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**Regional Protest and Electoral Fraud: Evidence from Analysis of New Data on Russian
Protest**

Abstract

Does electoral fraud encourage citizen post-electoral political protest? Much of the scholarship on electoral protests has focused on nationally-prominent street rallies occurring in national capitals. By contrast, the proclivity of citizens to pick up on fraud perpetrated in the sub-national region in which they reside and vote, and to challenge it by engaging in street rallies in provincial towns, has remained under-researched. To nuance existing scholarship, we analyse the likelihood that local citizens would pick up on electoral irregularities perpetrated in their locality / region and engage in post-electoral protest. Specifically, we analyse author-gathered data for some 5,000 regional protests, and voting results for 95,415 precincts in Russia's 2012 Presidential elections. These data, which we aggregate at the level of the regions, cover virtually all of the eighty-five constituent subjects (regions) of the Russian Federation. We find that local fraud is associated with post-electoral protests. Our analysis has important theoretical and policy implications. Protests that not only target specific issues like fraud, but show awareness of specific precincts in which it had been perpetrated, and can name and shame its concrete perpetrators, can be much more effective than those where blame attribution is vague and generic.

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Table 1. Variables, definitions, and descriptive statistics

| | Definition | N | Mean | St. dev | Min | Median | Max |
|---|--|----|-------|---------|------|--------|-------|
| <i>(1) Post-electoral Protest</i> | Total protest counts period 4.03.2012 to 24.04.2013 | 77 | 7.53 | 24.50 | 0 | 2 | 205 |
| <i>(2) Post-electoral Political Protest</i> | Political protest counts period 4.03.2012 to 24.04.2013 | 77 | 4.04 | 13.96 | 0 | 1 | 115 |
| <i>(3) Pre-election Protest</i> | Total protest counts period 16.03.2007 to 3.03.2012 | 77 | 54.79 | 155.34 | 0 | 24 | 1289 |
| <i>(4) Pre-election Political Protest</i> | Political protest counts period 16.03.2007 to 3.03.2012 | 77 | 21.27 | 64.80 | 0 | 10 | 552 |
| <i>(5) Deviance₀</i> | Last digit fraud index based on observed frequencies of last digit zeros and the likelihood ratio statistics | 77 | 3.27 | 13.84 | 0.00 | 0.91 | 121.5 |
| <i>(6) Deviance₁₋₉</i> | Last digit fraud index based on relative frequencies of last digits 1 to 9 and the likelihood ratio statistics | 77 | 8.97 | 5.34 | 2.29 | 7.94 | 35.67 |
| <i>(7) Total number of polling stations</i> | Total number of polling stations in the region | 77 | 1152 | 788 | 52 | 973 | 3390 |
| <i>(8) Urbanization</i> | Urbanization index, 2010 | 77 | 69.6 | 12.8 | 27.6 | 70.2 | 100 |
| <i>(9) Income</i> | Income per capita ('000s RUB per month), 2010 | 77 | 16.4 | 6.06 | 7.54 | 14.67 | 43.9 |
| <i>(10) Fiscal transfers</i> | Share of fiscal transfers in regional public expenditures, 2009, fraction | 77 | 0.34 | 0.20 | 0.04 | 0.278 | 1.35 |
| <i>(11) Media freedom</i> | Index of regional media freedom for 2006-2010 | 77 | 2.91 | 0.95 | 1 | 3 | 5 |
| <i>(12) Russians</i> | Share of ethnic Russians in the regional populations, fraction | 77 | 0.78 | 0.24 | 0.01 | 0.90 | 0.97 |
| <i>(13) Oblast</i> | Regions with oblast status, dummy | 77 | 0.74 | 0.44 | 0 | 1 | 1 |

Table 2. Correlation matrix, * p<.05

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|----------|----------|----------|---------|----------|---------|----------|----------|----------|----------|---------|---------|
| <i>(1) Post-electoral Protest</i> | 1 | | | | | | | | | | | |
| <i>(2) Post-electoral Political Protest</i> | 0.9903* | 1 | | | | | | | | | | |
| <i>(3) Pre-election Protest</i> | 0.9796* | 0.9824* | 1 | | | | | | | | | |
| <i>(4) Pre-election Political Protest</i> | 0.9796* | 0.9827* | 0.9939* | 1 | | | | | | | | |
| <i>(5) Deviance₀</i> | -0.0323 | -0.0436 | -0.0328 | -0.0309 | 1 | | | | | | | |
| <i>(6) Deviance₁₋₉</i> | -0.0432 | -0.0526 | -0.0629 | -0.0605 | 0.5753* | 1 | | | | | | |
| <i>(7) Total number of polling stations</i> | 0.4552* | 0.4164* | 0.4495* | 0.4242* | 0.0924 | 0.0498 | 1 | | | | | |
| <i>(8) Urbanization</i> | 0.3794* | 0.3792* | 0.3954* | 0.3695* | -0.2412* | -0.106 | 0.2827* | 1 | | | | |
| <i>(9) Income</i> | 0.5494* | 0.5372* | 0.5460* | 0.5367* | -0.0309 | -0.127 | 0.196 | 0.5513* | 1 | | | |
| <i>(10) Fiscal transfers</i> | -0.2501* | -0.2377* | -0.2380* | -0.2192 | 0.2822* | 0.0863 | -0.4963* | -0.6224* | -0.2474* | 1 | | |
| <i>(11) Media freedom</i> | 0.2445* | 0.2536* | 0.2889* | 0.2608* | -0.0284 | 0.0553 | 0.3565* | 0.3779* | 0.1097 | -0.3438* | 1 | |
| <i>(12) Russians</i> | 0.1094 | 0.1031 | 0.1298 | 0.1137 | -0.4250* | -0.2198 | 0.175 | 0.5725* | 0.1405 | -0.5985* | 0.3507* | 1 |
| <i>(13) Oblast</i> | 0.1407 | 0.134 | 0.1537 | 0.1336 | -0.2385* | -0.1761 | 0.2523* | 0.5312* | 0.1408 | -0.4863* | 0.3515* | 0.8490* |

Hypotheses testing

Table 3 reports the results of a set of negative binomial regressions. In specification M1, post-electoral *Protest* is regressed on the baseline (pre-election) protest intensity, on the last digit fraud measures $Deviance_0$ and $Deviance_{1-9}$, and on control variables $\log(\text{Total number of polling stations})$, *Urbanization*, *Fiscal Transfers*, *Russians* and *Media Freedom*. Not unexpectedly, the pre-election protest intensity is identified as highly significant. Controlling for the baseline protest intensity, $Deviance_0$ is found to be positively and significantly correlated with post-electoral political protests. This indicates that regions where the deviations in the proportion of observed last digit zeros from the 10% benchmark are statistically more significant are characterized by relatively higher levels of post-electoral protest intensity. As far as the control variables are concerned, regions relatively more dependent on federal transfers (*Fiscal transfers*) are characterised by a somewhat steeper decline in post-electoral *Protest*, even though this effect is not statistically significant. Model 2 introduces an alternative set of control variables that includes *Oblast* and *Income*, while *Russians*, *Fiscal Transfers*, and *Urbanization* are excluded due to multicollinearity. The key last digit fraud measure $Deviance_0$ is identified as positive and statistically significant in this new specification. These results lend support for HY2 and suggest that regional last digit fraud positively affects the intensity of mass post-electoral protests. The *media freedom* variable is not significant, which may indicate that other channels are likely to be more effective in exposing fraud and galvanizing post-electoral protest. Pre-electoral protest activism (statistically significant and positive in Models 1-2), which could encourage citizens to show vigilance in exposing fraud during the elections, may be one such alternative channel. Another potential channel of information dissemination about fraud (not captured by our media freedom measure) would be online social media networks (Greene 2013; Smyth

and Oates 2015). The interaction effects between fraud and media freedom have also been tested and are not statistically significant.

If hypothesis HY2 is correct, we would also expect to see the evidence of the fraud-to-protest link in *Political protest* regressions, as the *Political protest* category should be particularly sensitive to the issues of the electoral process. Models 3 and 4 (Table 3), investigate this proposition. Similar to the first two regressions and consistent with HY2, *Political protest* regressions identify last digit fraud measure $Deviance_0$ as statistically significant, suggesting that regional last digit fraud positively affects the intensity of mass post-electoral *political* protests.

Robustness checks

In order to be reassured about the robustness of our results, we perform two sets of additional checks. In the first set of robustness checks, we employ alternative control variables that are related to regional democratic variations. The index of regional democracy that we employ in our robustness checks has been developed in the 1990s-2000s by two experts affiliated with the Moscow Carnegie Centre, Nikolay Petrov and Alexei Titkov (both presently employed at the Higher School of Economics in Moscow. Further details on the indices are contained in SI). The index is constructed relying on subjective expert assessments, as well as systematic electoral competition data that are referred to as “instrumental” measures (such as effective number of candidates in governor elections; winning candidate’s share of vote in governor elections; governor turnover rates; and recorded instances of electoral malpractice). These latter types of “instrumental” measures are frequently employed in studies of cross-national democracy (Lankina & Getachew, 2012; Vanhanen, 2000). As Lankina et al. (2016b) write, there is a high degree of correspondence between Petrov and Titkov’s evaluations of Russian

regional democracy and assessments by scholars relying on alternative measures of regional democratic variations. This provides additional confidence in the validity of the Petrov and Titkov democracy measures employed in our study's robustness checks.

The indicators that we employ, constructed based on an assessment of regional democratic characteristics for the years 2006-2010, are *Media Freedom, Economic Liberalism, Civil Society, Political Structure, Elites, Corruption, Local Self-Governance, Openness, Democratic Elections, and Political Pluralism*. These indicators are highly correlated. We therefore run multiple alternative specifications where we control for each of these indicators separately in order to avoid multicollinearity problems. We also tested the aggregate "democracy index" that represents a simple average of the individual indicators listed above. We find that the central result of the positive relationship between last-digit fraud and post-electoral change in protest intensity is robust and is confirmed in all the specifications. (The selected results with alternative sets of control variables are presented in SI, Tables 4a and 4b).

Second, we test whether the results discussed in the previous section (where post-electoral protest intensity is measured over a thirteen-month period between 4 March 2012 and 24 April 2013) hold when post-electoral protest intensity is measured over a shorter, three-month, period between 4 March 2012 and 4 June 2012. A causal interpretation of our results hinges on the assumption that the strength of election-day fraud is indeed the *immediate* cause of the post-electoral change in protest intensity. However, it is increasingly unlikely that protests that happened six, nine, and twelve months after the election have election fraud as their immediate source of grievance and are not caused, instead, by issues related to post-electoral regional developments that might be correlated (not necessarily via a causal link) with the strength of election-day fraud. Post-electoral protests reported immediately after elections are perhaps more likely to be directly related to electoral process

issues. The tests that we report in SI, Table 5, confirm that the last-digit fraud measure $Deviance_0$ is statistically significant both in the *3-month Post-electoral Protest* regressions and in the *3-month Post-electoral Political protest* regressions, supporting HY2. We further show that the positive correlation between fraud and post-electoral change in protests is robust to the inclusion of a control variable that measures the geographical *Distance from Moscow* (in '000s km), both in the thirteen-month and in the three-month specifications. Overall, we are satisfied that the results are robust to alternative specifications.

Table 3. Determinants of post-electoral regional protest intensity, negative binomial regressions

| | M1 <i>Post-electoral Protest</i> | M2 <i>Post-electoral Protest</i> | M3 <i>Post-electoral Political Protest</i> | M4 <i>Post-electoral Political Protest</i> |
|--|--|--|--|--|
| <i>Log(Deviance₀) (Last Digit Fraud Index based on observed frequencies of Last Digit Zeros)</i> | 0.0994* (0.0446) | 0.109** (0.0373) | 0.138+ (0.0776) | 0.149* (0.0696) |
| <i>Log (Deviance₁₋₉) (Last Digit Fraud Index based on relative frequencies of last digits 1 to 9)</i> | -0.0477 (0.167) | -0.0216 (0.189) | -0.0455 (0.219) | 0.00695 (0.247) |
| <i>Log total number of polling stations in the region</i> | 0.124 (0.208) | 0.316 (0.192) | -0.188 (0.315) | 0.155 (0.230) |
| <i>Urbanization</i> | 0.00808 (0.0128) | | -0.00383 (0.0138) | |
| <i>Fiscal transfers</i> | -1.521 (0.975) | | -2.494+ (1.362) | |
| <i>Russians</i> | -0.513 (0.666) | | -0.573 (0.823) | |
| <i>Media freedom</i> | -0.184 (0.118) | -0.167 (0.117) | -0.0651 (0.151) | -0.0936 (0.171) |
| <i>Oblast</i> | | 0.265 (0.295) | | 0.437 (0.464) |
| <i>Income</i> | | 0.00783 (0.0149) | | -0.00972 (0.0172) |
| <i>Log (1+ Pre-election protest)</i> | 1.062** (0.117) | 1.041** (0.114) | | |
| <i>Log, (1+ Pre-election political protest)</i> | | | 1.272** (0.157) | 1.256** (0.124) |
| <i>Constant</i> | -2.301 (2.023) | -4.302** (1.050) | 0.405 (3.044) | -3.772** (1.446) |
| Pseudo R ² | 0.2892 | 0.2791 | 0.2856 | 0.2762 |
| Obs. | 77 | 77 | 77 | 77 |
| Wald chi2 | Chi2(8) = 305.53 | Chi2(7) = 401.17 | Chi2(8) = 170.69 | Chi2(7) = 288.82 |
| LR test for overdispersion | 33.66** | 42.01** | 10.47** | 15.06** |

Note: Robust standard errors in parentheses; + p<.1, * p<.05, ** p<.005

Conclusion

Our study indicates that Russian citizens were sensitive to signals about fraud perpetrated in their regions and challenged it by participating in post-electoral street rallies. As such, it corroborates insights from cross-national analyses suggesting that “the general public—individually and collectively—is capable of making fairly accurate assessments about the quality of elections occurring in their own country” (Norris 2014, p. 91). As Pippa Norris found, popular perceptions of the likelihood that fraud and other types of malpractice have occurred can be remarkably congruent with those of independent international experts specifically tasked with monitoring and assessing the quality of elections (Norris 2014, p. 99). The analysis presented in this paper makes several, more specific, contributions to the literature on electoral protest. First, our methodological strategy highlights the importance of incorporating sub-national street rallies into analyses of post-electoral mobilization. We accept that large-scale protests occurring in national capitals—which have been the focus of much of the literature on electoral protest—can have significant implications for regime stability in competitive authoritarian states. Yet, a preoccupation with protesters congregating in large cities might obscure the significance of provincial rallies, which, as our study has demonstrated, may have important signalling effects in terms of generating awareness among the citizenry about fraud. Second, as noted earlier, there is some ambiguity in the literature as to whether fraud has a galvanizing effect on protest, or, alternatively, whether it can in fact dampen enthusiasm for street mobilization to challenge the regime. Many more studies have tended to regard fraud as a galvanizing force for protest than those which have argued that the opposite tendency is usually at work. Yet, the former have drawn their empirical insights from a handful of high-profile successful electoral revolutions. Our sub-national approach allows us to further interrogate—and find support for—those assumptions that highlight the protest-generating potential of fraud. Unlike the earlier research however, we do not select

our cases based on a successful electoral protest outcome; rather, we employ a large number of observations corresponding to virtually all of Russia's regions, among which we find significant variations both in terms of their propensity to commit fraud and in terms of the intensity of street protest.

We accept that there may be a tendency of sub-national clients of the national regime to resort to multiple strategies of malpractice to ensure the desired result in the elections. In fact, in another paper we demonstrate that regional officials are likely to have used a variety of complementary types of electoral misconduct in the 2012 elections (Skovoroda and Lankina 2016). For instance, the strategy of tampering with ballots and vote counts is likely to have been augmented with both the pre-electoral manipulations, such as pressurising citizens to vote for the "right" candidate; and other election-day types of misconduct, such as, for instance, obstructing the work of electoral monitors at a given polling station. Our results may thus pick up the sensitivity of citizens to these different, more easily observable, manipulative and fraudulent tactics, and not just the sensitivity to the type of fraud used as a measure in our study.⁵ Yet, insofar as regional officials tend to resort to the fraudulent and manipulative strategies in a complementary fashion, the last-digit fraud measure that we employ may be regarded as a reasonably accurate measure of the general propensity of regions to commit violations of electoral integrity. Furthermore, unlike with many other types of misconduct, the value of the last-digit type of fraud measure that we employ is that it can be systematically captured in statistical analysis.

Finally, our findings indicate that sub-national post-electoral protest could be regarded as an additional mechanism for uncovering spatial variations in fraud, complementary to the "forensic" techniques discussed in this paper. Protests could also complement the formal mechanisms of electoral scrutiny such as election monitoring and observation, which, as a number of recent studies have noted, can be effective both at

exposing fraud and preventing it (Birch and Ham 2014; Hyde and Marinov 2014; Hyde 2007) (but see (Simpser and Donno 2012)). Although beyond the scope of this study, relatedly, we may also conjecture that protest may serve as an additional signalling mechanism in cases where rulers seek to “displace” (Ichino and Schuendeln 2012) fraud from one locality to another as a way of avoiding electoral scrutiny by monitors who are often spread thinly across the territory of a particular country and do not usually cover each and every electoral precinct.

We accept that there are a number of scope restrictions qualifying the conditions under which our findings apply. As noted earlier, some scholars see fraud as *the motor* of street contention (Tucker 2007). This line of theorizing however would stop short of explaining why fraud often goes unchallenged (Beissinger 2007; Bunce and Wolchik 2011; Simpser 2013; Tucker 2007). Our objective has been to analyse the implications of locally-perpetrated fraud for sub-national protest during a period of heightened mobilization against an autocratic regime. Such episodes of contention occur where factors conducive to the genesis of protests are already at work, most notably a constellation of propitious national political opportunities (Greene 2013; Tarrow 1996). Street action might also represent a culmination of a long-term process of accumulation of skills, experiences, and cultural capital essential for generating anti-systemic challenge (Robertson 2007; 2013). Furthermore, fraud might go unchallenged during several electoral periods, yet, over the long-term it may erode system legitimacy, galvanizing protests.

Further analysis is also warranted of the mechanisms of signalling fraud, which might mediate the causal links between fraud and protest uncovered in our research. Does mass protest indicate political opposition strength in a given region and its capacity to furnish electoral monitors, who then expose fraud? We know that political competition may promote the exposure of dirty tricks by rival candidates, for instance (Sharafutdinova 2011). Is it the

case that regions with more protest also those where the media environment is relatively open enabling the dissemination of credible signals about fraud? While our analysis and robustness checks do not indicate that independent regional media significantly affect the propensity to protest, we are aware that online social media, which we do not incorporate into the statistical analysis part of our study, had been particularly instrumental in exposing fraud in Russia's 2011-2012 elections. Although we provide some illustrative examples of the information dissemination role of the social media in exposing fraud in Russia (see SI), more systematic analysis is required to ascertain how these signalling effects worked to rally citizens in the various regions.

Finally, as a post-script to our study, we would like to acknowledge the uncertain implications of dramatic citizen mobilization for a country's democratic prospects (Bermeo 1997; Goldstone 2001). Nevertheless, our research underlines the potentially corrosive effects of local contention on the spatial component of hybrid regimes' efforts at self-reproduction.

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Notes

¹ The approach also has limitations. The tests are robust to various data generating processes, but target a particular type of fraud mostly consisting of writing in made-up numbers in the polling stations' return sheets. These tests may not detect forced voting, multiple voting, and ballot stuffing.

² We are grateful to the anonymous referee for encouraging us to justify and sharpen our use of the various terms. Smyth et al. (2013, p. 25), in what is different from our approach, characterise Russia's regime at the time of the 2012 elections as electoral authoritarian in that electoral competition is combined with "elements of coercion and manipulation."

³ Oxford Scholarship Online pagination

<http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199680320.001.0001/acprof-9780199680320-chapter-10?print=pdf>

⁴ Currently, they are affiliated with the Higher School of Economics in Moscow, but the ratings have been developed as part of the Moscow Carnegie Centre's project to monitor democratic variations in Russia's regions.

⁵ We are grateful to the anonymous referee for suggesting this point.

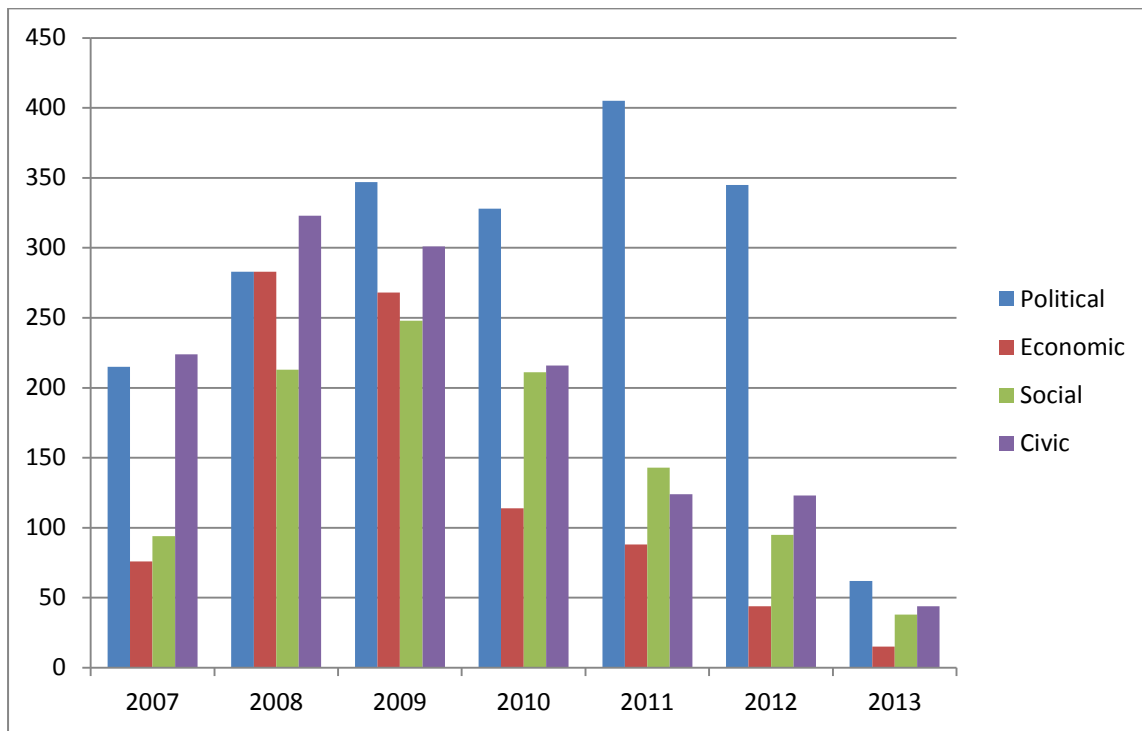
Tomila Lankina and Rodion Skovoroda

**Supporting Information for paper: Regional Protest and Electoral Fraud: Evidence
from Analysis of New Data on Russian Protest**

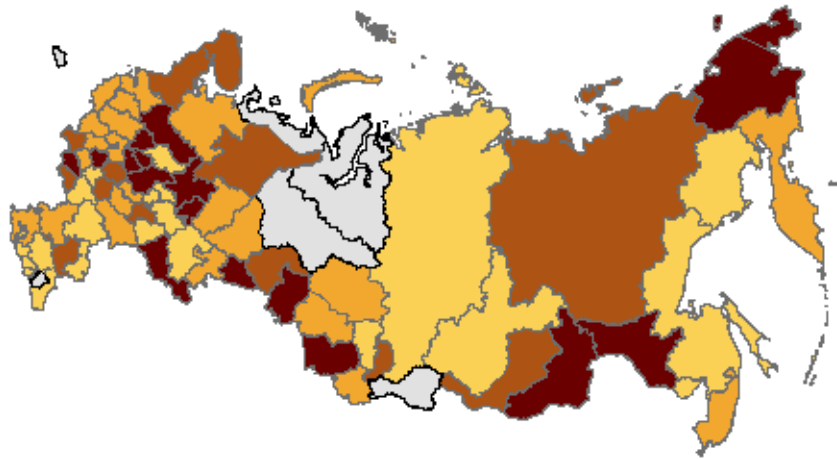
Table 1. The 2012 Presidential elections summary statistics

| | Aggregate | Polling stations | | |
|--|-------------------|--------------------------------|--------|--------------------------------|
| | Official count | 10 th percentile | Median | 90 th percentile |
| Polling station size (number of registered voters) | | 159 | 1001 | 2409 |
| Turnout (%) | 65.26 | 53.49 | 66.04 | 94.01 |
| Vote counts (%) | | | | |
| <i>Vladimir Putin</i> | 63.60 | 50.52 | 64.40 | 86.15 |
| <i>Gennadiy Zyuganov</i> | 17.18 | 5.79 | 16.85 | 25.78 |
| <i>Mikhail Prokhorov</i> | 7.98 | 0.71 | 4.97 | 13.45 |
| <i>Vladimir Zhirinovskiy</i> | 6.22 | 1.47 | 6.40 | 10.45 |
| <i>Sergey Mironov</i> | 3.85 | 0.62 | 3.42 | 6.14 |

Figure 1. Over time trends in counts of various types of protests. The 2007 data are for March-December, and the 2013 data are for January-April.



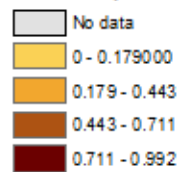
Figures 2-4. Spatial patterns of fraud and protest. Note: On the fraud map, *denser* shades indicate *lower* probability of fraud; on the protest maps *denser* shades indicate *higher* protest counts. Period 1 protests refers to the period 16.03.2007 to 3.03.2012. Period 2 protests refer to the period 4.03.2012 to 24.04.2013.



Fraud in 2012 elections

83 federal subjects

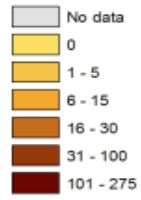
Wald test p-value (lower values mean higher likelihood of fraud)

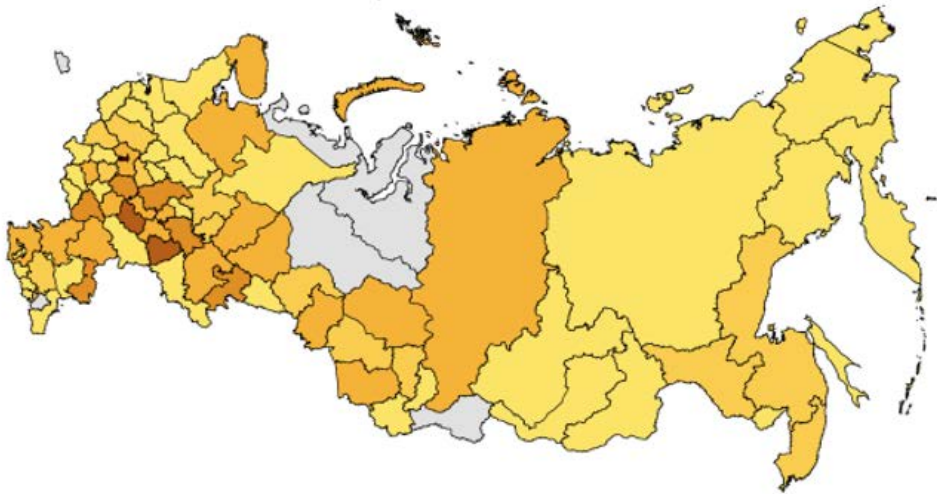




Number of political protests in period 1

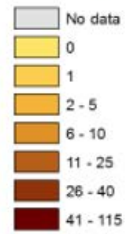
83 federal subjects





Number of political protests in period 2

83 federal subjects



**Table 2. Turnout in the 2012 Presidential elections by region, %
(regions arranged by highest turnout)**

| Turnout 2012 | |
|----------------------|-------|
| Chechnya | 99.61 |
| Yamalo-Nenetsk AO | 93.35 |
| Tyva | 92.62 |
| Karachay-Cherkessiya | 91.28 |
| Dagestan | 91.10 |
| Mordoviya | 89.58 |
| Ingushetiya | 86.47 |
| Tatarstan | 83.00 |
| Chukotka AO | 81.56 |
| North Ossetia | 80.71 |
| Tyumen | 79.15 |
| Kemerovo | 79.10 |
| Bashkortostan | 76.32 |
| Sakha | 74.50 |
| Belgorod | 74.34 |
| Chuvash | 73.64 |
| Kabardino-Balkariya | 73.05 |
| Mari El | 70.85 |
| Krasnodar | 70.78 |
| Tambov | 70.08 |
| Komi | 70.04 |
| Tula | 69.45 |
| Penza | 68.12 |
| Orel | 68.04 |
| Voronezh | 67.99 |
| Altai Republic | 67.25 |
| Bryansk | 66.97 |
| Nizhhegorodskaya | 66.89 |
| Saratov | 66.44 |
| Buryatia | 66.15 |
| Lipetsk | 65.63 |
| Khakassia | 64.69 |
| Udmurtiya | 64.39 |
| Adygeya | 64.33 |
| Kurgan | 64.16 |
| Ryazan | 64.15 |
| Primorsky | 64.14 |
| Khanty Mansi | 64.06 |
| Kursk | 64.02 |
| Volgograd | 63.81 |
| Rostov | 63.73 |

| | |
|----------------|-------|
| Ulyanovsk | 63.52 |
| Kaluga | 63.51 |
| Yaroslavsk | 63.48 |
| Leningrad | 63.24 |
| Novosibirsk | 63.23 |
| Chelyabinsk | 62.71 |
| Nenetsk AO | 62.49 |
| St. Petersburg | 62.05 |
| Kalmykiya | 62.01 |
| Khabarovsk | 61.92 |
| Omsk | 61.65 |
| Vologda | 61.63 |
| Kostroma | 61.43 |
| Moscow Oblast | 61.34 |
| Kirov | 61.31 |
| Orenburg | 61.19 |
| Pskov | 61.19 |
| Kamchatka | 61.07 |
| Samara | 60.78 |
| Murmansk | 60.43 |
| Amur | 60.35 |
| Stavropol | 60.27 |
| Altai Krai | 59.93 |
| Zabaikalsky | 59.93 |
| Ivanovo | 59.93 |
| Krasnoyarsk | 59.47 |
| Kaliningrad | 59.29 |
| Smolensk | 59.04 |
| Magadan | 58.96 |
| Sverdlovsk | 58.79 |
| Tver | 58.70 |
| Novgorod | 58.64 |
| Jewish AO | 58.52 |
| Tomsk | 58.23 |
| Arkhangelsk | 58.16 |
| MoscowCity | 58.11 |
| Sakhalin | 57.25 |
| Astrakhan | 56.21 |
| Irkutsk | 56.01 |
| Karelia | 55.38 |
| Perm | 55.09 |
| Vladimir | 53.07 |

Source: Central Election Commission of the Russian Federation.

http://www.vybory.izbirkom.ru/region/region/izbirkom?action=show&root=1&tvd=100100031793509&vrn=100100031793505®ion=0&global=1&sub_region=0&prver=0&pronetvd=null&vibid=100100031793509&type=227

Table 3. Vote share for the winning candidate in the 2012 Presidential elections by region, % (regions arranged by highest vote share)

| Vote share 2012 | |
|------------------------|-------|
| Chechnya | 99.76 |
| Dagestan | 92.84 |
| Ingushetia | 91.91 |
| Karachay-Cherkessiya | 91.36 |
| Tyva | 90 |
| Mordovia | 87.06 |
| Yamalo-Nenetsk AO | 84.58 |
| Tatarstan | 82.7 |
| Kabardino-Balkariya | 77.64 |
| Kemerovo | 77.19 |
| Bashkortostan | 75.28 |
| Tyumen | 73.1 |
| Chukotka AO | 72.64 |
| Tambov | 71.76 |
| Saratov | 70.64 |
| Kalmykiya | 70.3 |
| North Ossetia | 70.06 |
| Sakha | 69.46 |
| Astrakhan | 68.76 |
| Tula | 67.77 |
| Altai Republic | 66.87 |
| Khanty Mansi | 66.41 |
| Buryatiya | 66.2 |
| Udmurtiya | 65.75 |
| Zabaikalsky | 65.69 |
| Chelyabinsk | 65.02 |
| Komi | 65.02 |
| Sverdlovsk | 64.5 |
| Stavropol | 64.47 |
| Penza | 64.27 |
| Adygeya | 64.07 |
| Bryansk | 64.02 |
| Nizhhegorodskaya | 63.9 |
| Krasnodar | 63.72 |
| Volgograd | 63.41 |
| Kurgan | 63.39 |
| Perm | 62.94 |
| Amur | 62.84 |
| Rostov | 62.66 |
| Chuvash | 62.32 |
| Leningrad | 61.9 |
| Ivanovo | 61.85 |
| Jewish AO | 61.59 |

| | |
|----------------|-------|
| Voronezh | 61.34 |
| Lipetsk | 60.99 |
| Kursk | 60.45 |
| Krasnoyarsk | 60.16 |
| Murmansk | 60.05 |
| Mari El | 59.98 |
| Kamchatka | 59.84 |
| Ryazan | 59.74 |
| Pskov | 59.69 |
| Vologda | 59.44 |
| Belgorod | 59.3 |
| Kaluga | 59.02 |
| St. Petersburg | 58.77 |
| Samara | 58.56 |
| Khakassiya | 58.4 |
| Ulyanovsk | 58.18 |
| Tver | 58.02 |
| Arkhangelsk | 57.97 |
| Kirov | 57.93 |
| Novgorod | 57.91 |
| Altai Krai | 57.35 |
| Primorsky | 57.31 |
| Tomsk | 57.07 |
| Nenets AO | 57.05 |
| Orenburg | 56.89 |
| Moscow Oblast | 56.85 |
| Smolensk | 56.69 |
| Novosibirsk | 56.34 |
| Sakhalin | 56.3 |
| Magadan | 56.25 |
| Khabarovsk | 56.15 |
| Omsk | 55.55 |
| Irkutsk | 55.45 |
| Kareliya | 55.38 |
| Yaroslavl | 54.53 |
| Vladimir | 53.49 |
| Orel | 52.84 |
| Kostroma | 52.78 |
| Kaliningrad | 52.55 |
| Moscow City | 46.95 |

Source: Central Election Commission of the Russian Federation.

http://www.vybory.izbirkom.ru/region/region/izbirkom?action=show&root=1&tvd=100100031793509&vrn=100100031793505®ion=0&global=1&sub_region=0&prver=0&pronetvd=null&vibid=100100031793509&type=227

Table 4a. Determinants of post-electoral political protest intensity, alternative control variables, negative binomial regressions

| Dependent variable: Post-electoral Political Protest | | | | | | |
|--|----------------------|----------------------------|------------------------|---------------------|-----------------------------|----------------------------|
| Political control variable = | <i>Civil Society</i> | <i>Political Structure</i> | <i>Self-governance</i> | <i>Openness</i> | <i>Democratic Elections</i> | <i>Political Pluralism</i> |
| <i>Log(Deviance₀)</i> (Last Digit Fraud Index based on observed frequencies of Last Digit Zeros) | 0.155* (0.0693) | 0.144* (0.0706) | 0.165* (0.0711) | 0.135* (0.0671) | 0.152* (0.0691) | 0.167* (0.0646) |
| <i>Log(Deviance₁₋₉)</i> (Last Digit Fraud Index based on relative frequencies of last digits 1 to 9) | 0.0826 (0.251) | 0.0418 (0.249) | 0.125 (0.244) | 0.0388 (0.249) | 0.0511 (0.250) | 0.0205 (0.258) |
| <i>Log total number of polling stations in the region</i> | 0.157 (0.238) | 0.0930 (0.221) | 0.124 (0.237) | 0.0785 (0.245) | 0.153 (0.233) | 0.166 (0.250) |
| <i>Political control variable</i> | -0.0853 (0.0177) | 0.185 (0.187) | -0.217 (0.185) | 0.167 (0.159) | -0.185 (0.167) | -0.360 (0.224) |
| <i>Oblast</i> | 0.407 (0.402) | 0.241 (0.436) | 0.600 (0.516) | 0.246 (0.409) | 0.571 (0.442) | 0.632+ (0.327) |
| <i>Income</i> | -0.00811 (0.0178) | -0.0138 (0.0149) | -0.0190 (0.0218) | -0.0188 (0.0170) | -0.0126 (0.0188) | -0.0138 (0.0155) |
| <i>Log, (1+ Pre-election political protest)</i> | 1.238** (0.107) | 1.252** (0.113) | 1.233** (0.114) | 1.242** (0.119) | 1.207** (0.109) | 1.240** (0.107) |
| <i>Constant</i> | -3.766* (1.379) | -3.943** (1.380) | -3.218* (1.459) | -3.735* (1.353) | -3.385* (1.439) | -3.351 (1.431) |
| Pseudo R ² | 0.2758 | 0.2771 | 0.2788 | 0.2774 | 0.2795 | 0.2851 |
| Obs. | 77 | 77 | 77 | 77 | 77 | 77 |
| Wald chi2 | Chi2(7) = 299.81 | Chi2(7) = 351.39 | Chi2(7) = 213.79 | Chi2(7) = 277.69 | Chi2(7) = 282.54 | Chi2(7) = 380.80 |

Note: Robust standard errors in parentheses; + p<.1, * p<.05, ** p<.005

Table 4b. Determinants of post-electoral political protest intensity, alternative control variables, negative binomial regressions

| Dependent variable: Post-electoral Political Protest | | | | | | |
|--|----------------------|----------------------------|------------------------|---------------------|-----------------------------|----------------------------|
| Political control variable = | <i>Civil Society</i> | <i>Political Structure</i> | <i>Self-governance</i> | <i>Openness</i> | <i>Democratic Elections</i> | <i>Political Pluralism</i> |
| <i>Log(Deviance₀)</i> <i>(Last Digit Fraud Index based on observed frequencies of Last Digit Zeros)</i> | 0.150+ (0.0794) | 0.126+ (0.0755) | 0.142+ (0.0772) | 0.121 (0.0755) | 0.147+ (0.0765) | 0.156* (0.0736) |
| <i>Log (Deviance₁₋₉)</i> <i>(Last Digit Fraud Index based on relative frequencies of last digits 1 to 9)</i> | -0.0253 (0.208) | -0.0742 (0.218) | -0.0321 (0.2226) | -0.0851 (0.219) | -0.0623 (0.223) | 0.0518 (0.230) |
| <i>Log total number of polling stations in the region</i> | -0.188 (0.327) | -0.255 (0.310) | -0.205 (0.324) | -0.280 (0.336) | -0.210 (0.323) | -0.173 (0.346) |
| <i>Urbanization</i> | -0.00430 (0.0139) | -0.0116 (0.0142) | -0.00531 (0.0143) | -0.0105 (0.0149) | -0.00358 (0.0137) | -0.00254 (0.0141) |
| <i>Fiscal transfers</i> | -2.596+ (1.391) | -2.560+ (1.332) | -2.497+ (1.369) | -2.617* (1.362) | -2.539+ (1.361) | -2.321 (1.447) |
| <i>Russians</i> | -0.546 (0.827) | -0.849 (0.805) | -0.527 (0.871) | -0.794 (0.806) | -0.349 (0.788) | -0.287 (0.845) |
| <i>Political control variable</i> | -0.109 (0.171) | 0.236 (0.199) | -0.0665 (0.191) | 0.176 (0.156) | -0.143 (0.149) | -0.246 (0.249) |
| <i>Log, (1+ Pre-election political protest)</i> | 1.269** (0.146) | 1.297** (0.149) | 1.256** (0.153) | 1.267** (0.160) | 1.229** (0.147) | 1.238** (0.151) |
| <i>Constant</i> | 0.588 (3.125) | 0.680 (3.088) | 0.614 (3.139) | 0.989 (3.161) | 0.765 (3.164) | 0.392 (3.335) |
| Pseudo R ² | 0.2864 | 0.2882 | 0.2855 | 0.2881 | 0.2877 | 0.2902 |
| Obs. | 77 | 77 | 77 | 77 | 77 | 77 |

| | | | | | | |
|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Wald chi2 | Chi2(8) = 182.19 | Chi2(8) = 232.33 | Chi2(8) = 154.31 | Chi2(8) = 149.23 | Chi2(8) = 150.09 | Chi2(8) = 188.55 |
|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|

Note: Robust standard errors in parentheses; + p<.1, * p<.05, ** p<.005

Table 5. 12-month and 3-month post-electoral regional protest intensity, negative binomial regressions

| Dependent variable: | M1 <i>13-Month post-electoral protest, period 4.03.2012 to 24.04.2013</i> | M2 <i>3-Month post- electoral protest, period 4.03.2012 to 4.06.2012</i> | M3 <i>13-Month post-electoral political protest, period 4.03.2012 to 24.04.2013</i> | M4 <i>3-Month post- electoral political protest, period 4.03.2012 to 4.06.2012</i> |
|--|--|---|--|---|
| <i>Log(Deviance₀) (Last digit fraud index based on observed frequencies of last digit zeros)</i> | 0.126** (0.0413) | 0.180* (0.0739) | 0.168* (0.0702) | 0.255* (0.101) |
| <i>Log (Deviance₁₋₉) (Last digit fraud index based on relative frequencies of last digits 1 to 9)</i> | -0.0717 (0.162) | -0.138 (0.239) | -0.0714 (0.222) | -0.200 (0.278) |
| <i>Log total number of polling stations in the region</i> | 0.0795 (0.205) | 0.0450 (0.365) | -0.163 (0.310) | -0.219 (0.378) |
| <i>Distance from Moscow</i> | -0.124+ (0.0712) | -0.123 (0.0963) | -0.139+ (0.0768) | -0.0860 (0.109) |
| <i>Fiscal transfers</i> | -1.340* (0.479) | -2.226* (0.848) | -1.818 (1.138) | -3.028* (1.296) |
| <i>Media freedom</i> | -0.134 (0.114) | -0.312* (0.132) | -0.0592 (0.147) | -0.246 (0.179) |
| <i>Log (1+ Pre-election protest)</i> | 1.043** (0.0987) | 0.987** (0.156) | | |
| <i>Log, (1+ Pre-election political protest)</i> | | | 1.184** (0.143) | 1.130** (0.160) |
| <i>Constant</i> | -1.717 (1.295) | -1.312 (2.297) | -0.218 (2.591) | 0.754 (2.908) |
| Pseudo R ² | 0.2933 | 0.2820 | 0.2899 | 0.2798 |
| Obs. | 77 | 77 | 77 | 77 |
| Wald chi2 | Chi2(7) = 333.05 | Chi2(7) = 283.21 | Chi2(7) = 200.40 | Chi2(7) = 195.48 |

Note: Robust standard errors in parentheses; + p<.1, * p<.05, ** p<.005

Protest Data

We here provide more detail on the protest dataset that we assembled, acknowledging both the merits and limitations of our data and coding. The dataset that we assembled from the *namarsh.ru* website encompasses both small-scale acts and large-scale demonstrations involving tens of thousands of people with diverse political preferences. It includes localised political protests, such as demands to remove corrupt mayors and those targeting national authorities. It also covers a wide range of protest issues. Aside from political protests, the data include street protests motivated by socio-economic grievances like frustration over wage arrears; and cultural issues, for instance when activists protest against the destruction of monuments or the closure of a local museum. Events organized by the governing United Russia (UR) party or pro-government youth movements are excluded from the analysis.

When analyzing Russian protest data obtained from another opposition website run by the Institute of Collective Action (IKD), Robertson (2013) points out that some degree of ambiguity of intentions is likely to characterize the compilations of the various political websites. For instance, there might be a tendency to over-report political protests or under-report those representing protesters in a negative light. Furthermore, Robinson and Reuter compiled Russian regional protest data based on protest reporting by the Russian Communist Party (KPRF), and found that it only partially correlates with reporting by the more liberal political sources (Robertson and Reuter 2013).

We acknowledge that our reliance on *namarsh.ru* might present similar issues of over- and under-reporting. Nevertheless, the data provide a reasonably accurate portrait of general protest trends. They dovetail with public opinion polls about the intentionality of participation and citizen activism across the various time periods and regions (Petrov 2005).

Cross-validation with Robertson's protest dataset. Robertson's data, which are based on the IKD source for 2007-2012, cover the period January 2007 to March 2012 and comprise 5540 protest events across 74 regions. Regional (Log) protest counts across the two datasets over the five year period March-2007 to March-2012 are highly correlated with a correlation coefficient of 77%. Our full dataset covers the period 16 March 2007 to 24 April 2013.

Criteria for coding political protests. We coded as "political" the following types of protest. (Although protests contain multiple demands, we highlight what types of demands tend to be advanced in protests that we code as *political*, and list them as separate bullet points, for analytical clarity).

- Generally, these are anti-government protests with broad agendas. (These protests may include other issues, but criticism of regime/ government policy/ politics or demands for the protection of political rights form the crux of the event). These events are often organised by the political opposition, though they are not exclusive to one particular party or civic movement. These include events like the March of the Millions, a mass civic march organised by the political opposition, and Strategiya-31 civic meetings organised in support of the right to peaceful assembly. We also coded as political anti-government protests organized by nationalist activists (excluding those sponsored by the government).
- Protests more narrowly concerned with electoral fraud, rather than, say, merely featuring calls for resignation of national leaders are also coded as *political*. The largest wave of these protests occurred between December 2011 and May 2012. They were spurred by electoral violations that occurred during the legislative and

presidential elections. Protests against local and regional instances of electoral fraud are also included.

- Protests calling for resignation of elected or appointed officials at all levels of government are also coded as *political*.
- Protests against political repression and associated actions are also coded as *political*. These protests include protests for the release of those apprehended for political reasons (including protesters who were apprehended for taking part in street rallies), protests organized by the group Memorial commemorating deaths related to political repression, protests in support of political activists, protests against police abuse and repression of political activists.
- Protests against specific aspects of Russian foreign policy, such as those against Russia's cooperation with Japan over the Kuril Islands, or protests in support of political events abroad, such as those expressing solidarity with anti-regime protesters elsewhere, are likewise coded as *political*.

Regional Signals About Fraud

What are the precise causal mechanisms accounting for citizen awareness of electoral irregularities perpetrated in their region? The 2011 and 2012 elections generated unprecedented citizen mobilization to expose irregularities perpetrated in favour of the Putin-Medvedev regime. Social media played a particularly strong role in generating and spreading information about misconduct. In this section, for illustrative purposes, we provide some examples of how citizens picked up information about fraud in specific precincts and how they then generated awareness about fraud by disseminating this information widely. Specifically, we draw on You-tube videos exposing fraud and other types of misconduct perpetrated during both the 2011 and 2012 Parliamentary and Presidential elections and that were widely circulating in Russia's blogosphere and are still available for downloading. The videos were taken by those who volunteered to be election monitors, ordinary citizens, and opposition party political activists. The videos put the spotlight on precinct officials, catching them in the act of committing fraud.

One video is taken by an activist, who had positioned himself on a higher level gallery overlooking the room where voting takes place. The video zooms in on an unsuspecting precinct official entering information into bulletins. The volunteer first calls the official by name: "Greetings, Nikolay Alekseevich!" He then loudly addresses the other people in the room asking if the election monitors are present, and if so, whether they would come forward. He then announces to the people in the room that the chairman of the election commission is perpetrating an act that has criminal consequences, namely that he is tampering with the ballots. The official is visibly nervous, and one can see on the camera how he tries to shift around the papers on his desk. The witness presses on: "You have all just been witnesses to a criminal act perpetrated by the chairman of the commission." The official asks the individual taking the video to leave.ⁱ

On another video, taken during the December 2011 elections, a female journalist, filming a female precinct electoral official, demands to be present at the counting of ballots after polling had ended. The official referred to as the “chairperson of the electoral commission” demands that the journalist leave the premises. The journalist introduces herself and asks the official to introduce herself in turn. This she repeatedly refuses to do. Eventually, the election official, who appears very agitated, threatens that she will call the police. The police officer appears and the recording stops. In the background to this scene, one sees a door that has the first three letters of the Russian alphabet and above them a sign “3 B.” This indicates that the polling station is likely to be a school. This incident was subsequently reported in online media, revealing that it occurred at School No. 320 of the Primorsky district of the city of St. Petersburg, which housed two polling stations. The written commentary to the video also indicates that contrary to the assertions of the election official, journalists have a legal right to be present when the ballots are counted.ⁱⁱ

A video taken in another precinct shows three female electoral candidates from opposition parties Just Russia and Yabloko speaking to the camera about being barred from exercising their legal right to inspect the electoral documents, which, their statements imply, had been tampered with. In particular, they note the discrepancies between the number of people who voted and the records of a much larger number of votes ostensibly cast, in the electoral documents. They also note that election monitors had been earlier removed from the station. The women display official proof of their candidate status and studiously recite specific items in the Russian federal legislation about their rights and legal responsibility of the respective electoral officials to facilitate their right to observe the elections. The camera shows visibly nervous officials sitting at their desk trying to cover the papers that they had been writing in, with their hands. The police appear, a scuffle ensues, and the women are removed from the polling station.ⁱⁱⁱ

Other strategies were also employed to increase citizen awareness of regional fraud. Street rallies that took place around the time of the elections had loudspeakers set up, and ordinary people could use them to name and shame individuals engaging in electoral manipulations. For instance, students reported intimidation and threats of dismissals by university deans should they turn up at protest demonstrations, not turn up to vote, or do not vote for the “right candidate.”^{iv} The names of precinct pre-election manipulators and election-day *falsifikatory* (falsifiers) in some regions featured in print and online media, with bloggers actively soliciting names, affiliations, and official positions, of other fraudsters that they could post online.^v Furthermore, loud broadcasting of information about concrete officials or institutions engaging in manipulations and fraud to large public audiences in central squares of provincial cities—sometimes broadcast via web-cameras attached to computers present at rallies^{vi}—is bound to have increased citizen awareness of manipulations and fraud occurring in specific regions.

It is also important to note that around the time of the 2011-2012 elections, electoral fraud became a matter of concern to a broad spectrum of the citizenry to a far greater extent than in previous elections, transcending the narrower group of party-political actors with a direct stake in the electoral process as potential future power holders. An analysis of protest event descriptions indicates that while political parties featured strongly as organisers of protests in some regions, in others, key organizers were local civic groups or alliances of various civic and political groupings.^{vii} The cross-party and cross-actor solidarities which protests may have reinforced are illustrated in one of the You-tube videos of fraud discussed above, the particular incident involving female opposition party political candidates being thrown out of the polling station by the police. The women’s attempt to obstruct what they claim to be the writing in of fraudulent information in electoral protocols by precinct officials is being witnessed by several people, who are patiently queuing at the polling desk to have

their identities checked or obtain the appropriate paperwork so they could cast their vote. At some point one individual, a young man, steps out of the line and proclaims that he is happy to serve as witness to fraud, identifying himself as a voter. There is apparently no connection between the party activists and the man.^{viii}

Moscow Carnegie Centre Democracy Data (employed in robustness checks)

The composite index is constructed based on the following sub-indicators. The first is (1) *regional political organization*, an indicator evaluating the balance of powers between the executive and the legislative branches; the degree of independence of the courts and of law enforcement agencies, violations of citizens' rights. The second sub-indicator is (2) *openness of regional political life* and the transparency of regional politics. The third sub-indicator is (3) the *democratic nature of elections* at all levels. It assesses the extent to which elections are free and fair, the extent of electoral competition, the occurrence of electoral manipulations and restrictions on active and passive electoral rights. The fourth, (4) *political pluralism*, sub-indicator, assesses aspects of the party political process like the stability of regional party system, representation of parties in regional parliaments and the presence of political coalitions. The fifth sub-indicator concerns (5) *mass media*, specifically the degree of its independence from federal and regional authorities. The sixth, (6) *corruption* sub-indicator concerns the linkages between economic and political elites, the record of regional corruption scandals, etc. The seventh, (7) *economic liberalization* sub-indicator assess the extent of transparency of regional law and law enforcement bodies, particularly with regard to property rights. The eight, (8) *civil society*, sub-indicator assesses the extent of NGOs freedoms from regional authorities' interference, the practice of regional referenda and public protest activity. The ninth, (9) *elites*, sub-indicator captures the extent of elite pluralism and

the presence of leader rotation mechanisms. The tenth, (10) *municipal autonomy*, sub-indicator, captures the presence of elected municipal government institutions and the extent of their powers. (The data and discussion of the indices are available from: *Sotsial'nyy atlas Rossiyskikh regionov: Integral'nye indeksy*: http://atlas.socpol.ru/indexes/index_democr.shtml#methods). The 2006-2010 scores are available from (Petrov and Titkov 2013).

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- Petrov, Nikolay, and Alexei Titkov. 2013. *Reiting demokratichnosti regionov Moskovskogo tsentra Karnegi: 10 let v stroyu*. Moscow: Moscow Carnegie Center.

Notes

ⁱ <http://www.youtube.com/watch?v=MuKsnc6cl7g> (accessed 14 February 2014).

ⁱⁱ http://piter.tv/event/skandal_na_Optikov_ot_Go/ (accessed 14 February 2014).

ⁱⁱⁱ See video under the text titled “Neudachnaya popytka falsifikatsii, shkola No. 13” (unsuccessful attempt at electoral fraud, school No. 13) http://via-midgard.info/news/in_russia/17074-falsifikacii-na-vyborax.html (accessed 14 February 2014).

^{iv} See, for instance, the Krasnoyarsk section of the Wikipedia protests page: [Ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_\(2011-2012\)](http://ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_(2011-2012)) (accessed 14 February 2014).

^v See, for example, details of officials implicated in fraud in particular districts: <http://democrator.ru/complain/6045/6045> (accessed 14 February 2014).

^{vi} See, for instance, the Krasnoyarsk section of the Wikipedia protests page: [Ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_\(2011-2012\)](http://ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_(2011-2012)) (accessed 14 February 2014).

^{vii} See, for instance, the Nizhniy Novgorod section of the Wikipedia protests page referring to a 10 December 2011 rally:

[Ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_\(2011—2012\)](http://ru.wikipedia.org/wiki/хронология_акций_протеста_против_фальсификации_выборов_в_России_(2011—2012)); See also the following event descriptions from namarsh.ru:

<http://namarsh.ru/materials/4EEC79A27E200.html>

<http://namarsh.ru/materials/4EF6D701C5831.html>

<http://namarsh.ru/materials/4F5B1423124AE.html> (accessed 15 February 2014).

^{viii} http://via-midgard.info/news/in_russia/17074-falsifikacii-na-vyborax.html (accessed 15 February 2014).