock, autocrats would be more motivated to secure higher results and more wary of revealing lower ones.

By experimentally varying information—between low and high turnout, as well as be-



tween no result and high result—I create three distributions of expectation shocks. For each respondent, the shock is calculated as the wedge difference between their guess and the reported election outcome. Figure A8 plots the distributions of shocks to turnout expectations for respondents in (a) the Turnout Low and Turnout Low + Result groups, and (b) the Turnout High and Turnout High + Result groups. Because the low turnout value was intentionally chosen to be sufficiently low, the average respondent’s guess would be higher than the reported low turnout. Therefore, in the groups receiving information about low turnout, the average participant experiences a positive wedge, indicating a negative shock. Conversely, in the high turnout groups, the average participant experiences a negative wedge, indicating a positive shock. As noted in the descriptive section, respondents systematically overestimated turnout in the last Federal Duma elections. Hence, although the high turnout result was intentionally set at a high level, the mean guess (59) ended up being closer to the reported high turnout value (66) than to the low value (38). This led to more respondents exposed to negative shocks to turnout.

Figure A9 shows the distribution of shocks to leading party vote share expectations for the Turnout Low + Result and Turnout High + Result groups. By design, the average respondent’s guess was expected to be above the reported result, leading to a negative wedge. However, due to overestimation of past election vote share, the mean guess (65) closely aligned with the reported vote share (72). Consequently, the magnitude of the positive shock was weaker than anticipated. If respondents actually anchor expectations about future outcomes to the past elections, this may explain the absence of an additional effect of the result information as this treatment wasn’t effective in generating a strong shock. Finally, to ensure the findings are not driven by initial differences between groups, I confirm that the initial distribution of guesses is similar across groups (Figure A7).

I report heterogeneous effects of each information treatment by direction of shock to turnout expectations in Table A6. Each column additionally controls for baseline guesses. The results show that a positive shock (Panel A) increases legitimacy across all treatment groups: for all coefficients that are statistically significant at 10% level or less, the effect of information is positive. Conversely, a negative shock (Panel B) decreases legitimacy regardless of the treatment arm. This is consistent with the anchoring hypothesis: while each treatment group received a different set of hypothetical election outcomes, what determined the direction of the effect was not the reported value itself but its relative position to the respondent’s expectations.

Additionally, I pool treatment groups by turnout value (Table A7) and result (Table A8), with a visual representation of the effects on trust specifically presented in Figure 7. Being positively shocked by turnout information increases trust in government by 0.705 points (p-

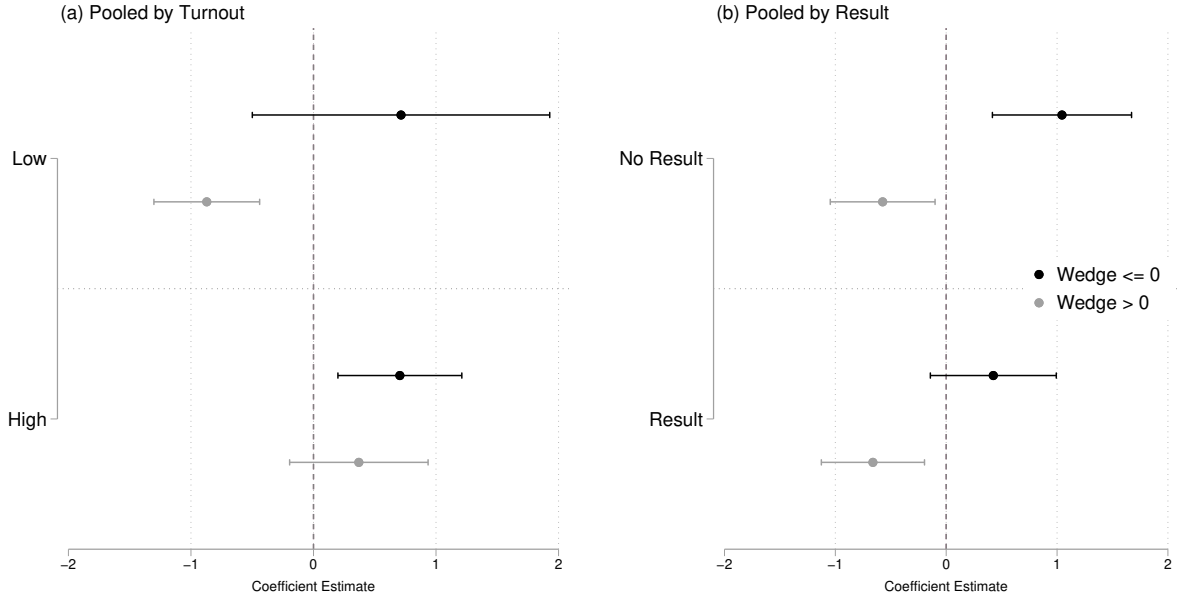


Figure 7: Heterogeneous Effect of Information on Trust by Wedge

Note: These plots show heterogeneous effect of information treatments on trust in government relative to the control group by wedge between guess and reported turnout. Subplot (a) pools together Turnout Low and Turnout Low + Result treatment groups to Low, and Turnout High and Turnout High + Result groups into High. Subplot (b) pools together Turnout Low and Turnout High treatment groups to No Result, and Turnout Low + Result and Turnout High + Result groups into Result. Negative wedge (black) means positive shock to expectations, positive wedge (gray) means negative shock to expectations. Control group wedge is assigned to 0. Horizontal lines show 95% confidence intervals.

value = 0.002) in groups exposed to high values. For groups exposed to low turnout values, effect is similar in magnitude - an increase of 0.714 points - but statistically insignificant at conventional levels (p-value = 0.148), likely due to small sample size - by construction there are few people who guesses turnout less than 38%. As expected, a negative shock from low turnout leads to a significant reduction in trust by 0.871 points (p-value = 0.000). In contrast, a negative shock from high turnout results in a smaller, statistically insignificant increase of 0.370 points (p-value = 0.176). One possible explanation for this positive coefficient is that respondents with a negative shock in the high turnout groups had initially guessed a relatively high turnout, over 66%, and may be inherently different from those with lower guesses (closer to the actual turnout). For example, they may be more favorable toward the government, when receive high turnout information, it may reinforce pre-existing beliefs, leading to a confirmation bias.

When pooling groups by the inclusion of result information, the interpretation shifts to examining the effect of being exposed either to turnout information alone or to both turnout and high result information. Consistent with the previous results, I find that a negative shock—showing a lower turnout than respondents had initially guessed for the past

election—decreases trust by 0.573 points in the No Result groups (p-value = 0.022) and by a similar 0.661 points in the Result groups (p-value = 0.002). For respondents who experience a positive shock to turnout expectations, trust in government increases by 1.044 points (p-value = 0.000) in the No Result groups. However, when result information is also provided, the increase drops to 0.425 points and becomes insignificant (p-value = 0.136). This difference (p-value = 0.057) suggests that the additional inclusion of leading party vote share information weakens the effect of turnout. One possible explanation is information overload: in the Result groups, an average respondent with a negative turnout wedge experiences a positive shock to both turnout and result, which may be too much information to process effectively.

This heterogeneity provides the average effect for respondents experiencing either a positive or negative shock, but it does not reveal whether the magnitude of the shock also matters. Estimating a regression with the size of the shock as the right-hand-side variable allows me to examine the effect of being one percentage point further from the guess for each information group.

Table A9 reports the results. For information treatments Turnout Low and Turnout Low + Result, a larger wedge between the guess and the provided value reflects effect of a negative shock, while the effect of Turnout High and Turnout High + Result uses negative of the wedge, thereby changing the interpretation to being one percentage point more positively shocked. I find that larger negative shock to turnout expectations significantly lowers trust levels: one percentage point higher wedge leads to a decrease of 0.053 points in Turnout Low group (p-value = 0.000) and a similar 0.042 points in Turnout + Result group (p-value = 0.000). Conversely, I show that demonstrating a turnout value that is one percentage point larger than expectations leads to a increase in trust in government of 0.033 for Turnout High group (p-value = 0.004) and a smaller while not statistically significant increase of 0.013 for Turnout High + Result group (p-value = 0.166).

Overall, these results indicate that one way election outcomes can shape perceptions is by generating shocks to voter expectations: positive shocks generally increase legitimacy, while negative shocks diminish it. They also suggest that respondents anchor their expectations of future election outcomes to their knowledge of previous results. In the absence of anchoring, the wedge between the reported value and the respondent’s initial guess would have had minimal impact. This implies that autocrats may be incentivized to generate higher election outcomes while exercising caution in revealing lower ones in future elections, underscoring the strategic considerations involved in managing public perceptions over time. While higher election outcomes may be desirable, there is likely an upper bound to how much turnout and vote share can be perceived as acceptable without arousing suspicion, potentially limiting

the autocrat’s room for maneuver. Testing for this upper bound would require an experiment examining a range of election outcomes.

## 5 Optimal fraud allocation

The survey experiment reveals that demonstrating high voter turnout increases trust in government, especially when turnout exceeds expectations. This suggests that electoral fraud, as a means of achieving the desired level of turnout, could be advantageous for an autocrat. According to the conceptual framework, an autocrat may shape public perceptions by reporting high election results, thereby reducing the risk of regime collapse due to protests. While potentially beneficial, fraud also incurs costs. The question of whether these benefits outweigh the costs is empirical, and this section addresses it.

Specifically, I investigate the relationship between the 2018 anti-reform protests and the incidence of electoral fraud in the subsequent 2021 Federal Duma elections. To address potential endogeneity in protest activity, I employ a shift-share instrument of exposure to the reform that incorporates pre-protest demographic data. To my knowledge, this study is the first to analyze pension reform policy using a shift-share instrument that accounts for demographic factors.

### 5.1 Data

I obtain data for the empirical exercises from various sources. Official election results are obtained<sup>19</sup> from the Central Election Commission (CEC, or ЦИК in Russian). Each dataset includes vote tally information at the precinct level, such as the number of registered voters, valid, invalid, and lost ballots, and ballots cast for each party. An example of a vote tally sheet is shown in Figure A10.

Additionally, I use data on Russian regions from 2011 to 2021, provided by the Federal State Statistics Service (RosStat). Each year, RosStat publishes demographic bulletins detailing the size of the permanent population in each region, categorized by gender, one-year age groups, and urban vs. rural composition, as of January 1 of the respective year.

Finally, the protest data is drawn from two key datasets. To analyze the 2018 protests, I constructed a novel dataset of anti-reform rallies by scraping a protest map reported by a labor union<sup>20</sup> and collecting information from regional news outlets and local opposition party offices. The union map contained details on over 200 protests, including those that had

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<sup>19</sup>Data for 2007 and 2011 is from the replication package of Kobak et al. (2016), while data for 2016 and 2021 was scraped by Sergey Shpilkin and made publicly available by Dmitry Kobak.

<sup>20</sup>The map of anti-reform rallies by the Confederation of Labour of Russia (KTR).

already occurred—along with links to media outlets reporting on the events and estimated numbers of participants—as well as scheduled protests by city. I verified each media link to ensure the reported number of participants was accurate and cross-validated the data with at least one additional media source. For scheduled events, I conducted separate searches to gather information on the protests. This dataset includes 620 rallies in 340 cities, with a total of over 225,000 participants between June and September 2018, leading up to the election on September 9.

Data on the 2011-2012 protests is sourced from [Enikolopov et al. \(2020\)](#), which provides information on protest incidence and participation in approximately 600 cities with populations over 100,000, as well as data on social media penetration and various city characteristics.

## 5.2 Empirical strategy

I test the hypothesis that protest participation can inform allocation of electoral fraud, in particular by highlighting areas with the highest threat to the regime. The corresponding estimation model is as follows:

$$\text{Electoral Fraud}_i = \beta_1 + \beta_2 \text{Protests}_i + \beta_3 \mathbf{X}_i + \epsilon_i \quad (1)$$

where  $\text{Electoral Fraud}_i$  represents a measure of turnout manipulations in the 2016 or 2021 legislative elections, calculated using the excess integer method in locality  $i$ , and can be either an indicator for fraud incidence or a continuous measure expressed in standard deviations;  $\text{Protests}_i$  reflects anti-government protest activity in locality  $i$  prior to the elections, measured either as an indicator for protest incidence, the share of participants in the urban working population, or the log of participants<sup>21</sup>; and  $\mathbf{X}_i$  is a vector of control variables, including socio-economic characteristics of locality  $i$ , such as population, life expectancy, poverty rates, and others.

I estimate equation 1 at the regional level and report results in Table [A10](#). I observe a positive relationship between all measures of protest activity in 2018 and electoral fraud in 2021, though it reaches conventional significance levels only for the incidence of manipulations. For example, using the log of participants as a measure (Panel C), I estimate that a 10% larger number of protest participants corresponds to a 1.28 percentage point higher probability of turnout-based fraud (column (1)). Moreover, this relationship holds after con-

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<sup>21</sup>There are several ways to aggregate protest participation at the regional level. Given that I have data on protests at the city level, with some cities organizing multiple rallies, I aggregate participation by summing the largest protest event from each city.

trolling for lagged fraud, shifting the interpretation to an increase in fraud since the last election: a 10% increase in protest participation is tied to a 1.35 percentage point rise in the probability of turnout fraud (column (2)).

While the intensive margin of fraud is insignificant, it is important not to conclude that no association exists between protest activity and the extent of fraud. The chosen fraud measure is based on the count of excess integer precincts, meaning that a larger excess reflects more precincts with integer values but does not indicate the extent of manipulation within each precinct (e.g., the number of fraudulent votes added). In essence, this measure captures the statistical certainty of fraud occurrence rather than the magnitude of the manipulations themselves.

This naive regression may be subject to omitted variable bias if there are regional characteristics that influence both protest intensity and the government’s ability to commit electoral fraud. For example, social connectedness that could affect both the government officials capacity to organize local fraud, as well as the coordination ability of protesters. Alternative approach could be to instrument protest activity.

### 5.2.1 Shift-share instrument

I develop a measure of exposure to the pension reform and the associated levels of discontent it generated within the population, using pre-reform demographic data and the policy’s implementation timeline. Unlike a uniform increase of 5 years in retirement age for everyone, the reform was introduced in a phased manner (Table A11). For example, men who turned 57 in 2018 were scheduled to retire in 2021. However, due to the reform, they now face a delay of 3 years. The disutility for 57-year-olds is then the value of 3 retirement year, with the extent of this disutility captured by this age-gender group proportion in population.

In this measure, I aim to capture the differential impact of the pension reform across various segments of the population, with a particular focus on the disproportionate burden placed on individuals nearing retirement. For individuals getting ready to retirement in the next 5 years, the reform imposed a significant delay of 3 to 5 years, effectively doubling their expected wait time. In contrast, those very closer to the retirement faced a relatively minor delay of just 0.5 years. For younger workers, who may not yet have begun planning for retirement, the 5-year extension is likely to have a minimal impact. To account for this heterogeneity in discontent, I introduce a time discount factor, reflecting the non-linear relationship between the length of the delay and the disutility from loss of retirement years. The exposure to reform for region  $i$  is thus computed using the following formula:

$$\text{Exposure}_i = \sum_{g=m,f} \sum_{j=a_g}^{R'_g-1} (\text{Age Group Share}_{ijg} \times \text{Retirement Shift}_{jg}) \quad (2)$$

where Retirement Shift for each age group  $j$  and new retirement age  $R'_g$  is  $\sum_{t=R}^{R'} \delta^{t-j}$ , utility of a retirement year is normalized to 1, and  $\delta$  is the discount factor (0.7, 0.75 or 0.8) and Age Group Share is number of people of each age group  $j$  and gender  $g$  divided by total number of people.

Continuing with the prior example, the calculated shift for 57-year-old men, using a discount factor of 0.8, reaches 1.25, representing the peak level of disutility. This disutility declines rapidly, falling below 0.05 for men aged 41 or younger. The shifts serve as effective weights, capturing the disutility from the pension reform for each demographic group and, consequently, group's relative likelihood of anti-pension reform protest participation. By design, older individuals will be more likely to participate protests compared to their younger counterparts, as reflected in their higher shift values. Figure A11 (a) plots the complete distribution of shifts for the working-age female population (the distribution for males follows the same shape but spans ages 16 to 59). Figures A12 illustrate how the proposed shift modifies the age distribution for a specific locality and gender, using different discount factors ( $\delta = 0.7, 0.75$ , and 0.8). Starting with the initial age distribution, the age-specific shifts are applied, yielding the corresponding distribution of disutilities for that locality. The overall exposure for that locality is calculated by summing the weighted age group sizes across genders and dividing by the total population.

While individuals closer to retirement age are expected to experience higher disutility, the shift measure increases almost monotonically with age, thereby placing greater weight on older populations by design. This presents a potential issue. To prevent the exposure measure from reflecting differences in the regional age structure (older vs. younger populations), I restrict the analysis to the last 10 years before retirement for each gender: women aged 45 to 54 and men aged 50 to 59. By focusing on this narrower age range, I can capture variation only among adjacent pre-retirement ages and avoid attributing higher exposure to regions with a larger share of older individuals—a characteristic that may correlate with fraud allocation and could violate the exclusion restriction. This narrowed focus allows me to rely on variation that is effectively random, such as the difference between individuals aged 46 and 47, thereby strengthening the validity of the instrument. Resulting example of age distribution transformation using the last 10 years before retirement is given in Figure A13.



### 5.2.2 Instrument relevance

I examine the relationship between the constructed measures of exposure to pension reform and protest activity to confirm the relevance of the shift-share instrument. Table A12 presents the results with the standardized exposure measure as a right-hand-side variable. Given that 81 out of 85 regions in my sample experienced protests, there is limited variation to explore at the extensive margin. For the intensive margin, I use two measures of protest activity—the share of participants in the urban population and the log number of participants—as dependent variables. The results indicate that a one standard deviation increase in exposure is associated with a 0.05 percentage point increase in the share of participant in urban population or a 71-82% increase in the number of participants. With inclusion of regional-level characteristics these correlations remain stable and are significant at the 1% level.

## 5.3 Results

Table 2 reports the effect of protest participation in 2018 on fraud in the 2021 Federal Duma elections, where protest participation is instrumented by exposure to the pension reform. The results indicate an overall positive effect on turnout-related fraud, though the effect on vote share fraud appears noisier. Using the log of protest participants as a measure of protest activity, a 10% increase in the number of participants is associated with a 1.41 percentage point increase in the probability of fraud or an approximate 0.03 standard deviation increase in the continuous measure of fraud.

Compared to the OLS results, the IV estimates for turnout are larger in magnitude. One potential explanation for the negative bias in the OLS estimates could be unobserved variations in local government capacity: regions with weaker institutional control by the ruling party may experience more protests due to reduced costs of participation, but they might also have limited capacity to organize fraud. Thus, the effect of protests on fraud is larger in regions where exposure to the pension reform has a stronger impact on protest activity.

This exercise provides suggestive evidence that protests may play a role in guiding fraud allocation. Regions with higher protest participation appear to experience increased turnout-based fraud occurrence—potentially as part of a regime response strategy to bolster legitimacy in the face of perceived threats. While the lack of statistical significance may be due to limited power from the regional-level sample of 85 observations, the direction of these results is meaningful. Future research could sharpen these insights by conducting analysis at a more granular level, such as by constituency or municipality.

Table 2: Protests in 2018 and Fraud in 2021 (IV)

	(1)	(2)	(3)	(4)
	Turnout (Dummy)		Turnout (Continuous)	
	OLS	IV	OLS	IV
<b>Panel A: Log Participants</b>				
Protests	0.135 (0.037) [0.000]	0.141 (0.075) [0.059]	0.163 (0.104) [0.122]	0.331 (0.200) [0.097]
<b>Panel B: Share Participants</b>				
Protests	63.487 (29.310) [0.034]	131.762 (74.131) [0.076]	77.848 (71.384) [0.279]	316.042 (204.673) [0.123]
$N$	85	85	85	85
Mean Dep Var	0.529	0.529	1.415	1.415
K-P F-stat (Panel A)		28.77		27.56
K-P F-stat (Panel B)		7.537		7.331
Fraud (2016)	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Note: Unit of observation is a region. Protest participation is instrumented with exposure measure calculated with discount factor  $\delta = 0.8$ . Other controls include log urban population, share of urban residents in total population, life expectancy, poverty, hospital beds (per 100,000), crimes (per 100,000), percentage of enterprises that have a webpage, log average pension and log average wage, number of higher education institutions and research organizations. Robust standard errors in parentheses, p-values in brackets.

## 5.4 Additional results

To complement my results, I am also studying the aftermath of anti-corruption protests in 2011-2012. Following [Enikolopov et al. \(2020\)](#), I explore the effect of social media and protests on fraud incidence in the 2016 Federal Duma elections. Because social media penetration can be related to fraud not only through protests, I use an instrumented causal mediation strategy. I estimate the *total effect* of social media on the incidence of turnout-based fraud, then splitting it into the *indirect effect* of social media via protests and the *direct effect* of social media.

I replicate the author's findings using a smaller sample of cities (510 out of 625) that I was able to match to the fraud data at the city level: a 10% increase in the number of VK users in a city leads to a 5 percentage point increase in the probability of electoral fraud in subsequent elections, compared to the author's reported increase of 4.5 to 4.8 percentage

points. Next, I show that social media penetration increases the incidence of electoral fraud mainly through its effect on protest. Although the direct effect of social media is negative, the majority of the total effect is explained by protest participation.

## 6 Conclusion

Why do autocratic leaders resort to electoral fraud even when their victory is virtually assured? What factors shape their choices in the allocation of manipulations? This paper explores these questions by testing a perceived legitimacy hypothesis, suggesting that the use of electoral fraud and broader election conduct in autocratic regimes is driven by the need to address potential threats to the regime, such as protests, and to restore government's perceived legitimacy.

Through a survey experiment involving a representative sample of the Russian population, I explore whether inflated electoral outcomes can shape public perceptions of an autocrat's legitimacy, thereby motivating the use of fraud to secure desired results. The findings indicate that exposing the respondents to information about high (low) voter turnout improves (reduces) trust in the government, but this effect is only significant among initial government supporters and those who believe in the integrity of elections. This novel result suggests that an autocrat may not be able to sway the opposition or those who already view elections as uninformative, necessitating a focus on convincing the support base.

Next, I study the question of optimal fraud allocation from the autocrat's perspective. I hypothesize that anti-government protests influenced decision to manipulate the results of subsequent elections by highlighting the areas where regime is endangered. Exploring Russia's two most recent legislative elections (2016 and 2021) and large nationwide protest waves occurring in the preceding years, I find that regions with higher protest participation indeed saw an increase in turnout-based fraud in subsequent elections. Altogether, these suggests that the rise in manipulations following protests can be attributed to the government's efforts to restore perceived legitimacy.

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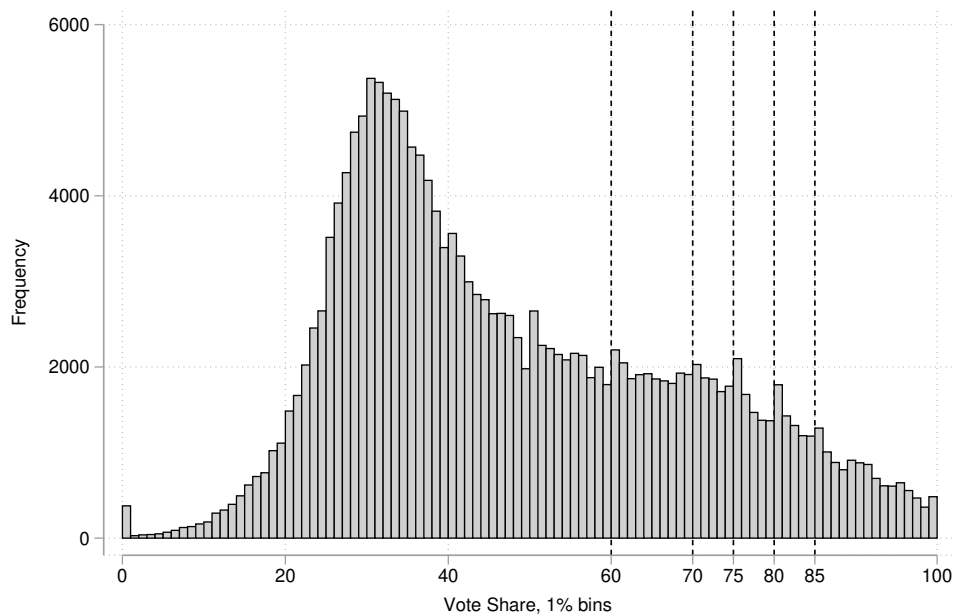
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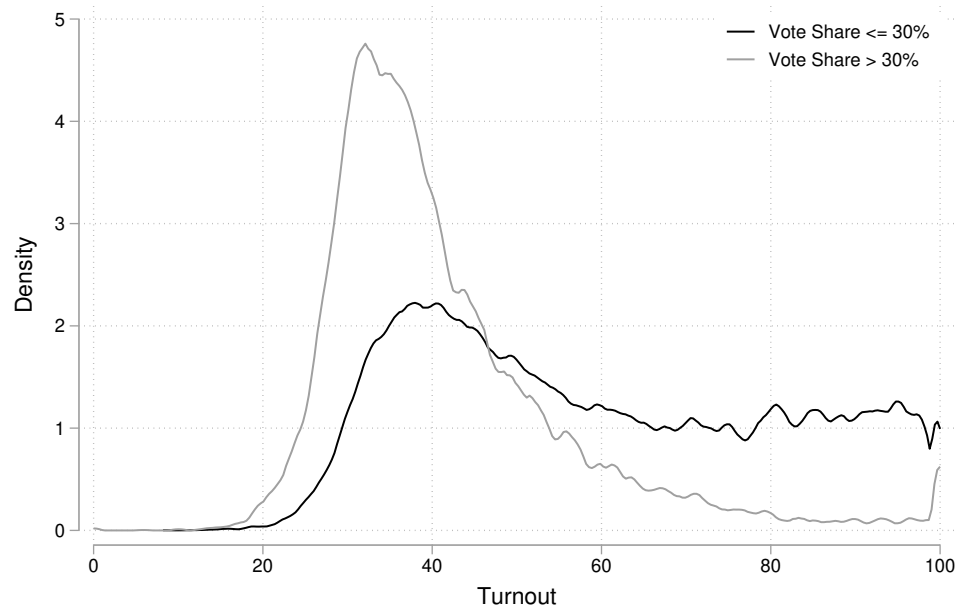
## Appendix A: Additional Figures and Tables

Figure A1: Histogram of United Russia Vote Share



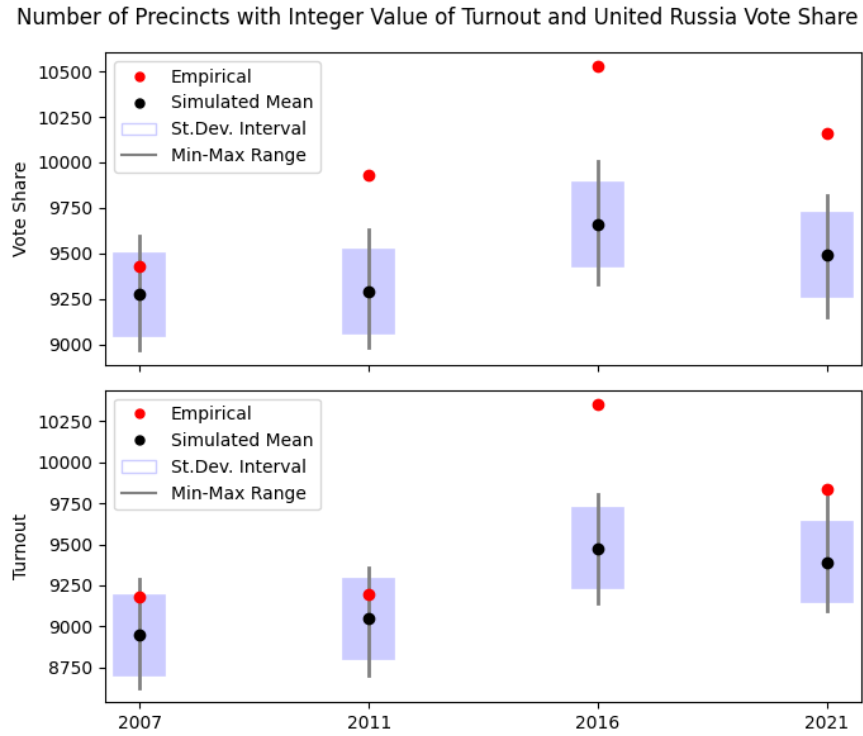
Note: This plot shows distribution of United Russia vote share in the 2021 Federal Duma elections. Unit of observation is a precinct. Each bar represents the number of precincts with turnout within a 1% bin. The horizontal dashed lines indicate bunching at round percentages (e.g., 60%, 70%).

Figure A2: Kernel Density of Turnout by Communist Party Result



Note: This plot shows distributions of turnout in the 2021 Federal Duma elections for two types of precincts: where Communist Party got less than or exactly 30% of the votes (black solid line,  $N = 78,230$ ) and more than 30% (gray solid line,  $N = 17,185$ ). Unit of observation is a precinct. Kdensity using a bandwidth  $h = 0.005$ .

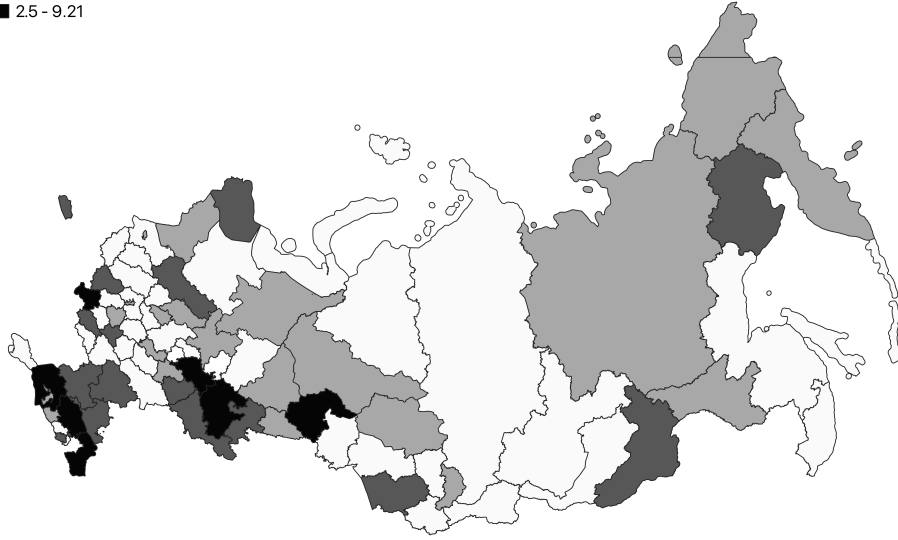
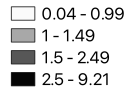
Figure A3: Electoral Fraud Time-Series



Note: This figure shows a time-series of electoral fraud at the national level for the proportionate system Federal Duma elections, calculated using the excess integer method.

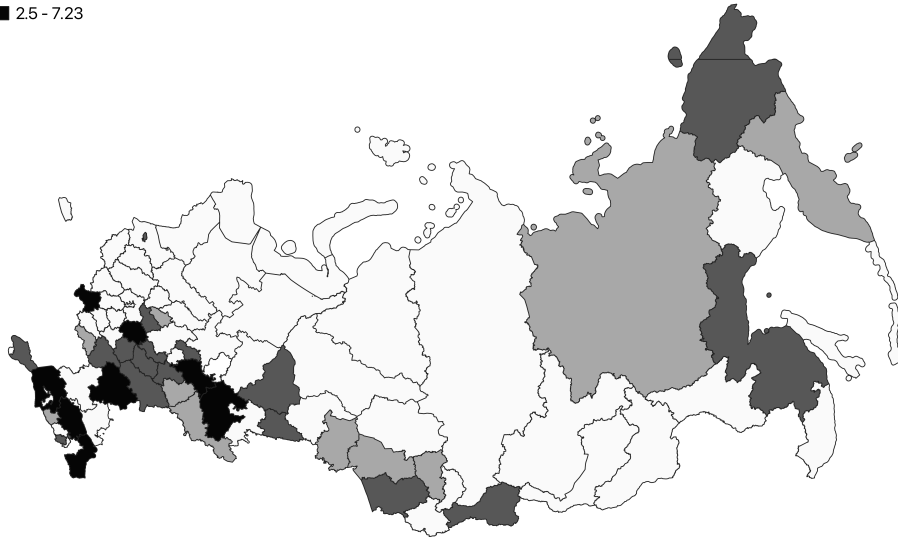
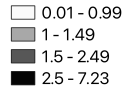
Figure A4: Spatial Distribution of Electoral Fraud

Absolute Excess Integer Count (Standardized by 1 Std):



(a): Turnout

Absolute Excess Integer Count (Standardized by 1 Std):



(b): United Russia Vote Share

Note: These maps display the spatial heterogeneity of electoral fraud for the proportional system Federal Duma elections at the regional level (83 Russian regions, Republic of Crimea and Sevastopol), calculated using the excess integer method. The fraud measure—excess integer count—has been standardized by dividing the excess count by 1 standard deviation. Each region is shaded on a grayscale, with darker shades indicating higher levels of fraud. White regions represent areas where no fraud is detected, as the null hypothesis—that the number of excess integers does not exceed 1 standard deviation—cannot be rejected.

Figure A5

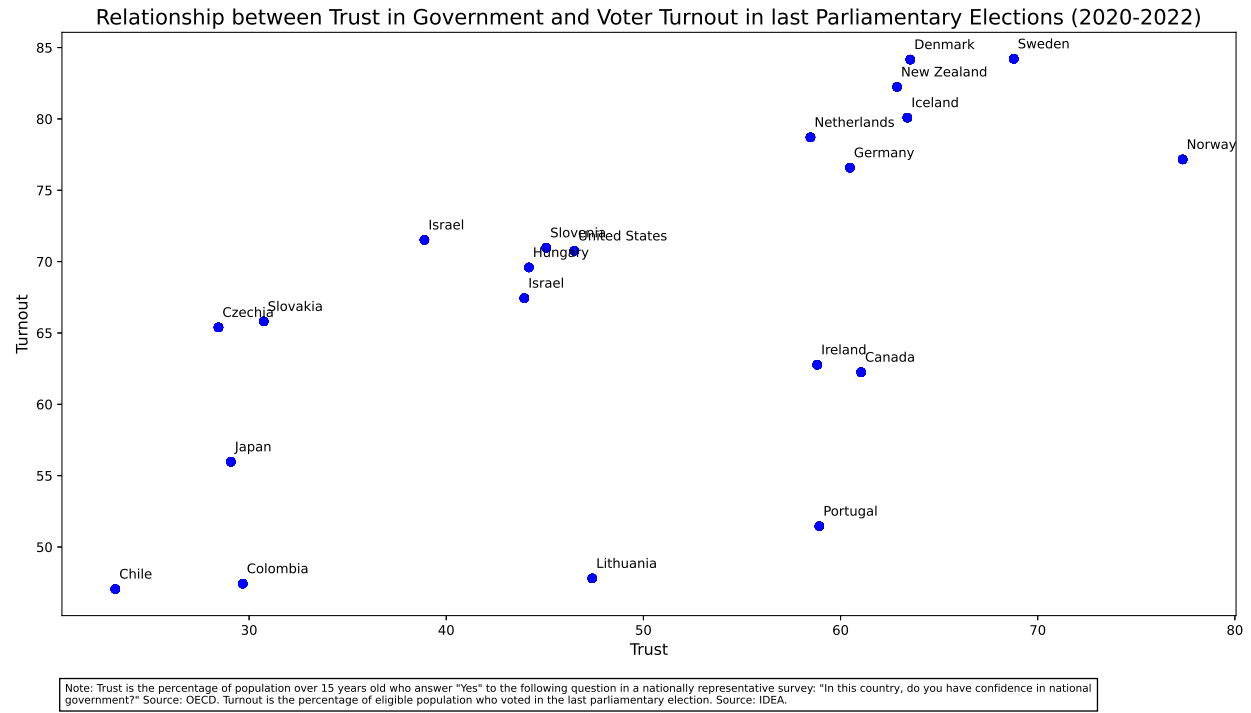
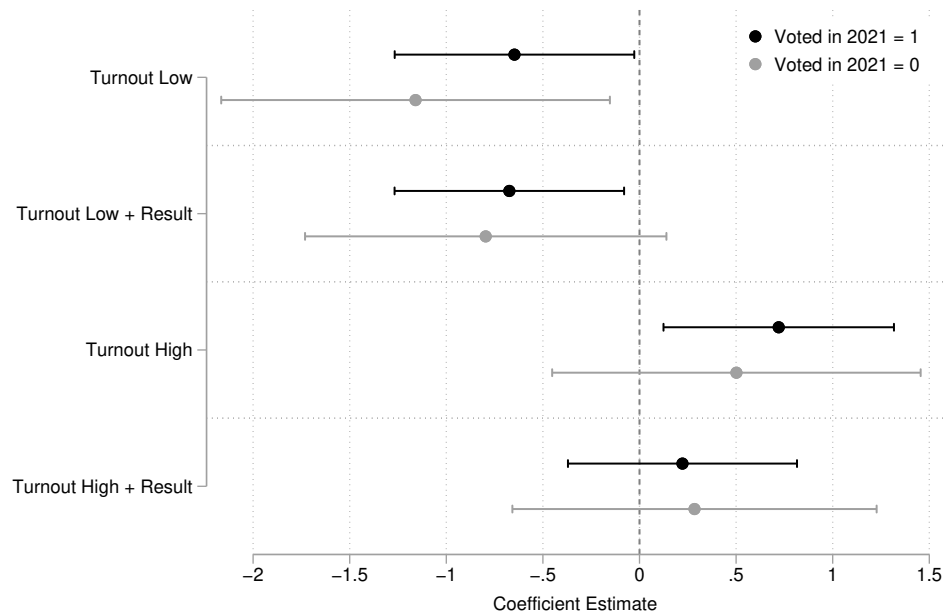
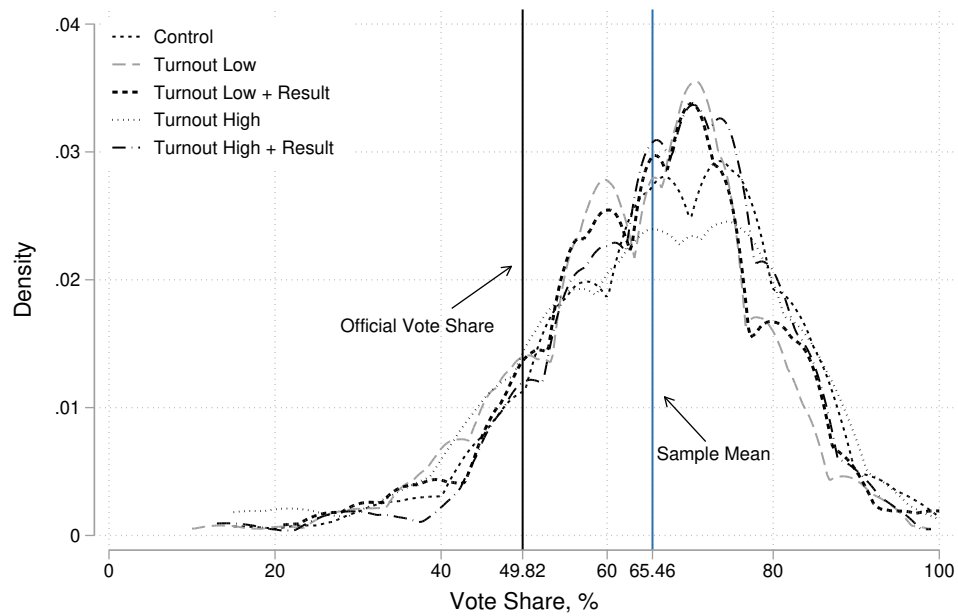


Figure A6: Heterogeneity of Information Effect on Trust by Participation in the 2021 Federal Duma Elections

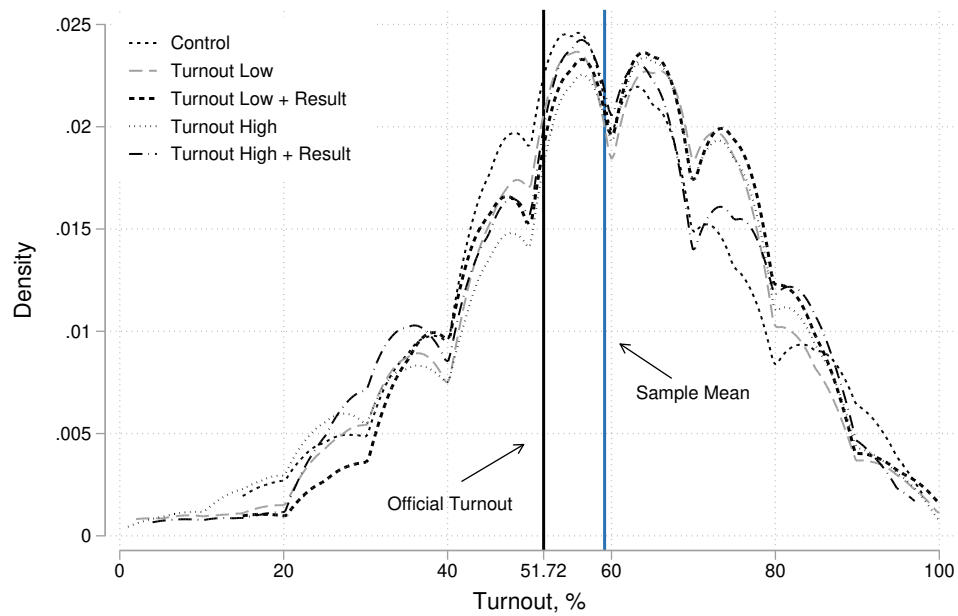


Note: This plot shows heterogeneous effect of information treatments on trust in government relative to the control group by participation in the 2021 Federal Duma elections. Black circles represent coefficient estimates for voters, grey circles – for non-voters, with horizontal lines showing 95% confidence intervals

Figure A7: Kernel Density of Guesses about the 2021 Election Outcomes



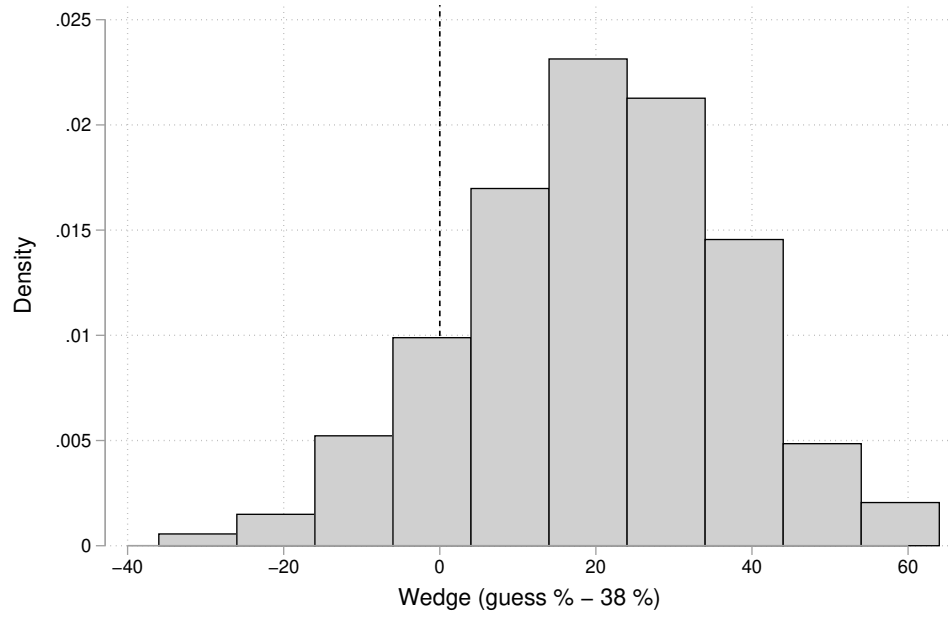
(a)



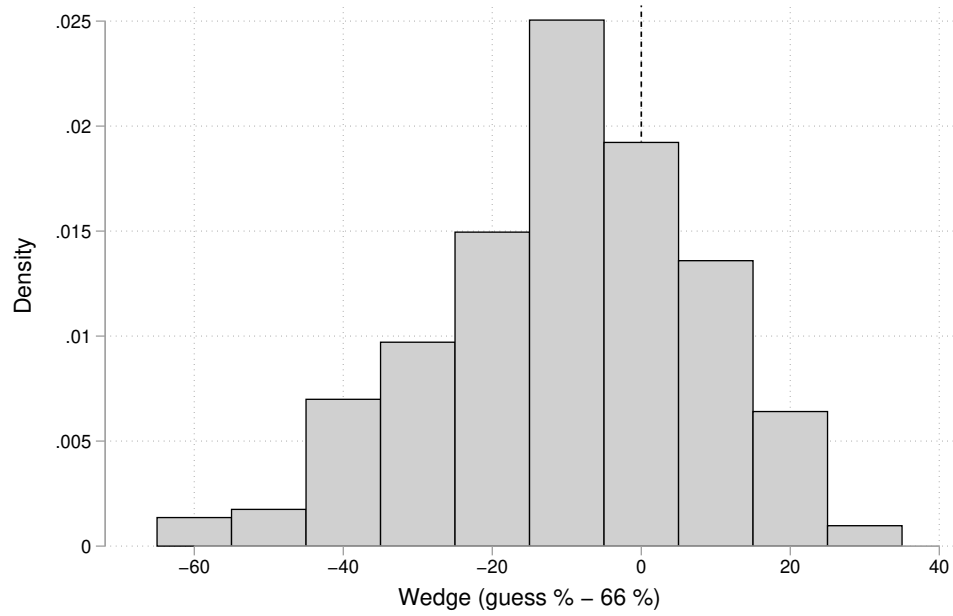
(b)

Note: These plots display the distribution of responses to the two open-ended questions about the 2021 Federal Duma election outcomes: (a) “What percentage of votes do you think [INSERT LEADING PARTY GUESS FROM Q13] received? If you don’t know the exact result, please provide an estimate based on your knowledge.” and (b) “Turnout refers to the percentage of eligible voters who cast their ballots in an election. What do you think the turnout was in the 2021 Federal Duma elections? If you don’t know the exact value, provide an estimate based on your knowledge.”

Figure A8: Wedges in Perceptions about Turnout



(a)

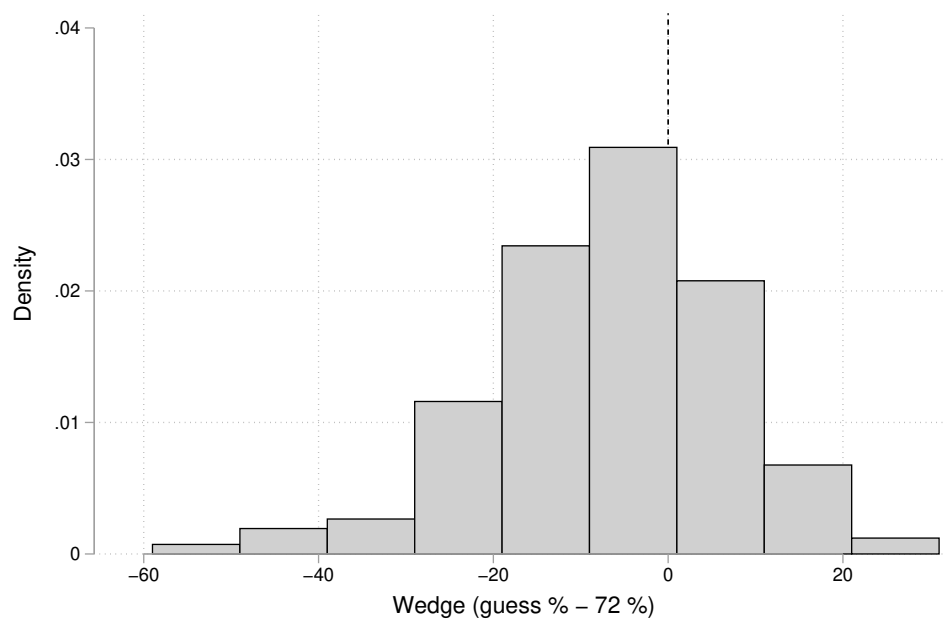


(b)

Note: These plots show distribution of wedges in perceptions about turnout in the hypothetical elections occurring tomorrow for groups receiving turnout information: (a) low (TL, RL); (b) high (TH, RH). The wedge for each respondent is calculated as the difference between the respondent's guess about turnout in the 2021 Federal Duma elections and the turnout value presented to them in the information treatment.



Figure A9: Wedges in Perceptions about Vote Share



Note: This plot show distribution of wedges in perceptions about leading party vote share in the hypothetical elections occurring tomorrow for groups receiving result information (RL, RH). The wedge for each respondent is calculated as the difference between the respondent's guess about the leading party vote share in the 2021 Federal Duma elections and the result presented to them in the information treatment.

Figure A10: Example Vote Tally Sheet

Экземпляр № \_\_\_\_\_

Приложение № 2 (форма)  
УТВЕРЖДЕНА  
постановлением Центральной избирательной комиссии Российской Федерации  
от 31 января 2024 г. № 153/1221-8

Выборы Президента Российской Федерации

17 марта 2024 года

ПРОТОКОЛ

участковой избирательной комиссии об итогах голосования

ИЗБИРАТЕЛЬНЫЙ УЧАСТОК № \_\_\_\_\_

(адрес помещения для голосования избирательного участка – наименование субъекта Российской Федерации, район, город, район в городе, поселок, село, улица, дом)

Участковая избирательная комиссия у с т а н о в и л а :

1	Число избирателей, включенных в список избирателей на момент окончания голосования		
2	Число избирательных бюллетеней, полученных участковой избирательной комиссией		
3	Число избирательных бюллетеней, выданных избирателям, проголосовавшим досрочно		
4	Число избирательных бюллетеней, выданных участковой избирательной комиссией избирателям в помещении для голосования в день голосования		
5	Число избирательных бюллетеней, выданных избирателям, проголосовавшим вне помещения для голосования в день голосования		
6	Число погашенных избирательных бюллетеней		
7	Число избирательных бюллетеней, содержащихся в переносных ящиках для голосования		
8	Число избирательных бюллетеней, содержащихся в стационарных ящиках для голосования		
9	Число недействительных избирательных бюллетеней		
10	Число действительных избирательных бюллетеней		
11	Число утраченных избирательных бюллетеней		
12	Число избирательных бюллетеней, не учтенных при получении		
Фамилии, имена, отчества внесенных в избирательный бюллетень зарегистрированных кандидатов		Число голосов избирателей, поданных за каждого зарегистрированного кандидата	
13			
14			
15			
16			
17			
18			
19			
...			
Сведения о количестве поступивших в участковую избирательную комиссию в день голосования и до окончания подсчета голосов избирателей жалоб (заявлений), прилагаемых к протоколу			

Председатель участковой избирательной комиссии

Заместитель председателя комиссии

Секретарь комиссии

Члены комиссии

(фамилия, инициалы)

МП

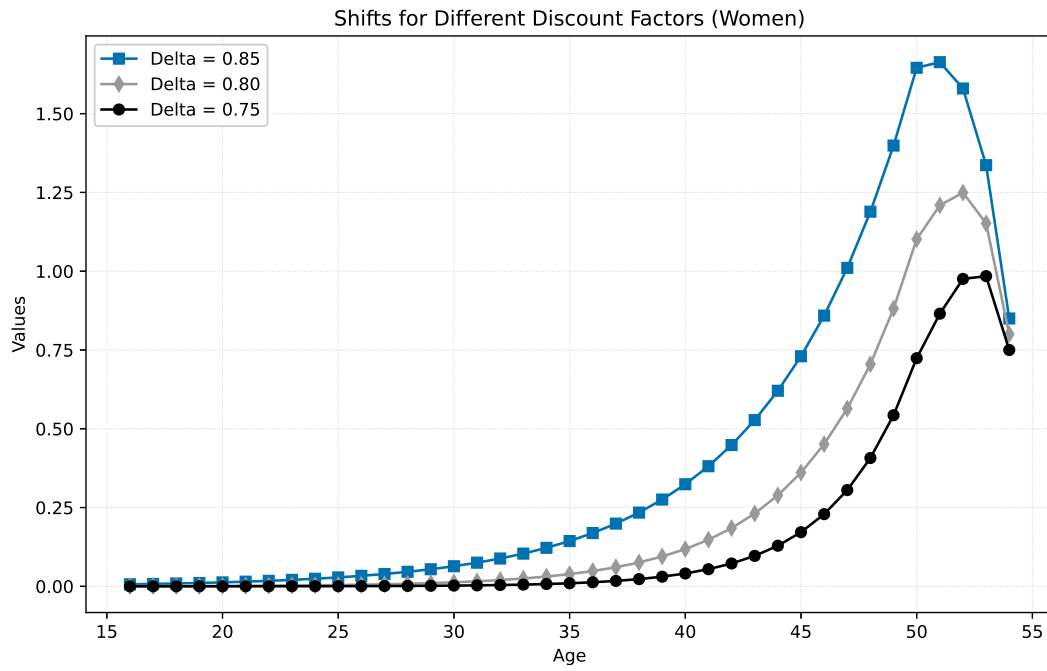
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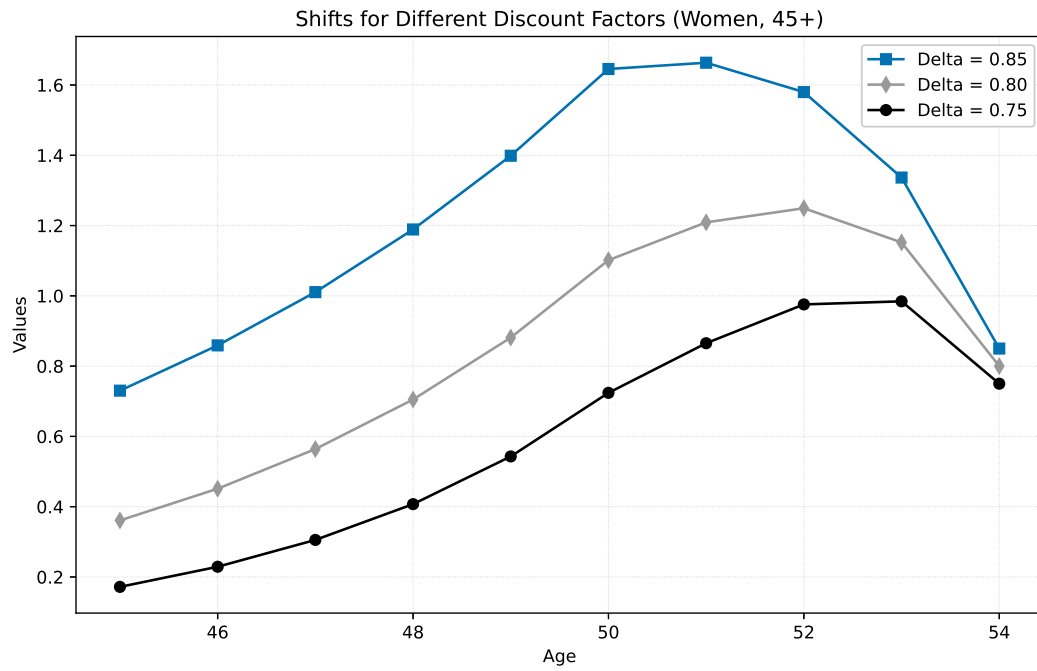
Протокол подписан «\_\_» \_\_\_\_\_ 2024 года в \_\_ часов \_\_ минут

Note: This figure provides an example of a vote tally sheet from a precinct electoral commission during the 2024 presidential elections. The key rows are as follows: (1) the number of voters included in the voter list at the close of voting (endline voters), (10) the number of valid ballots, (11) the number of invalid ballots, and (13) to (19), where each candidate's name is listed. The number of votes/ballots is recorded in the third column. Percentages such as turnout and vote shares are not reported on the tally sheet. Source: Resolution of the Central Election Commission No. 153/1221-8, January 31, 2024

Figure A11: Discounted Value of Additional Waiting Years



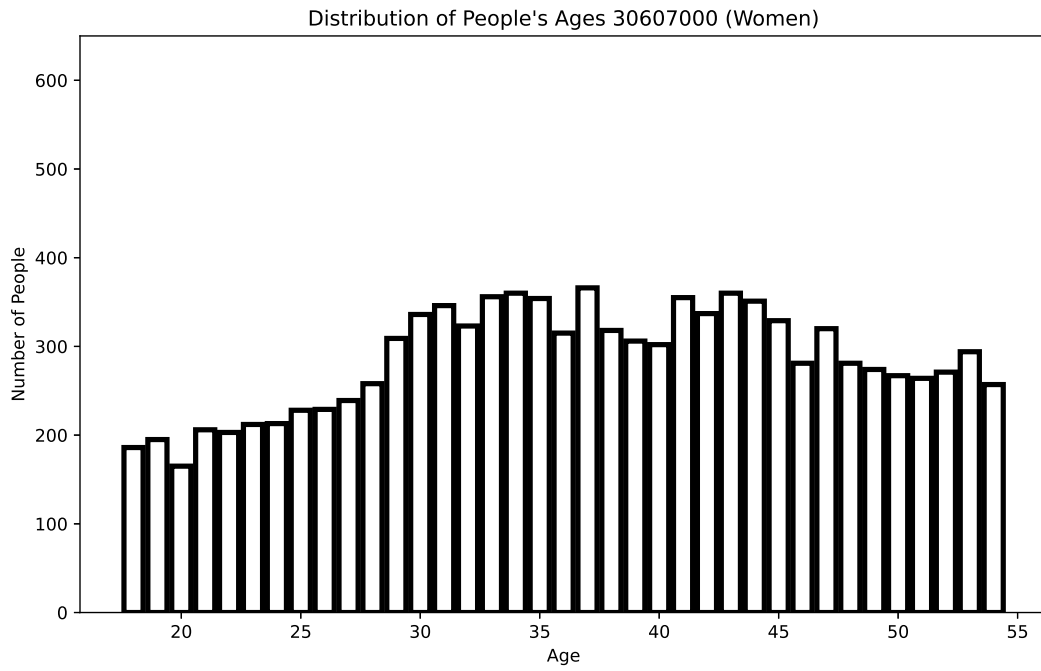
(a): All Ages



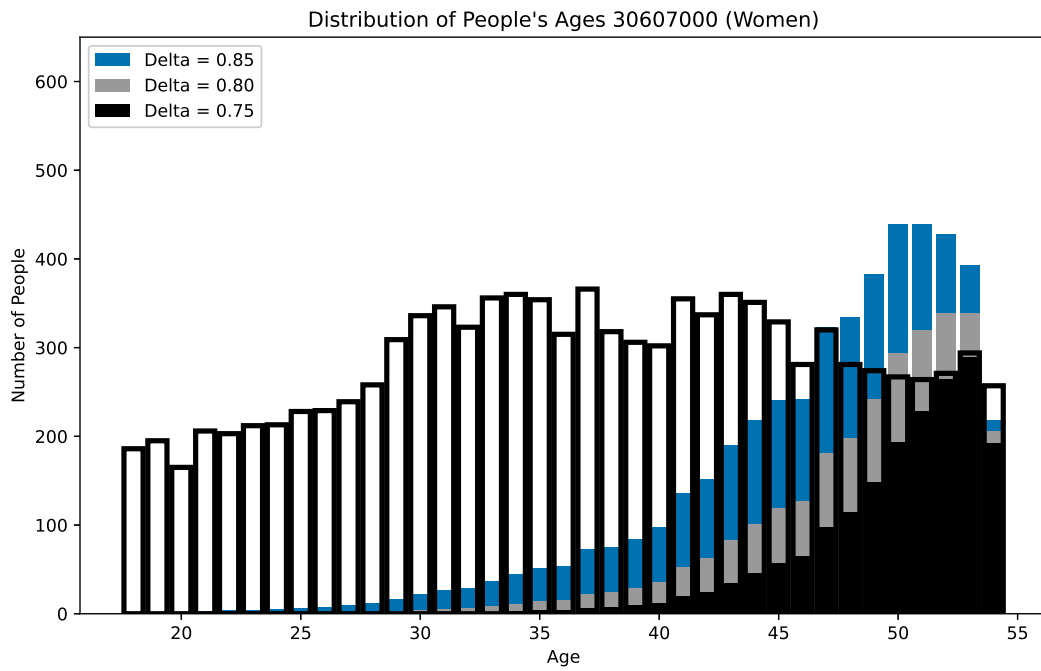
(b): Only 45+

Note: These graphs display the discounted value of additional years until retirement for each age for women. Subgraph (a) shows the full distribution, while subgraph (b) zooms in to the last 10 years.

Figure A12: Example of Shift Transformation



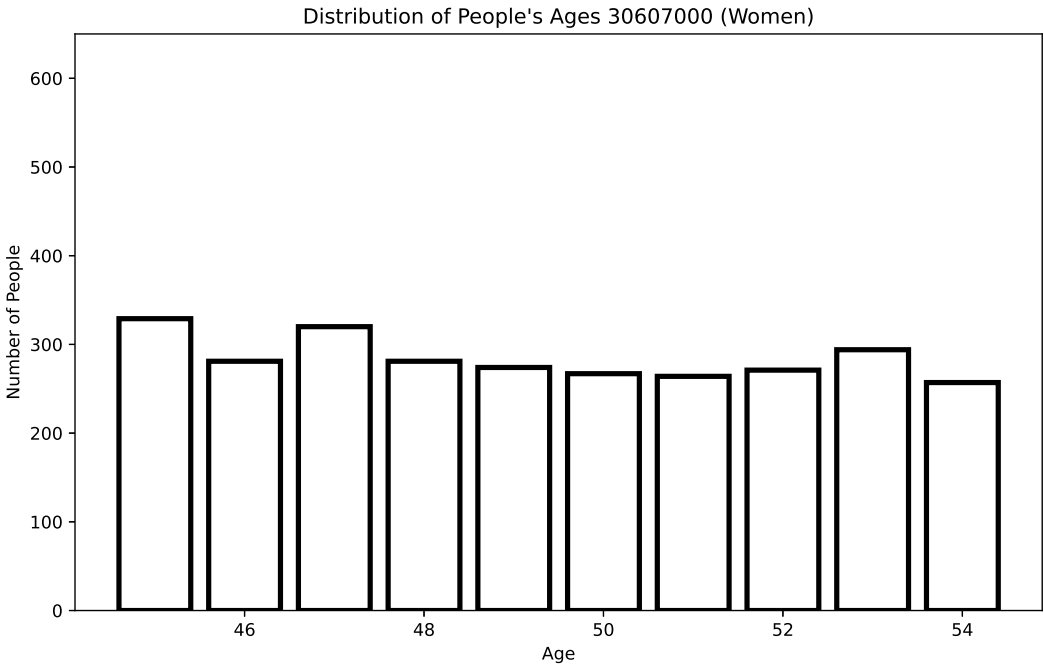
(a)



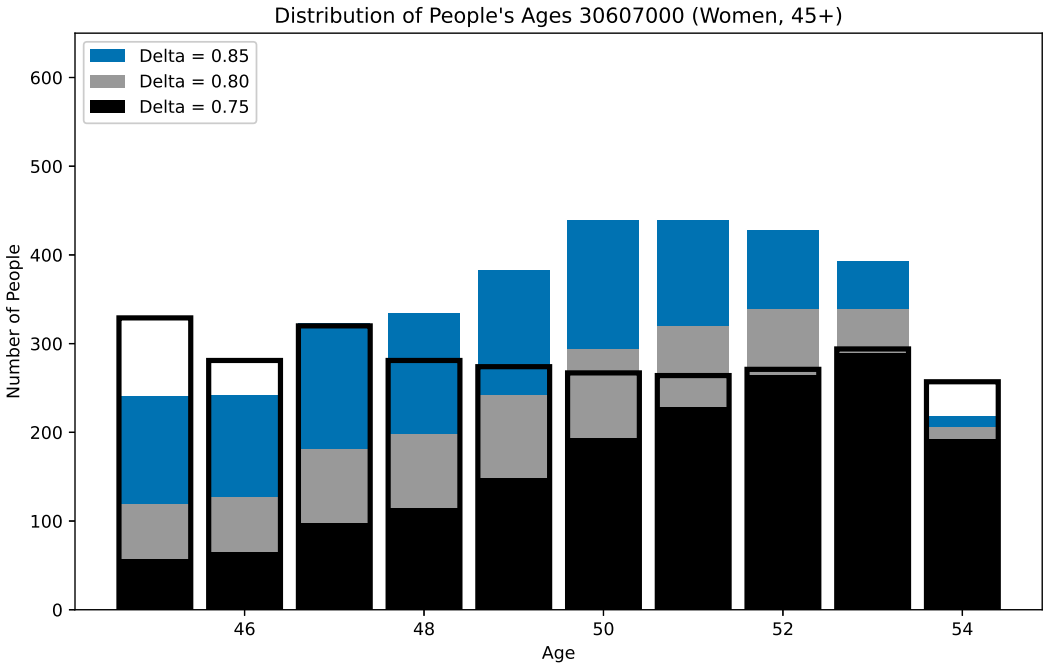
(b)

Note: These graphs show (a) original age distribution, and (b) applying shift with different discount factors.

Figure A13: Example of Shift Transformation for Last 10 Years Before Retirement



(a)



(b)

Note: These graphs show (a) original age distribution, and (b) applying shift with different discount factors.

Table A1: Population Quotas for Representative Sample Construction

		Sample			Country	
		(1) Total	(2) % (raw)	(3) % (weighted)	(4) Total	(5) %
Panel A: Population over 18 yo						
Macro District						
	Northwestern	98	6.1	6.2	6,683,980	5.7
	Central	315	19.7	19.2	22,010,442	18.9
	Volga	327	20.4	20.6	22,826,098	19.6
	Southern	179	11.2	11.6	13,276,652	11.4
	North Caucasian	100	6.2	6.1	7,511,785	6.5
	Ural	122	7.6	7.7	9,478,964	8.2
	Siberian	183	11.4	11.3	12,908,804	11.1
	Far Eastern	68	4.2	4.4	6,113,590	5.3
	Moscow	142	8.9	8.3	10,798,591	9.3
	St Petersburg	69	4.3	4.0	4,665,579	4.0
Age × Gender						
	Women: 18-29	113	7.0	7.5	8,693,261	7.5
	Women: 30-44	243	15.2	15.4	17,645,479	15.2
	Women: 45-59	217	13.5	13.2	15,245,259	13.1
	Women: 60+	293	18.3	18.6	22,098,384	19.0
	Men: 18-29	124	7.7	7.8	9,135,786	7.9
	Men: 30-44	253	15.8	15.0	16,997,445	14.6
	Men: 45-59	188	11.7	11.6	13,328,194	11.5
	Men: 60+	172	10.2	11.0	13,047,984	11.2
N		1,603			116,233,133	
Panel B: All population						
City Size (Thousands)						
	Over 5,000	211	13.2	12.3	18,012,969	12.3
	Under 5,000 and over 1,000	185	11.5	10.7	15,515,704	10.6
	Under 1,000 and over 500	169	10.5	9.4	13,591,209	9.3
	Under 500 and over 250	193	12.0	11.3	16,465,697	11.3
	Under 250 and over 50	267	16.7	15.6	22,773,873	15.6
	Under 50 (incl. rural)	578	36.1	40.6	59,524,774	40.8
N		1,603			145,884,226	

Note: This table reports the variables used to create population quotas for sample construction and shows the comparison of the resulting study sample before (columns 1-2) and after (column 3) applying the weights and the population itself (columns 4-5).

Table A2: Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Control	TL vs C	TH vs C	RL vs C	RH vs C	TL vs TH	TL vs RL	RL vs RH	TH vs RH
<b>Panel A: City Size (Thousands)</b>									
Over 5,000	0.165	-0.037	-0.037	-0.056	-0.037	-0.000	0.019	-0.019	-0.000
		(0.028)	(0.028)	(0.027)	(0.028)	(0.026)	(0.026)	(0.026)	(0.026)
		[0.148]	[0.142]	[0.026]	[0.184]	[0.938]	[0.448]	[0.494]	[0.990]
Under 5,000 and over 1,000	0.150	-0.047	-0.031	-0.047	-0.046	-0.016	-0.000	-0.000	0.016
		(0.026)	(0.027)	(0.026)	(0.026)	(0.025)	(0.024)	(0.024)	(0.025)
		[0.058]	[0.232]	[0.068]	[0.068]	[0.554]	[0.958]	[0.980]	[0.584]
Under 1,000 and over 500	0.109	-0.009	-0.006	-0.000	-0.003	-0.003	-0.009	0.003	-0.003
		(0.024)	(0.024)	(0.025)	(0.025)	(0.024)	(0.024)	(0.025)	(0.024)
		[0.620]	[0.726]	[0.938]	[0.826]	[0.838]	[0.662]	[0.842]	[0.932]
Under 500 and over 250	0.137	-0.025	-0.040	0.009	-0.028	0.015	-0.034	0.037	-0.012
		(0.026)	(0.025)	(0.028)	(0.026)	(0.024)	(0.026)	(0.026)	(0.024)
		[0.276]	[0.100]	[0.840]	[0.270]	[0.532]	[0.218]	[0.202]	[0.554]
Under 250 and over 50	0.153	0.034	0.013	0.006	0.016	0.021	0.028	-0.010	-0.003
		(0.030)	(0.029)	(0.029)	(0.029)	(0.030)	(0.030)	(0.029)	(0.030)
		[0.310]	[0.726]	[0.922]	[0.674]	[0.508]	[0.322]	[0.738]	[0.950]
Under 50 (incl. rural)	0.287	0.084	0.101	0.087	0.098	-0.017	-0.003	-0.011	0.003
		(0.037)	(0.037)	(0.037)	(0.037)	(0.038)	(0.038)	(0.038)	(0.039)
		[0.018]	[0.002]	[0.024]	[0.004]	[0.680]	[0.886]	[0.864]	[0.940]
<b>Panel B: Age</b>									
18-29	0.184	-0.056	-0.053	-0.022	-0.049	-0.004	-0.034	0.028	-0.003
<i>Continued on next page</i>									

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Control	TL vs C	TH vs C	RL vs C	RH vs C	TL vs TH	RL vs RH	TL vs RL	TH vs RH
30-44	0.308	(0.029)	(0.029)	(0.030)	(0.029)	(0.027)	(0.028)	(0.028)	(0.027)
		[0.050]	[0.058]	[0.530]	[0.090]	[0.920]	[0.188]	[0.308]	[0.880]
		0.016	0.013	0.006	-0.030	0.002	0.009	0.037	0.044
45-59	0.262	(0.037)	(0.037)	(0.037)	(0.036)	(0.037)	(0.037)	(0.036)	(0.036)
		[0.866]	[0.828]	[0.986]	[0.308]	[0.960]	[0.878]	[0.322]	[0.262]
		-0.037	-0.024	-0.034	0.051	-0.013	-0.003	-0.085	-0.075
60+	0.246	(0.034)	(0.034)	(0.034)	(0.036)	(0.033)	(0.033)	(0.035)	(0.035)
		[0.260]	[0.554]	[0.342]	[0.150]	[0.584]	[0.880]	[0.014]	[0.056]
		0.078	0.063	0.050	0.029	0.015	0.028	0.021	0.034
<b>Panel C: Gender</b>		(0.036)	(0.035)	(0.035)	(0.035)	(0.037)	(0.037)	(0.036)	(0.036)
		[0.016]	[0.054]	[0.130]	[0.406]	[0.538]	[0.316]	[0.524]	[0.336]
Man	0.467	-0.006	-0.039	0.019	-0.011	0.033	-0.025	0.030	-0.028
		(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
		[0.800]	[0.332]	[0.682]	[0.742]	[0.446]	[0.530]	[0.488]	[0.470]
Woman	0.533	0.006	0.039	-0.019	0.011	-0.033	0.025	-0.030	0.028
		(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
		[0.800]	[0.332]	[0.682]	[0.742]	[0.446]	[0.530]	[0.488]	[0.470]
<b>Panel D: Education level</b>									
Secondary or less	0.087	-0.022	-0.034	-0.003	-0.009	0.012	-0.019	0.006	-0.025
		(0.021)	(0.020)	(0.022)	(0.022)	(0.019)	(0.021)	(0.022)	(0.020)
		[0.298]	[0.084]	[0.956]	[0.656]	[0.464]	[0.302]	[0.602]	[0.214]
Specialized/vocational	0.302	0.025	0.092	0.040	0.054	-0.067	-0.016	-0.014	0.038

Continued on next page







	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Control	TL vs C	TH vs C	RL vs C	RH vs C	TL vs TH	RL vs RH	TL vs RL	TH vs RH
		(0.040)	(0.040)	(0.039)	(0.040)	(0.040)	(0.039)	(0.039)	(0.040)
		[0.892]	[0.502]	[0.326]	[0.600]	[0.582]	[0.218]	[0.670]	[0.226]
Fraud: Always or Most time	0.282	0.011	0.035	-0.041	0.037	-0.024	0.052	-0.078	-0.002
		(0.040)	(0.040)	(0.039)	(0.041)	(0.041)	(0.040)	(0.041)	(0.042)
		[0.722]	[0.322]	[0.322]	[0.338]	[0.490]	[0.212]	[0.056]	[0.996]
<b>Panel I: News source</b>									
TV	0.498	0.037	0.011	0.081	0.033	0.026	-0.044	0.048	-0.022
		(0.039)	(0.040)	(0.039)	(0.040)	(0.040)	(0.039)	(0.039)	(0.040)
		[0.350]	[0.742]	[0.034]	[0.410]	[0.514]	[0.254]	[0.218]	[0.634]
Online (incl. social media)	0.804	-0.059	-0.004	0.022	0.006	-0.055	-0.081	0.016	-0.009
		(0.033)	(0.032)	(0.031)	(0.031)	(0.033)	(0.032)	(0.031)	(0.031)
		[0.062]	[0.858]	[0.490]	[0.824]	[0.114]	[0.014]	[0.670]	[0.660]
<i>N</i>	321	642	641	642	641	641	641	642	640

Note: Robust standard errors in parentheses and random inference p-values in brackets.

Table A3: Effect of Information on Legitimacy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Representation		Approval				Compliance			
	Trust	Country	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
Turnout Low	-0.770 (0.253) [0.000]	0.036 (0.039) [0.258]	0.030 (0.033) [0.930]	0.044 (0.044) [0.538]	0.055 (0.042) [0.298]	0.000 (0.044) [0.080]	0.010 (0.041) [0.954]	0.058 (0.068) [0.778]	-0.010 (0.064) [0.872]	0.072 (0.059) [0.058]	0.085 (0.055) [0.310]
Turnout Low + Results	-0.703 (0.245) [0.000]	-0.001 (0.039) [0.668]	0.037 (0.033) [0.682]	0.024 (0.043) [0.940]	0.021 (0.042) [0.812]	0.080 (0.044) [0.218]	-0.008 (0.041) [0.464]	0.133 (0.065) [0.038]	0.040 (0.062) [0.148]	0.037 (0.060) [0.256]	0.037 (0.055) [0.778]
Turnout High	0.676 (0.243) [0.000]	-0.008 (0.039) [0.520]	0.032 (0.034) [0.866]	-0.031 (0.045) [0.050]	0.015 (0.044) [0.672]	0.071 (0.045) [0.392]	0.037 (0.042) [0.348]	0.030 (0.066) [0.768]	-0.047 (0.063) [0.472]	-0.041 (0.060) [0.358]	0.022 (0.055) [0.488]
Turnout High + Results	0.276 (0.245) [0.014]	0.016 (0.040) [0.776]	0.041 (0.034) [0.558]	0.090 (0.043) [0.022]	0.040 (0.042) [0.592]	0.077 (0.044) [0.260]	0.021 (0.040) [0.750]	-0.007 (0.069) [0.258]	-0.080 (0.062) [0.134]	-0.099 (0.058) [0.016]	0.093 (0.054) [0.172]
<i>N</i>	1276	1276	1276	1276	1276	1276	1276	548	587	675	751
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Additionally, all models include the following control variables: age, a rural residency indicator, and an indicator for support of United Russia. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A4: Effect of Information on Legitimacy by United Russia Support

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation		Approval				Compliance			
		Country	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
<b>Panel A: United Russia = 0</b>											
Turnout Low	-0.332 (0.368) [0.214]	-0.048 (0.047) [0.590]	-0.015 (0.034) [0.482]	0.056 (0.062) [0.522]	-0.009 (0.058) [0.804]	-0.059 (0.061) [0.286]	0.039 (0.053) [0.970]	0.064 (0.088) [0.756]	-0.002 (0.077) [0.902]	0.121 (0.078) [0.034]	0.015 (0.069) [0.788]
Turnout Low + Results	-0.493 (0.354) [0.062]	-0.007 (0.047) [0.484]	0.015 (0.035) [0.652]	0.011 (0.059) [0.608]	0.019 (0.057) [0.604]	-0.026 (0.059) [0.776]	0.090 (0.052) [0.128]	0.132 (0.082) [0.132]	0.082 (0.077) [0.126]	0.100 (0.078) [0.110]	0.071 (0.070) [0.320]
Turnout High	0.621 (0.366) [0.010]	-0.066 (0.044) [0.222]	0.012 (0.035) [0.720]	0.000 (0.060) [0.418]	0.012 (0.058) [0.764]	-0.007 (0.060) [0.842]	0.070 (0.052) [0.330]	0.004 (0.084) [0.416]	-0.021 (0.075) [0.600]	-0.019 (0.077) [0.478]	-0.015 (0.066) [0.344]
Turnout High + Results	0.091 (0.354) [0.678]	-0.030 (0.046) [0.952]	0.003 (0.035) [0.986]	0.088 (0.059) [0.142]	-0.023 (0.056) [0.556]	0.013 (0.059) [0.502]	-0.004 (0.048) [0.248]	0.040 (0.084) [0.932]	-0.024 (0.072) [0.556]	-0.127 (0.072) [0.014]	0.069 (0.065) [0.338]
N	663	663	663	663	663	663	663	337	396	380	456
Control (Mean)	5.320	0.194	0.0858	0.454	0.363	0.426	0.207	0.422	0.360	0.362	0.295
<b>Panel B: United Russia = 1</b>											
Turnout Low	-1.198 (0.338) [0.000]	0.129 (0.065) [0.052]	0.082 (0.059) [0.560]	0.029 (0.064) [0.816]	0.107 (0.062) [0.134]	0.084 (0.064) [0.212]	-0.037 (0.065) [0.830]	0.024 (0.111) [0.988]	-0.031 (0.117) [0.514]	0.043 (0.089) [0.222]	0.194 (0.096) [0.078]
Turnout Low + Results	-0.934 (0.332) [0.000]	0.022 (0.065) [0.312]	0.070 (0.059) [0.828]	0.034 (0.063) [0.704]	0.021 (0.063) [0.358]	0.206 (0.063) [0.054]	-0.116 (0.065) [0.026]	0.122 (0.106) [0.140]	-0.042 (0.105) [0.632]	-0.025 (0.094) [0.912]	0.034 (0.093) [0.264]
Turnout High	0.710 (0.305) [0.000]	0.066 (0.068) [0.918]	0.060 (0.062) [0.924]	-0.067 (0.067) [0.032]	0.016 (0.066) [0.310]	0.177 (0.066) [0.268]	-0.013 (0.068) [0.702]	0.045 (0.109) [0.786]	-0.110 (0.116) [0.640]	-0.052 (0.094) [0.586]	0.093 (0.100) [0.978]
Turnout High + Results	0.440 (0.329) [0.002]	0.078 (0.067) [0.714]	0.089 (0.061) [0.510]	0.089 (0.064) [0.064]	0.115 (0.062) [0.090]	0.167 (0.066) [0.374]	0.035 (0.067) [0.096]	-0.098 (0.121) [0.082]	-0.226 (0.119) [0.044]	-0.085 (0.094) [0.244]	0.145 (0.100) [0.396]
N	613	613	613	613	613	613	613	211	191	295	295
Control (Mean)	7.834	0.446	0.251	0.624	0.623	0.366	0.492	0.601	0.652	0.542	0.468

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Additionally, all models include the following control variables: age, a rural residency indicator, and an indicator for support of United Russia. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A5: Effect of Information on Legitimacy by Fraud Perception

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
<b>Panel A: Fraud = Always or Most time</b>											
Turnout Low	0.029 (0.530) [0.788]	0.018 (0.059) [0.218]	0.007 (0.045) [0.796]	-0.025 (0.096) [0.756]	-0.099 (0.080) [0.552]	-0.050 (0.098) [0.300]	-0.170 (0.066) [0.160]	-0.148 (0.126) [0.042]	-0.128 (0.103) [0.094]	-0.105 (0.109) [0.842]	0.008 (0.086) [0.896]
Turnout Low + Results	-0.440 (0.492) [0.120]	-0.071 (0.050) [0.138]	-0.009 (0.041) [0.738]	-0.077 (0.097) [0.642]	0.012 (0.087) [0.178]	0.094 (0.099) [0.268]	-0.083 (0.074) [0.524]	0.210 (0.131) [0.090]	0.177 (0.121) [0.036]	-0.080 (0.134) [0.926]	0.017 (0.097) [0.924]
Turnout High	0.988 (0.522) [0.012]	-0.011 (0.046) [0.798]	-0.006 (0.038) [0.824]	-0.107 (0.098) [0.290]	-0.209 (0.069) [0.006]	0.005 (0.099) [0.850]	-0.162 (0.066) [0.226]	0.062 (0.128) [0.824]	-0.048 (0.102) [0.476]	-0.102 (0.113) [0.836]	-0.003 (0.082) [0.772]
Turnout High + Results	0.025 (0.462) [0.762]	-0.042 (0.046) [0.458]	0.006 (0.038) [0.784]	-0.024 (0.095) [0.726]	-0.058 (0.075) [0.826]	0.034 (0.095) [0.754]	-0.161 (0.061) [0.222]	0.089 (0.129) [0.602]	0.013 (0.104) [0.794]	-0.157 (0.119) [0.386]	0.045 (0.085) [0.560]
<i>N</i>	257	257	257	257	257	257	257	147	186	143	212
Control (Mean)	3.594	0.0727	0.0316	0.426	0.258	0.436	0.210	0.424	0.294	0.359	0.195
<b>Panel B: Fraud = Never or Rarely</b>											
Turnout Low	-0.838 (0.295) [0.000]	0.047 (0.053) [0.550]	0.070 (0.046) [0.706]	-0.003 (0.057) [0.264]	0.084 (0.054) [0.306]	0.019 (0.057) [0.242]	0.065 (0.055) [0.610]	0.156 (0.084) [0.162]	0.029 (0.091) [0.274]	0.199 (0.076) [0.002]	0.152 (0.078) [0.180]
Turnout Low + Results	-1.087 (0.284) [0.000]	0.029 (0.054) [0.866]	0.072 (0.046) [0.680]	0.039 (0.055) [0.954]	0.006 (0.055) [0.192]	0.086 (0.056) [0.492]	0.005 (0.054) [0.236]	0.166 (0.082) [0.130]	-0.010 (0.084) [0.648]	0.038 (0.078) [0.704]	0.083 (0.073) [0.934]
Turnout High	0.703 (0.257) [0.000]	-0.009 (0.055) [0.318]	0.074 (0.049) [0.622]	0.006 (0.058) [0.372]	0.074 (0.056) [0.480]	0.121 (0.058) [0.096]	0.090 (0.056) [0.240]	0.078 (0.086) [0.852]	-0.096 (0.095) [0.296]	0.024 (0.082) [0.530]	0.050 (0.078) [0.476]
Turnout High + Results	0.491 (0.274) [0.000]	0.053 (0.056) [0.438]	0.085 (0.049) [0.466]	0.151 (0.056) [0.002]	0.084 (0.055) [0.312]	0.094 (0.058) [0.414]	0.083 (0.055) [0.308]	0.012 (0.099) [0.216]	-0.123 (0.094) [0.158]	0.009 (0.079) [0.442]	0.172 (0.076) [0.100]
<i>N</i>	760	760	760	760	760	760	760	312	290	382	414
Control (Mean)	7.052	0.349	0.173	0.546	0.557	0.407	0.339	0.519	0.544	0.439	0.426

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Additionally, all models include the following control variables: age, a rural residency indicator, and an indicator for support of United Russia. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A6: Heterogeneous Effect of Information by Turnout Wedge

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation		Approval				Compliance			
		Country	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
<b>Panel A: Wedge <math>\leq 0</math></b>											
Turnout Low	0.870 (0.738) [0.184]	0.192 (0.106) [0.064]	0.083 (0.063) [0.292]	0.057 (0.126) [0.668]	-0.050 (0.108) [0.672]	0.194 (0.125) [0.074]	-0.094 (0.081) [0.368]	-0.159 (0.152) [0.392]	0.014 (0.146) [0.952]	-0.212 (0.151) [0.204]	-0.059 (0.114) [0.670]
Turnout Low + Result	0.499 (0.910) [0.540]	-0.037 (0.078) [0.764]	0.111 (0.077) [0.254]	0.036 (0.154) [0.818]	-0.141 (0.144) [0.344]	0.062 (0.146) [0.656]	-0.035 (0.117) [0.772]	0.376 (0.176) [0.090]	0.309 (0.167) [0.164]	0.050 (0.193) [0.838]	-0.096 (0.126) [0.580]
Turnout High	1.068 (0.328) [0.000]	0.019 (0.051) [0.722]	0.081 (0.043) [0.030]	-0.035 (0.060) [0.492]	-0.016 (0.058) [0.796]	0.014 (0.059) [0.840]	0.042 (0.056) [0.426]	0.102 (0.085) [0.232]	-0.062 (0.081) [0.456]	-0.047 (0.077) [0.568]	-0.046 (0.070) [0.530]
Turnout High + Result	0.414 (0.292) [0.164]	-0.025 (0.047) [0.572]	0.088 (0.041) [0.018]	0.036 (0.054) [0.510]	-0.020 (0.052) [0.722]	0.043 (0.056) [0.442]	-0.006 (0.049) [0.902]	0.019 (0.086) [0.786]	0.007 (0.078) [0.938]	-0.074 (0.073) [0.326]	0.075 (0.066) [0.260]
<i>N</i>	507	507	507	507	507	507	507	243	265	289	329
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379
<b>Panel B: Wedge <math>&gt; 0</math></b>											
Turnout Low	-0.973 (0.266) [0.050]	0.009 (0.045) [0.878]	0.022 (0.037) [0.614]	0.038 (0.050) [0.520]	0.020 (0.048) [0.720]	-0.053 (0.051) [0.404]	0.020 (0.048) [0.714]	0.052 (0.078) [0.566]	-0.046 (0.071) [0.594]	0.085 (0.068) [0.340]	0.076 (0.063) [0.400]
Turnout Low + Result	-0.782 (0.254) [0.110]	0.001 (0.045) [0.966]	0.045 (0.037) [0.352]	0.001 (0.048) [0.994]	0.003 (0.047) [0.940]	0.055 (0.049) [0.364]	-0.008 (0.045) [0.886]	0.123 (0.072) [0.254]	-0.004 (0.069) [0.956]	0.005 (0.068) [0.950]	0.036 (0.062) [0.604]
Turnout High	0.653 (0.318) [0.334]	-0.008 (0.063) [0.928]	0.044 (0.058) [0.600]	-0.041 (0.069) [0.670]	-0.014 (0.065) [0.862]	0.080 (0.069) [0.512]	0.001 (0.067) [0.996]	0.019 (0.101) [0.870]	-0.102 (0.099) [0.466]	-0.010 (0.101) [0.964]	0.079 (0.085) [0.538]
Turnout High + Result	0.056 (0.384) [0.912]	0.024 (0.068) [0.770]	0.050 (0.058) [0.598]	0.117 (0.070) [0.394]	0.053 (0.066) [0.534]	-0.010 (0.071) [0.916]	0.065 (0.071) [0.588]	0.023 (0.121) [0.904]	-0.156 (0.107) [0.440]	-0.138 (0.094) [0.392]	0.118 (0.100) [0.516]
<i>N</i>	780	780	780	780	780	780	780	335	351	410	462
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Each column controls for baseline guesses. Additionally, all models include the following controls: age, a rural residency indicator, and an indicator for United Russia support. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A7: Heterogeneous Effect of Information about Turnout Size (Pooled) by Turnout Wedge

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
<b>Panel A: Wedge <math>\leq 0</math></b>											
Low	0.714 (0.618) [0.148]	0.103 (0.081) [0.244]	0.094 (0.055) [0.110]	0.050 (0.105) [0.558]	-0.085 (0.094) [0.378]	0.143 (0.104) [0.126]	-0.072 (0.076) [0.398]	0.070 (0.149) [0.616]	0.137 (0.125) [0.292]	-0.102 (0.136) [0.454]	-0.074 (0.099) [0.504]
High	0.705 (0.257) [0.002]	-0.006 (0.041) [0.892]	0.085 (0.034) [0.012]	0.004 (0.047) [0.936]	-0.018 (0.047) [0.656]	0.030 (0.048) [0.520]	0.016 (0.043) [0.702]	0.063 (0.072) [0.336]	-0.024 (0.066) [0.720]	-0.060 (0.063) [0.318]	0.022 (0.057) [0.698]
<i>N</i>	507	507	507	507	507	507	507	243	265	289	329
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379
<b>Panel B: Wedge <math>&gt; 0</math></b>											
Low	-0.871 (0.220) [0.000]	0.005 (0.039) [0.884]	0.034 (0.031) [0.288]	0.018 (0.042) [0.644]	0.011 (0.041) [0.774]	0.005 (0.043) [0.880]	0.005 (0.040) [0.900]	0.092 (0.065) [0.162]	-0.023 (0.059) [0.708]	0.045 (0.059) [0.434]	0.054 (0.053) [0.292]
High	0.370 (0.288) [0.176]	0.007 (0.054) [0.878]	0.047 (0.047) [0.204]	0.034 (0.057) [0.508]	0.018 (0.054) [0.732]	0.037 (0.058) [0.468]	0.032 (0.056) [0.518]	0.022 (0.089) [0.780]	-0.126 (0.083) [0.074]	-0.080 (0.080) [0.278]	0.096 (0.075) [0.146]
<i>N</i>	780	780	780	780	780	780	780	335	351	410	462
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Each column controls for baseline guesses. Additionally, all models include the following controls: age, a rural residency indicator, and an indicator for United Russia support. Robust standard errors are in parentheses and random inference p-values are in brackets.



Table A8: Heterogeneous Effect of Information about Leading Party Vote Share (Pooled) by Turnout Wedge

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
<b>Panel A: Wedge <math>\leq 0</math></b>											
No Result	1.044 (0.320) [0.000]	0.038 (0.050) [0.410]	0.081 (0.040) [0.040]	-0.025 (0.058) [0.626]	-0.017 (0.056) [0.726]	0.033 (0.058) [0.576]	0.028 (0.053) [0.570]	0.069 (0.083) [0.388]	-0.062 (0.078) [0.374]	-0.064 (0.074) [0.368]	-0.044 (0.066) [0.524]
Result	0.425 (0.289) [0.136]	-0.031 (0.046) [0.490]	0.089 (0.040) [0.024]	0.033 (0.053) [0.586]	-0.026 (0.052) [0.652]	0.038 (0.055) [0.508]	-0.003 (0.048) [0.942]	0.058 (0.084) [0.468]	0.028 (0.076) [0.688]	-0.060 (0.072) [0.402]	0.068 (0.064) [0.298]
<i>N</i>	507	507	507	507	507	507	507	243	265	289	329
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379
<b>Panel B: Wedge <math>&gt; 0</math></b>											
No Result	-0.573 (0.241) [0.022]	0.004 (0.043) [0.924]	0.028 (0.035) [0.468]	0.012 (0.047) [0.802]	0.009 (0.045) [0.828]	-0.015 (0.047) [0.746]	0.012 (0.045) [0.812]	0.047 (0.073) [0.464]	-0.057 (0.065) [0.370]	0.072 (0.065) [0.262]	0.074 (0.059) [0.166]
Result	-0.661 (0.237) [0.002]	0.007 (0.043) [0.874]	0.045 (0.035) [0.158]	0.029 (0.046) [0.524]	0.016 (0.045) [0.752]	0.035 (0.047) [0.424]	0.009 (0.043) [0.822]	0.108 (0.070) [0.108]	-0.032 (0.065) [0.608]	-0.025 (0.064) [0.672]	0.051 (0.059) [0.390]
<i>N</i>	780	780	780	780	780	780	780	335	351	410	462
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Each column controls for baseline guesses. Additionally, all models include the following controls: age, a rural residency indicator, and an indicator for United Russia support. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A9: Effect of Shock to Turnout Expectations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Trust	Representation	Self	Alcohol	Import	Tax	Conscription	Alcohol	Import	Tax	Conscription
Shock ( $\text{Wedge} \times \mathbf{1}_{\text{TurnoutLow}}$ )	-0.053 (0.008) [0.000]	0.000 (0.001) [0.884]	-0.001 (0.001) [0.842]	0.001 (0.001) [0.334]	0.001 (0.001) [0.206]	-0.003 (0.001) [0.096]	-0.000 (0.001) [0.972]	-0.000 (0.002) [0.928]	-0.001 (0.002) [0.098]	0.003 (0.002) [0.690]	0.001 (0.002) [0.424]
Shock ( $\text{Wedge} \times \mathbf{1}_{\text{TurnoutLow}+\text{Result}}$ )	-0.042 (0.008) [0.000]	-0.001 (0.001) [0.450]	-0.001 (0.001) [0.928]	0.000 (0.001) [0.794]	0.000 (0.001) [0.346]	0.001 (0.001) [0.542]	-0.001 (0.001) [0.550]	0.002 (0.002) [0.448]	0.001 (0.002) [0.360]	0.002 (0.002) [0.896]	-0.000 (0.002) [0.636]
Shock ( $-\text{Wedge} \times \mathbf{1}_{\text{TurnoutHigh}}$ )	0.033 (0.012) [0.004]	0.001 (0.002) [0.244]	0.002 (0.002) [0.052]	-0.000 (0.002) [0.806]	0.000 (0.002) [0.270]	-0.001 (0.002) [0.676]	0.004 (0.002) [0.038]	0.000 (0.003) [0.232]	-0.001 (0.003) [0.332]	-0.001 (0.003) [0.914]	-0.002 (0.003) [0.392]
Shock ( $-\text{Wedge} \times \mathbf{1}_{\text{TurnoutHigh}+\text{Result}}$ )	0.013 (0.014) [0.166]	-0.005 (0.001) [0.168]	-0.001 (0.001) [0.630]	-0.002 (0.002) [0.182]	-0.002 (0.002) [0.036]	-0.000 (0.002) [0.538]	-0.001 (0.002) [0.584]	-0.002 (0.003) [0.500]	0.003 (0.003) [0.046]	-0.001 (0.003) [0.932]	0.001 (0.002) [0.724]
$N$	1070	1070	1070	1070	1070	1070	1070	478	505	577	648
Control (Mean)	5.995	0.263	0.143	0.507	0.464	0.413	0.313	0.521	0.460	0.422	0.379

Note: Each column represents a different measure of legitimacy. Column (1) shows the effect on trust in government, measured on a 0 to 10 scale, with 10 indicating complete trust. Columns (2) and (3) indicate whether the respondent agrees that the government represents the interests of all Russia or their personal interests, respectively. Columns (4) to (7) report whether the respondent personally believes each of the laws in question is the right decision, and columns (8) to (11) indicate whether the respondent is willing to follow these laws, conditional on not approving. Each column controls for baseline guesses. Additionally, all models include the following controls: age, a rural residency indicator, and an indicator for United Russia support. Robust standard errors are in parentheses and random inference p-values are in brackets.

Table A10: Protests in 2018 and Fraud in 2021 (OLS)

	Turnout (Dummy)		Turnout (Continuous)	
	(1)	(2)	(3)	(4)
<b>Panel A: Share Participants</b>				
Protests	62.800 (28.571) [0.031]	63.487 (29.310) [0.034]	92.922 (91.873) [0.315]	77.848 (71.384) [0.279]
<b>Panel B: Log Participants</b>				
Protests	0.128 (0.034) [0.000]	0.135 (0.037) [0.000]	0.189 (0.139) [0.178]	0.163 (0.104) [0.122]
Fraud (2016)	No	Yes	No	Yes
Other controls	Yes	Yes	Yes	Yes
<i>N</i>	85	85	85	85
Mean	0.529	0.529	1.415	1.415

Note: Other controls include log urban population, share of urban residents in total population, life expectancy, poverty, hospital beds (per 100,000), crimes (per 100,000), percentage of enterprises that have a webpage, log average pension and log average wage, number of higher education institutions and research organizations. Robust standard errors in parentheses, p-values in brackets.

Table A11: Phased Increase of Retirement Age with Sufficient Working Experience

Age in 2018	Should retire at	Had to wait	Will retire at	Additional wait
Men				
59	60	1	60.5	0.5
58	60	2	61.5	1.5
57	60	3	63	3
56	60	4	64	4
55	60	5	65	5
54	60	6	65	5
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
16	60	44	65	5
Women				
54	55	1	55.5	0.5
53	55	2	56.5	1.5
52	55	3	57	3
51	55	4	58	4
50	55	5	59	5
49	55	6	60	5
$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
16	55	39	60	5

Table A12: Exposure to Reform and Protests in 2018 (First Stage)

	Share Participants						Log Participants					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Exposure Std ( $\delta = 0.7$ )	0.0005 (0.0002) [0.0076]	0.0007 (0.0003) [0.0054]					0.8256 (0.2585) [0.0020]	0.7708 (0.1558) [0.0000]				
Exposure Std ( $\delta = 0.75$ )			0.0005 (0.0002) [0.0042]	0.0008 (0.0003) [0.0056]					0.7785 (0.2675) [0.0046]	0.7515 (0.1455) [0.0000]		
Exposure Std ( $\delta = 0.8$ )					0.0005 (0.0002) [0.0025]	0.0008 (0.0003) [0.0063]					0.7149 (0.2774) [0.0117]	0.7198 (0.1373) [0.0000]
Log Urban Working Age Population		-0.0013 (0.0003) [0.0003]		-0.0013 (0.0003) [0.0002]		-0.0013 (0.0003) [0.0002]		0.5288 (0.1879) [0.0063]		0.5225 (0.1854) [0.0062]		0.4902 (0.1873) [0.0108]
Urban Share in Total Population		0.0005 (0.0026) [0.8363]		0.0006 (0.0025) [0.8239]		0.0006 (0.0024) [0.8080]		1.9581 (1.7976) [0.2796]		2.0035 (1.7745) [0.2626]		2.0526 (1.7773) [0.2519]
Life Expectancy		0.0002 (0.0002) [0.2258]		0.0002 (0.0002) [0.2331]		0.0002 (0.0002) [0.2689]		0.0907 (0.0965) [0.3505]		0.0794 (0.0929) [0.3956]		0.0575 (0.0897) [0.5237]
Poverty (%)		-0.0001 (0.0001) [0.1965]		-0.0001 (0.0001) [0.1616]		-0.0001 (0.0001) [0.1103]		-0.0974 (0.0381) [0.0126]		-0.1055 (0.0396) [0.0095]		-0.1188 (0.0421) [0.0061]
Hospital Beds (per 100,000)		0.0000 (0.0000) [0.2252]		0.0000 (0.0000) [0.2401]		0.0000 (0.0000) [0.2849]		0.0370 (0.0149) [0.0153]		0.0350 (0.0146) [0.0192]		0.0317 (0.0144) [0.0313]
Crimes (per 100,000)		0.0000 (0.0000) [0.1288]		0.0000 (0.0000) [0.1061]		0.0000 (0.0000) [0.0709]		0.0005 (0.0005) [0.2846]		0.0006 (0.0005) [0.2601]		0.0007 (0.0005) [0.2024]
Enterprises with Websites (%)		0.0000 (0.0000) [0.4011]		0.0000 (0.0000) [0.4164]		0.0000 (0.0000) [0.4270]		-0.0098 (0.0120) [0.4193]		-0.0109 (0.0123) [0.3804]		-0.0118 (0.0128) [0.3594]
Log Average Pension		-0.0033 (0.0045) [0.4701]		-0.0034 (0.0045) [0.4515]		-0.0033 (0.0045) [0.4612]		-1.4203 (2.8041) [0.6140]		-1.5173 (2.7814) [0.5871]		-1.4012 (2.7533) [0.6123]
Log Average Wage		0.0004 (0.0018) [0.8239]		0.0004 (0.0018) [0.8128]		0.0002 (0.0018) [0.9066]		-0.2494 (1.1686) [0.8316]		-0.2884 (1.1483) [0.8024]		-0.5561 (1.1208) [0.6212]
Higher Ed Institutions (#)		0.0001 (0.0000) [0.0013]		0.0001 (0.0000) [0.0010]		0.0001 (0.0000) [0.0004]		0.0358 (0.0185) [0.0567]		0.0373 (0.0180) [0.0419]		0.0422 (0.0174) [0.0178]
<i>N</i>	85	85	85	85	85	85	85	85	85	85	85	85
Mean	0.002	0.002	0.002	0.002	0.002	0.002	6.310	6.310	6.310	6.310	6.310	6.310
R-sq	0.053	0.325	0.057	0.330	0.055	0.333	0.218	0.678	0.194	0.676	0.164	0.671

Note: Robust standard errors in parentheses, p-values in brackets.

Table A13: Protests in 2018 and Fraud in 2021 (IV)

	(1)	(2)	(3)	(4)
	Turnout (Dummy)		Turnout (Continuous)	
	$\delta = 0.7$	$\delta = 0.75$	$\delta = 0.7$	$\delta = 0.75$
<b>Panel A: Log Participants</b>				
Protests	0.113 (0.074) [0.127]	0.115 (0.075) [0.125]	0.214 (0.196) [0.276]	0.250 (0.196) [0.201]
<b>Panel B: Share Participants</b>				
Protests	115.571 (79.430) [0.146]	112.396 (76.692) [0.143]	222.096 (209.810) [0.290]	249.043 (202.444) [0.219]
$N$	85	85	85	85
Mean Dep Var	0.529	0.529	1.415	1.415
K-P F-stat (Panel A)		27.75		26.34
K-P F-stat (Panel B)		7.834		7.634
Fraud (2016)	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes

Note: Unit of observation in a region. Other controls include log urban population, share of urban residents in total population, life expectancy, poverty, hospital beds (per 100,000), crimes (per 100,000), percentage of enterprises that have a webpage, log average pension and log average wage, number of higher education institutions and research organizations. Robust standard errors in parentheses, p-values in brackets.

Table A14: Protests in 2011-2012 and Fraud in 2016

	Coef.	Std. Err.	P-val.
<i>Effect of social media on the protests, social media instrumented</i>			
VK Penetration	0.508	0.253	0.045
<i>Effect of the protests on fraud, controlling for social media</i>			
VK Penetration	-0.058	0.089	0.516
Protest (Dummy)	2.228	1.119	0.046
<i>Linear IV Mediation Analysis</i>			
Total Effect	1.072	0.504	0.033
Direct Effect	-0.071	0.091	0.516
Indirect Effect	1.130	0.801	0.158
<i>N</i>	510		
K-P F-stat (T on Z)	5.117		
K-P F-stat (M on Z—T)	6.607		

Note: Robust standard errors in brackets are adjusted by clusters within regions. Unit of observation is a city. Other controls include dummy for regional and county centers, distances to Moscow and St Petersburg, log (average wage), share of people with higher education in 2002, internet penetration in 2011, log (Odnoklassniki users in 2014), and ethnic fractionalization.

## Appendix B: Excess integer method

I use the excess integer method developed by [Kobak et al. \(2016\)](#) to construct fraud measure at the country, region and city level. The method steps are as follows:

1. Count the number of precincts  $q$  where turnout is an integer percentage  $\pm 0.05\%$ . For example, turnout values of 64.95% to 65.05% would be considered an integer
2. Perform 10,000 Monte Carlo simulations to obtain 10,000 values of  $q$  sampled from the null distribution. Two assumptions are made:
  - A1 Election outcome at each precinct represents the true average intentions of voters
  - A2 Each person votes freely and independently
3. Model turnout as a random variable:

$$T_i^{MC} = G_i^{MC} / V_i * 100\%, \quad G_i^{MC} \sim \text{Binom}(V_i, G_i / V_i)$$

where, for every precinct  $i$ ,  $V_i$  is number of registered voters,  $G_i$  is number of ballots cast. Hence, a simulated number of cast ballots,  $G_i^{MC}$ , would be distributed as binomial with a probability of each ballot being cast equal observed turnout rate  $G_i / V_i$  and a total number of “trials” being number of registered voters  $V_i$ .

4. Calculate the average number of “integer” turnout values occurring in the simulations as well as the standard deviation at the chosen level of aggregation.



## Appendix C: Questionnaire

#	Question	Answer Codes
<b>Section 1: Eligibility and Quotas</b>		
Q1	Which region do you reside in?	(Record region)
Q2	Which city do you live?	(Record city)
Q3	What is your gender?	1 Female 2 Male
Q4	How old are you?	(Record age)
Q5	Are you a Russian citizen?	1 Yes 2 No → <i>END SURVEY</i>
<b>Section 2: Political Action and Civic Participation</b>		
Q6	How interested are you in politics?	1 Very interested 2 Fairly interested 3 Not very interested 4 Not interested at all

#	Question	Answer Codes
Q7	People learn about events in Russia and the world from various sources. Please name 1-2 sources of information you use most often.	1 TV 2 Print publications 3 Internet publications 4 Telegram channels 5 YouTube channels 6 News on social media (VK, Odnoklassniki, Twitter/X) 96 Other (Specify)
Q8	I will name various forms of political actions in which people can participate. For each of them tell me: have you ever participated in such an action, could you participate, or would you never participate under any circumstances:  A Appeal to government agencies  B Signing petitions  C Participation in peaceful demonstrations/strikes	1 Have participated 2 Could participate 3 Would never participate
Q9	Now I will name the elections that are held in our country at different levels, and you will tell me whether you vote in such elections every time, most of the time, or never:  A Local (municipal) government elections  B Federal Duma elections  C Presidential elections	1 Always 2 Most of the time 3 Never

#	Question	Answer Codes
Q10	For each of the following events, how often do you think they happen in Russia:	1 Always
	A Elections have observers	2 Most of the times
	B Voters have a real choice among several candidates	3 Rarely
		4 Never
	C Vote counting is done with violations	5 Refuse
	D Employers collect information about their employees voting	
Q11	Did you participate in the United Voting Day in September 2021?	1 Yes
		2 No
Q12	Why did you participate? / Why did you not participate?	(Open-ended question)
Q13	Do you know which party received the most votes in the Federal Duma elections in 2021? If you do not know the exact percentage, give an approximate estimate based on your knowledge.	(Record party)
Q14	What do you think was the percentage of votes received by [INSERT PARTY FROM THE PREVIOUS QUESTION]? If you do not know the exact result, give an approximate estimate based on your knowledge.	(Record number)
Q15	When discussing elections, the concept of turnout is often used. Turnout is the percentage of voters who came to the polls and voted. What do you think was the voter turnout in the Federal Duma elections in 2021? If you do not know the exact turnout, give an approximate estimate based on your knowledge.	(Record number)

#	Question	Answer Codes
Q16	The Federal Duma elections are held according to a mixed system: party lists and single-mandate electoral constituencies. Do you know candidate from which party received most votes in your constituency?	(Record party)
Q17	What do you think was the percentage of votes received by [INSERT PARTY FROM THE PREVIOUS QUESTION]? If you do not know the exact result, give an approximate estimate based on your knowledge.	(Record number)
Q18	What percentage of the population in your electoral constituency do you think voted in the Federal Duma elections in 2021? If you do not know the exact turnout, give an approximate estimate based on your knowledge.	(Record number)
Q19	If elections were held tomorrow, would you participate?	1 Yes 2 No
Q19	Which party would you vote for?	(Record party)
<b>Section 3: Legitimacy Perceptions</b>		
Q21	On a scale of 0 to 10, where 0 is not at all and 10 is completely, how much would you say trust the newly elected Federal Duma?	(Record number)
Q22	How much do you agree with the following statement: "The Federal Duma represents the interests of all Russia"?	1 Completely agree 2 Rather agree 3 Neither agree or disagree 4 Rather disagree 5 Completely disagree

#	Question	Answer Codes
Q23	How much do you agree with the following statement: "The Federal Duma represents my personal interests"?	1 Completely agree 2 Rather agree 3 Neither agree nor disagree 4 Rather disagree 5 Completely disagree
Q24	Imagine that the newly elected Federal Duma is considering the following laws. For each of the laws, please tell me whether you personally think this is the right decision:  A Prohibiting alcohol sales on the weekend  B Prohibiting imports from unfriendly countries  C New ecological tax to fight climate change  D Declaring second wave of conscription	1 Right decision 2 Wrong decision
Q25	Speaking of the laws you think are not the right decision: if you had an opportunity to not comply with them without consequences, would you do so? (Only show laws that are a wrong decision)  A Prohibiting alcohol sales on the weekend  B Prohibiting imports from unfriendly countries  C New ecological tax to fight climate change  D Declaring second wave of conscription	1 Would rather comply 2 Would not comply

#	Question	Answer Codes
<b>Section 4: Socio-economic characteristics</b>		
Q26	What is your highest level of education?	1 Secondary education or lower 2 Vocational education 3 Higher education
Q27	What is your current employment situation?	1 Private company 2 State employee 3 Self-employed / own business 4 Retired 5 Housewife, including maternity leave 6 Student 7 Unemployed / looking for work 8 Disabled 96 Other (Specify)

#	Question	Answer Codes
Q28	How would you assess your financial situation?	<p>1 Not enough money even for food</p> <p>2 Enough money for food, but difficult to buy clothes and pay for utilities</p> <p>3 Enough money for food and clothes, but cannot afford durable goods</p> <p>4 Enough money for food, clothes, and durable goods, but cannot afford a car, apartment, or dacha</p> <p>5 Enough money to buy everything</p>
Q29	How has your financial situation changed over the past 3 years?	<p>1 Somewhat worsened</p> <p>2 Not changed</p> <p>3 Somewhat improved</p>