

Detecting and Correcting Election Irregularities

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1 Introduction

In democratic elections, a primary goal should be that the preferences of all voters are accurately recorded and tabulated. We know in a general way that a variety of administrative choices affect the accuracy with which voter preferences are recorded. Everything from the kind of voting machines used and the format of ballots to the way that poll workers respond to voters' questions has been shown to affect the rate at which voters make mistakes or the rate at which other tabulation errors occur. But if one asks for a precise statement about the consequences of using a specific administrative practice instead of another, or if the question is which combination of election administrative procedures is best, it quickly becomes apparent that we know remarkably little. A repository of well-confirmed knowledge about the optimal way to manage elections does not exist. No methodology exists to assess in any systematic way how well the administrative practices currently being used in an area are working, nor to forecast with any reliability how much a contemplated change in procedures may improve the accuracy with which voters' intentions are counted.

In order to reduce our ignorance and improve election administration, we propose that elections be routinely monitored for irregularities. Routine monitoring is desirable to build an archive both of regular operating characteristics and of frequently occurring exceptional circumstances that may have little to do with election administration. An important reason to institute monitoring as a routinized practice is not only to foment a trajectory of steady improvements, but also to detect and correct problems before they become involved in crisis situations. We agree with the opinion stated by a three-judge panel of the U.S. Court of Appeals 9th Circuit, that the issue of the reliability and suitability of voting technology is "better resolved prophylactically than by bitter, post-election litigation over the legitimacy of the election, particularly where the margin of voting machine error may well exceed the margin of victory" (*Southwest Voter Registration Education Project v. Shelley*).

The current system of relying on ad hoc detection and litigation of electoral problems is unsatisfactory both normatively and practically. If an electoral irregularity is proven to have existed and likely to have affected the outcome, the ability of the courts to find suitable remedies has been limited. Implementations of remedies, such as a new election or statistical adjustments to the existing vote counts, have been rare. Even recounts of existing ballots have been stopped because concerns over the non-uniform or untested standards that may be employed (*Bush v Gore 2000*). Moreover, cases where an

irregularity is believed to have been pivotal are likely to be highly politicized and subject to complex litigation which makes reasonable discussion about administrative practices and reform unlikely.

We propose to systematically monitor and audit elections in a preventative fashion—to detect irregularities before they are alleged to have played a pivotal role in an election outcome. Our method of detection uses new statistical methods developed to detect anomalous counts (Mebane and Sekhon, forthcoming), combined with the rigorous evaluation of individual anomalies. Any anomaly should be investigated to determine whether it is the result of poor election administration, malfeasance, or simply the result of local political factors. By identifying problems, such as flawed voting machines and ballot formats, administrators will be better able to eliminate problems. Although our proposal provides a constant trajectory toward improvement, continual vigilance is required: a seemingly minor innovation in the manner of administering an election may have major consequences, and problems may only be observable under circumstances which do not occur in every election.

The new methods for detecting election irregularities have already been applied to the 2000 Presidential election and to the 2000 Parliamentary election in Canada (Wand, Shotts, Sekhon, Mebane, Herron, and Brady, 2001b; Wand, Sekhon, and Mebane, 2001a; Mebane and Sekhon, forthcoming). As discussed in detail below, three types of anomalies have been found: those which result from poor ballot design (e.g., the butterfly ballot), malfeasance (e.g., machine tampering in Jasper County, South Carolina) and innocuous political events (e.g., the extremely negative reaction to Gore among Cuban-Americans following the Elián González episode). It is important to distinguish between the types and to eliminate the first two.

Following the crisis in the U.S. Presidential election of 2000, the federal government passed the *Help America Vote Act of 2002* (HAVA, Public Law 107-252) in order to update voting technology, update minimum standards for technology and administration, and to provide federal assistance in the administration of federal elections. Although our methods were developed separately and prior to the enactment of this law, our proposal would help to meet several other goals outlined in HAVA. In general, the newly created Election Assistance Commission (EAC) has been directed through HAVA to “conduct and make available to the public studies regarding the election administration issues” (42 USC 15381).

Specifically, the proposed method for detecting electoral anomalies will assist in providing a nationwide method of identifying, investigating, and thus deterring malicious acts specifically noted in HAVA, including voting fraud and voter intimidation (42 USC 15381). Our method also enables the detection of administrative problems that occur without malicious intent. For example, the butterfly ballot in Palm Beach County, Florida, was the result of the general lack of knowledge about the impact of ballot design and the absence of testing of local administrative innovations rather than the result of malicious intent. More broadly, our method can help to evaluate what happens when voting systems encounter actual voters in real elections, and thus provide performance benchmarks. As such, it complements more traditional human factors research called for by HAVA.¹

As part of our proposal, we emphasize that it is important to retain complete data about each election and to make such data freely available to the public. Federal statutes already require that a limited range of documents relating to an election be retained for twenty-two months after an election (42 USC 1974).² We propose to extend the scope of the information that should be retained and disseminated to include the complete record of all ballot images. This means that a record of the complete set of all ballots cast for each election should be made publicly available, enumerating for each ballot the votes cast for all offices, including those deemed to be invalid for any reason. Currently the almost universal practice is to retain only vote count totals, sometimes even omitting counts of such things as undervotes and spoiled ballots. Generally only a summary of the official results of an election is assembled and made public. Little to no information is presented to facilitate an evaluation of voting processes or administrative practices. Ballot image data are one of the critical elements that will help in the evaluation of administrative practices.

This chapter proceeds by first reviewing existing practices for detecting and remedying electoral irregularities. The current lack of systematic monitoring and review of elections has resulted in problems being detected primarily when outcomes are disputed by partisan opponents. The difficulty of correcting errors in the administration of an election increases the urgency to diagnose existing problems before they are alleged to have affected which

¹HAVA calls for “human factor research, including usability engineering and human-computer and human-machine interaction, which feasibly could be applied to voting products and systems design to ensure the usability and accuracy of voting products, including methods to reduce voter error and the number of spoiled ballots in elections.” (42 USC 15383).

²This provision, part of the Civil Rights Act of 1960, often extends the length of time beyond state requirements. Voter registration records must be kept for two years under the provision of the 1993 National Voter Registration Act (42 USC 1973gg-6(i)).

candidate won. Second, we review the standards and current proposals for evaluating new voting machines and systems. Of particular note are new efforts to go beyond merely testing the accuracy of machines in a laboratory, and to consider that the interaction with actual voters is important. We argue that the cumulative impact of all administrative choices—from machines and ballot design to individual polling day instructions—needs to be jointly judged. Third, we describe our method of detecting voting irregularity, based on the statistical analysis of anomalous counts. Our method enables authorities and researchers to focus their attention on localities that may have had administrative problems but were not scrutinized because they were not pivotal in determining an election outcome. The method provides a method for systematically reviewing administrative systems, and diagnosing problems *before* they pivotally affect an election. Finally, we conclude by discussing extensions and how our detection method connects with other aspects of improving electoral administration in both established and transitioning democracies.

2 Electoral crises and remedies

In the event that an election outcome is changed by an irregularity in some aspect of its administration, there are few remedies and all are highly contentious. Possible remedies include holding new elections, recounting existing ballots, and the adjustment of existing votes based on statistical corrections for the alleged irregularity. New elections are difficult and costly, and used only rarely in egregious cases of vote tampering (Jasper, SC).

Recounts, which are generally quite common, may fail to address the root of the concern, such as intimidation which prevents voters from casting ballots or confusing ballots which cause voter error. Moreover, recounts have received criticism because of non-uniform and untested methods for re-evaluating what constitutes the intention of a voter (Bush v. Gore, 2000). Statistical adjustments are for many a distressing manner for selecting democratic representatives and while proposed in a few cases, they have not been used.³ In all cases,

³For the 2001 runoff election for mayor of Compton, California, election officials failed to randomly order names on the ballot as required by law. On the basis of statistical evidence drawn from studies of other elections, a Los Angeles County Superior Court Judge ordered that the winners be removed from office and replaced with their opponents. This decision was subsequently overturned, with the judge arguing that “while many courts and legislatures have recognized the advantage afforded to candidates whose names are listed first on the ballot, no judicial or statutory authority exists to reverse the results of an election where, due to unintentional clerical error, the ballot listed the candidates in the wrong alphabetical order.” (Bradley v. Perrodin, Court Of Appeal Of The State Of California, Second Appellate District Division One).

because the type of remedy is likely to confer expected benefits to one of the candidates, it is unlikely that the affected parties will agree what remedy is appropriate.

Both normatively and practically, the best way to protect the integrity of the fundamental democratic institution of voting is preventively. The current approach to fixing problems in electoral administration, however, is one fundamentally based on a “fire alarm model” (McCubbins and Schwartz, 1984), relying on the initiative of an individual or group to pull an alarm (by claiming that an irregularity affected the outcome) in order to instigate a reactive effort by authorities to remedy the situation. Our proposal for the active and systematic statistical monitoring of elections is akin to a “police patrol model,” with researchers walking the beat and investigating unusual patterns of activity.

In addition to the problems of finding a suitable remedy for elections that are affected by voting irregularities, there are limitations to the capacity of the current fire alarm approach to detect problems. Currently, detecting an irregularity is primarily the result of the fortuitous perceptiveness of local individuals who observe or suspect a problem. Until HAVA, there have been few provisions in the U.S. for systematically monitoring elections for integrity and accuracy. Any monitoring must in general be initiated by a state or local government, since “most states provide that no one except voters, election administrators, and perhaps party representatives may serve as poll watchers or even approach closer than fifty to one hundred feet from an open poll” (Donsanto and Stewart, 1995, 62).⁴ Since 1909 the federal government has restricted its own ability to monitor elections for federal offices by precluding FBI and U.S. Marshals from monitoring elections.⁵ The Justice Department is restricted in its ability to undertake any investigation during an election campaign because investigation may appear to “impinge on First Amendment rights of association and political expression” (Donsanto and Stewart, 1995, 61).⁶ Investigations by either the

⁴Except for Illinois which statutorily allows for federal poll watchers.

⁵ “Whoever, being an officer of the Army or Navy, or other person in the civil, military, or naval service of the United States, orders, brings, keeps, or has under his authority or control any troops or armed men at any place where a general or special election is held, unless such force be necessary to repel armed enemies of the United States, shall be fined under this title or imprisoned not more than five years, or both; and be disqualified from holding any office of honor, profit, or trust under the United States.” (18 USC 592, based on title 18, USC, 1940 ed., Sections 55 and 59, which in turn is based on Mar. 4, 1909, ch. 321, Sections 22, 26, 35 Stat. 1092, 1093).

⁶See *Olaues v. Russioniello* 797 F.2d 1511 (9th Cir 1986). Federal statutes do, however, provide a key provision for enabling subsequent investigations of voting irregularities by requiring as part of the Civil Rights Act of 1960 that documents relating to an election be retained for twenty-two months after an election (42 USC 1974). The Justice Department has statutory authority only to *prevent* suspected election crimes which

FBI or agents of the Justice Department must first gain the approval of Public Integrity Section of the Justice Department. (Donsanto and Stewart, 1995, 60–62) This limited role of authorities to actively monitor elections makes the need for a directed and focused post-election search for problems, based on anomalous outcomes, additionally important.

In the context of investigation and prosecution of election fraud by federal authorities, Donsanto and Stewart state that complaints are not always sufficient for detecting problems, and in particular, “in places where election abuses have been entrenched, there is often widespread tolerance of election abuses among local law enforcement authorities (1995, 77).” While their proposed strategies for addressing persistent problems are important and useful, including cultivating awareness of the importance and provisions for prosecuting election fraud, making federal attorneys and FBI agents accessible, and soliciting the help of local administrator, a statistical approach will assist in directing effort to those locations which look most unusual but have not produced complaints.

With HAVA, the standards and resources for implementing a police patrol model have fundamentally changed. HAVA calls for a Federal role in “identifying, deterring, and investigating methods of voter intimidation” (42 USC 15381 b 7) and in the development of “nationwide statistics and methods of identifying, deterring, and investigating voting fraud in elections for Federal office” (42 USC 15381 b 6). Our method is able to identify a variety of problems, particularly fraudulent or flawed administration of elections, both in current and past elections. Rather than relying on the good fortune of someone noticing a problem, the statistical monitoring of elections enables researchers and authorities to investigate the causes of unusual electoral outcomes and fix existing problems before they create a political crisis.

3 Standards and the testing of electoral systems

In contrast to the approval process for a new drug by the Federal Drug Administration, the standards for approving a new voting machine are remarkably limited in scope. Voting technology approval primarily relies on meeting minimum standards for the reliability of tabulating a set of test votes. If a piece of equipment is capable of recording and tabulating a set of test ballots, the system can be adopted. This standard of testing is equivalent to approving new drugs solely on the basis of how it performs in the laboratory on some

involve matters of racial discrimination (Donsanto and Stewart, 1995, 61).

animal or cell culture. Currently, voting technology is not evaluated by how well it performs with actual voters in real elections. There are currently no experiments in the evaluation of voting machines to see how well one performs in practice compared to other alternative technologies, in terms of recording votes and spoilage rates.

In the spirit of American federalism, each state is responsible for setting the standards for electoral machines and certifying which machines may be used for the purpose of elections for federal offices. Since 1975 there has been a joint effort by the current Federal Election Commission's (FEC) Office of Election Administration (OEA) and the National Institute of Standards and Technology (NIST) to develop voluntary national standards as guides for the states.⁷ Since 1990, the FEC has established Voting System Standards (FEC, 2002) which are voluntary standards with which to evaluate new voting technology. Since 1994, the National Association of State Election Directors (NASSED) has selected Independent Test Authorities (ITA) who have been responsible for evaluating voting equipment for compliance with the Voting System Standards.⁸

The standards for voting machines have received significant scrutiny since the 2000 election, and the Voting System Standards (VSS) was revised in 2002. Superseding the VSS will be standards set by a new entity within NIST, the Election Assistance Commission (EAC), which will henceforth be responsible for coordinating new national standards and selecting qualified ITAs.⁹ In addition to providing statutory and financial support for setting federal standards for voting machines, there is an expansion of the scope of the standards under consideration for future implementation. The most significant innovation of the recent consideration of voting technology is the attention put on human factors, an area of study which considers the likelihood of human error when using a technology.¹⁰ HAVA Section 243 statutorily requires further research by the EAC, in particular it

⁷Previously the relevant agencies were the Office of the Federal Elections within the General Accounting Office and the National Bureau of Standards respectively.

⁸As of 1998, these authorities were Wyle Laboratories and Nichols Research Corporation which had tested 12 voting technologies from 7 vendors.

⁹The 2002 VSS is considered to have been adopted by the new Commission as the initial set of voluntary guidelines. The current NASSED accreditation and tests remain in effect until changed by the EAC (42 USC 15371; HAVA 2002 Title II, Subtitle B Section 231).

¹⁰In an appendix to Voting System Standards, Volume 1 Performance Standards FEC (2002), the VSS for first time in 2002 includes a discussion of human factors and the need for developing tests which evaluate a voting technologies ability to minimize human errors and ballots spoilage; however, no standards were promulgated.

shall study and assess the areas of human factor research, including usability and human-computer/machine interaction which could be applied to voting products and system design to ensure usability and accuracy. This assessment should include: ... *methods to reduce voter error and the number of spoiled ballots* (42 USC 15383, emphasis added).

These efforts to improve standards and take into account the ability of users accurately to record their preferences in an election are an important recognition that protecting the integrity of elections requires more than merely providing machines that can tabulate votes under laboratory conditions. Accurate recording and tabulation of the preferences of all voters depends on all the administrative decisions that are made before, during and after an election. These decisions include the choice of machines and ballot designs, the instructions given on election day by poll workers, and the identification of a voter's intention during the vote count. Given the complexity of all the features of an election, and the impossibility of replicating them outside an actual election, it is critical to have the ability to monitor elections for problems that need to be addressed.

4 Detection of Irregularities

We propose an effective routinized system of identifying administrative and other electoral problems. Our method, which is based on the statistical detection of irregular vote outcomes, has the feature that it is effective even when the the problem is not alleged to have affected an election outcome and does not draw public attention. As such, our method makes possible the identification and correction of a problem before it alters an election outcome. The method also enables a comprehensive audit of administrative performance by evaluating in the context of an *actual* election the cumulative effects of administrative decisions on a citizen's ability to navigate the voting process.

The anomalies which are the focus of the statistical investigation are primarily related to vote counts (did one candidate unexpectedly receive too many or too few votes?) and the frequency of spoiled ballots (is the residual vote abnormally large?). The method does not examine each individual voter separately but instead analyzes aggregate counts from legally defined voting districts, such as precincts, or larger units such as legislative districts, counties or provinces. Observations in this model measure the number of individuals in each unit who choose each alternative.

The statistical method identifies localities wherein part of the observed election results are generated by a different process than in the majority of other localities, and isolates these unusual observations as outliers. The robust estimation technique used both identifies and downweights outlier localities such that the anomalous outcomes do not distort our evaluation of the bulk of clean elections. We emphasize here and in earlier work that identifying an outcome as anomalously far from expectation is not by itself evidence of administrative problems or corruption, but does provide a method for targeting resources upon localities that deserve careful scrutiny.

The regular and systematic process of sifting through all election returns in order to identify and investigate anomalous outcomes is analogous to the monitoring of trades by the U.S. Securities and Exchange Commission (SEC). The SEC identifies and investigates unusual trading activity to deter and catch illegal trading activity. It is striking that in the United States, there are more comprehensive safeguards designed to maintain the integrity of market transactions than there are for protecting the integrity of elections. Precincts, counties and other local jurisdictions reporting voting results which are unusual or unexpected should be subject to a similar system of review and investigation.

The method of outlier detection has been successful in identifying a number of anomalous vote outcomes in past elections. A well-known example is from the vote in Florida for the 2000 U.S. presidential election, where we demonstrated that the vote for Reform party candidate Pat Buchanan in Palm Beach County was produced by processes substantially unlike the processes that generated his vote throughout the rest of Florida. Figure 1 reproduced from (Wand et al., 2001b) shows the distribution of county-level studentized residuals for Buchanan votes in each state, and identifies individually those counties which are most extreme as circles. Palm Beach County is the most extreme county and Jasper, SC is the second most extreme. As we will discuss later, Jasper suffered from vote tampering. Through a comprehensive study using various types of data and levels of analysis, we determined that the infamous butterfly ballot in Palm Beach County caused more than 2,000 Democratic voters to vote by mistake for Reform candidate Pat Buchanan, a number larger than George W. Bush's certified margin of victory in Florida (Wand et al., 2001b).

— Figure 1 about here —

The butterfly ballot also resulted in a large number of voters to cast a vote for more

than one candidate for president (i.e., to overvote) thereby invalidating their presidential ballot (Mebane, 2003). The multiple page ballot in Duval County appears to have resulted in more than 20,000 extra overvotes (Mebane, 2003). These examples are cases of anomalies which were generated by poor and untested ballot design.

In Jasper County North Carolina, an anomaly was found to be the result of deliberate tampering with voting machines. In Tillman precinct Gore and Bush each received one vote while Buchanan received 239 and Nader received 111.¹¹ The problems in the precinct also affected vote totals for other offices and “the State Board of Canvassers unanimously said [...] that problems in the county council election were so numerous that a new election should be held.”¹² However, Bush defeated Gore in South Carolina by 220,376 votes and only 6,469 presidential ballots were cast in Jasper County—there was no chance that the tampered results would alter the outcome; the evidence of deliberate vote machine tampering received no national media attention.

Not all anomalies are the result of administrative problems or fraud. In fact, the largest overall anomaly in Florida in 2000 was caused by neither poor administration nor malfeasance, but by the extremely negative reaction to Gore among many Cuban-Americans, especially in Miami following the Elián González episode (Mebane and Sekhon, forthcoming). The Elián González episode resulting in Cuban-Americans voting for Bush in 2000 to an extent not accounted for by neither their past voting behavior, demographic characteristics nor changes in party registration between 1996 and 2000.

5 Conclusion

During the last decade, we have increasingly learned how elections are being run in practice, but there is still little knowledge about how elections should be run. Our proposal provide the opportunity to fix problems before they are alleged to alter an election outcome by focusing attention on situations where electoral problems may have occurred in current and past elections. Our proposal should be considered a part of wider efforts to improve the administration of elections both in the U.S. and other countries.

¹¹See Wand et al. (2001b) and the December 28, 2000 issue of *The Beaufort Gazette* for allegations regarding the Tillman precinct.

¹²“One Election Result Confirmed; Second Election Ruled a Do-over.” *Associated Press State and Local Wire*. December 13, 2000.

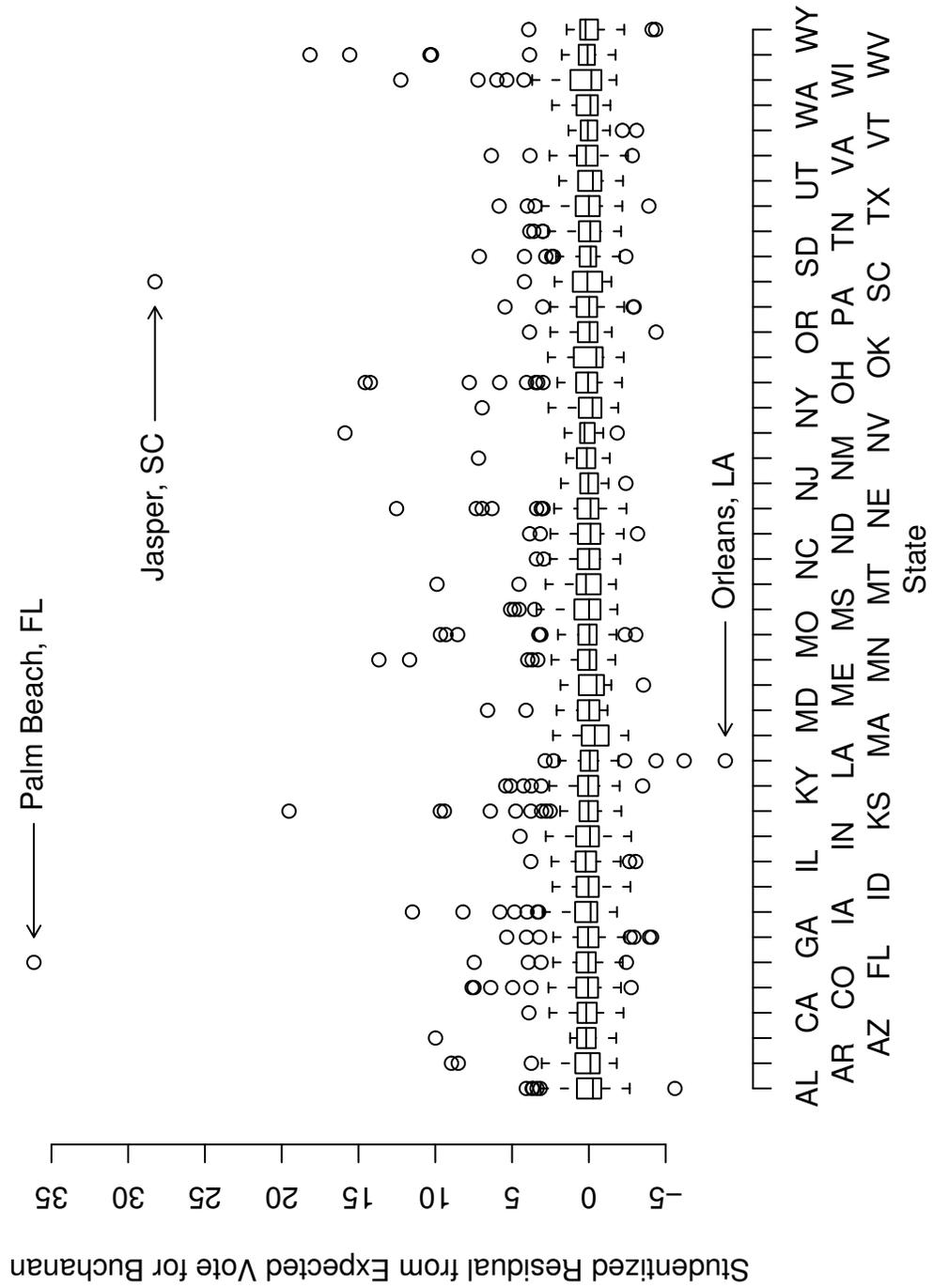
Our method complements other forms of testing and validating voting machines and administrative procedures. For example, as proposed by HAVA, human factors research will provide important information on the design of voting machines. Other methods should also be considered, such as field experiments where it would be possible to assess and summarize the cumulative impact of all aspects of the administration of elections, including voting technology, on the ability of actual voters under real conditions to register their preferences as votes. Properly conducted field experiments would provide even more detailed information than our election anomalies detection method. In particular, field experiments would be more sensitive: they would be able to detect smaller irregularities and problems than our outlier detection method.

In addition to supporting key aspects of the initiatives that are part of HAVA, our proposal has broad applicability across countries. Our proposed method would be appropriate within the U.S. context, in other established democracies, and in transitioning democracies which rely upon independent monitors to ensure the integrity of the election. In every democratic country, where many professional and volunteer participants help to run an election, it is difficult to comprehensively inoculate an election against calculated or inadvertent behavior which can have systematic negative impact on the recorded election outcome. In such a situation, regular post-election auditing to identify areas for administrative improvement are essential for ensuring the future integrity of elections.

In the context of election monitoring in transitional democracies, we recognize that our post-election statistical detection of irregularities can only be one part of a comprehensive monitoring effort which considers the events before, during and after the election.¹³ Our methods which focus on election outcomes can nevertheless help to direct resources to the analysis of procedures and events before and during election day by drawing attention to irregular vote outcomes, rates of residual votes, and turnout. As part of the best current monitoring practices, qualitative features of an election are used to judge the reliability of the local vote counts (Estok, Nevitte, and Cowan, 2002). However, the qualitative judgments are not used to identify irregular patterns of voting returns which, as we have emphasized, may have any number of causes beyond fraud. Our approach of statistically monitoring election outcomes would therefore complement and enhance current methods of independent election monitoring.

¹³Early independent monitoring efforts which focused on election day events were heavily criticized. See Geisler (1993), Goodwin-Gill (1994), Choe and Darnolf (1999) especially footnote 24, and Elklit and Reynolds (2000) for examples of elections with flawed or controversial monitoring efforts.

Figure 1: Boxplots of Studentized Residuals from United States Counties, by State



Source: Wand et al. (2001b).

References

- Choe, Yonhyok and Staffan Darnolf. 1999. Evaluating the structure and functional role of election administration in contemporary democracies: Building 'Free and Fair Election Index (FFEI)' and Effective Election Index (EEI)'. Paper prepared for delivery at the 95th Annual Political Science Association, Atlanta 2–5 September 1999.
- Donsanto, Craig and Nancy Stewart. 1995. *Federal Prosecution of Election Offenses*. U.S. Department of Justice, 6th edition.
- Elklit, Jorgen and Andrew Reynolds. 2000. The Impact of Election Administration on the legitimacy of emerging democracies: a new research agenda. Kellogg Institute for International Studies, Working Paper 281.
- Estok, Melissa, Neil Nevitte, and Glenn Cowan. 2002. *The Quick Count and Election Observation: An NDI Handbook for Civic Organizations and Political Parties*. National Democratic Institute for International Affairs (NDI).
- FEC. 2002. Voting System Standards. Federal Election Commission: Washington, DC.
- Geisler, Gisela. 1993. Fair? What has fairness got to do with it? Vagaries of election observations and democratic standards. *Journal of Modern African Studies*, 31(4):613–37.
- Goodwin-Gill, Guy S. 1994. *Free and Fair Elections: International law and Practice*. Geneva: Inter-Parliamentary Union.
- McCubbins, Mathew D. and Thomas Schwartz. 1984. Congressional Oversight Overlooked: Police Patrols versus Fire Alarms. *American Journal of Political Science*, 28(1):165–79.
- Mebane, Walter R., Jr. 2003. The Wrong Man is President! Overvotes in the 2000 Presidential Election in Florida. Working Paper.
- Mebane, Walter R., Jr. and Jasjeet S. Sekhon. forthcoming. Robust Estimation and Outlier Detection for Overdispersed Multinomial Models of Count Data. *American Journal of Political Science*.
- Wand, Jonathan, Jasjeet S. Sekhon, and Walter R. Mebane, Jr. 2001a. A Comparative Analysis of Multinomial Voting Irregularities: Canada 2000. In *Proceedings of the American Statistical Society*.

Wand, Jonathan, Kenneth Shotts, Jasjeet S. Sekhon, Walter R. Mebane, Jr., Michael Herron, and Henry E. Brady. 2001b. The Butterfly Did It: The Aberrant Vote for Buchanan in Palm Beach County, Florida. *American Political Science Review*, 95:793–810.