

Web Access to Voting Records: Motivations and Issues

Todd Davies

SSP Forum, October 30, 2008

(joint work with Jeffrey Gerard,
Reid Chandler, and Gordon Lyon)

History of Ballot Secrecy

- Previous balloting by voice or party ballots
- First adopted in Victoria, Australia, in 1856, later in Britain (1872) and various U.S. states, broadly and rapidly supported by incumbent legislators (see Heckelman, 2002)
- Immediate effect: reduced turnout
- Possible explanations for reduced turnout: vote market and disenfranchisement hypotheses (Heckelman, 2000)

Levels of Ballot Secrecy

- Untraceable – no one can know how an individual's vote is recorded in the tally
- Anonymous – only the voter can know - cannot prove to another how they voted (unshareable)
- Private – initially only the voter knows, but can voluntarily share this information with others (shareable)
- Confidential – independent authorities can trace the votes of individuals (individually auditable)

Two additional properties

- Voter-verifiable – each voter can verify (instead of having to trust) how their vote was counted in the tally (slightly stronger than unshareable)
- Transparent – voter-verifiable plus universally auditable

Some voting devices

- Touch screen plus paper ballots (Mercuri, 2000; Schneier, 2000) – untraceable
- Encryption, bulletin board, and multiple points of authority (Cramer et al. 1996) – shareable
- Receipt free encryption (Benaloh & Tuinstra, 1994) – unshareable but not voter verifiable

Some voting devices (cont.)

- Encryption and split receipts (Chaum, 2002)
- Encryption with verifiable ballot stamping (Peralta, 2002)

Internet and touch screen (DRE) voting

- California commission (2000)
- Diebold scandal in the U.S. (2004)
- Opinions of computer security experts who oppose paperless voting

Criteria for an Election

- Accuracy – all votes cast are accurately recorded
- Legitimacy – all recorded votes are legitimately cast
- Noncoerceability – no one's vote is obtained through bribery or threats

Which levels of secrecy are consistent with noncoercibility?

- Untraceable – no one can know how an individual's vote is recorded in the tally - *consistent*
- Anonymous – only the voter can know - cannot prove to another how they voted (unshareable) - *consistent*
- Private – initially only the voter knows, but can voluntarily share this information with others (shareable) - *inconsistent*
- Confidential – independent authorities can trace the votes of individuals (individually auditable) - *inconsistent*

“Secret” ballot elections in the U.S. currently

- Polling places on election day staffed by civilians
- Absentee voting by mail (up to 50% of voting in some areas)
- Early voting in some states

Do U.S. elections currently ensure these criteria?

- Accuracy – that all votes cast are accurately recorded
- Legitimacy – that all recorded votes are legitimately cast
- Noncoerceability – that no one's vote is obtained through bribery or threats

Do U.S. elections currently ensure these criteria?

- Accuracy – all votes cast are accurately recorded
 - No! Voter and machine errors, unauditable electronic voting, lost or suppressed votes
- Legitimacy – all recorded votes are legitimately cast
 - No! Possibility of voter fraud, gaps in custody of ballots (especially absentee)
- Noncoerceability – no one's vote is obtained through bribery or threats
 - No! Absentee voting can be monitored by a third party

How secret are elections in the U.S. currently?

- Polling places on election day staffed by civilians
 - (mostly) untraceable
- Absentee voting by mail (up to 50% of voting in some areas)
 - (mostly) private/shareable but untraceable
- Early voting in some states
 - (mostly) untraceable

Effects of secret ballot

Secret ballot must be at least unshareable to be effective against coercion

Many potential disadvantages, however:

- Undermines accountability of voters for their choices
- Discards information that might assist voters with their decisions
- Reinforces a norm of apathy

Effects of ballot secrecy (cont.)

- Discourages voting by reducing the consequences of participation
- Encourages a view of voting as an individual choice rather than as a social act
- Reduces the possibility for cooperation across issues, logrolling that may improve overall welfare
- Incumbency protection, party breakdown

Effect of switch to open voting

Gains from vote trading

- + Value of increased turnout
- + Value of accurate and legitimate counts
- + Intangible benefits (effect on social capital, etc.)
- Disvalue of increased coercion
- Intangible costs

Accuracy, legitimacy, and noncoercibility in secret ballot elections: requirements

- Noncoercibility: All voting settings must separate voters from potential monitors
 - must be unshareable
- Accuracy: Ballot count must be transparent to all sides; ballots must be separated from illegitimate discarders and alterers
 - must be collectively auditable
- Legitimacy: Ballots must be separated from potential stuffers; Voter list must be transparent to all sides

Some practical implications

- Secure polling places only - cannot allow voting by mail
 - mail can violate noncoercibility, accuracy, and legitimacy
- Ballot count must allow for trustworthy (i.e. paper) audits (for untraceable ballots) or voter verifiability (for anonymous/unshareable ballots)
- Ballots must be securely transported and stored
- Voter list must be publicly available

Verifiable counts

VerifiedVoting.org -
pushing for paper trails

Other problems with voting

- Voter suppression - discouraging or preventing people from voting
 - illegitimate disqualification, diversion, long lines, equipment breakdowns
- Lack of trust in the voting system
- Lack of motivation to vote

Our site:

WhoVoted.net

- promoting web access to voting records

Who Voted? - Site Facts

- Searchable voter histories, not full rosters
- Currently 4 states searchable: Florida, Idaho, Ohio, and Washington (North Carolina, Rhode Island, Las Vegas in the pipeline)
- 25,712,685 voters and a total of 288,666,411 records of vote/no-vote
- Above 4 states represent over 12% of U.S. population
- Not all states can be uploaded due to cost and legal restrictions

Two motivations

- Promoting public visibility of voter histories to address count accuracy and legitimacy through distributed voter verification
- Promoting the act of voting and of political involvement as social, public acts rather than individual, private acts

Social Norms and Voting

- Introduction of optional postal voting in Switzerland diminished overall turnout
 - effect bigger in small towns than in large towns (Patricia Funk, 2005; 2006)
- Consistent with Philip Tetlock's accountability explanations of decision making

Who Voted? - Issues

- Privacy
 - location
 - personal information (e.g. birthday, voter registration number)
 - party affiliation
 - voting history
- Promotion of concerns about voter fraud?
- Is social voting a good thing?
- Should voter lists be publicly available, and if so in what form?