Response to Irfan Nooruddin's "Comment on the 2019 Bolivia Presidential Election and OAS Statistical Analysis," August 19, 2020

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1. On June 6, 2020, we posted a working paper called "Do Shifts in Late-Counted Votes Signal Fraud? Evidence From Bolivia."

2. Our paper makes two claims about Irfan Nooruddin's analysis of Bolivian election returns, which he conducted as a consultant for the Organization of American States, and which were published in OAS (2019). His response, as well as his replication code, published on August 19, confirm both of our claims.

   (a) We claim that Nooruddin excluded 1,511 observations (4.4%) in creating the figures published on p. 88 of OAS (2019). Nooruddin's code confirms this:

```
181
182  ********************************************************************************
183  *****REPLICATING FIGURE AT BOTTOM OF PAGE 88 of OAS REPORT
184  //This figure plots the polling-station-level MAS vote share using the Computo vote tallies but
185  //with the TREP time stamps only. The 1,511 polling stations that were not included in the TREP
186  //data are therefore excluded.
187  ********************************************************************************
```

   This contradicts the OAS audit report, which states, "All the analysis conducted below include these additional polling stations. Since they were not included in the TREP, they are treated as being late reporters" (OAS, 2019, p. 86).

   (b) We claim that Nooruddin used local constant regression rather than local linear regression in creating this same figure, thus artificially generating the appearance of a discontinuous jump at 95% of the count. His response (p. 5) and his code (lines 182–194) confirm that he did use local constant regression. But Nooruddin also says that switching to local linear regression does not (as we claimed) eliminate the appearance of a discontinuous jump. As evidence, he presents a graph in which he uses local linear regression with handpicked, very large bandwidths:

```
211
212  // Using a local polynomial with degree 1 which is what Idrobo et al. (2020) argue is what I ought to have done
213  // Kink still apparent
214  twoway (scatter mas_share_computo cum_ps_natl_share if cum_ps_natl_share<=1, sort mcolor(gray%60) msymbol(point)) /*
215  */ (lpoly mas_share_computo cum_ps_natl_share if cum_ps_natl_share<0.95, deg(1) bwidth(0.3) lcolor(green) lwidth(vthick)) /*
216  */ (lpoly mas_share_computo cum_ps_natl_share if cum_ps_natl_share>0.95&cum_ps_natl_share<=1, deg(1) bwidth(0.6) lcolor(red) lwidth(vthick)), /*
217  */ yline(50, lcolor(black)) xscale(extend nofextend) xline(0.95, lcolor(black)) xlabel(0 0.95 1) leg(off) graphregion(style(none) color(none)) /*
218  */ title("Bolivia Presidential Election 2019") xtitle("Cumulative National Vote Share Counted") ytitle("PS-Level MAS Vote Share")
219
```

   Simply using a rule-of-thumb bandwidth rather than arbitrary bandwidths eliminates the appearance of a jump, as we show in Figure 3 of our paper, and as the reader may confirm by deleting the `bwidth` options highlighted above. Regardless, as we discuss in our paper, neither estimator is an appropriate tool for regression discontinuity analysis.

Reference

OAS. 2019. "Electoral Integrity Analysis: General Elections in the Plurinational State of Bolivia, October 20, 2019, FINAL REPORT." Organization for American States (OAS), Secretariat for Strenthening Democracy (SSD), Department of Electoral Cooperation and Observation (DECO).