Towards Detecting and Measuring Ballot Stuffing

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Summary

Despite its importance, electoral fraud suffers from a relative lack of attention in the academic literature. One of the main reasons for that is the absence of a reliable measure of fraud. Indeed, not only measuring but even detecting fraud is problematic. The existing methods of fraud detection are more qualitative than quantitative, often based on the subjective assessment of electoral transparency and fairness by observers or other participants of the electoral process, and the results they produce may not always be treated as fully reliable. The few attempts to rigorously analyze electoral data for the presence of fraud have usually required a large amount of data, which handicaps efforts to measure fraud, proxy it, or even detect it with some confidence. It further precludes implementing reliable empirical research, which in turn discourages efforts towards a theoretical study of the nature and consequences of electoral fraud.

This paper suggests a simple statistical method for testing elections for the presence of ballot stuffing and for estimating ballot stuffing magnitude, even when very limited official electoral data are available. The method is based on the observation that ballot stuffing increases both turnout and the incumbent's vote share in precincts where it occurs. If elections are not fraudulent, and there is a certain degree of homogeneity between electoral precincts, the distribution of turnout across precincts should be close to bell-shaped. In turn, ballot stuffing, when takes place in a given precinct, results in an increase both in reported turnout and in the incumbent's vote share. Consequently, such fraudulent precinct moves in turnout distribution towards its right tail. Hence, precincts with relatively low reported turnout are more likely to be clean. Using the information on relatively clean precincts, it is possible to simulate counterfactual data for "infected" precincts and compare them with the observed data. Extra incumbent's advantage over the runner-up in high reported turnout precincts in comparison to low turnout precincts then signals about ballot stuffing.

The method is first piloted on artificial and artificially fraudulent real data, and subsequently applied to test the fairness of the Russian executive elections in 2004, whose transparency and integrity are dubious. Results strongly reject the hypothesis of no ballot stuffing and suggest that at least 7 000 000 ballots in 2004 Russian elections were stuffed in favor of the incumbent.