# Evidence of Algorithmic Vote Flipping in GOP Primary Elections

Layman's Executive Summary

Vote flipping: fraudulent transfer of votes from one candidate to another, leaving the overall vote count unchanged
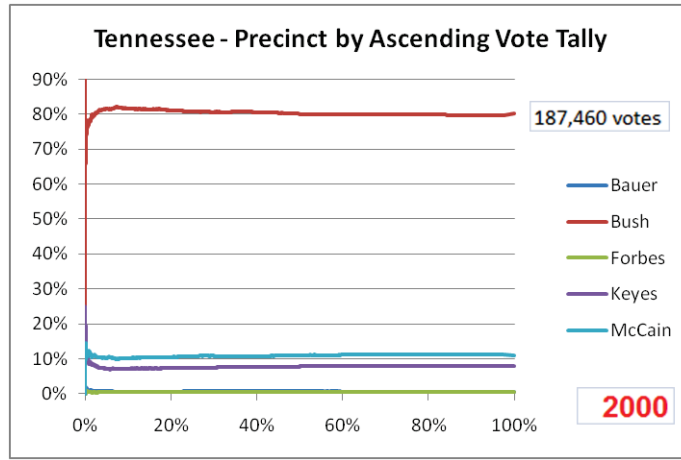
When tabulating the results of a ballot, at County or State level, the precincts are usually tallied by alphabetical order. Typically, the higher the percentage of the ballots you have counted, the closer the partial-count result of each candidate gets to his final, all-ballots-counted result.

Graphically, If we take the 2012 New Hampshire Republican Primary, we obtain this:
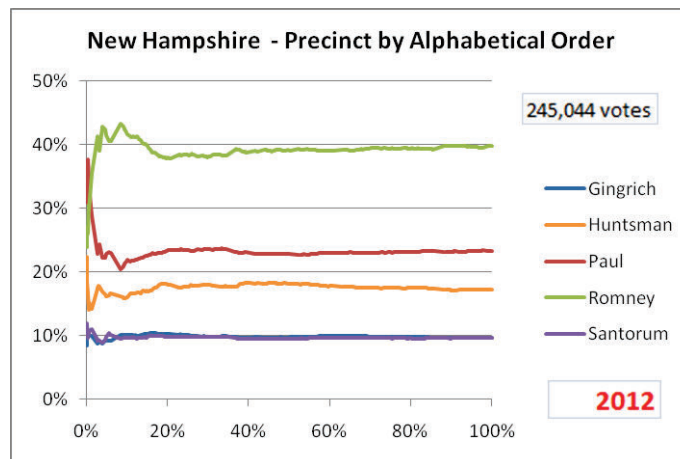
As can be seen, by the time you have counted 40% of all the ballots, the line goes flat: you have a reliable predictor of the candidate's final result. All poll science is based on this sort of predictability. There is a zero correlation between the alphabetical order of the precinct and the cumulative result of the candidate.
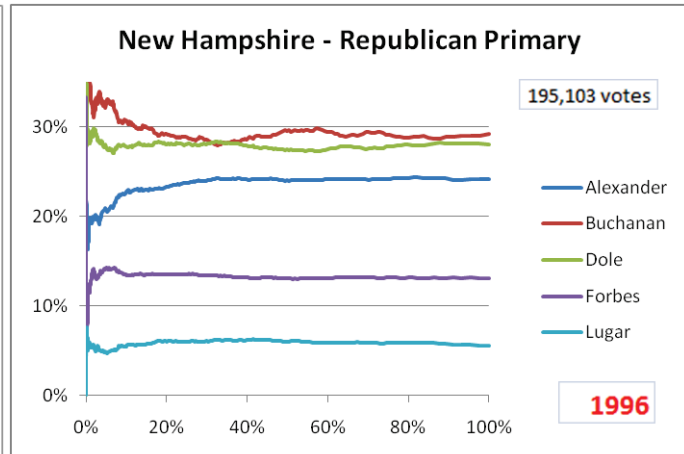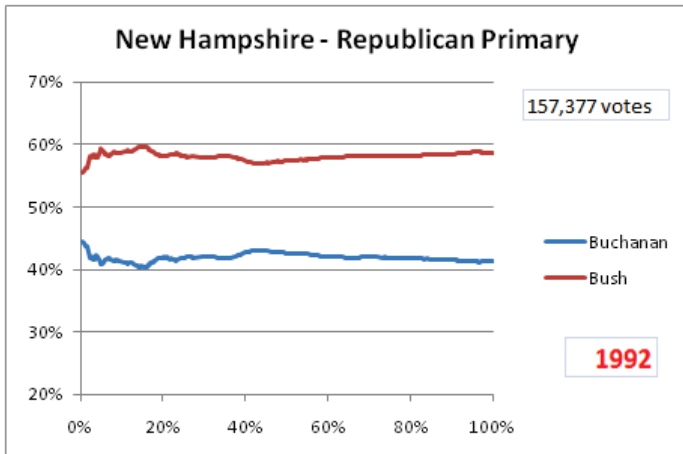
Now let's **order the precincts by number of votes cast** and let's start counting from the smallest all the way to the largest. Start with the Republican Primary in Tennessee, 2000.

Tennessee - Precinct by Ascending Vote Tally

187,460 votes

Bauer · Bush · Forbes · Keyes · McCain

2000

Zero correlation. Basically, if you sort the precincts randomly, you end up with the same chart:

Tennessee - Randomized 187,460 votes

Bauer · Bush · Forbes · Keyes · McCain

2000
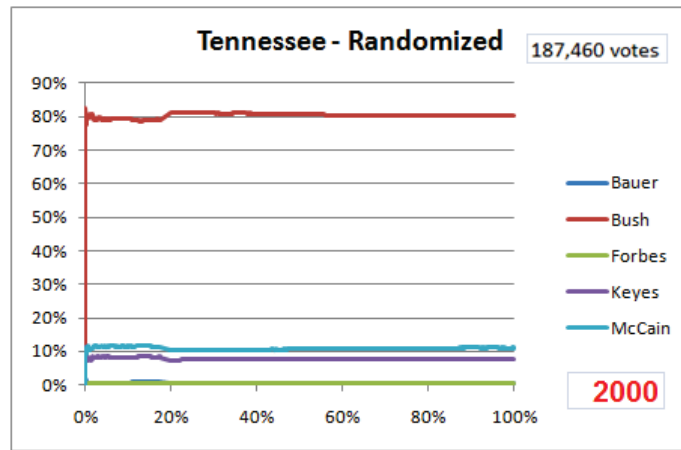
Below are shown more historical examples, both at state and county level. **All sorted by Precinct Vote Tally**.

New Hampshire - Republican Primary

157,377 votes

Buchanan · Bush

1992

New Hampshire - Republican Primary

195,103 votes

Alexander · Buchanan · Dole · Forbes · Lugar

1996

New Hampshire - Republican Primary — 238,206 votes — 2000

Alachua, FL, Rep., 2000 - 6,323 votes

Alachua, Fl, Dem., 2000 - 12,272 votes

Alachua, FL, Dem. - 2004 — 14,315 votes
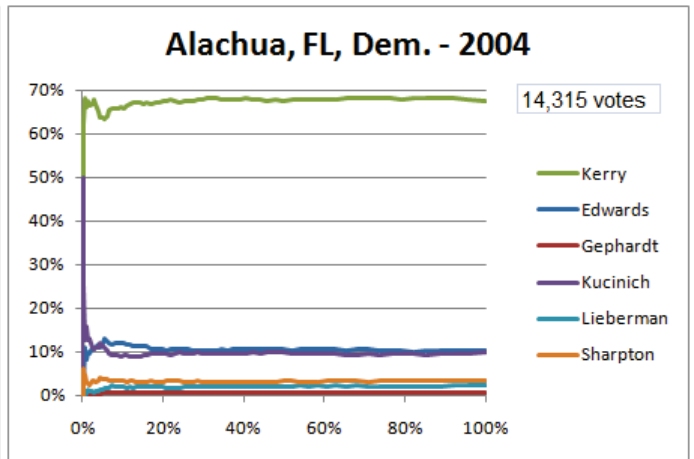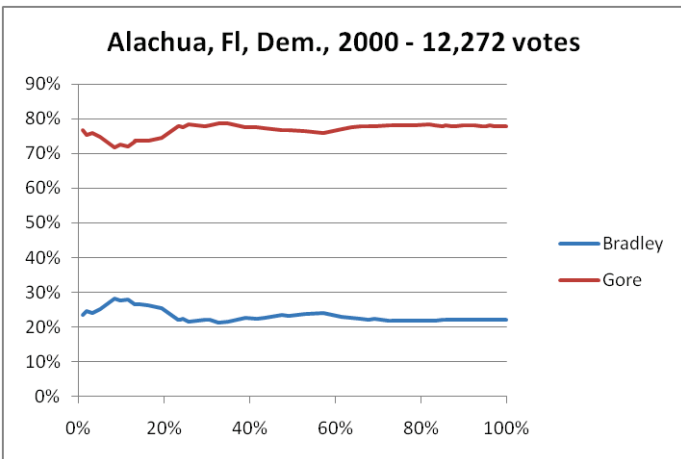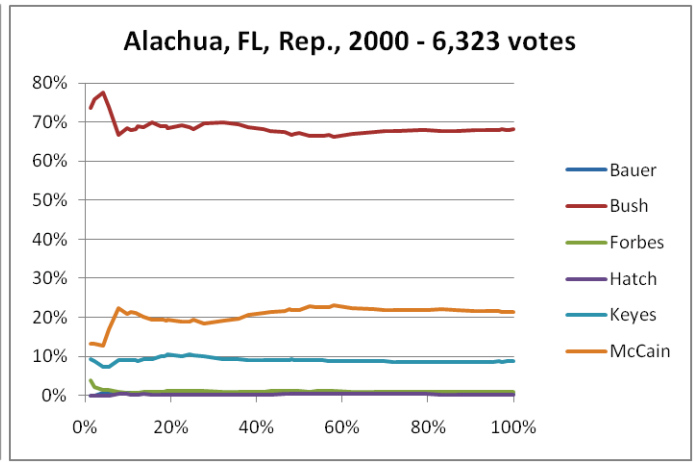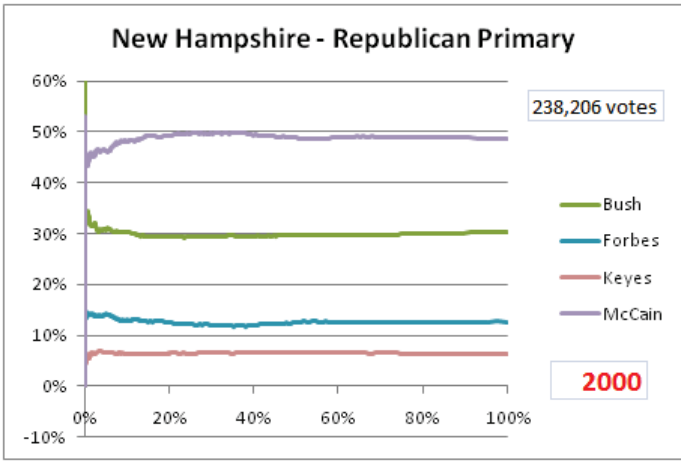
In all charts, for all candidates, there is a flat line rapidly developing, which translate into a zero correlation between their partial-count results and the precincts ordered by vote tally.

Then, in 2012, it was noticed that something EXTRAORDINARY happens:

New Hampshire - Republican Primary — 245,044 votes — 2012
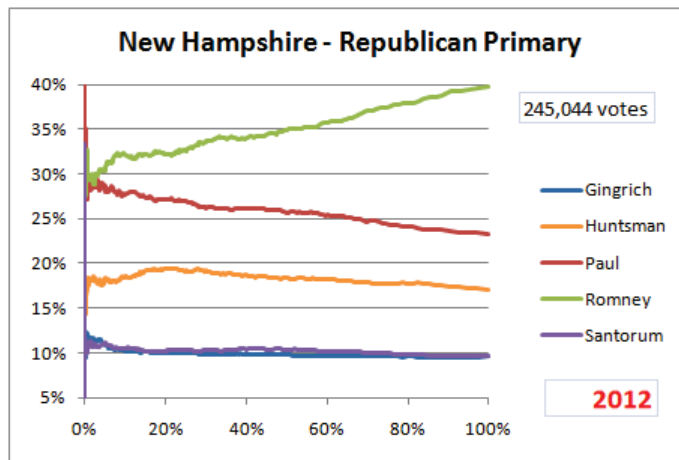
The correlation with the precinct vote tally goes from NONE to 99%.

In the chart above you can notice that this anomaly affects Romney positively, Paul and Huntsman negatively, but leaves Gingrich and Santorum entirely untouched.

Is this anomaly happening elsewhere? Indeed, it is. It is visible in Republican caucuses as well. Iowa is, again, extraordinary. The Polk – DesMoines county defies all belief and all past electoral behavior that we know of...
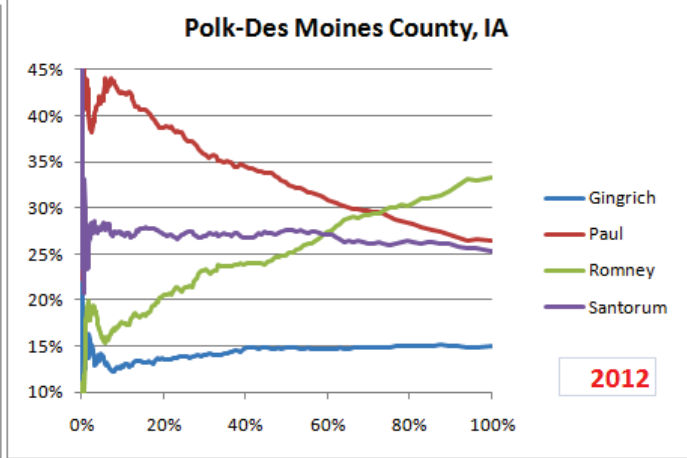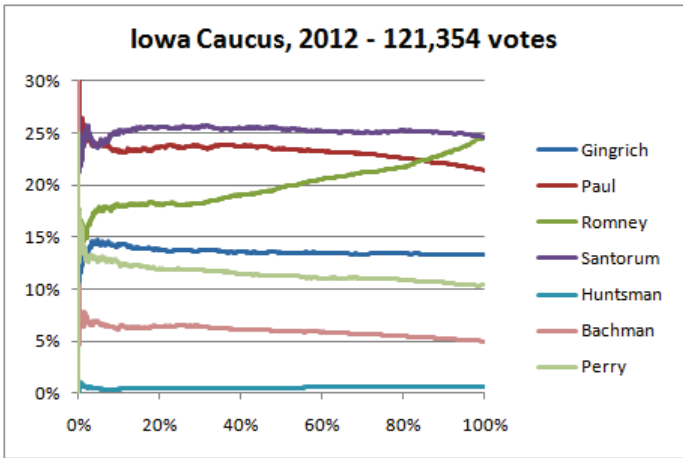
On the left-handed chart, at around of 30% of votes tallied, all candidates seem to have stabilized, but suddenly, from a distant 3rd, Romney's result shoots up continuously with stunning regularity, just enough to beat Santorum at the post.

The anomaly affects some counties, but others retain the historical complete absence of correlation:
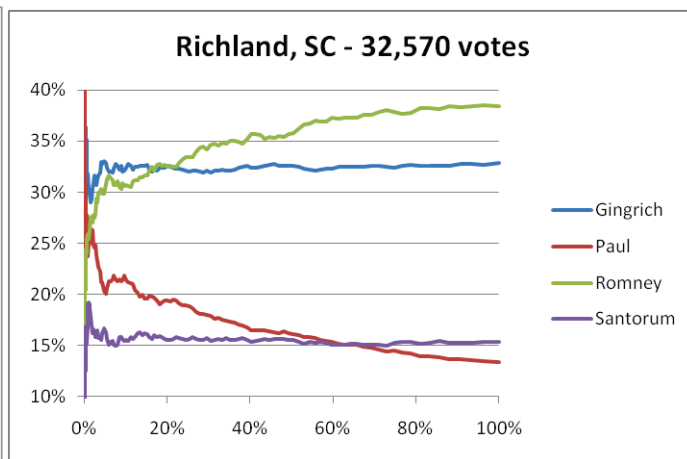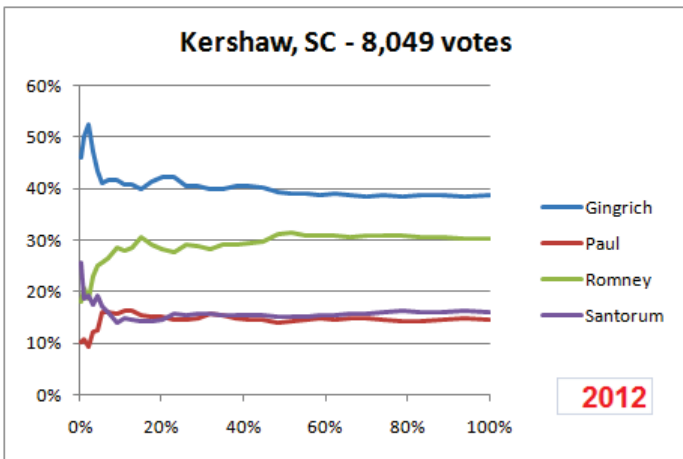
Kershaw exhibits no correlation. In Richland, same year, Romney is flipped aggressively above Gingrich, and Paul sunk below Santorum. Meanwhile, Gingrich and Santorum retain the zero-correlation to district size.

Here is the county of Hillsborough, NH, across a long period of time:
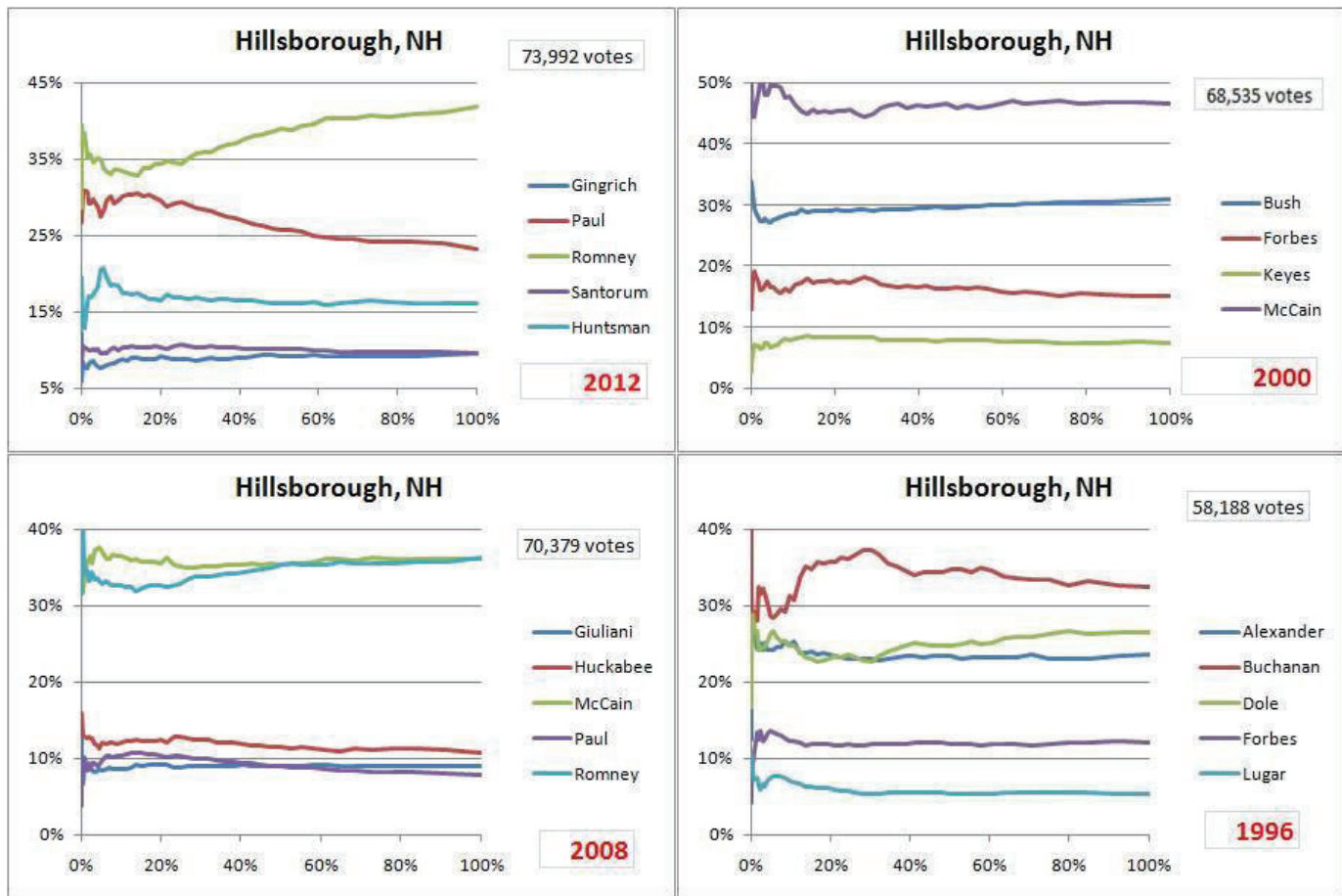
Keep in mind that many of those voters are the very same people. It is difficult to imagine demographics that could explain the sudden appearance of a massive positive correlation between Romney's results and precinct size in only 4 years. Ditto for Paul's. A vote flipper, switched on at 25% of the total ballot count, would explain all of that in one stoke.

The anomaly adjusts to Romney's political agenda for a given state election: it takes from Paul in Iowa and New Hampshire, Gingrich in Florida and South Carolina, Santorum in Arizona and Ohio. Romney's surge leaves only Santorum totally unaffected in South Carolina, whereas Paul is the only one untouched in Alabama. How can a politician win votes at the sole expense of some of his opponents, with the names of those exclusively affected changing from one state to the other?

The proposed algorithmic vote flipper's mathematical formula is basic: it flips a proportion of the final score from 1, 2 or 3 candidates to Romney, in a linear proportion of the precinct vote tally, avoiding the smallest ones.

A simulation of the simple math behind the algorithm is given below. To illustrate the mechanism, we simulate a flip in a New Hampshire county that does not appear anomalous:

Vote Flipper Simulation

% of Final Score Flipped to Gainer	5%
Gainer	Romney
Loser	Paul
Flip start point	Precinct size> 4% total ballot
Total Ballots cast	4632
Number of votes flipped	232 = 5% x 4632
# Romney votes in precinct size > 4%	743
Boost multiplier	1.31 = 232 / 743

Precincts	Romney Votes Pre flip	Romney Votes Post Flip	Paul Votes Pre flip	Paul Votes Post Flip	R + P Pre flip	R + P Post Flip
Northumberland	61	80	86	67	147	147
Jefferson	79	104	49	24	128	128
Berlin Wd 3	104	136	96	64	200	200
Gorham	131	172	100	59	231	231
Whitefield	108	142	115	81	223	223
Cole-brook	96	126	143	113	239	239
Lancaster	164	215	160	109	324	324
Total	743	975	749	517	1492	1492

Coos, NH - Actual

Coos, NH - Simulated Flip
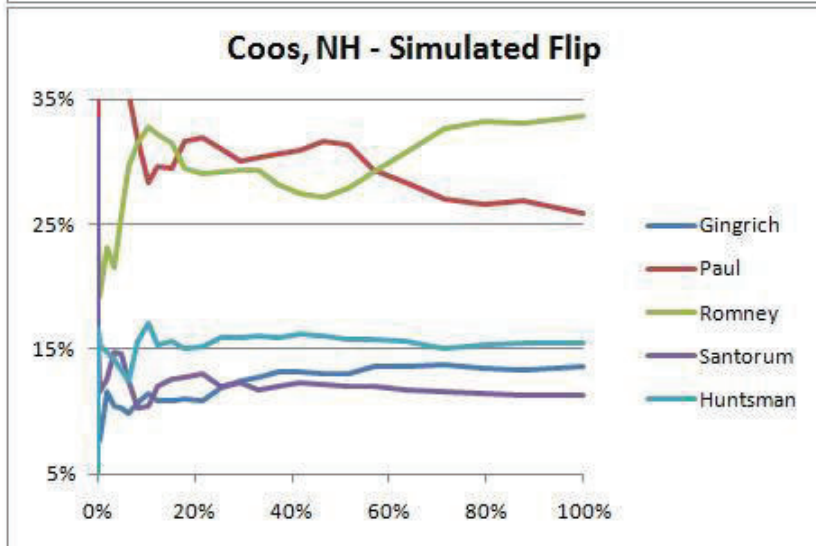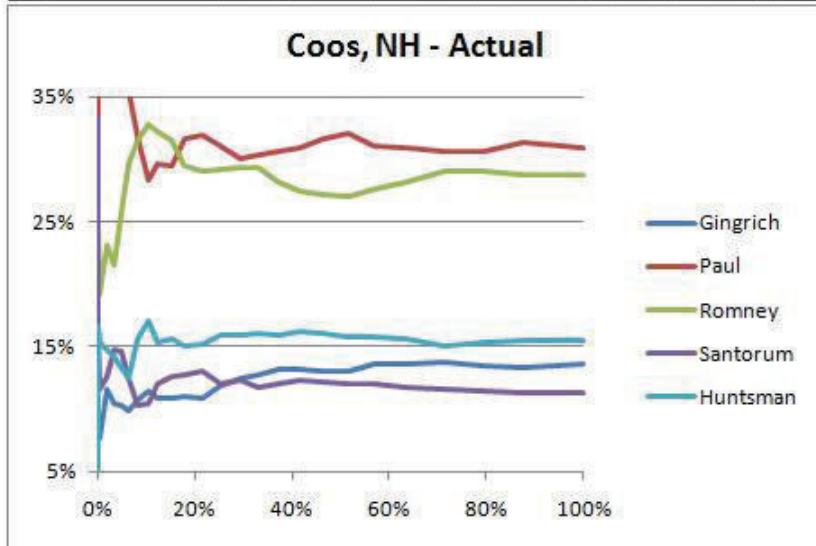
If we assume that precinct size has no material correlation with partial count results, as shown historically, we can bring nifty maths to bear. A math trick (called hypergeometric distribution law applied to exhaustive counting) allows calculating the probability of a candidate's reaching his known final result from any point in the chart, given how badly he is lagging or ahead.

An unflipped county like Coos, NH remains nicely within the bounds of normal behavior, for all candidates.

%of Total Votes	Given how far behind or ahead of his final score the candidate stands when at the % of total votes cast in 1st column, probability that he will converge back to it.				
	Gingrich	Paul	Romney	Santorum	Huntsman
1%	1/3	1/31	1/5	1/3	1/3
2%	1/3	1/18	1/7	1/4	1/2
4%	1/7	1/121	1/48	1/16	1/3
5%	1/14	1/28	1/6	1/24	1/5
7%	1/39	1/32	1/3	1/5	1/13
8%	1/22	1/3	1/11	1/3	1/2
10%	1/13	1/10	1/63	1/3	1/7
12%	1/47	1/4	1/44	1/4	1/2
15%	1/90	1/5	1/27	1/11	1/2
18%	1/144	1/4	1/4	1/19	1/3
22%	1/535	1/5	1/3	1/44	1/2
25%	1/45	1/2	1/3	1/7	1/3
29%	1/17	1/4	1/4	1/16	1/3
33%	1/10	1/3	1/4	1/5	1/4
37%	1/5	1/2	1/3	1/13	1/4
42%	1/4	1/2	1/18	1/42	1/6
47%	1/7	1/6	1/55	1/34	1/6
52%	1/9	1/30	1/174	1/25	1/4
57%	1/2	1/2	1/35	1/39	1/4
64%	1/3	1/2	1/7	1/15	1/3
71%	1/2	1/4	1/5	1/9	1/9
79%	1/4	1/4	1/8	1/9	1/5
88%	1/36	1/18	1/2	1/4	1/3
100%	1	1	1	1	1

Now look at what happens when the vote flipper kicks in:

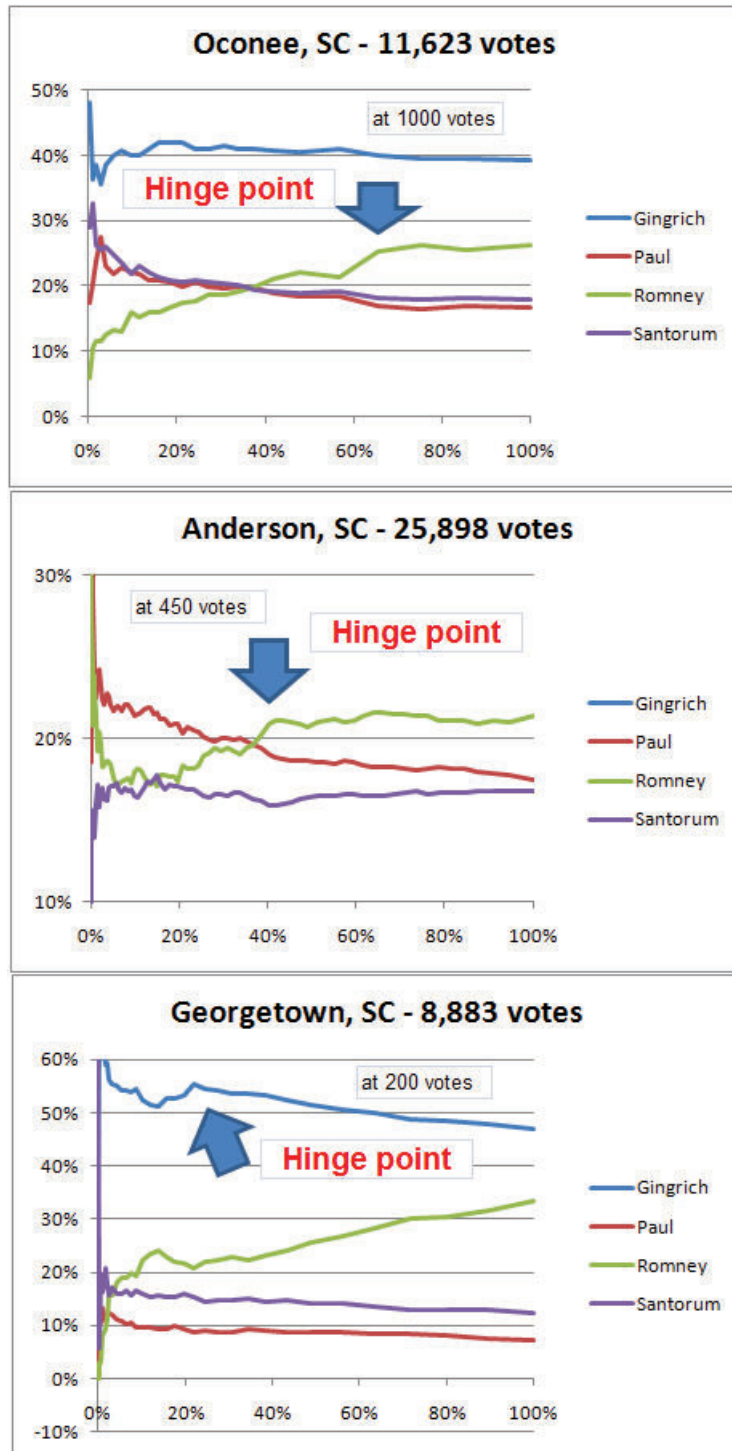| % of Total Votes	Gingrich	Paul	Romney	Santorum	Huntsman
			Given how far behind or ahead of his final score the candidate stands when at the % of total votes cast in 1st column, probability that he will converge back to it.		
1%	1/6	1/713	1/3	1/5	1/10
2%	1/2	1/12,874,560	1/27	1/9	1/337,934
3%	1/3	1/1,103,285,181	1/977	1/3	1/495
4%	1/3	1/40,583,938,248	1/3,395	1/3	1/167
5%	1/8	1/59,457,277	1/25	1/7	1/69
6%	1/9	1/12,849,071,690,073	1/3,104	1/23	1/29
8%	1/5	1/2,251,799,813,685,250	1/12,734	1/18	1/151
9%	1/4	1/9,007,199,254,740,990	1/106,243	1/15	1/79
11%	1/4	beyond Excel	1/2,257,499	1/6	1/164
12%	1/2	beyond Excel	1/71,755,570	1/20	1/81
14%	1/2	beyond Excel	1/370,178,667	1/75	1/11
16%	1/3	beyond Excel	1/16,026,753	1/697	1/7
17%	1/3	beyond Excel	1/10,237,448	1/961	1/26
19%	1/2	beyond Excel	1/1,017,880	1/92	1/89
21%	1/3	1/115,476,913,522,320	1/3,862	1/1,736	1/36
23%	1/2	beyond Excel	1/3,617,387	1/2,388	1/6
25%	1/3	1/9,007,199,254,740,990	1/93,583,544,334	1/4,062	1/12
27%	1/2	beyond Excel	1/82,706,194,074	1/1,304	1/4
29%	1/3	beyond Excel	1/1,259,123,013,497	1/792	1/18
31%	1/4	beyond Excel	1/6,673,892,840,530	1/614	1/3
34%	1/9	beyond Excel	1/53,224,315,790	1/647	1/2
36%	1/3	beyond Excel	1/24,037,975,507,939	1/15	1/10
38%	1/3	beyond Excel	1/991,059,614,849	1/10	1/1,274
41%	1/3	beyond Excel	1/163,046,103,957,290	1/20	1/213
43%	1/5	beyond Excel	1/643,253,768,964	1/69	1/11
46%	1/4	beyond Excel	1/1,045,681,091,805,680	1/7	1/1,924
48%	1/4	beyond Excel	1/131,396,629,102,342	1/3	1/25,000
51%	1/3	beyond Excel	1/6,187,532,708,568,550,000	1/4	1/281,134
54%	1/12	beyond Excel	1/745,227,967,974,013,000,000	1/3	1/13
57%	1/47	beyond Excel	1/2,023,162,786,985,480,000,000,000	1/2	1/3
61%	1/90	beyond Excel	1/20,199,788,456,366,400,000,000,000,000,000	1/8	1/7
65%	1/423	beyond Excel	1/2,426,421,520,948,140,000,000,000,000,000	1/5	1/6
69%	1/302	beyond Excel	1/9,567,970,451,597,480,000,000,000,000,000,000	1/13,279	1/4
73%	1/1,721	beyond Excel	1/1,069,546,260,707,850,000,000,000	1/11	1/50
78%	1/554	beyond Excel	1/2,717,445,237,201,750,000,000,000	1/5	1/2
83%	1/4,285	beyond Excel	1/5,479,142,987,217,150,000,000,000,000	1/5	1/17,507
90%	1/1,736,226	beyond Excel	1/1,090,219,648,986,900,000,000,000	1/116	beyond Excel
100%	1	1	1	1	1

Non hypergeometric behavior is occasionally visible in historical data. However, we could not find any precedent to the frequency seen in 2012. Another very strong anomaly is that the surge frequently allows winning a place in the election (from 2nd to 1st, or 3rd to 2nd). This is even rarer historically.

We argue that the point where the vote flipper is activated/disactivated is visible to the naked eye on most charts:

Oconee, SC - 11,623 votes

at 1000 votes

Hinge point

- Gingrich
- Paul
- Romney
- Santorum

Anderson, SC - 25,898 votes

at 450 votes

Hinge point

- Gingrich
- Paul
- Romney
- Santorum

Georgetown, SC - 8,883 votes

at 200 votes

Hinge point

- Gingrich
- Paul
- Romney
- Santorum

On some occasions, the anomaly is so strong that a huge initial gap is closed. It is another instance where we could not find historical precedents. Here, a 50% lead at 20% of the total ballot count totally vanishes:
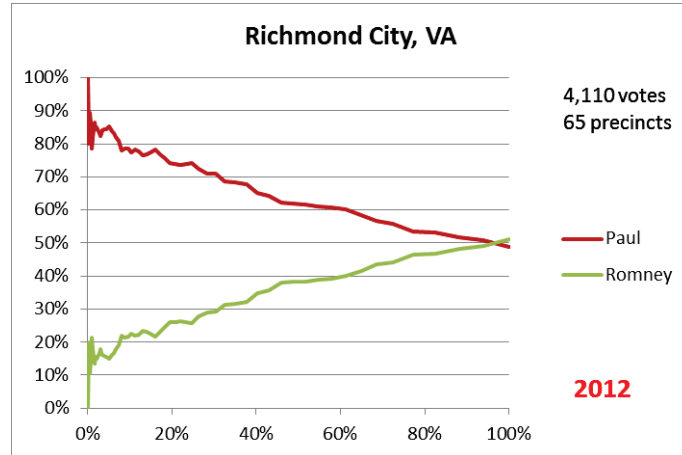
The anomaly is detectable for the first time in 2008. The 2008 vote flip caused then serious damage to Huckabee's results, to the benefit of Romney and occasionally McCain:
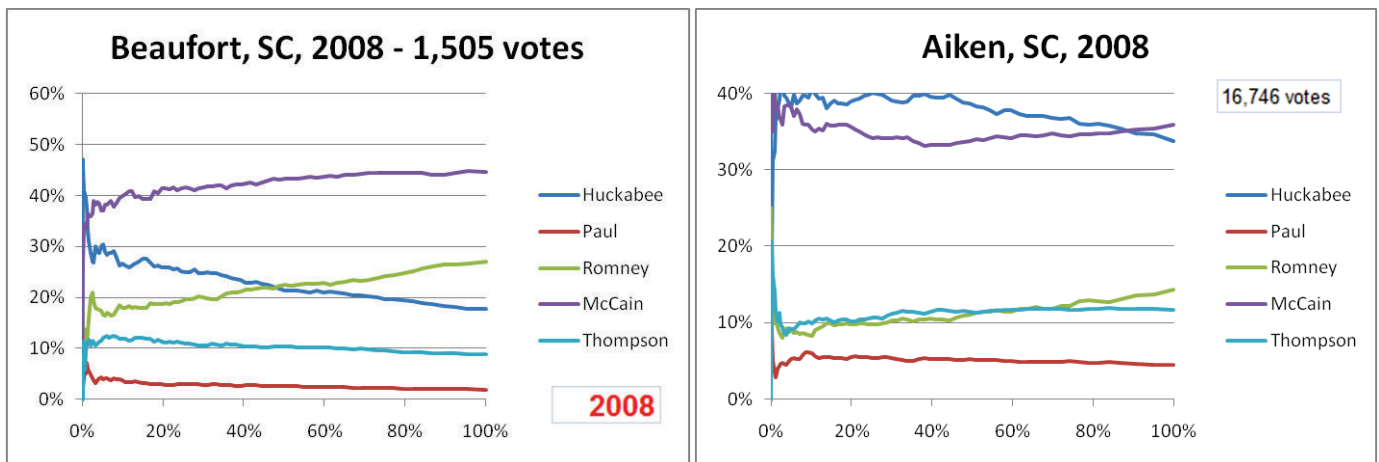
The research is based so far on Republican primaries in Iowa 2012, Nevada 2012, New Hampshire 2012, 2008, 2000, 1996, 1992, South Carolina 2012, 2008, Maine 2012, Arizona 2012 (partial), Florida 2012, 2008, 2004, 2000 (partial), Tennessee 2000, Alabama 2012 (partial), Ohio 2012 (partial), Oklahoma 2012, Puerto Rico 2012, Vermont 2012.

Verification and quantification by PhD-level mathematicians is urgently required.

A de-cluttered PDF of the original thread's discussion can be found here (warning: it is 200-page long, not particularly reader-friendly and the maths are a step up from this document):

https://docs.google.com/file/d/0ByJAC-sfXwumdkE4d0Y2eWtURTZ2eDM5RmlLc3ZhQQ/edit?pli=1

"Then you will know the truth and the truth shall set you free."

John 8:32

Data Sources:	
Alabama	http://results.enr.clarityelections.com/AL/38312/75743/en/summary.html
Arizona	http://results.enr.clarityelections.com/AZ/36496/75798/en/summary.html
Iowa	http://www.filedropper.com/iowacaucus2012precinctresults
Maine	http://www.filedropper.com/mainegopcaucus2012unrevised
Nevada	http://www.filedropper.com/nevadagopcaucus2012
New Hampshire	http://www.sos.nh.gov/presprim2012/index.htm
	http://www.sos.nh.gov/election%20stats%20and%20districts.html
Ohio	where available, data sourced from each County's Board of Elections web site, for instance:
	Franklin http://vote.franklincountyohio.gov/
	Hamilton http://www.hamilton-co.org/boe/inputdata/electionsresults/final/p12unoffcanvass.pdf
Oklahoma	http://www.ok.gov/elections/The_Archives/Election_Results/2012_Election_Results/
Puerto Rico	http://64.185.222.182/cee_events/PRIMARIAS_PARTIDO_REPUBLICANO_2012_36/NOCHE_DEL_EVENTO_55/default.html
South Carolina	http://www.enr-scvotes.org/SC/36831/67784/en/summary.html
	http://www.scvotes.org/statistics/2008_presidential_primary_results
Tennessee	http://www.tn.gov/sos/election/results.htm
Vermont	http://www.sec.state.vt.us/seek/database.htm
Alachua, FL	http://elections.alachua.fl.us/index.php?id=33&spanish=N
Miami-Dade, FL	http://www.miamidade.gov/elections/resources_2012results.asp
Palm Beach, FL	http://www.pbcelections.org/ERSummary.aspx?eid=127
Tampa, FL	http://votehillsborough.org/?id=37

All the raw data in immediately usable tabular form is available in an excel file uploaded here:

http://www.filedropper.com/electionsrawtables

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