ANALYSIS FOR THE ORGANIZATION OF AMERICAN STATES (OAS)
by
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Executive Summary

- The dramatic vote swing experienced in the Honduras national election of 2017 is possibly the result of Alianza favoring areas reporting results earlier and being counted sooner.
- This assumes that there is no difference in the accuracy of early-reporting and late-reporting vote tallies.
- But the difference in vote patterns between early- and late-reporting polling stations shows marked changes that raises questions as to the accuracy of the late-reported returns.
- In particular, there is a marked break point with roughly 68% of votes counted in polling level station turnout rates and concomitant vote shares for the Partido Nacional and the opposition Alliance.
- These breaks are visible across all departments. A closer look at La Paz highlights the differences with sharp upticks in voter turnout and support for the Partido Nacional and a sharp decline in support for the Alianza after the 68% mark. The same trend is also documented in Cortes.
- The differences are too large to be generated by chance and are not easily explicable, raising doubts as to the veracity of the overall result.

Context

Honduras held a national election on 26 November 2017. The main presidential candidates represented the *Partido Nacional de Honduras* (National Party, or NP) and the *Alianza de Oposición en Contra de la Dictadura* (Opposition Alliance, or Alianza). Polls closed at 1600 hrs local time. The next day the Supreme Electoral Tribunal (TSE) state that the Alianza was ahead by five percentage points with approximately 57 percent of the vote counted. A few days later updated results were posted showing the incumbent NP candidate in the lead. This change in fortunes and the opacity of the counting process has led to allegations of fraud by the opposition that has refused to accept the results.

Whether there existed electoral irregularities that affected the outcome is beyond the scope of this report. Rather the analysis of electoral data provided by the TSE can shed light mainly on whether the reversal of fortune experienced by the opposition alliance is plausible given the reported data. The report also assesses the plausibility of claims by the incumbent that the early lead of the opposition was an artifact of the fact that opposition strongholds reported their results to the TSE first causing a misleading impression of an irreversible advantage.

The figure below shows the advantage of the opposition alliance candidate over the incumbent over the course of the results being reported. The blue line represents the advantage held
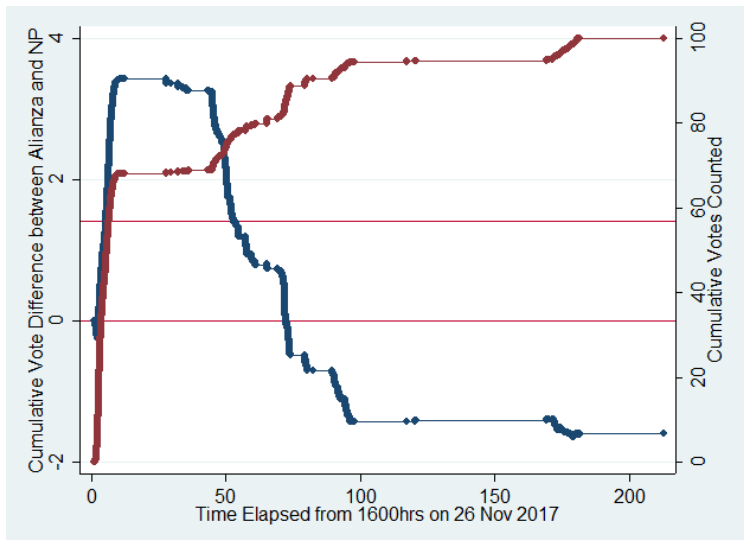
the opposition alliance over the national party in the early going as results were being tallied. The red line indicates the cumulative overall votes counted. After getting out to a sizable lead based on the polling stations that reported first, the alliance's lead stagnates and then begins to be eroded until there's a deficit to the national party which ends up being the eventual winner.

This pattern is more clearly visible in the second graph below which plots these same data over a logarithmic x-axis in order to stretch out the first half of the counting process. But the overall picture remains clear: after establishing a sizable lead with two-thirds of the vote counted, the Alianza's lead is whittled away because of an apparent surge in votes for the National Party.
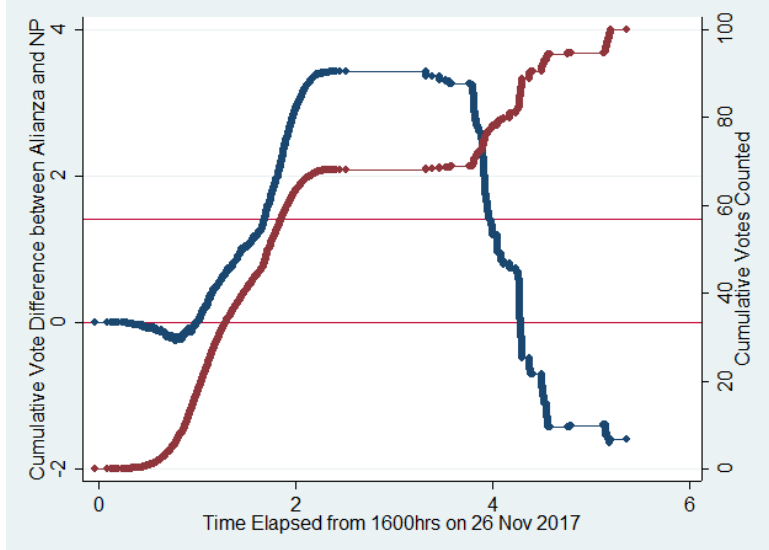

The question to be answered is how plausible is such a dramatic swing in votes.

The remainder of this report explores this question in three ways: (1) by contrasting this vote trend against a simulation of vote counts if polling stations had reported their counts randomly; (2) by evaluating the proposition that opposition strongholds reporting early drove this pattern; and (3) by comparing patterns in the vote before and after the initial announcement by the TSE that the opposition candidate had jumped out to a lead both nationally and in individual departments.

1. If Vote Tallies were Accurate, then Timing Could Explain the Swing

If we assume that the vote returns reported by the polling stations to the TSE were accurate, then one explanation for the dramatic swing in votes is that it is a result of which polling stations reported – and were counted – first and which returns came in later. If rather than calculate the cumulative vote share over time as polling stations actually reported, we randomized the order in which polling stations were counted, then we could assess the likelihood of getting the vote shares we do. The figure below plots the advantage held by the Alianza over the Nacional Party with 57% of the votes count if we completely randomized the order in which the polling stations reported.
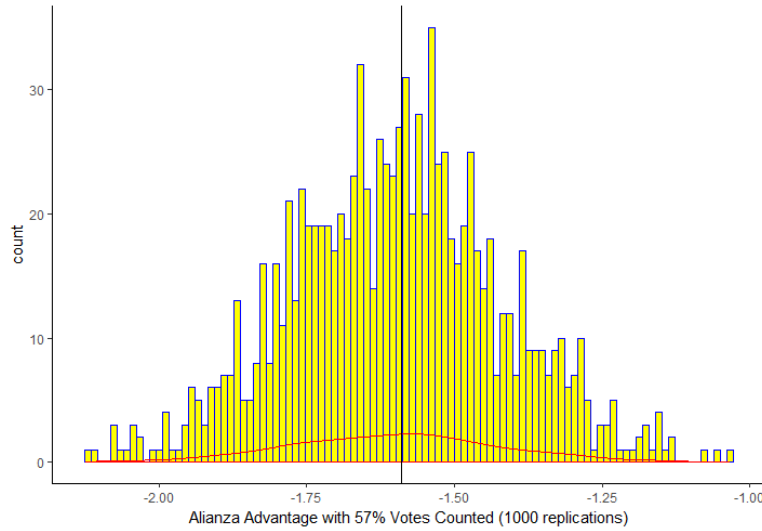
The histogram plots the results of 1,000 simulations of this randomization exercise. The vertical line is placed at -1.59 which is the eventual deficit of the Alianza to the NP as reported by TSE. This simulation exercise indicates that, if polling stations had come in randomly, the NP would likely have been in the lead at the 57% mark, and that the large Alianza lead at that point reported by the TSE is likely a function of the fact that NP-favoring polling stations reported first.

2. If Vote Tallies were Accurate, Opposition Areas Reporting First Could Explain the Swing

We can assess this possibility differently. Of the 19 departments in Honduras, seven ended up favoring the Alianza and twelve ended up favoring the Nacional Party. Let's consider the seven that
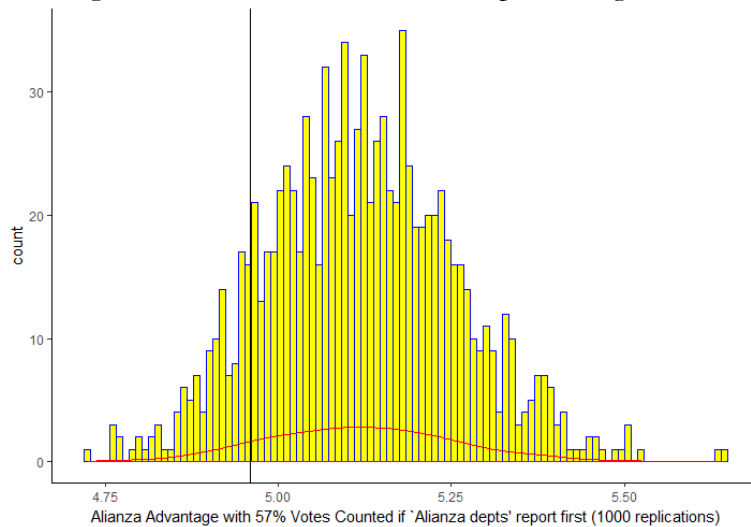
had a department-level plurality for the Alianza to be Alianza strongholds. The Nacional Party has explained the vote swing as a result of Alianza strongholds reporting first and NP strongholds reporting later. We can simulate this. The next figure randomizes the order in which polling stations report, but counts polling stations – in random order – from so-called Alianza strongholds before counting the polling stations from the so-called NP strongholds. This simulation is repeated 1,000 times and the results are plotted.
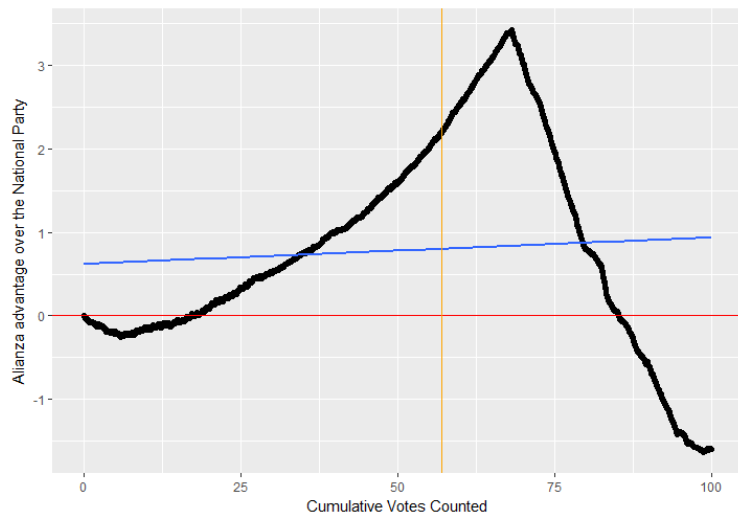
As is clearly evident, if it was the case that Alianza favoring areas were counted first, the large advantage reported by the TSE at the 57% mark is quite plausible <u>even if the Alianza were eventually to lose the election</u>. Indeed, the lead reported by the TSE of ~5 percentage points is on the low end of possible Alianza leads in my simulation. But the point is that in all of these 1,000 scenarios, the end result is the same: a victory for the Nacional Party.

The preceding analysis suggests that <u>if the vote counts reported by polling stations are accurate</u>, the vote swing experienced in the Honduran election of 2017 is plausible and does not in itself reflect any tampering.

The key assumption underlying that conclusion however is that the vote counts are accurate. It is beyond the scope of this analysis to discuss other irregularities noted by election observers. But the data can be analyzed to diagnose the possibility of irregularities. I turn to that analysis below.

3. **But were the Vote Tallies Accurate? Differences between Early and Late Reporters are Large and Suspicious**

The next figure restates the fundamental issue in the 2017 Honduran presidential election. It plots the growing lead of the Alianza over time and then the collapse to eventual defeat. As stated above, if the vote tallies were accurate, then this plot, while dramatic, is plausibly consistent with a legitimate eventual victory by the NP. But if tallies reported – and counted – late were tampered with, then the earlier analysis is no longer valid. So is there any reason to suspect that the vote tallies that came in late were unusually different from those that came in early?
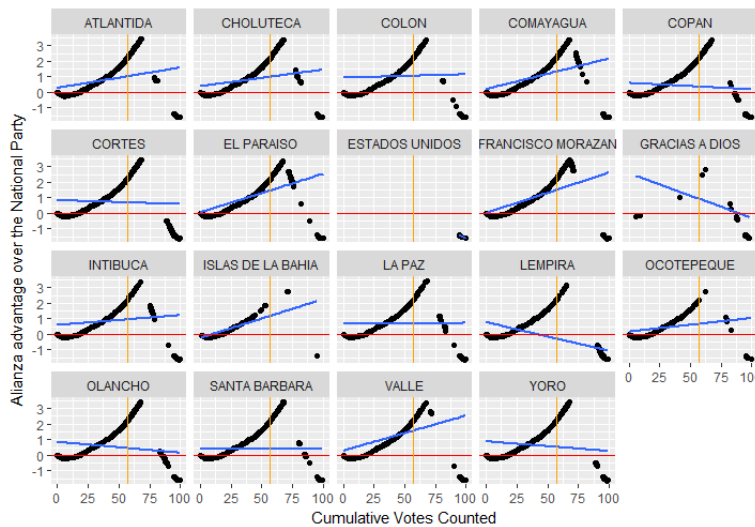

While necessarily preliminary and tentative, *my analysis suggests that there is something unusual in the pattern of the late reporting polling stations.* The next figure plots the Alianza advantage by department over time. In every department, the same pattern is evident. A steady increase in the Alianza's advantage and then collapse. For this to be plausible would require us to believe that in every department polling stations in which NP support was especially strong reported after those in which


Alianza support was especially strong. There might be qualitative reasons to believe this to be the case but it raises real doubts in my mind.

These doubts are accentuated by the next two graphs. In each, the horizontal red line indicates a 50% vote share. The orange vertical line indicates when 57% of the vote had been counted; the green vertical line indicates when 68% of the vote had been counted. The blue line is a loess smoother which captures the overall trend in the data. 5800 polling stations fall in the final third of the vote count, and these are spread across all 19 departments, increasing confidence in the generalizabilty of these results. Put differently, as the graph above makes clear, the late surge in

support for the NP is not a function of NP strongholds in a few departments; rather it appears to have been nationwide.
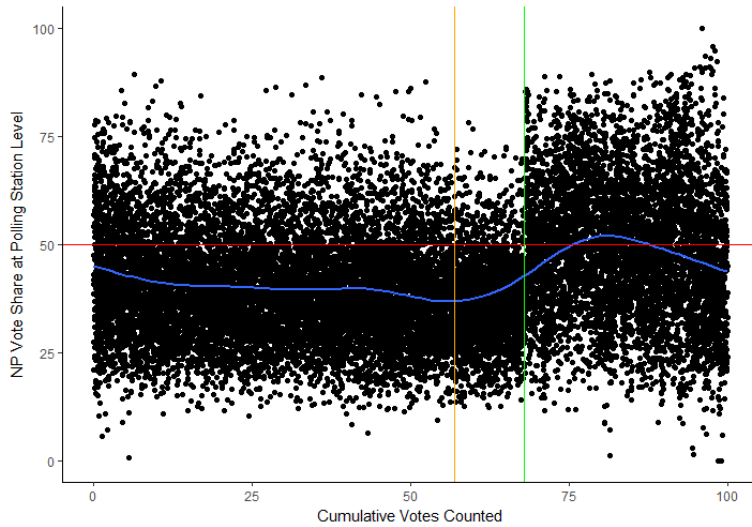

The first graph on the left plots the National Party's vote share at the polling station level over time. The green line marks a real break in the distribution of votes coming in for the NP, with a sharp disjuncture in NP vote shares before and after that point. While the first two-thirds of the vote have very few polling stations reporting majorities for the NP, the distribution in the last third moves upward with lots of polling stations reporting majorities and even supermajorities for the NP.
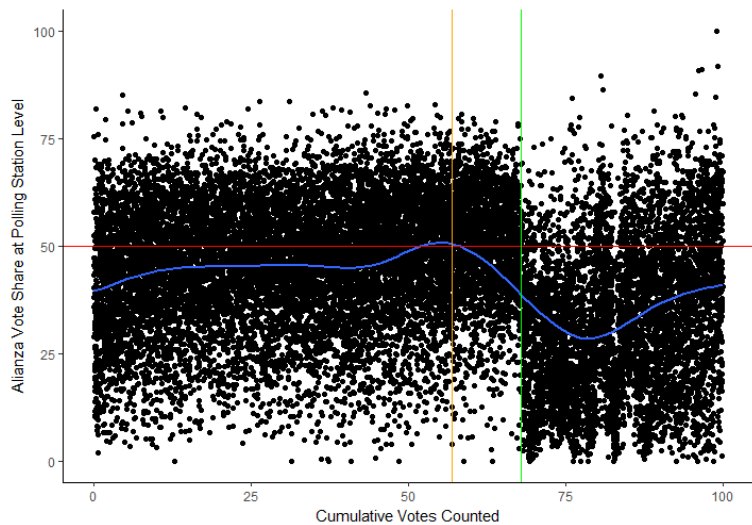
The second graph on the left replicates this analysis for the polling-station-level vote share for the Alianza. Here the disjuncture before and after the green vertical line is even more starkly evident. Note in particular the dramatically higher proportion of polling stations that apparently reported extremely small vote shares for the Alianza in the last third of the distribution. *For this to be plausible, we'd have to believe not only that late-reporting polling stations favored the incumbent but that that they did so by overwhelming margins unlike the polling stations that reported even a few minutes earlier in the evening.*
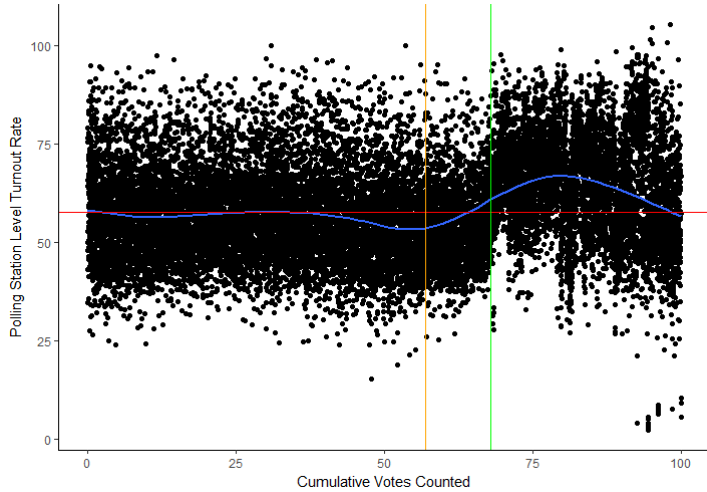
The final piece in the national analysis plots reported polling-station-level turnout rates over time. The horizontal red line marks the overall natioanl turnout rate of 57%. Again the break in the final third of the data is visible. Turnout rates on average in the first two thirds of polling stations reporting was 56%, and jump to an average of 63% in the final third of the data. Such a difference is statistically significant at the $p < 0.001$ level; put differently, we'd expect to see such a stark shift fewer than 1 time in a 1000 replications.

Obviously one can only speculate as to the reason for this sharp increase in turnout rates, and concomitant marked increase in vote shares for the National Party and decline in vote shares for the Alianza, but put together it is consistent with a hypothesis of tampering with the vote tallies that were counted last.
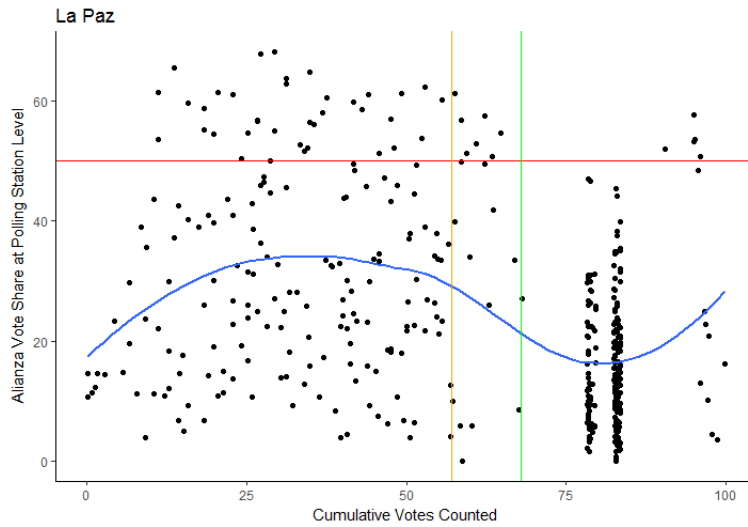
A final analysis was conducted only of polling stations in LA PAZ. Recall from above that all departments show the same collapse in support for the Alianza at around the 68% mark. Focusing
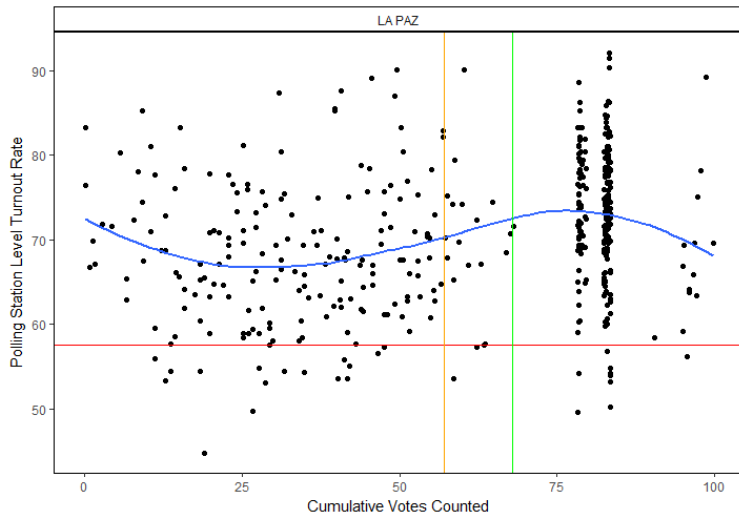
on a single department allows us to drill deeper. 205 of La Paz's 435 polling stations were recorded in the first two-thirds of the vote count. La Paz overall went for the NP, but the same patterns as were evident elsewhere are echoed here. While La Paz is a high participation department, with average polling station turnout rates well above the national average, the contrast before and after the 68% mark is striking. Prior to that point, the average turnout rate is 68%; afterwards, it jumps to 73%. Such a sharp increase

in turnout in the same department is unusual and the difference is statistically significant at the $p < 0.001$ level, indicating that it's highly unlikely to be by chance (fewer than 1 in 1000 such samples should show such a large change).

This increased turnout in La Paz was overwhelmingly supportive of the NP apparently. Before the 68% cumulative vote counted point, the polling station level share for the NP in La Paz was 44%; afterwards, it was 56%, a difference that is again highly statistically significant. And concomitantly the Alianza's vote share plummetted from 32% on average across 205 polling stations to just 16% on average across 230 polling stations afterwards (see graph on left). As the graph makes clear, the Alianza did not do well throughout La Paz, but its disadvantage in this department doubles after the point at which two-thirds of the national vote had been counted. This is a strikingly large deviation from the earlier trend.

One final observation that's worth stressing again: this break is true in all departments. Even in CORTES, an Alianza stronghold, you can see the break. In the first two thirds of the vote count, the Alianza wins 56% of the vote on average across 2561 polling stations in that department, but in the final third, it wins only 48% of the vote across 551 polling stations. Here again the NP is the beneficiary. In Cortes, in the first two thirds of the vote, the NP's vote share is 31%, but in the final third of the vote, it rises to 38%. Both differences are statistically significant.

Conclusions

The Honduran national election of 2017 experienced a dramatic vote swing away from the opposition alliance and towards the incumbent national party. This analysis raises doubts about the plausibility of such a reversal of fortunes. If one believes the vote tallies to be accurate, it is plausible to have such a swing. But the pattern of votes, particularly in turnout rates, is suspicious. As documented above, there's a marked break in the data that is hard to explain as pure chance.

On the basis of this analysis, I would reject the proposition that the National Party won the election legitimately.