PDC	3%
MNR	11%
PAN-BOL	1%
At least one delegate	88%
MAS-IPSP and CC	38%
Governing party and opposition	48%
No delegate	12%

FINDING 5: THE TREND OF THE FINAL 5% OF THE COUNT IS HIGHLY IMPROBABLE

This chapter of the report analyses the election results as they were published by the TSE. An objective analysis of electoral returns data reveals an unusual break in voting patterns towards the end of the vote count.

There are two points in this election of immediate interest. The first is the point at which some 83.85% of the cumulative vote had been counted in the TREP, because it was at that point that Bolivia's TSE stopped reporting the results. The second is when approximately 90% of the vote had been counted. At this point Mr Morales was still over a percentage point below the 10% margin required to prevent a second round.

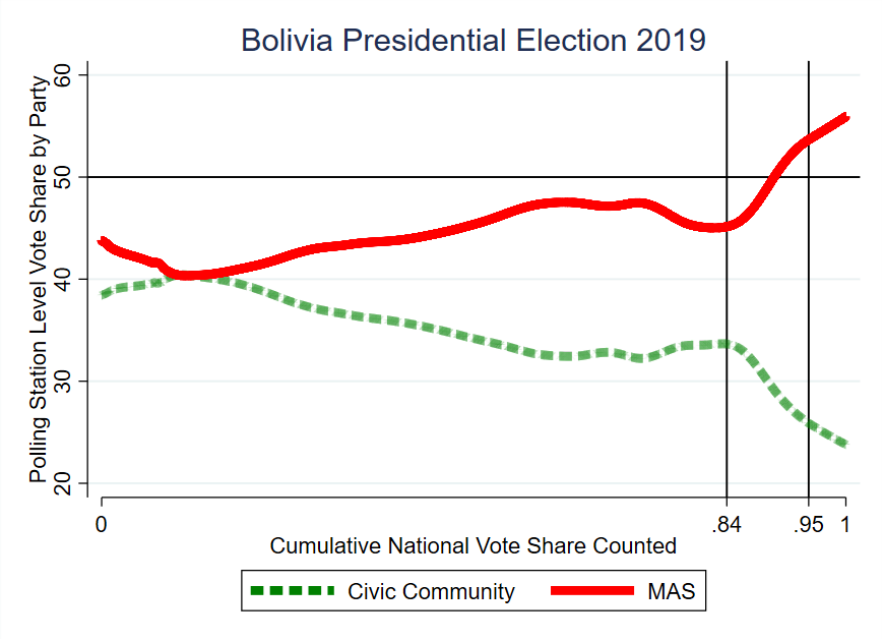
1,511 polling stations were not included in the TREP but do appear in the final computo results, which are the official vote tallies of the Bolivian system. All the analysis conducted below include these additional polling stations. Since they were not included in the TREP, they are treated as being late reporters. We stress that all the results below are based on the *computo* vote tallies. The overall conclusions do not change depending on whether we use the TREP or *computo* time stamps, though the shape of the trend lines do, since the time stamps are not perfectly correlated.

Other studies, with clearly less information and electoral analysis expertise, have argued that the Bolivian election result can be explained by a straightforward extrapolation of the TREP vote count at the 84% cumulative vote count mark. However, these reports do not comment on the steep slope of the line in that figure after the 84% threshold. They seem more intent in justifying a result than in conducting a serious an impartial analysis of the data. Whether the extrapolation is valid depends on whether the rapid increase in the MAS's advantage over its rival after that point is plausible or not. The analysis below addresses this question.

- Analyzing the Electoral Returns

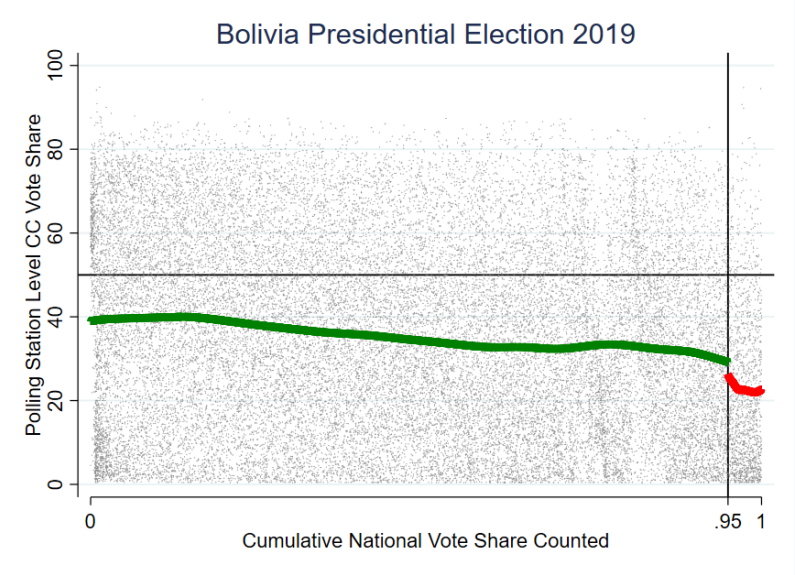
We start by analyzing the *computo* vote tallies but with the TREP time stamps, since this allows us to address directly the suggestion that the result was driven by late-reporting rural polling stations. To address this concern, we have to use the TREP time stamps. This is the only way of knowing whether a particular polling station reported early or late on election night. However, throughout this chapter only the *computo* vote tallies are considered.

First, consider the trends in the vote shares of both parties over the course of the election.

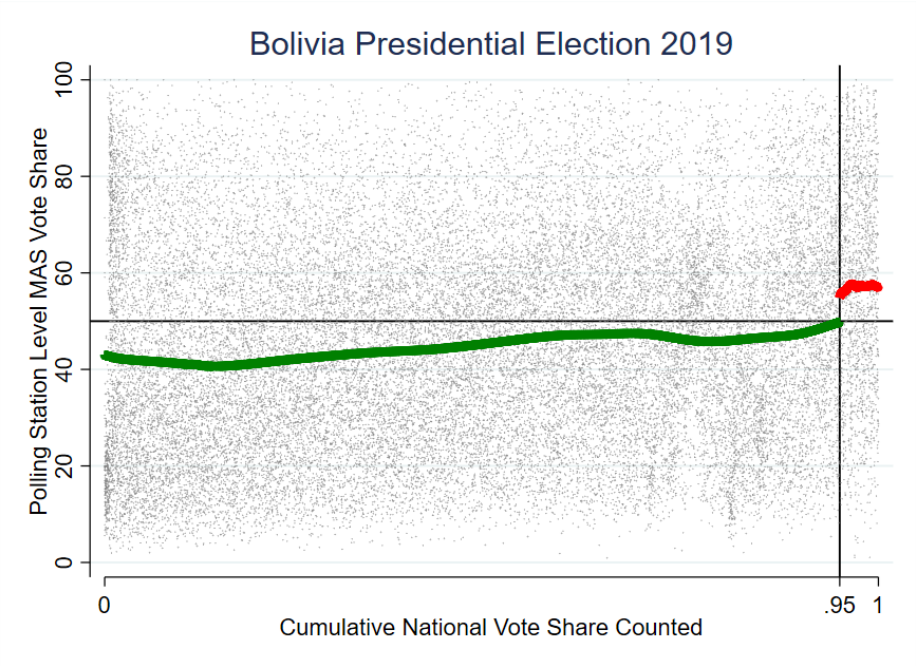


While Mr Morales began to out-perform Mr Mesa early on, leading to his 7.29% margin with 84% of the vote counted, the graph above shows that the trends for both parties change after that point. This divergence grows even sharper after the 95% mark.

To understand whether the change in trends is unusual, we treat the 95% threshold as a break point in the data to see if the trends before and after that threshold are unusually large. Consider first the vote shares across polling stations for Mr Mesa and the Civic Community. Each point in the graph below is a polling station plotted against its CC vote share. The vertical line is the 95% cumulative vote count.



Right at the 95% threshold, a break in the CC's vote trend is clearly visible. In statistical terms, this is referred to as a discontinuity and begs further scrutiny. This is even more visible if we consider the trend line for the MAS vote share (below).



The discontinuity – or break – in the trend line for the MAS at the 95% threshold is striking. Even if we accept the contention of other analysts that the late-reporting polling stations were more likely rural areas that favored Mr Morales, we would not expect to see such a sharp discontinuity around an arbitrary point such as the 95% threshold used above.

The last portion of the vote count, which favored Mr Morales substantially, is not just different than earlier parts of the evening but also sharply different than the trend just on the other side of the threshold. The difference between polling stations on one side of the 95% of the vote count and on the other should not reflect sharp urban-rural divisions.

Why is this significant? With approximately 83.85% of the cumulative vote counted, Mr Morales had a sizable lead but less than the 10% margin required for victory. With 95% of the vote counted per the TREP time stamps, the margin was still less than 10% (Morales had 43.16% at this point, and Mesa had 34.98%, a gap of 489,963 votes out of the 5,599,995 votes cast at that point).

In the final 9% of the count (last 5% of reporting polling stations in the TREP plus some 1500 polling stations not included in TREP but included in the Computo), 537,783 votes were counted. Of these, Morales won 304,214 or 56.6% of the votes, while Mesa won just 145,705 votes or 27.1% of the vote. In other words, in these final 9% of the vote, Morales average vote share increased by over 15%, while Mesa's average vote share plunged by about the same percentage. This is very unusual to put it mildly.

With 95% of the votes counted in the TREP, Morales gained a lead of 488,891 votes (8.7%). In the final 5% of the TREP alone, Morales added another 106,799 votes to his lead – out of just 290,624 total votes cast –, which pushed his overall margin to 10.11%, above the threshold required for outright victory. If we consider only the polling stations not included in TREP, then Morales obtained 128,025 votes out of 247,025, while Mesa obtained 76,315 (51,710 votes less than Morales). This means that of the overall margin of victory of just under 650,000 votes, over 156,000 came in just the final 5% of the vote count, which represents a remarkable break in the trend-line of the rest of the election.

One explanation of this unusual break in the trend is that late-reporting polling stations were more likely to be from Morales strongholds. As made clear above, even if this is the case, we should still not see such sharp discontinuities (breaks) in the trend lines. Nonetheless, we turn to considering this explanation below.

The TREP data reports results from 33,044 polling stations altogether. Of these, 31,379 reported their results before the 95% cumulative vote count threshold; 1,665 polling stations reported after. Of the late-reporting polling stations, the bulk were in one of seven departments in Bolivia. These are Beni (92), Chuquisaca (74), Cochabamba (541), La Paz (294), Potosi (215), Santa Cruz (184), and Tarija (115), which together account for 1,515 or 94% of the late-reporting polling stations with the numbers in parentheses indicating the number of polling-stations in each department that were part of the last 5% of the vote count. Other departments are not included simply because they had reported all or most of their results earlier in the evening.

While it is possible that late-reporting stations in general favored Morales, a department-level analysis raises questions about the size of the break. Consider the table below:

	Before 95% cumulative votes counted in TREP					Last 5% of TREP and Mesas in Computo but not in TREP				
	Votes Cast	MAS	CC	MAS %	CC %	Votes Cast	MAS	CC	MAS %	CC %
National	5,599,995	2,585,145	2,095,215	46.2	37.4	537,783	304,214	145,705	56.6	27.1
Beni	182,637	59,954	66,513	32.8	36.4	32,109	15,039	8,130	46.8	25.3
Chuquisaca	285,584	116,242	130,951	40.7	45.9	18,293	12,415	3,387	67.9	18.5
Cochabamba	1,001,468	561,555	337,588	56.1	33.7	143,750	97,633	31,568	67.9	22.0
La Paz	1,568,025	824,128	477,684	52.6	30.5	102,080	63,143	20,160	61.9	19.7
Potosi	305,783	146,819	104,135	48.0	34.1	58,790	33,055	15,562	56.2	26.5
Santa Cruz	1,468,966	504,731	694,881	34.4	47.3	113,609	45,467	46,582	40.0	41.0
Tarija	283,684	113,426	121,070	40.0	42.7	24,023	10,289	9,456	42.8	39.4

The first row shows the national vote count and each row below is for the named department. The first column “Votes Cast” is the total number of votes cast; the column “MAS” is the raw number of votes for the MAS while the column “CC” is the raw vote count for the Civic Community party. MAS% and CC% show the vote share at the department level. Comparing the vote shares at the department level before and after the 95% cumulative vote share is striking.

Consider *Beni*. Over the first 95% of the overall vote, the CC had a 3.5% advantage over MAS, but after that, things change and MAS gains a 21% advantage. In *Chuquisaca*, over the first 95% of the count, the CC had a 5.2% edge, which quickly turns to a 39.4% disadvantage. In *Santa Cruz*, the CC had a 13% advantage over the first 95% but it decreases to just 1% over the final part of the vote count. In *Tarija*, a 3% CC advantage over the first 95% vanishes and turns in to a 3% loss over the final portion of the vote count.

Similarly in MAS strongholds like *Cochabamba*, where MAS enjoyed a 22.3% edge over the first 95% of the count, the advantage more than doubles to 45%. In *La Paz*, a 22.1% advantage grows to a 42% advantage; and, in *Potosi*, a 13.9% advantage grows to a 40% advantage.

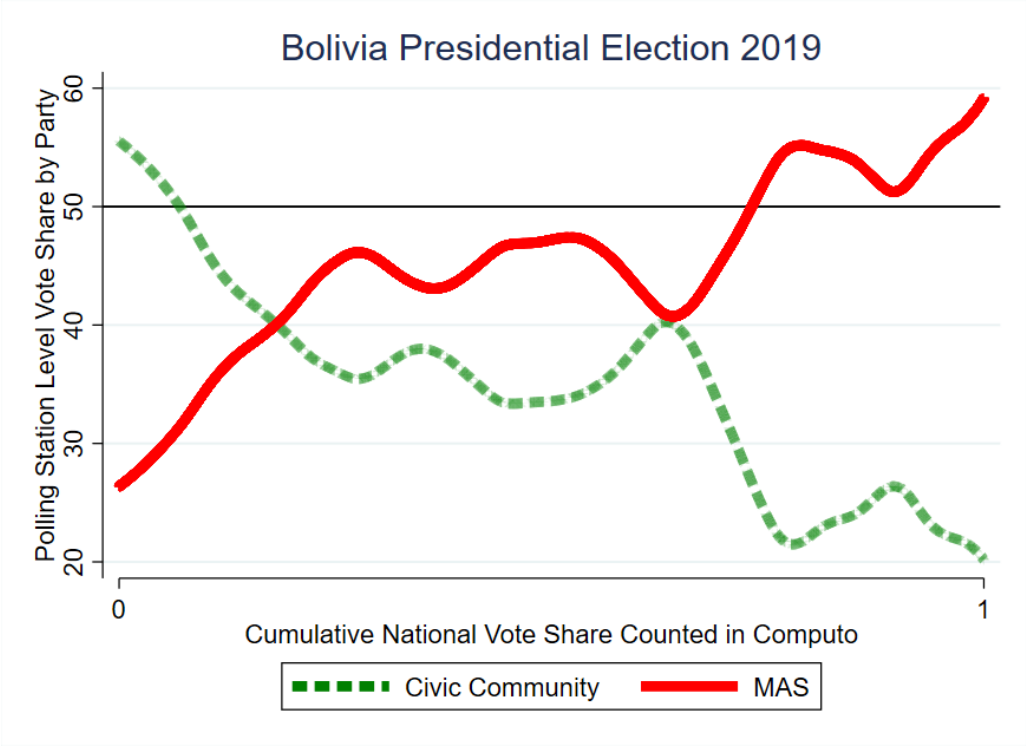
Even if the late-reporting stations were favorable to Morales and MAS, the size of the advantage the MAS enjoyed, in <u>every</u> department, over the late-reporting polling stations is extremely unusual. Indeed, all the differences reported in the table above are statistically significant at the 99% level, which means that in a normal distribution of data, such stark differences would appear extremely rarely (in these data, in fewer than 1 out of 1000 samples).

	PS-level MAS Vote Share			PS-level CC Vote Share		
	0-95%	95-100%	Computo only	0-95%	95-100%	Computo only
National	44.6	56.9	49.6	35.4	23.0	28.6
Beni	31.5	45.9	43.7	34.1	22.2	24.6
Chuquisaca	40.7	58.6	66.8	41.0	19.9	14.6
Cochabamba	54.0	65.4	62.3	33.1	21.5	24.7
La Paz	50.5	56.8	60.3	29.0	18.5	17.9
Potosi	47.3	55.3	51.3	29.8	22.7	25.3
Santa Cruz	33.1	40.6	37.1	45.1	33.3	39.8
Tarija	38.8	41.7	32.3	38.9	35.3	46.9

Using Only the *Computo* Data

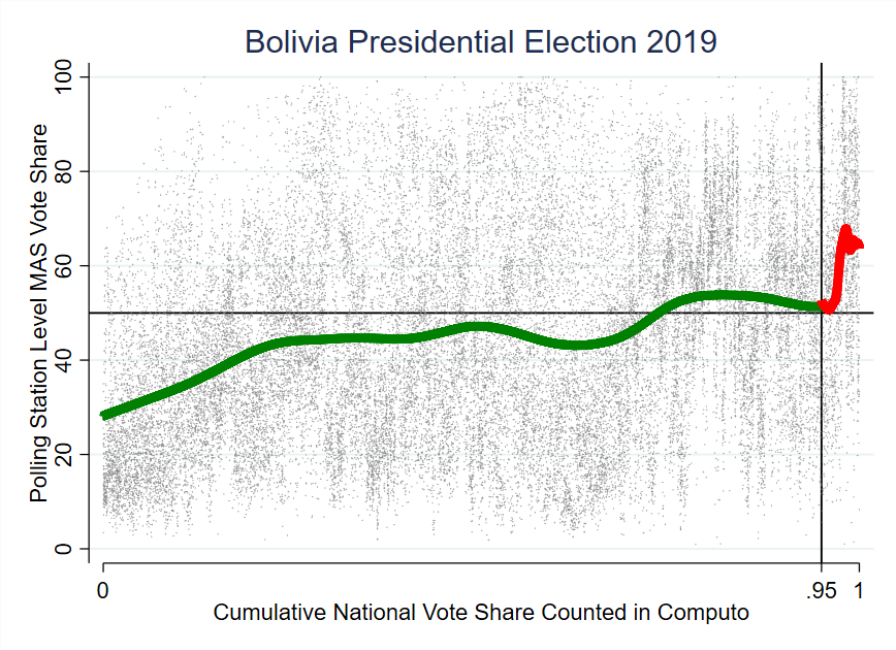
The analysis above uses the *computo* vote tallies but leverages the TREP time stamps to take seriously the contention that the overall result was driven by late-reporting polling stations. However, we should analyze if the same patterns emerge if we use only the *computo* data and time-stamps. The answer is they do. This is even more troubling for the analysts who have emphasized the rural-urban split since the *computo* data do not reflect the time the results were reported to the TSE and so should not reflect any rural vote coming in late. Yet similar patterns emerge.

Below we replicate the figures and analysis above using only the *computo* data and time stamps. First, we consider the figure with the overall trend lines.

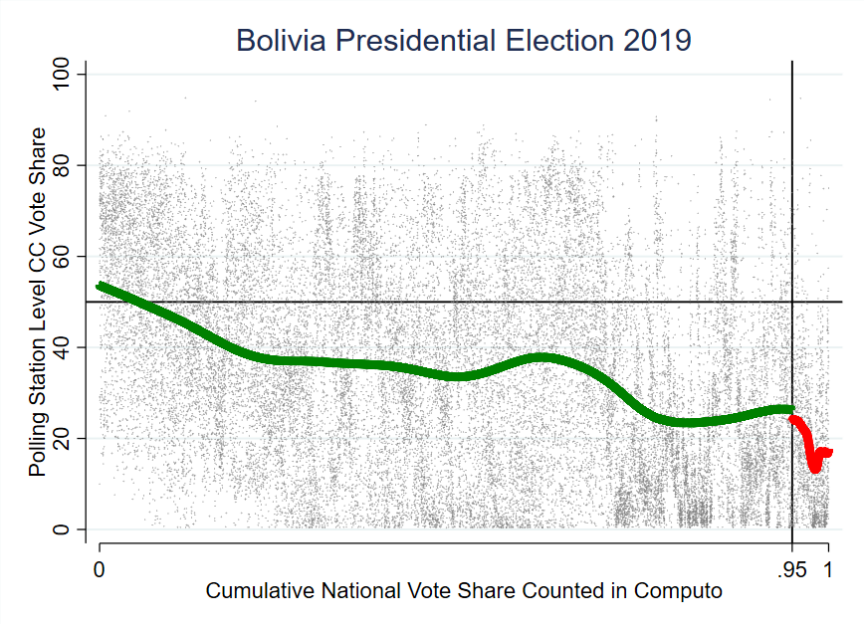


As above, we see the divergence between MAS and CC widen rapidly as the vote count proceeds. Again, this cannot be easily explained away by "late-reporting rural areas" since we are using the *computo* time stamps.

Consider only the MAS and CC trend lines. Here we replicate the threshold analysis but now use the 95% threshold calculated using only the *computo* data and time stamps.



The MAS trend shows a striking upward trend in the final 5% that is quite different from any other part of the trend. In addition, below, the CC trend shows a striking downward trend that, again, is distinct from its earlier trend.



Finally, a polling-station level analysis using only the *computo* time stamps confirms the trends uncovered in the earlier analysis.

	PS-Level MAS Vote Share		PS-Level CC Vote Share		MAS Advantage Over CC	
	0-95	95-100	0-95	95-100	0-95	95-100
National	44.6	59.7	35.4	18.9	9.2	40.9
Beni	33.3	39.2	33.1	23.5	0.2	15.7
Chuquisaca	34.1	63.7	46.6	19.0	-12.5	44.7
Cochabamba	55.1	71.1	32.1	16.4	23.0	54.7
La Paz	51.0	53.6	28.6	18.9	22.4	34.7
Potosi	42.7	71.6	33.2	8.7	9.5	63.0
Santa Cruz	32.6	50.6	45.4	25.4	-12.8	25.2

Source: Computo data and time stamps used to calculate cumulative vote thresholds; author's calculations

The patterns are similar to those in the table above. In every department where there are substantial numbers of polling stations reporting late, the MAS does much better in the final 5% of the vote count than in the previous 95%, while the CC does worse. Consider the final two columns, which calculate the average polling-station-level advantage enjoyed by MAS. In *Beni*, where the two candidates are roughly even throughout the count for the first 95% of the cumulative vote, the MAS has an average 15% edge in the last 5%. In *Chuquisaca*, the CC had an average 12% edge at the polling station level for the first 95% of the vote, but this flips and the MAS takes a 44% edge on average in the last 5%. That's a 50% average vote share reversal for the two parties.

One final piece of evidence comes from the OAS's internal analysis of the Computo trends. The table below shows the vote shares for both parties per the *computo* data with time stamps.

Date	Time	Cumulative votes counted	Tally sheets	CC	Votes	MAS	Votes	Difference	Votes
10/22/2019	**14:45**	86.90%	30.028	38.93%	2,100,493	44.75%	2,417,553	**5.87%**	317.060
	15:55	88.32%	30.520	38.64%	2,114,979	44.95%	2,460,336	**6.31%**	345.357
	16:19	89.25%	30.842	38.52%	2,128,833	45.07%	2,490,820	**6.55%**	361.987
	16:43	89.56%	30.948	38.46%	2,134,204	45.14%	2,505,344	**6.68%**	371.14
	16:58	89.80%	31.032	38.42%	2,137,218	45.16%	2,512,239	**6.74%**	375.021
	17:15	90.38%	31.230	38.29%	2,145,161	45.27%	2,536,075	**6.98%**	390.914
	17:30	90.97%	31.433	38.13%	2,152,747	45.42%	2,564,282	**7.29%**	411.535
	17:50	91.86%	31.743	37.95%	2,160,558	45.62%	2,596,893	**7.67%**	436.335
	18:10	92.30%	31.893	37.83%	2,163,988	45.73%	2,615,754	**7.90%**	451.766
	18:40	93.22%	32.211	37.61%	2,170,993	45.93%	2,651,695	**8.32%**	480.702
	19:30	94.42%	32.627	37.38%	2,180,479	46.14%	2,695,658	**8.76%**	515.179
	20:00	95.12%	32.867	37.23%	2,190,431	46.28%	2,722,762	**9.05%**	532.331
	20:15	95.40%	32.966	37.18%	2,191,909	46.33%	2,731,116	**9.15%**	539.207