Still time for an election audit: Column

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This should be standard — and it's easy, too.

A Washington Post–ABC News poll found that 18% of voters — 33% of Clinton supporters and 1% of Trump supporters — think Trump was not the legitimate winner (https://www.washingtonpost.com/news/the-fix/wp/2016/11/13/one-third-of-clinton-supporters-say-trump-election-is-not-legitimate-poll-finds/) of the election.


We know that the national results could be tipped by manipulating the vote count in a relatively small number of jurisdictions (story/opinion/2016/09/02/election-rigging-hacked-servers russians-reid-comey-dhs-column/89733204/) — a few dozen (http://www.alternet.org/election-2016/forget-swing-states-presidential-election-will-be-determined-20-swing-counties) spread across a few key states. We know that the vast majority of local elections officials have limited resources to detect or defend against cyberattacks. And while pre-election polls have large uncertainties, they were consistently off. And various aspects of the preliminary results, such as a high rate (http://www.dallasnews.com/news/local-politics/2016/11/11/yes-people-wait-line-vote-cast-presidential-ballots) of undervotes (http://www.mlive.com/politics/index.ssf/2016/11/michigans_presidential_electio.html) for president (http://www.newsnet5.com/news/local-news/oh-cuyahoga/record-number-of-cuyahoga-co-voters-leave-the-presidential-portion-of-their-ballots-blank), have aroused suspicion.

Computers counted the vast majority of the 130 million votes (http://cookpolitical.com/story/10174) cast in this year’s election. Even without hacking, mistakes are inevitable. Computers can’t divine voter intent perfectly; computers can be misconfigured; and software can have bugs.

Did human error, computer glitches, hacking, or other problems change the outcome? While there is, as yet, no compelling evidence, the news about hacking and deliberate interference makes it worth finding out.

About 25% of voters (https://www.verifiedvoting.org/key-facts-2012/#fnref-51388-2) used machines that do not generate a paper trail. Any hacking, glitches or other errors that affected their votes could be undetectable. But the other 75% of the vote, including the key states of Michigan and Wisconsin (https://ballotpedia.org/Voting_methods_and_equipment_by_state), could be double-checked in various ways.

A full manual recount of the paper records would be definitive, but that’s unnecessarily difficult, expensive and time-consuming if the results are actually right.
2017, and California law requires them for deploying some new voting systems. A number of states perform some kind of audit, but our research shows those audits have little or no chance of detecting and correcting erroneous results. To audit this election effectively will require immediate legal action.

Auditing surprisingly few ballots could give 95% confidence that the results are correct in every state: about 1.5 million ballots in all, a bit over 1% of the ballots cast.

But if we just want to check whether Donald Trump won the election, an audit might examine even fewer ballots, because it could proceed in stages.

First it would check the results in the states Trump won. If auditing confirms those results, there’s no need to audit in the states Clinton carried: Trump really won. That means auditing about 700,000 ballots in the 29 states Trump won, about 0.5% of the ballots cast in this election.

How could checking just 0.5% of the ballots give such high confidence?

States where the contest wasn’t close probably won’t have to check many ballots. If their results are right, even a small random sample is likely to have a majority for Trump that would be implausible if Clinton had actually won.

Missouri had such a wide margin that examining just 10 ballots should give high confidence. Texas would need to check about 700.

The few states where the contest was tight would have to do more work. Michigan had the smallest margin among states that Trump carried. To get 95% confidence there would require checking about 11% of the ballots.

It does not take much technology to conduct these audits: dice (to select random ballots), a pencil and paper, and access to the paper ballots. The calculations are simple addition and subtraction. They could be done by a fifth-grader. No programming would be required.

This is an assurance of democracy our nation can afford and should perform routinely. Electronic-only voting systems should be replaced with systems that generate a paper trail, and election results should be audited against the paper trail to ensure that election outcomes are correct.

There is still time to audit this election — barely. States only have until Dec. 13 to give their final results to the Electoral College.

Americans should demand this simple step to ensure that the machinery of democracy worked. To add your voice, please sign this petition.

Ron Rivest is Institute Professor at MIT and was a member of the U.S. Election Assistance Commission Technical Guidelines Development Committee. Philip Stark, associate dean of mathematical and physical sciences at the University of California, Berkeley, was appointed to the board of advisers of the U.S. Election Assistance Commission.

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