A Quick Review of Post-Election Audit Models

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Overview

- My Background
- Goals in Post-Election Audits
- Post-Election Audit Models
  - Fixed Percentage Model
  - Adjustable Percentage Model
  - Polling Model
- Recommendations

My Background

- Masters degrees in Astrophysics and Information Systems
- PhD advisers are law professors
- Thesis involves public policy mechanisms for increasing transparency in voting systems

BC/SC Study

- Brennan Center and Samuelson Clinic convened a blue-ribbon panel in Dec.
- Studied literature, news reports, existing laws and procedures and interviewed election officials.
- 50+ page report due out within the month.
- Limitation: very narrow focus.

Background

- 28 states require paper records.
- 13 states require them to be used in post-election audits.
- Wide variability in how this is done.
- Widespread agreement that more attention needs to be paid to audits.

Goals in PE Audits

- Minimize administrative burden
- Objectivity (minimize subjectivity)
- Increase public confidence
- Deter fraud
- Detect systemic error
- Provide feedback (quality control)
- Incentives and benchmarks
- Confirm the result

Fixed Percentage

- A fixed percentage of units are chosen randomly.
- Strengths:
  - Pinpoint error, fraud
  - Decent sample for quality control
  - Predictable administrative costs
- Weaknesses:
  - Confidence can be low in close races

Adjustable Percentage

- Percentage of units based on margin.
- Strengths:
  - Can fix confidence in results, vary sample
- Weaknesses:
  - Costs are much harder to predict
  - Undervalues administrative feedback (quality control)

Polling Model

- Percentage of ballots auditing in each polling place.
- Strengths:
  - Distributes work
  - Very accurately predicts global discrepancy
- Weaknesses:
  - No information as to source of error
  - Very challenging to staff, conduct
  - Very small errors would not be detected

Recommendations

- A hybrid, tiered approach will give some benefits of adjustable percentage while bounding administrative costs
- Use transparent random selection
- Audit a minimum percentage
- Only select and audit after ballots have been counted

Recommendations

- Audit all methods of casting ballots
- Report overvotes, undervotes, spoiled ballots, blank ballots and cancellations (for DREs)
- Conduct audit closely after selection
- Tighten physical security of materials
- Clear protocols for handling discrepancy