

Referee Reports

Reviewer 1:

This is an excellent paper. It is very useful to have all of these examples of fallacious claims about voter fraud in one place. Regarding the audience, I would pitch it as a tool for students in journalism/media classes in addition to statistics and public policy students. The journalism students are the ones who will be best able to help educate the public; they are also the ones who need not to unwittingly lead the public astray. Specific Comments Intended to Clarify the Exposition for the General Reader

—P. 3— This must have been written before the 2022 election (with reference to candidates for state election administration who profess to believe in voter fraud); it should be updated accordingly.

—Pp. 4-5—Footnotes are VERY LONG. Either shorten or find a way to incorporate them in the text (perhaps in a box). Footnote 5 (about mainstream media giving credence to voter fraud claims by highlighting them as a theme) would work well in a box.

—P. 7— Failing to Weight Units—I would replace “low” and “high” population with “small” and “large”. In demography, one doesn’t say that NYC has a “high” population but rather a “large” population. Similarly, the argument about population size of counties is not as clear as it could be.

“But, of course, that is nonsense” would seem to go with “because the number of counties does not necessarily square with the number of people in them” instead of saying Trump could have done better in the remaining counties—which is true but seems like a non sequitur. The point is that county population size varies drastically (see Census ACS Geography - Primer - 8-21-22.pdf | Powered by Box, p. 19), and the public constantly sees county maps in area terms rather than in population terms. So I would make the point about county population size up front and start with Trumps’ counties being smaller in population than Biden’s. In fact, it could be useful to include a table or graph about county population size.

—p. 10— In the Note under the area county map, I would reword “indicating Trump received more votes than Biden” as “indicating Trump won those counties.” And why not give the number of votes won by Biden in his 556 counties and ditto for Trump in his counties, so that the graph and note stand on their own.

—pp. 11-12— Don’t let the reader have to be confused throughout the entirety of this example up to p. 14 and the paragraph on two-party vote share! Up front in this example (about gains among various race groups), point out key facts that need to be understood to interpret the findings about Trump’s percentage gains—namely, what were the changes in voter turnout/voter growth due to population growth between two elections in total and for various race groups; how did third-party candidates do; and what influence did the electoral college have in terms of wasted votes, etc. Then you can go on to explain how both Biden and Trump could gain in percent of the White vote, etc. Again, include some tables/graphs to present the facts the reader needs to understand the arguments.

—p. 12, line 32—I would say “among minority voters and percentage point gains among White voters”, not “non-minority voters” here and elsewhere

—p. 13—footnote 13 is crying out to be put in a box. p. 15—footnote 14 merits inclusion in the text.

—p.20, line 40—Re silly null hypotheses, I would repeat at least one of them here to remind the reader.

—p. 27, line 32—I suggest replacing “can instead be interpreted as supporting evidence” to “are sometimes interpreted”—The use of “can” suggests that such an interpretation is valid.

- p. 31 – A graph on negative/positive presidential coattails over time would be useful and interesting.

—p. 32, line 20—I don’t understand the sentence that Trump had a majority of the vote in the remaining states (excluding CA, MA, NY). Do you mean the majority of the total for those states? This needs to be made clear.

—p. 35, footnote 43—Biden was not an incumbent in 2020, so the quote about incumbents doesn’t make sense?

~~~ p. 45, last line – I would delete “even” from “even beginning students”. It’s patronizing.~~~

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Reviewer 2:

Thank you for submitting your manuscript “Fallacies in Statistically-Based Claims about Massive Election Fraud in 2020: A Compendium” (USPP-2022-0019) to the Journal of Statistics and Public Policy (SPP). This could make an interesting addition to the journal, but its format definitely needs revising to match the journal expectations. In particular, footnotes should be fairly rare and usually short, while you have 54 of them. Some of yours are, while interesting, not directly needed for the article. Others have text that can easily be incorporated into the main article. I’ve identified some that could be dropped or shortened, but I’d encourage you to look further into this.

Here are specific edits I’ve recommended.

~~—Abstract 3rd line, change believe to believed. —Abstract 3rd line from end. After “teaching tool” add “for the press, public, and students”. —Introduction 10th line. Drop the sentence beginning “Many of those candidates...” There are a number of such examples where it is clear you drafted the article before the 2022 election, but it won’t appear until 2023. —Footnote 5, 5th line. Drop everything starting with “For example,”. The point is true but not needed here. —Page 8, line 3. Drop “the top”. —Figure 1. Drop the note. —Page 12, line 10. After “percentage points better” add “than Clinton in 2016”. Footnote 13. Drop. —Page 14 last paragraph. This should be converted to a simpler paragraph and a table that has all the numbers. For example, it might look like the following.~~

|               | 2016 |            | 2020 |            |
|---------------|------|------------|------|------------|
| Trump         | 57%  | 55,300,000 | 58%  | 61,500,000 |
| Biden/Clinton | 37%  | 35,900,000 | 41%  | 43,500,000 |
| Other         | 6%   |            | 1%   |            |
| Difference    |      | 19,400,000 |      | 18,000,000 |

~~—Page 16 top two lines. Data “are” accurate, not “is” accurate. Drop footnote 15. Page 16 last line. Insert “many” before “more voters”.~~

~~—Page 18 second paragraph. Your point in this section is that you can’t interpret statistical significance without referencing a specific hypothesis, which is really important. But then in criticizing what was done on this page you don’t mention the hypothesis that is clearly wrong. So adding a sentence about what hypothesis they are assuming would be important.~~

~~—Page 19 second line. Drop “And”.~~

- Footnote 20. You might want to mention that Maryland has now changed its law to allow early counting of mail-in ballots.

~~—Drop Footnotes 21 and 22.~~

~~—Page 23 last line of main text. Drop “And”.~~

~~—Page 25, 5th line from bottom. Drop footnote 29 and just put “(Jenny, 2020)” at the end of the sentence.~~

- Footnote 32. Add “2020” before “actual fraud”.

~~—Page 28, 1st line of Section D. Drop “example the” and add “is” after “observation” so that it is a complete sentence.~~

~~—Page 34 1st line. Move the initial parenthesis from before Hopkins to after. Drop footnotes 41 and 42.~~

~~—Footnote 42 drop all but the first sentence (ending in “Historian”).~~

- ~~–Drop footnotes 44, 45, and 46.~~
- ~~–Page 38, the first paragraph. This example is not clear, can you come up with something better?~~
- ~~–Drop footnotes 51 and 53.~~

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Reviewer 3:

This is a well-done analysis that addresses an important public policy issue. In essentially an update to “How to Lie with Statistics,” the authors show that the claims about election fraud are not just one-off errors that can be dismissed. To pick up on the authors’ analogy, rather than cutting off one head at a time, they go for the hydra-headed monster’s heart!

I have only a few minor issues.

~~–First, Section I (and the Abstract) refers repeatedly to what many BELIEVE to be election fraud. It is worth a note that, as the Dominion Voting case against Fox News is showing, that some of the loudest voices do not actually believe the claims they are making.~~

~~~ It appears that one sentence on p. 3 (ll. 28-30) is based on a prediction that some of those claiming fraud will prevail in the 2022 election. I believe that this has proven to be the case, and the paper should be updated accordingly. ~~~

~~–I agree with the first example on p. 18 (ll. 13-25). The authors might add that 2016 and 2022 are different elections with different candidates and issues, so you would expect to get different results! This is similar to the next point.~~

~~–On p. 24, ll. 9-34, multiplying probabilities assumes independence. Fred Mosteller wrote a lot about statistical coincidences of the sort described in this section of the paper, but one example that is to the point is that when one takes correlation into account, “coincidences” aren’t quite so rare. The example, if I recall, involved “white woman with blonde hair in a ponytail” not being four independent characteristics.~~

~~–The racial bias described in footnote 32 is more than “amusing” and probably deserves mention in the text rather than a footnote.~~

Reviewer 4: Dear Dr Cervas: With my apologies, we received an additional reviewer’s comments on your paper for you to consider as you start revisions. The reviewer agrees that your paper is acceptable with minor revisions, and just has some additional comments for you. Those comments are below, but please let me know if you have any questions at all.

This is an excellent and an important paper. But there are some issues, mainly with the presentation, which if addressed might improve the readability of the paper. They are being offered to the authors with no obligation that ANY of them be adopted. We believe the entirety of suggested changes should not take longer than an hour or two to incorporate and might make it easier to understand. I also have a few typos that I discovered.

~~–p. 3 line 11 — Republican members of Congress~~

~~–p. 3 line 30 — if they win in November — this already happened~~

~~–p. 4 line 6 — case of manipulating~~

- p. 4 line 17 — “like a hydra-headed monster” — a little too colorful for me. Also cut “all of them”
 - This has tentatively been taken out, but we are debating keeping it in.

~~-p. 4 line 39 — persist not persists~~

~~-p. 6 footnote 6 — This may be important enough to put in the text.~~

~~-p. 6 footnote 8 — cite it herein — cut “to”~~

~~-p. 7 lines 50-54 — Isn’t the point that Trump might have done much worse in the counties he lost in 2020 than in 2016?~~

~~-p. 8 line 34 — it becomes~~

~~-p. 8 line 36 — “red” country~~

~~-p. 9 footnote 10 — I am not exactly sure what is being said with “so the circle size itself is not a linear scale”. Maybe the footnote is better dropped.~~

~~-p. 10 Note: “Each county is shown as geographically ...~~

~~-p. 13 footnote 13. Line 33 Biden’s percentage of the 438 electoral college votes in 2020 would only have gone up — also delete “one”~~

~~-p. 15 footnote 14 line 32 — “The minority electorate increased in 2020 as compared to 2016 both in raw numbers and in proportion of the total.”~~

~~-p. 16 footnote 15 — I don’t think this footnote adds anything important.~~

~~-p. 17. Line 30 — “A further note of caution is that high statistical significance in regressions does not imply a causal relationship between variables.~~

~~~ Either this is misplaced or it should be dropped. I would hope most readers would know this. But in any case it doesn’t really belong in this section.- ~~

~~-p.18 line 40 — “and later vote share for TRUMP to be”~~

~~-p. 19 line 5 “And about those facts and the statistical significance of the observed differences he~~

~~-p. 19 line 5 “And about those facts and the statistical significance of the observed differences he is again quite correct.” This seems redundant to me.~~

~~-p. 19 footnote 19. I don’t completely understand. Of course in states which are entirely one way or the other no comparison is possible.~~

~~-p. 20 line 44 — I would cut “Indeed, what would be surprising is if silly null hypotheses were NOT rejected.”~~

~~-p. 21 lines 51-56. I think it is confusing to add in the 366. Just say that “assuming a year of 365 days ...”~~

~~~ p. 23 lines 3-24. I found this a little hard to follow. I guess you are saying conditional on a given name, it is .... Obviously the divisor is no longer ~365.

~~-p. 23 footnote 23 what is a self-weighted average? Also the frequency of names varies geographically.~~

~~-p. 24 line 28 What is meant by data identifiers? Do you mean name and date and year of birth? How about characteristics?~~

- p. 25 I don’t think this section on Benford’s Law is adding much. You have no example where the argument was made except in unnamed videos or tweets, not really things one needs to rebut. And the use of Benford’s law, which is not really a law but sometimes an empirical finding, is rarely applied to anything but the first digit. I would drop this section.
- p. 26 It is noted that the next two examples are more about human psychology and I am also inclined to drop these two sections for this reason. The first point is finding a little fraud is tantamount to finding a LOT Of fraud. Not much of an argument. Similarly I don’t think the two footnotes 32 and 33 add much. However, I do think it is important to have the content of the initial paragraph starting on p. 26 on tip of the iceberg. As for straw man fallacy, I really don’t think this adds much.

~~-p. 28. Line 26 An example IS the empirically ...~~

~~-p. 35 lines 3-17. Unless I am misunderstanding something, you seem to be arguing that the argument against bell weather counties is that polarization makes them hard to find. You want to argue that once found, they don't work. That is different.~~

~~-p. 36 line 3. "we could just as easily claim" delete "to"~~

~~-p. 36 line 31. "claims that support levels in straight ticket votes and split ticket votes should be unrelated unless there is voter fraud." I don't understand what is being argued here. "Ayyadurai asserts that a negative correlation..." Negative correlation of what? I think we need a little math here to make it clear what is being said. Is this at some level of aggregation, like precincts or counties? I don't understand what the units of analysis are.~~

~~-p. 37 line 26 "Republican vote share IN four Michigan ..."~~

~~-p. 38 line 21. "Now doing what Ayyadurai wishes us to require IS A simple correlation between r and either ..." But this wouldn't just be a positive or negative correlation. It would be +1 or -1. I guess he does this in the case where $r(1)$ does not equal $r(2)$. So maybe no change is needed. p. 39 line 8 "the pattern of Trump drop-off is different." I am not sure what is meant by Trump drop-off.~~

~~-p. 40 footnote 50 line 55. "they make is that which precincts are paired ..."~~

~~-p. 42 lines 20-37. I am a little lost. First, I am not sure what is meant by on average. Given that the mail and the in person votes sum to the total, conditioned on the total they have perfectly negatively correlated, in that a change from a mail to an in person vote moves one up one and one down one. Is that all that is being argued? And $V(i)$ is a total vote on p. 42 and a percentage on p. 43 so a little rewriting would be helpful here.~~

- p. 44. How many matched pairs were there. I am not sure what Lott was arguing from what is provided. Also, I think the mention of Simpson's paradox (actually the generalized version to regression, not the contingency table version) is speculative and maybe should be dropped. Lastly, I am a little concerned with the partisan nature of the argument in the sense that all of the errors are being made by Republicans. That is only to be expected since this was an election in which the democratic candidate won. But it would be nice to mention that this is something that both sides stoop to. I am assuming (hoping) there is a literature that mentions some democratic misbehavior. The authors are clearly well acquainted with this literature and if democratic misbehavior. The authors are clearly well acquainted with this literature and if there were a paper that made valid arguments of democrats misusing statistics in the past, that would be helpful to include either at the beginning or at the end just to avoid causing some hard feelings. If such a paper doesn't exist, you could just assert that you wouldn't be completely surprised to see similar arguments made by democrats in the future. Unless you think this is unprecedented, in which case forget this point.

Hope these comments are helpful. Again, excellent paper.