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Was the 2004 Presidential Election Stolen?: The History, The Crime, The Cover-Up, and Conclusions

AAPOR Meetings
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Montreal, Canada

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Disclaimer: Allegations made in this report are the author's own, and are based on statistical evidence. As such, there is always a chance (however slight) that they could be wrong. They are not a substitute for an on-the-ground legal investigation.

Overview

- The History
- The Crime
- The Cover-Up
- Conclusions

The History

First “Explanation”: Initial Calls for an Investigation and its Dismissal by Democrats and the Media

- Jonathan Simon and others capture CNN screen printouts of exit polls in early morning of Nov. 3rd showing Kerry leading in 10 out of 11 battleground states and in 35 of 46 other states for which data was downloaded.
- In a widely distributed paper, Steve Freeman, shows that it is basically statistically impossible that that pro-Kerry exit poll discrepancies in the three key battle ground states of Ohio, Florida, and Pennsylvania could be a result of random chance.
- *Mainstream media dismiss these and other calls for a full public release of exit poll data and a thorough independent investigation of the discrepancies as “blogosphere” driven “conspiracy theory” based on early, inaccurate, and improperly weighted data.* They cite an MIT/CalTech report showing that “final exit polls” show no significant discrepancy from the official election result.
- After widespread critique by “blogosphere” analysts, authors of the MIT/CalTech report release an amended report acknowledging that their first report was in error as the “final” exit poll data that they used was adjusted after official outcomes were known to match these outcomes.

Second “Explanation”: EM “rBr” Accepted, Calls for Investigation Again Dismissed

- The exit poll evidence, plus on-the-ground evidence of massive and overwhelmingly one-sided pro-Bush irregularities and illegalities in Ohio leads to an Electoral College challenge for only the second time in US history. This is downplayed in the media and by mainstream Democrats, as a simply a protest to spur election reform.
- The day before the inauguration, Edison/Mitofsky (EM) releases a 77 page report (early versions of which were stamped with a statement saying that the report was not to be publicly released until the January 19, 2005 date), acknowledging that the 2004 exit poll discrepancies were the largest on record (going back to 1988), and that they cannot be explained by random chance. “Unadjusted” exit poll data presented in the report largely match the Simon CNN screen shots used by the naive and “misled” “Blogosphere analysts”. EM also releases individual raw exit poll data, with no identifiers allowing matching to precinct-level official results, with no data on the pollsters, and with weights adjusted to match the official election results.
- However, EM claim that the discrepancy could be explained by a hypothetical over-sampling of Kerry supporters by a 56% to 50% margin – later called the “reluctant Bush responder” (rBr) hypothetical. The report presents circumstantial evidence showing that younger, college educated, pollsters over sample Kerry voters. *Mainstream media accept the EM conclusion, dismiss calls for a full release of precinct-level data, and once again declare the exit poll “debate” over.*

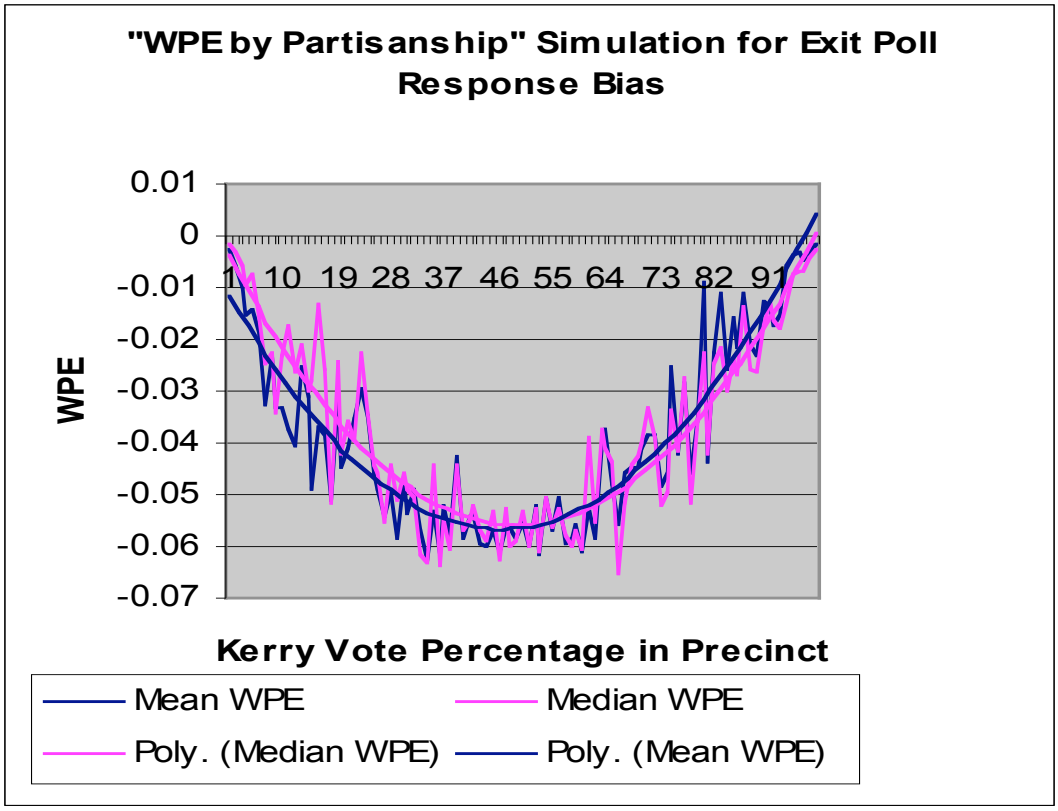
USCountvotes/NEDA Shows that rBr is Inconsistent with Data Provided by EM

- A group of 12 analysts, mostly academics with Ph.D's in Statistics or related fields, led by Kathy Dopp of USCountvotes/National Election Data Archive (NEDA), release a report, showing that the data presented in the EM report is mathematically incompatible with rBr. In particular, the EM tabulations showed that that exit poll response in high Bush precincts was slightly *greater* than the response in high Kerry precincts, and that only *highly implausible* large increases in Kerry voter exit poll response, as precincts become more Bush leaning, could explain the reported pattern of average exit poll discrepancy, that rises from a +0.3% (Bush discrepancy) to a -10.0% (Kerry discrepancy) as precincts become more Bush leaning.
- Mainstream media and the Democratic Party, having already twice declared the issue resolved, ignore this report, but it causes a large stir in the blogosphere, and elicits a counter analysis by Elizabeth Liddle. Liddle, with some assistance from Marc Lindeman (both of whom were previous participants on the NEDA list), show that a fixed Kerry/Bush exit poll response ratio (such as the rBr hypothetical of .56/.50 = 1.12) generates a slightly asymmetrical "U" shaped pattern of exit poll discrepancy when precincts are ordered according to their official vote outcome. She claims that this suggests that the pattern of discrepancies across precincts can plausibly be generated by a "on average" constant rBr hypothetical.

Third “Explanation”: Liddle “Transformed rBr” Accepted as “Refutation” of NEDA

- Before she went public, Liddle’s claims were vigorously contested on the NEDA list by Ron Baiman and others. How can a slightly asymmetric “U” shape explain a clearly non-”U” shaped pattern of discrepancies with a large outlier at the Bush end of the precinct partisanship axis? *If anything the “U” shape showed even more clearly how incompatible rBr was with the EM data.* Liddle’s analysis was simply repeating the early NEDA exit poll response rate analysis that had pointed to the need for highly divergent partisan response rates to explain the EM data. *Her attempt to derive an opposite conclusion from the same analysis made no sense.* Her major contribution was to consistently use a bias “ratio” and to point out the overall “U” shaped pattern – but *this was fully compatible (indeed based on mathematically equivalent derivations) as the earlier NEDA analysis.* There was no reason why a focus on the overall pattern and consistent use of a “ratio” of partisan response rates rather than discrete differences and ratios would affect the previous NEDA conclusions.
- None the less, Liddle’s paper is widely hailed as a rebuttal of the NEDA critique. Mitofsky pays Liddle to work for him and gives her access to the complete raw data set (with official returns and pollster and polling characteristics) that he has refused to release to independent analysts. At AAPOR 2005 he displays a scatter plot based on these data showing that there is no significant linear correlation between precinct partisanship and Liddle’s index of exit poll response bias based on data variance, seemingly refuting the NEDA critique.

Simulation of a 56% to 50% Exit Poll Response Bias (WPE is same as Kerry WPD)



Fourth "Explanation": Transformed Average rBr is Compatible with Precinct-Level Discrepancies

- In anticipation of the Mitofsky/Liddle presentation, Baiman, Dopp, and Dodge, of NEDA produce a report pointing out the irrationality of the Mitofsky/Liddle "explanation". The report includes statistical estimates of maximal *model* (as opposed to *data*) SD's indicating that only significantly different exit poll response ratios could explain the EM aggregate data. (For example: the *data* SD of the ESI Ohio exit polls is17%, whereas their *model* SD, as estimated by EM, is about 2%. The noisiness of exit polling data would make almost any estimate based on *data* variance insignificant.) Baiman went to AAPOR 2005 on behalf of NEDA. *He pointed out the illogical nature of Liddle's "explanation", and challenged Mitofsky from the floor to go beyond the circumstantial tabulations of the EM report and back up rBr with rigorous statistical regression analysis based on model variances. He also again asked EM to release the raw data so that this explanation or others could be independently investigated. Mitofsky said that such a statistical analysis had been done, did not explain why it had not been released, and walked away.*
- Mitofsky, Liddle, and Lindeman, in communications with NEDA claim that all along they were talking about "average and not constant rBr bias". Moreover, the detailed precinct-level data that they were working with, as opposed to the *aggregate average tabulations* which were all that NEDA had to work with, showed that Liddle's bias index was consistent with exit poll response bias that does not differ in a statistically significant way by precinct partisanship.

Fifth (Non) "Explanation": The Discrepancies Don't Correlate with Bush Victory So They Don't Need to Be Explained

- At AAPOR 2005 Fritz Scheuren presents an analysis of the Ohio precinct level data that was subsequently released through ESI by Kyle et. al. with Warren Mitofsky as an assisting author. This paper argues that vote fraud in Ohio can be ruled out by using 2000 precinct-level data as a bench mark for the 2004 exit polled precincts, and comparing the number of precincts with large Kerry 2004 exit poll discrepancies with the number of precincts in which Bush did better in 2004 relative to 2000. *This represented a new tact that circumvented any need to explain the 2004 discrepancies, by claiming from circumstantial 2000 evidence that no explanation for them is necessary as they did not significantly contribute to the 2004 Bush victory*.
- In a revised NEDA report, Baiman, Dopp, and Dodge, point out that this "non explanation" makes little sense as Bush won less than 1% more vote share in 2004 relative to 2000 and numerous factors including: demographic changes, precinct geography changes, third party participation, and voter registration, could easily have changed Bush's share by a small margin over four years regardless of vote fraud. Moreover, by looking at the number of voters represented by the precincts rather than numbers of precincts, it can be shown that increases in Bush's 2004 share *do* correlate with Kerry exit poll discrepancies in ESI's analysis.

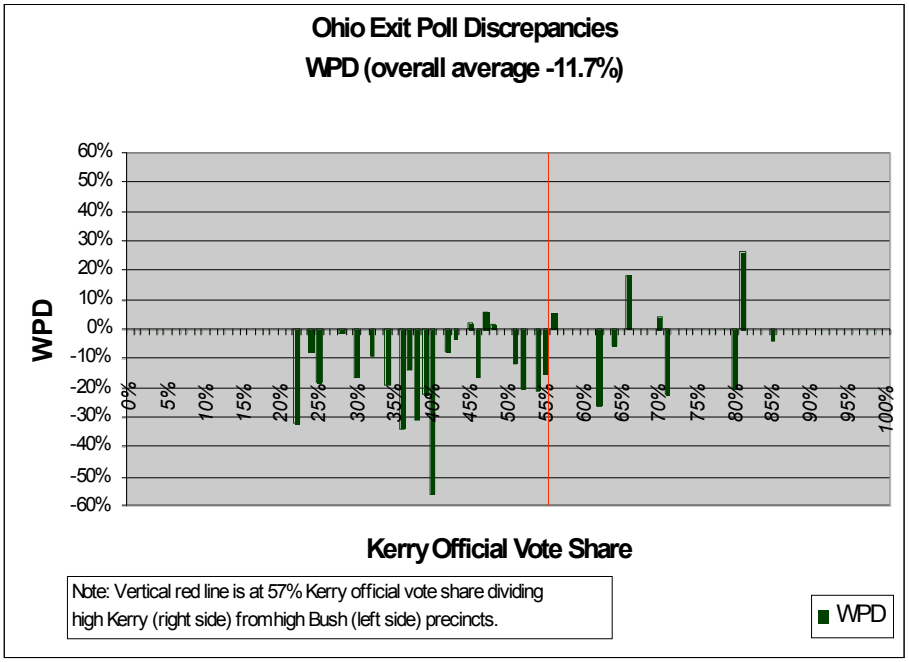
Four Attempts to Explain the Discrepancies and One Non-Explanation

- No rigorous statistical analysis
- No precinct-level data release to independent analysts
- “Hypothetical Explanations” that are inconsistent with aggregate data
- Co-option and illogical use of exit poll respondent analysis
- Dismissal of critics based on the fact that their analysis is based on *Aggregate* data
- What do the *disaggregate precinct-level* Ohio exit poll discrepancies look like?

The Crime

The Smoking Gun: Ohio Precinct-Level Discrepancies Show Virtually Irrefutable Evidence of Vote Miscount

- The ESI report showed that EM *could* release precinct-level data matched to "blurred" precinct-level official results *to selected analysts*. In response to public protestations that this was inconsistent with EM's official position that it couldn't release data of this type without "compromising respondent confidentiality," ESI released the precinct-level Ohio exit poll data matched to official results used in their report.
- A simple display of these data in graphical form (not done in the ESI report) shows that the Ohio precinct-level exit poll discrepancies have a strikingly non-random pattern with:
  - Overwhelmingly Kerry exit poll discrepancies
  - *No* similarity to a "U" shaped "rBr" pattern.
  - A large number of densely packed precincts with large Kerry discrepancies on the left
  - A small number of scattered precincts with more or less random large and small Kerry and Bush discrepancies on the right.
  - From high Kerry to High Bush precincts by official vote quintiles: 0.3%, -3.2%, -4.8%, -8.9%, and N/A)
- This is consistent with the tabulations of average discrepancies by precinct partisanship shown in the EM report (from high Kerry to high Bush precincts: 0.3%, -5.9%, -8.5%, -6.1%, and -10.0%) and analyzed by NEDA.
- *It is also consistent with pervasive "vote shifting", which would turn majority Kerry precincts into majority Bush precincts by official vote shares, but with large Kerry, and small to no Bush, exit poll discrepancies.*


Ohio Exit Poll Discrepancies
WPD (overall average -11.7%)
WPD
60%
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Kerry Official Vote Share
Note: Vertical red line is at 57% Kerry official vote share dividing high Kerry (right side) from high Bush (left side) precincts.
WPD

rBr Cannot Explain These Discrepancies, and it is "Virtually Impossible" to Imagine an Explanation Other than Vote Miscount for this Pattern

- Even if we assume a very sloppy exit poll operation with pollsters:
  a) "missing" numerous voters exiting the polls
  b) polling "clumps" of related voters
  c) having some preference for young, college educated, black, voters who would tend to be Kerry supporters
  d) And with Bush voters shunning exit pollsters
- None of these kinds of "exit poll errors", no matter how egregious, can explain the Ohio exit poll discrepancy *pattern,* because*:*
- The pattern on the *right* of the graph is one of *unbiased random discrepancies* consistent with random exit poll error derived from a) and b) above.
- Whereas the pattern on the *left* is one of *overwhelming non-random Kerry discrepancies.* It is statistically "virtually impossible" that in *every* precinct on the *left* of the graph pollsters managed to come up with a large Kerry discrepancy, or a very small Bush discrepancy. Average discrepancy does *not* diminish to near zero at the left end of the graph as rBr would suggest.
- Were all the "college educated", "young", "Kerry supporting" pollsters sent to poll pro-Bush precincts? And even if they were, how could these pollsters *so consistently* pick out Kerry voters at such high rates?
- Alternatively, why did Bush voters shy away from exit pollsters in high *Bush* precincts but not in high *Kerry* precincts?

The *Graph* of the Precinct-Level Ohio Exit Poll Discrepancies *is* the "Smoking Gun"

- Precinct-level exit polling is about as close to a random sample as is possible in picking a sample. The voters have actually voted and they cannot be easily identified as Kerry or Bush supporters.
- No statistical analysis is necessary! It doesn't take a "Rocket Scientist" to see the obvious non-random, and non-"U" shaped ("rBr"), pattern exhibited by these data!
- This should have been obvious to EM/ESI from the moment they had this data.
- But just to make sure, we did some statistics.

Estimating (Withheld) Ohio Data Sample Sizes from Misleading and Inconsistent "EM Raw Data"

- Though the ESI/EM data do not include standard statistical probability analysis, or the sample sizes necessary to do this analysis (*even though sample sizes would not allow precinct identification*), these sample sizes can be conservatively estimated by matching the ESI exit polls to exit polls derived from the individual response data released by EM to Roper and U.Mich ICPSR.
- Although the ICPSR data include exactly the "Total # Number of Interviews" (2042) in Ohio according to the EM/NEP "Methods Statement", in a communication with Ron Baiman, Warren Mitofsky states that these are only random samples of about 50% of the responses collected and used to calculate ESI exit polls. Mitofsky cites a sentence from the EM report referring to questionnaires with age, race, and gender, being "subsampled" as adequate public disclosure of these facts – see below.
- These sample sizes can be estimated by ordering and "matching" precinct level ESI exit polls to ICPRS exit polls so the deviations of *either* exit poll from the ESI "blurred Official Results" are *minimized*. These sample sizes are then doubled. This matching was not contested by Mitofksy.
- These communications with Warren Mitofsky will be discussed below in the "Cover-Up" section of this presentation.

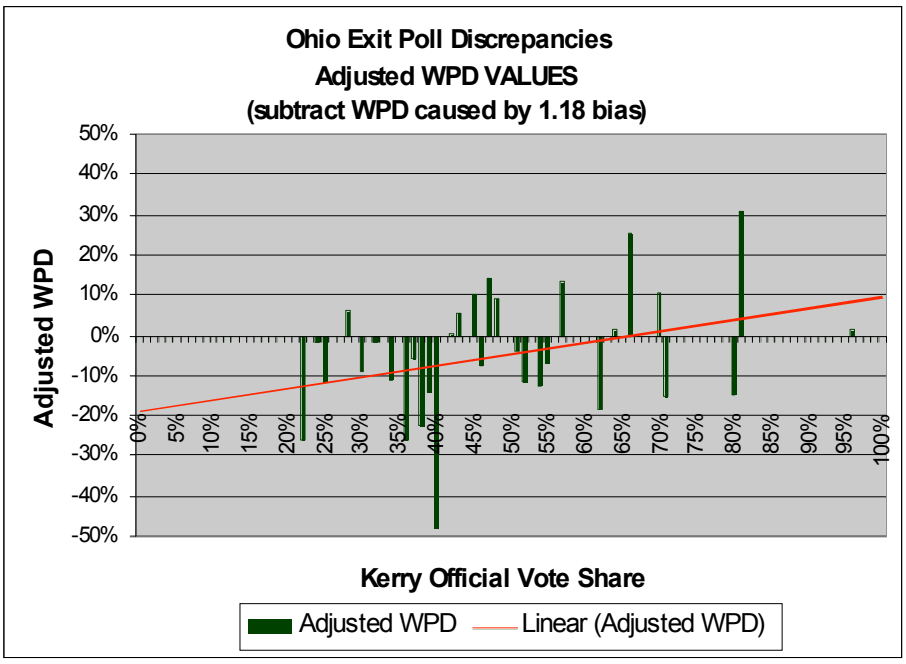
Statistically Significant Discrepancies Assuming Official Results are True

Official Kerry Vote	Kerry WPD	Odds - One in
22%	-16%	17,815
25%	-9%	23
30%	-11%	36
32%	-11%	1,449
34%	-10%	71
34%	-9%	38
36%	-17%	3,844
37%	-12%	134
38%	-29%	867,205,553
39%	-11%	21
40%	-28%	294,832
46%	-8%	20
52%	-14%	430
54%	-15%	125
54%	-12%	102
55%	-15%	5,550
57%	-11%	76
57%	16%	128
62%	-13%	154
71%	-11%	399
80%	-10%	173
81%	13%	360

Conservative Statistical Estimates from Unadjusted ESI Data

- On average, Kerry got a 5.8% larger share of the vote in precinct-level exit polls ('Kerry WPD' which is ½ of overall 'WPD', where overall WPD is Bush minus Kerry vote margin, minus, Bush minus Kerry exit poll margin) than he did in the precinct-level official vote in Ohio.
- 22 of the 49 (45%) Ohio exit-polled precincts have statistically significant discrepancies at the 5% level (odds of less than 1 in 20), 20 of these 22 are Kerry discrepancies.
- 15 of the 49 (31%) have less than a 1% chance of occurring (odds of less than 1 in 100), 13 of these 15 are Kerry discrepancies.
- 6 of the 49 (12%) have less than a 0.1% chance of occurring (odds of less than 1 in 1000), all of these are pro-Kerry.
- An average uniform exit poll response bias of 1.18 eliminates more significant discrepancies and reduces odds levels more than any other level of bias.
- But even after adjusting the exit poll response by a 1.18 pro-Kerry bias (assuming an 18% disproportionate Kerry voter exit poll response!), 30% of Ohio exit polled precincts (11 Kerry and 4 Bush) still have significant discrepancies.
- These "optimally adjusted discrepancies" have an overall unexplained WPD of -4.3% which is still more than twice Bush's official margin of victory in Ohio's election (2.1%).
- And a pattern of WPD that is inconsistent with sampling error.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mitofsky Precinct Number	Official Vote	ESI Table 1: "Exit Poll Original"	Kerry Official Vote minus ESI Exit Poll (Kerry WPD	Standard Deviation for Kerry Exit Poll Discrepancy	Number of Respondents from 1.5 * ICPSR/Roper Data	Probability of Official Kerry Vote Given Exit Poll	Less than 1 in 2(Odds of Kerry(+)/Bush(-) Exit Poll this Large, One In:	Mean WPD Values by 20% Categories of Official Vote Shares	Estimated Precinct Kerry WPD caused by Bias	Kerry Exit Poll Adjusted by Bias	Kerry WPD Normalized for Exit Poll Response Bias	Probability of Official Kerry Vote Given Adjusted Exit Poll	Less than 1 in 2(Odds of Kerry(+)/Bush(-) Adjusted Exit Poll this Large, One In:
			(2)-(3)	sqrt((4)x(1 (4))/(6))		1-normdist((3), (2), (5),1)	1/(7) for Kerry a 1/(1-(7)) for B	Average((4))	(1-(2))(2)(- 0.18)/((2)1.18+(1	(3)+(10)	(4)-(10)	1 - normdist((2), (11), (6),	1/(13)
48	22%	38%	-16%	4.1%	100	0.00	17815		-3.0%	35%	-13%	0.00	1177
14	24%	28%	-4%	4.2%	104	0.17			-3.1%	25%	-1%	0.41	
7	25%	34%	-9%	5.3%	68	0.04	23		-3.2%	31%	-6%	0.13	
26	28%	26%	2%	4.7%	90	0.66			-3.5%	23%	5%	0.85	
23	28%	31%	-3%	4.6%	94	0.26			-3.5%	28%	0%	0.50	
37	30%	32%	-2%	6.1%	56	0.37			-3.6%	28%	2%	0.63	
2	30%	41%	-11%	8.4%	30	0.09			-3.6%	37%	-7%	0.20	
3	30%	41%	-11%	5.7%	64	0.03	36		-3.6%	37%	-7%	0.11	
29	32%	30%	2%	4.9%	92	0.66			-3.7%	26%	6%	0.89	
47	32%	43%	-11%	3.4%	184	0.00	1449		-3.7%	39%	-7%	0.02	48
28	34%	43%	-9%	4.6%	104	0.03	38		-3.8%	39%	-5%	0.14	
21	34%	44%	-10%	4.6%	108	0.01	71		-3.8%	40%	-6%	0.09	
6	36%	53%	-17%	4.9%	96	0.00	3844		-3.9%	49%	-13%	0.00	251
15	37%	39%	-2%	4.9%	98	0.34			-3.9%	35%	2%	0.66	
43	37%	49%	-12%	4.9%	96	0.01	134		-3.9%	45%	-8%	0.05	
19	38%	45%	-7%	6.4%	58	0.14			-4.0%	41%	-3%	0.32	
17	38%	48%	-10%	6.9%	50	0.07			-4.0%	44%	-6%	0.19	
27	38%	67%	-29%	4.9%	100	0.00	867205553		-4.0%	63%	-25%	0.00	7699887
30	39%	50%	-11%	6.6%	54	0.05	21	-8.9%	-4.0%	46%	-7%	0.15	
25	40%	68%	-28%	6.2%	62	0.00	294832		-4.0%	64%	-24%	0.00	17456
18	42%	46%	-4%	7.8%	40	0.30			-4.1%	42%	0%	0.50	
40	43%	39%	4%	6.5%	58	0.73			-4.1%	35%	8%	0.89	
1	43%	50%	-7%	6.7%	54	0.15			-4.1%	46%	-3%	0.33	
11	45%	41%	4%	5.3%	88	0.77			-4.1%	37%	8%	0.93	
46	45%	47%	-2%	7.3%	46	0.39			-4.1%	43%	2%	0.61	
39	46%	54%	-8%	4.8%	106	0.05	20		-4.1%	50%	-4%	0.20	
22	47%	41%	6%	6.6%	58	0.82			-4.1%	37%	10%	0.94	
13	47%	47%	0%	5.0%	100	0.50			-4.1%	43%	4%	0.79	
5	48%	41%	7%	5.4%	86	0.90			-4.1%	37%	11%	0.98	-49
34	48%	54%	-6%	7.4%	46	0.21			-4.1%	50%	-2%	0.39	
16	51%	57%	-6%	4.9%	104	0.11			-4.1%	53%	-2%	0.34	
50	52%	58%	-6%	6.3%	62	0.17			-4.1%	54%	-2%	0.38	
36	52%	66%	-14%	4.9%	102	0.00	430		-4.1%	62%	-10%	0.02	46
49	54%	58%	-4%	5.8%	74	0.24			-4.1%	54%	0%	0.50	
42	54%	66%	-12%	5.1%	94	0.01	102		-4.1%	62%	-8%	0.06	
20	54%	69%	-15%	6.2%	64	0.01	125		-4.1%	65%	-11%	0.04	26
44	55%	55%	0%	6.2%	64	0.50			-4.1%	51%	4%	0.74	
4	55%	70%	-15%	4.2%	140	0.00	5550		-4.1%	66%	-11%	0.00	225
38	57%	41%	16%	6.6%	56	0.99	-128		-4.0%	37%	20%	1.00	-799
31	57%	68%	-11%	5.0%	100	0.01	76	-4.8%	-4.0%	64%	-7%	0.08	
35	62%	75%	-13%	5.2%	86	0.01	154		-3.8%	71%	-9%	0.04	
9	64%	67%	-3%	4.7%	104	0.26			-3.7%	63%	1%	0.58	
41	66%	57%	9%	7.1%	44	0.90			-3.6%	53%	13%	0.97	-29
12	70%	68%	2%	4.9%	88	0.66			-3.4%	65%	5%	0.85	
32	71%	82%	-11%	3.9%	134	0.00	399	-3.2%	-3.3%	79%	-8%	0.02	48
8	80%	90%	-10%	4.0%	102	0.01	173		-2.5%	87%	-7%	0.04	26
33	81%	68%	13%	4.7%	70	1.00	-360		-2.4%	66%	15%	1.00	-1451
24	85%	87%	-2%	3.5%	104	0.28			-2.0%	85%	0%	0.50	
10	96%	96%	0%	2.6%	58	0.50		0.3%	-0.6%	95%	1%	0.65	
Average								**-5.8%**	**-3.7%**		**-2.1%**		


Ohio Exit Poll Discrepancies
Adjusted WPD VALUES
(subtract WPD caused by 1.18 bias)
Adjusted WPD
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Kerry Official Vote Share
Adjusted WPD
Linear (Adjusted WPD)

The Cover-Up

The following are reformatted (bold face type added, repetitive contact information deleted, paragraph indentations deleted) copies of an email correspondence with attachments between Ron Baiman and Warren Mitofsky.

I include the, otherwise complete, correspondence for the record. Original e-mails are available from the author.

From: "Ron Baiman" <rbaiman@uic.edu>
To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <Kathy@uscountvotes.org>
Subject: Data Question
Date: Friday, December 02, 2005 11:13 AM

Dear Warren,

I sent this to Kathy Dopp to ask you, but we decided it would be best if I approached you directly. Any help that you can offer on this (the question copied below) would be greatly appreciated. Thank you very much.

Ron Baiman

The attached spreadsheet orders ESI and ICPSR exit poll data by Kerry percent. Column's A-H are direct tabulations of the ICPSR data. Column I calculates Kerry percent of all exit poll respondents who expressed a presidential preference. Column J orders ESI "original exit poll" results from low to high Kerry percent. **As you can see these do not match with the similarly ordered ICPSR exit poll results. In particular, in rows 45 and 46 there are large discrepancies of 9% and 6% respectively. Note that the total number of respondents in the ICPSR data, the sum of column C, is 2042, the same number that is given in the NEP methodology statement for the total number of interviews in Ohio.**

Why do these data not match?

Why is there a particularly large gap for the two precincts?

We would appreciate an explanation of this.

Thank you.

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FREQ	respondent	kerry	bush	other	voters	EM Raw data Exit Poll Values	ESI Exit Poll	ESI Minus Est. EM Exit Poll Values	Voters	Est. Voters
46	46	11	34	0	45	24.44%	26%	0.02	45	45.00
52	52	13	39	0	52	25.00%	28%	0.03	52	52.00
46	46	13	33	0	46	28.26%	30%	0.02	46	46.00
48	48	14	33	0	47	29.79%	31%	0.01	47	47.00
28	28	9	19	0	28	32.14%	32%	0.00	28	28.00
34	34	11	23	0	34	32.35%	34%	0.02	34	34.00
50	50	18	32	0	50	36.00%	38%	0.02	50	50.00
53	53	18	31	0	49	36.73%	39%	0.02	49	49.00
29	29	11	18	0	29	37.93%	39%	0.01	29	29.00
15	15	6	9	0	15	40.00%	41%	0.01	15	15.00
32	32	13	19	0	32	40.63%	41%	0.00	32	32.00
45	45	18	26	0	44	40.91%	41%	0.00	44	44.00
29	29	12	17	0	29	41.38%	41%	0.00	29	29.00
43	43	18	25	0	43	41.86%	41%	-0.01	43	43.00
28	28	12	16	0	28	42.86%	41%	-0.02	28	28.00
92	92	40	51	1	92	43.48%	43%	0.00	92	92.00
52	52	23	29	0	52	44.23%	43%	-0.01	52	52.00
55	55	24	30	0	54	44.44%	44%	0.00	54	54.00
29	29	13	16	0	29	44.83%	45%	0.00	29	29.00
21	21	9	11	0	20	45.00%	46%	0.01	20	20.00
24	24	11	11	1	23	47.83%	47%	-0.01	23	23.00
52	52	24	26	0	50	48.00%	47%	-0.01	50	37.50
25	25	12	13	0	25	48.00%	48%	0.00	25	37.50
48	48	24	23	1	48	50.00%	49%	-0.01	48	37.50
16	16	8	8	0	16	50.00%	50%	0.00	16	37.50
38	38	19	19	0	38	50.00%	50%	0.00	38	37.50
48	48	24	24	0	48	50.00%	53%	0.03	48	37.50
53	53	27	26	0	53	50.94%	54%	0.03	53	53.00
25	25	12	11	0	23	52.17%	54%	0.02	23	23.00
32	32	17	15	0	32	53.13%	55%	0.02	32	32.00
52	52	28	23	1	52	53.85%	57%	0.03	52	52.00
22	22	12	10	0	22	54.55%	57%	0.02	22	22.00
31	31	17	14	0	31	54.84%	58%	0.03	31	31.00
37	37	22	15	0	37	59.46%	58%	-0.01	37	37.00
51	51	33	18	0	51	64.71%	66%	0.01	51	51.00
47	47	31	16	0	47	65.96%	66%	0.00	47	47.00
51	51	33	17	0	50	66.00%	67%	0.01	50	50.00
53	53	35	17	0	52	67.31%	67%	0.00	52	52.00
31	31	21	10	0	31	67.74%	68%	0.00	31	31.00
51	51	34	16	0	50	68.00%	68%	0.00	50	50.00
44	44	30	14	0	44	68.18%	68%	0.00	44	44.00
36	36	24	11	0	35	68.57%	68%	-0.01	35	35.00
32	32	22	10	0	32	68.75%	69%	0.00	32	32.00
70	70	55	15	0	70	78.57%	70%	-0.09	70	70.00
43	43	35	8	0	43	81.40%	75%	-0.06	43	43.00
67	67	55	12	0	67	82.09%	82%	0.00	67	67.00

To: Ron Baiman
Sent: Friday, December 02, 2005 12:17 PM
Subject: Re: Data Question

Ron,
I have no idea what data you are referring to when you say the ICPSR exit poll data. I did not even know they did an exit poll. Has it been publicly reported? Or is this the Edison/Mitofsky data archived at ICPSR?

Second, Is the ESI data from the exit poll they did or one I did? If it is their exit poll why would you think I know anything about it. I had nothing to do with conducting their exit poll.

Third, **If it was my exit poll then ESI appears to have computed a percentage for Kerry based on the Bush-Kerry vote and not the total vote. Was the same thing done with the ICPSR data? Most of the differences would lead me to guess this.** Also, most differences are trivial, except for the two anomalies you point out. **The anomalies could be because some polling places had multiple precincts voting at them. I remember some problem along those lines, but I am not quite sure what we did with them. We may have made an estimate for those two precincts, but I don't remember. The rest of the differences seem rather trivial. Why the concern?**

To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <kathy@uscountvotes.org>
Subject: Re: Data Question
Date: Friday, December 02, 2005 3:06 PM

Warren,

Thank you for your quick reply. The data is the EM data deposite d at ICPSR. The exit poll data is from the ESI report for which you as listed as a co -author, ("No Smoking Gun"). I think the common assumption is that the "original exit poll data" listed in the report are EM exit poll data for Ohio. Is this wrong - I was n't aware that ESI did a separate exit poll for the 2004 Presidential race in Ohio? I doubt this because, as you note, the data are mostly pretty close. Finally, shares are computed based on a Bush+Kerry sum in Column K of the attached spreadsheet. The dif ference between these and the ESI exit poll data is in column N. As you can see this makes the discrepancy slightly worse so this cannot explain it.

The concern is that the ESI report appears to be using different exit -poll data than those that have bee n provided to the public? So how can be confident in either the data or the report? For example, these 0 -3% differences could easily change the patterns shown in the graphs in the report. Moreover at least one of the precincts with the 6% and 9% difference s shows a highly significant pro -Kerry exit poll discrepancy.

Thanks again for your response. Any further light that you can shed on this would be greatly appreciated.

Sincerely,

PRECINCT	_TYPE_	_FREQ_	respondent	kerry	bush	other	voters	EM Raw data Exit Poll Values	ESI Exit Poll	ESI Minus Est. EM Exit Poll Values	Voters	Est. Voters
94	0	46	46	11	34	0	45	24.44%	26%	0.02	45	45.00
54	0	52	52	13	39	0	52	25.00%	28%	0.03	52	52.00
26	0	46	46	13	33	0	46	28.26%	30%	0.02	46	46.00
63	0	48	48	14	33	0	47	29.79%	31%	0.01	47	47.00
118	0	28	28	9	19	0	28	32.14%	32%	0.00	28	28.00
49	0	34	34	11	23	0	34	32.35%	34%	0.02	34	34.00
27	0	50	50	18	32	0	50	36.00%	38%	0.02	50	50.00
9	0	53	53	18	31	0	49	36.73%	39%	0.02	49	49.00
101	0	29	29	11	18	0	29	37.93%	39%	0.01	29	29.00
48	0	15	15	6	9	0	15	40.00%	41%	0.01	15	15.00
98	0	32	32	13	19	0	32	40.63%	41%	0.00	32	32.00
7	0	45	45	18	26	0	44	40.91%	41%	0.00	44	44.00
3	0	29	29	12	17	0	29	41.38%	41%	0.00	29	29.00
115	0	43	43	18	25	0	43	41.86%	41%	-0.01	43	43.00
57	0	28	28	12	16	0	28	42.86%	41%	-0.02	28	28.00
47	0	92	92	40	51	1	92	43.48%	43%	0.00	92	92.00
24	0	52	52	23	29	0	52	44.23%	43%	-0.01	52	52.00
114	0	55	55	24	30	0	54	44.44%	44%	0.00	54	54.00
41	0	29	29	13	16	0	29	44.83%	45%	0.00	29	29.00
21	0	21	21	9	11	0	20	45.00%	46%	0.01	20	20.00
39	0	24	24	11	11	1	23	47.83%	47%	-0.01	23	23.00
2	0	52	52	24	26	0	50	48.00%	47%	-0.01	50	37.50
36	0	25	25	12	13	0	25	48.00%	48%	0.00	25	37.50
33	0	48	48	24	23	1	48	50.00%	49%	-0.01	48	37.50
55	0	16	16	8	8	0	16	50.00%	50%	0.00	16	37.50
67	0	38	38	19	19	0	38	50.00%	50%	0.00	38	37.50
105	0	48	48	24	24	0	48	50.00%	53%	0.03	48	37.50
78	0	53	53	27	26	0	53	50.94%	54%	0.03	53	53.00
1	0	25	25	12	11	0	23	52.17%	54%	0.02	23	23.00
8	0	32	32	17	15	0	32	53.13%	55%	0.02	32	32.00
100	0	52	52	28	23	1	52	53.85%	57%	0.03	52	52.00
106	0	22	22	12	10	0	22	54.55%	57%	0.02	22	22.00
103	0	31	31	17	14	0	31	54.84%	58%	0.03	31	31.00
119	0	37	37	22	15	0	37	59.46%	58%	-0.01	37	37.00
91	0	51	51	33	18	0	51	64.71%	66%	0.01	51	51.00
14	0	47	47	31	16	0	47	65.96%	66%	0.00	47	47.00
23	0	51	51	33	17	0	50	66.00%	67%	0.01	50	50.00
104	0	53	53	35	17	0	52	67.31%	67%	0.00	52	52.00
52	0	31	31	21	10	0	31	67.74%	68%	0.00	31	31.00
42	0	51	51	34	16	0	50	68.00%	68%	0.00	50	50.00
72	0	44	44	30	14	0	44	68.18%	68%	0.00	44	44.00
5	0	36	36	24	11	0	35	68.57%	68%	-0.01	35	35.00
76	0	32	32	22	10	0	32	68.75%	69%	0.00	32	32.00
88	0	70	70	55	15	0	70	78.57%	70%	-0.09	70	70.00
120	0	43	43	35	8	0	43	81.40%	75%	-0.06	43	43.00
74	0	67	67	55	12	0	67	82.09%	82%	0.00	67	67.00
51	0	53	53	46	6	0	52	88.46%	87%	-0.01	52	52.00
11	0	53	53	47	4	0	51	92.16%	90%	-0.02	51	51.00
15	0	30	30	28	1	0	29	96.55%	96%	-0.01	29	29.00
		2042	41.673469								41.22449	41.22

Sent: Friday, December 02, 2005 2:22 PM
Subject: Re: Data Question

Ron,
Surely you are aware that Vote Watch conducted exit polls in 2004. They were well publicized. I believe they did them in NM and OH.

As the data are from the paper Fritz Scheuren presented at ASA then the data are from the Edison/Mitofsky exit poll. I have no idea why the data are slightly different. Except for the two precincts, the differences are trivi al, as I said before. I will see if I can find out why the differences.
warren

From: "Ron Baiman" <rbaiman@uic.edu>
To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <Kathy@uscountvotes.org>
Subject: Re: Data Question
Date: Friday, December 02, 2005 3:26 PM

Warrren,

Thanks again for your response.

I had heard something about Vo te Watch getting the "franchise" from EM to do polling in Ohio but thought it was the same poll.

(This is not my professional job so I don' t have a lot of time to spend studying all the polls etc.)

In any case, I would appreciate any information that y ou can find on this.

Ron

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Ron,

I found out the answer to your question about why there was a difference between the percentages from the archived data and the ones in Fritz's paper. The answer is quite simple. I should have thought of it immediately. The archived data is the subset of the exit poll interviews where we gathered all the demographic and issue data. The numbers we gave Fritz for the paper came from the complete exit poll tally.

When the exit poll is conducted the interviewers do a hand count of the candidate vote. When they call they first give the vote for the full sample. Then they read every answer from a subsample of the questionnaires. That is why the differences between the two counts is trivial, except for the two precincts that stand out with big discrepancies. I cannot give you a reason for those two precincts. My guess is that the hand tally was incorrect. We are looking into it.

warren

From: "Ron Baiman" <rbaiman@uic.edu>
To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <kathy@uscountvotes.org>
Subject: Re: Data Question
Date: Tuesday, December 06, 2005 4:17 PM

Warren,

Thank you for this.

If I understand you correctly, the ESI num bers reflect an initial called -in "hand count" of respondents who expressed a presidential preference but who may not have completed all of the other demographic and issue exit poll questions.
Clearly, if it were equally reliable this larger sample would be the prefered presidential exit poll data. However, you state that you suspect that the large discrepancies in the two precincts may be the result of hand-tally error.This seems to suggest that the hand tally data are not very reliable. Is the "hand tal ly" sample sufficiently larger to justify using it even though it may be incorrect? At this point, it seems that it might be best to use the smaller but more reliable (sub) sample of complete interviews? This does not seem to make a big difference for most of the precincts except for those two. (However, as I've noted, these small -3 to +3 percent exit poll differences could easily affect the ESI analysis - such as it is - of the difference between the Bush 2004 and 2000 vote as the officially reported Oh io vote difference was less than 1%. This will be discussed in our forthcoming paper in detail.) Also, it is fully, and publicly, documented

In any case, may I suggest that you, or ESI, release whatever records you have of the "hand tally" sample to the public. Among other things, this would add public transparency to the investigation of the two precincts, and clarify the confusion over these extremely important data.

Thanks again for your response.

Sent: Tuesday, December 30, 2008 3:56 PM
Subject: Re: Data Question

Ron,
We have said over and over again that the ICPSR data was a subset. This does not raise any questions. This is part of the description of what has been archived and it has been the same for the last 30 years.

Don't urge me to release anything that we have not already released. I inten d to live up to protecting respondent confidentiality. If you bring it up again I will not respond to anything else you may write. I'm sick of this nonsense. You people are unethical.

warren

From: "Ron Baiman" <rbaiman@uic.edu>
To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <Kathy@uscountvotes.org>
Subject: Re: Data Question
Date: Tuesday, December 06, 2005 6:44 PM

Warren,

a) I fail to see how releasing a subsample rather than a full s ample protects respondent confidentiality. It strikes me rather as an expedient way to partially fulfill a public responsibility. Why not fulfill it all the way?

b) I don't appreciate being called "unethical". **This is a critical public issue. Scheuren has shown how the "respondent confidentiality" issue can be dealt with in Ohio. I see no reason why similar national "full sample" exit poll data (with individual record backup) can't be released.** In the past, when exit polls did not deviate as much this may not have been as important.

c) **The fact that this is a subsample is not common knowledge. As I've said the NEP methodology statement says that 2042 interviews were conducted in Ohio. This is the size of the ICPSR dataset for Ohio.**

I thank you for your responses. I am just trying to be open and honest about where I'm coming from.

Sincerely,

Ron

Subject: Re: Data Question

Ron,

I said: "If you bring it up again I will not respond to an ything else you may write."
Apparently you did not believe me. Don't bother to write again. I wont answer you.

We have never hidden the fact that the tabulations were a subsample. >From our 1/19/04 evaluation report: "Note that because the questionna ires are subsampled, the age, race, and gender completion rates may be slightly inconsistent with the overall completion rate."

To: "Warren Mitofsky" <mitofsky@mindspring.com>
Cc: <kathy@uscountvotes.org>
Subject: Re: Data Question
Date: Wednesday, December 07, 2005 11:32 AM

Warren,

The issue is not whether you answer me or not (I assume that you won't) - its are you going to do anything about this?

You have the power and the responsibility to help resolve a burning national crises over the state of our election system. Regardless of the position of members of the NEP, you can take a public st ance for release of the data.

In fact, as I recall, AAPOR "ethics guidelines" require full release of the raw data (which in this case should also include anonymous data on pollsters and polling conditions) subject to preserving respondent confidentialit y - so you can claim that you are legally bound to fully release the data subject to this restriction.

I urge you, for the sake of the country, to help with this. Concern over "respondent confidentiality" does not have to stand in the way of doing what's right for democracy.

Sincerely,

Ron

To: "Ron Baiman" <rbaiman@uic.edu>
Subject: Re: Data Question
Date: Wednesday, December 07, 2005 12:06 PM

Go Fuck yourself.

Coincidence?

- As of today (5/18/2006), EM has not explained these discrepancies.
- If the ICPSR/Roper Kerry exit poll share of 78.57% is substituted for the ESI exit poll share of 70% for one of the precincts in question (Mitofsky #4), **it becomes the precinct with by far the most significant Kerry exit poll discrepancy in Ohio, with odds of less than one in 187 trillion (187,306,286,930) instead of its current odds of 5,550, that the official Kerry vote share could be as low as it was (55%) given the exit poll result.**
- The other precinct with inconsistent ESI and ICPSR exit polls (Mitofsky #35), also becomes markedly more significant with odds of less than one in 526,406 instead of 154.
- Do analysts all over the country know that what are called the "total # of Interviews" in EM's methodology statement are only a random sample of about half the number of interviews, with general deviations of ±3%, and large increases of 6% and 9% in Kerry's exit poll vote share, relative to what ESI/EM are claiming as complete exit polls, for two precincts?

Conclusions

The Exit Polls Were Correct – Abundant on-the-Ground Evidence Indicates that Kerry Won

- Its well past the time for "academic debates" about this. The statistical evidence could not be clearer.
- The withholding, inconsistent, misleading, and partial data releases to "special analysts", and the continuous production of illogical and misleading PR "reports" rather than transparent and replicable rigorous statistical analysis with publicly available data violates every norm of scientific inquiry and civic responsibility, including AAPOR guidelines which state that "sample sizes", "estimates of sampling error" and the "method, location, and dates, of data collection" must be made public.
- The on-the-ground circumstantial evidence is so abundant that it has taken heroic efforts by the media, the Democratic Party, and the pollsters (presumably trying not to "not rock the boat" to protect their commercial interests) to ignore it. For example, just adjusting the one "anomaly" of Kerry inexplicably getting a lower vote share than a "down ballot" unknown, liberal, under-funded Democratic African-American state supreme court candidate in 12 Ohio Counties far from her home town, rather than the 32% greater share than this candidate that Kerry got statewide, would be enough *in itself* to swing the election to Kerry by a large margin.
- We would not tolerate this in any other country in the world – why does our political and media elite tolerate it here?!!

For Future Elections

- For future elections (specially Presidential elections) we need all ballots (including early and absentee ballots) in the precincts and counted on election night with an official result certified by the end of the week.
- We need the election night and official certified precinct-level results publicly available, accessible, and posted on-line as soon as they are available.
- We need routine random audits, paper ballots, and independent, publicly funded , and transparent exit polling, such as our State Department and Warren Mitofsky conduct in numerous foreign nations around the world.
- We need state laws which allow prompt use of this data in legal challenges to the official results of all state and federal elections.
- And for the insights it may offer, we need a thorough investigation of the 2004 Presidential election and the 2004 EM exit polls.

This is the Crime of the Century!

- Think of how different the world would be if Kerry had vigorously mobilized his army of attorneys and campaign funds to investigate the election outcome in Ohio, Florida, New Mexico and elsewhere.
- Or if the mainstream media had looked at the abundantly available statistical evidence with an open mind instead of its WMD-like: “we can’t believe that this could happen in the U.S.”, mentality.
- Or if other significant support had been offered to the legal challenge in Ohio and in Congress.
- There is plenty of blame to go around on this, its not just EM and their surrogates on this panel – though they were, and still are in a position to finally do the right thing – make the data available, and acknowledge that something other than “rBr” was drastically and dramatically wrong in Ohio!
- Its time to take back our democracy now!

US Count Votes

National Election Data Archive

The Gun is Smoking:
2004 Ohio Precinct-level Exit Poll Data Show Virtually Irrefutable Evidence of Vote Miscount

Six Percent of Ohio's polled precincts Show Virtually Impossible Vote Counts, and Over 40% Show Improbable Vote Counts, Given Their Exit Poll Results. The Patterns Of Ohio's Discrepancies Are Consistent With Outcome-Altering Vote Miscounts.

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January 17, 2006
(Revised January 23, 2006)

Revised April 30, 2006 by Ron Baiman for Submission to a panel on:

Who Really Won Election 2004?

The American Association of Public Opinion Research (AAPOR)
61st Annual Conference
Montreal, Canada

May 18-21, 2006

Authors: Ron Baiman, Kathy Dopp
Contributor: David Dodge
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Earlier drafts of this paper were reviewed via The National Election Data Archive's email discussion list for statisticians and mathematicians. Interested statisticians and mathematicians are invited to join it.

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Ron Baiman, PhD, Economics, National Election Data Archive, Vice President, ron@uscountvotes.org 708-445-9052

The January 23rd version of this paper can be found on the Internet at:
http://electionarchive.org/ucvAnalysis/OH/Ohio-Exit-Polls-2004.pdf

Contents

Abstract

Ohio's electoral votes were pivotal in the 2004 presidential election, where its exit polls predicted a John Kerry win, but official vote counts gave the victory to GW Bush. Precinct level Ohio exit poll data show virtually irrefutable evidence of vote miscount. Ohio 2004 presidential vote counts can be considered plausible only if it can be shown that substantially more Bush than Kerry voters lied on exit polls, or massive exit poll error, unnoticed by pollsters, occurred. If vote miscounts are the cause of the Ohio's exit poll discrepancy pattern, they probably altered the outcome of Ohio's presidential election and caused Bush to win Ohio's electoral votes.

Ohio's exit poll discrepancy pattern includes three precincts with virtually impossible outcomes and an unusually high number of precincts with significant discrepancy.[1]

- 6% of Ohio's precincts each have virtually zero chance (less than one in 15,000) of occurring due to sampling error, given their Kerry official vote count.[2] Even if the "within precinct discrepancy" (WPD) is adjusted for all the precincts to remove any possible effect due to Kerry voters completing more exit polls, the probability of obtaining Ohio's exit poll discrepancies are virtually impossible.[3]
- Over 40% of Ohio's polled precincts have discrepancies having less than a 5% chance of occurring, given the official vote counts.[4] The expected number of such precincts in a sample of 49 precincts would be five such precincts, not the 20 found.
- Ohio's exit poll discrepancies, when plotted against precinct exit poll share show a pattern that is consistent with vote miscounts that benefited Bush, and
- The pattern of Ohio's exit poll discrepancies cannot be explained by random sampling error or partisan exit poll completion rate differences.

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[1] All of the results in this paper are based on the most conservative (overall discrepancy reducing) estimates for matching ESI and UMich/Roper precinct level data, as exact matches have not been released to the public - see appendices B and C. Though, for most precincts (where the matching is one-to-one) the match is determined by the data, specific odds figures for some precincts are estimates that could change if actual matching data were released. However, in this case, the overall conclusions of this paper are likely to be even more strongly supported

[2] If we assume that official vote counts more accurately reflect actual votes, then there is less than a one in 17,815, less than one in 867,205,553 and less than one in 294,832 chance in three precincts of the size of discrepancy occurring. If we calculate by assuming that exit poll shares more accurately reflect actual vote counts, then there is a less than one in 2,881,322,159, less than one in 874,855, and less than one in 18,603 chance in three precincts of the size of actual discrepancies occurring.

[3] If adjusted for a Kerry-to-Bush response rate bias of 56-to-50%, 12 (24%) of precincts have significant discrepancy when official vote counts are assumed more correct, and 16 (32%) of precincts have significant when calculations assume exit poll shares more accurately reflect actual vote. Note that this "adjustment" appears to be too large as it more than triples the number of precincts with pro-Bush exit poll discrepancy (all in partisan Kerry precincts) – see Appendix B, Table 2 and discussion below.

[4] If WPD is "adjusted" by subtracting WPD that would be caused by a 56%-to50% Kerry to Bush voter completion rate, then, if exit polls are assumed more accurate, 20 of 49 (40.7%) of precincts have significant discrepancy. If official vote counts are assumed more accurate, then there are 22 of 49 (45.1%) of precincts with significant discrepancy. This is more than four times the expected number of precincts with significant discrepancy.

Without fair and accurate democratic elections, America is not a democracy.

- U.S. vote counts are *not* routinely *independently* audited to detect and correct errors;[5]
- election data reporting practices in virtually all counties hide evidence of vote miscounts[6];
- the payoff for election tampering is control of budgets, land use, and other issues in the millions of dollars just at the city or county level; and
- new voting equipment implemented under the 2002 "Help America Vote" Act empowers fewer persons to undetectably manipulate more vote counts and most digital recording electronic (DRE) voting machines are virtually impossible to independently audit.

In other words, today insiders have freedom to manipulate U.S. vote counts with negligible possibility of detection.

Without American democracy, the fate of civilization could be as precarious as when Hitler ended the German Republic government. We ensure the integrity of future democratic elections by publicly releasing detailed exit poll and vote count data and analyzing it immediately following elections prior to any candidate conceding or accepting office. Common-sense safeguards such as routine independent audits of vote counts using hand-countable voter verified paper ballots.

Definition

Within precinct error (WPE) is the acronym that Edison/Mitofsky gave the difference between the exit poll and vote count within a particular precinct. Because the discrepancy is not necessarily caused by exit poll error, NEDA more precisely calls it within precinct discrepancy (WPD).

Exit Poll Discrepancy is the "Within Precinct Discrepancy" (WPD) calculated by subtracting the exit poll margin (the difference between the two leading candidates) from the official vote count margin in a particular precinct.

> WPD = (Kerry - Bush Difference in Vote Count) - (Kerry - Bush Difference in Exit Poll) for a particular precinct.

[5] It is hard to imagine why not. Banks, businesses, churches, and schools conduct independent audits to ensure accuracy and protect from insider embezzlement and it would be simple to do the same for elections.

[6] Insiders can pad votes for one candidate in one vote type (say absentee ballots), while simultaneously subtracting votes from another candidate in another vote type (say e-voting machines). Yet when these two vote counts are added together prior to public reporting, the evidence cancels out and the data looks normal. In the New Mexico 2004 presidential election 2,000 more absentee ballot votes were counted than were cast while paperless DRE voting machines had an extremely high rate of no votes cast for U.S. president. These problems were discovered by the Green party investigation done with the cooperation of the Governor of New Mexico.

Background: The 2004 Presidential Election

The national exit poll data at the close of Election Day 2004 shows that Kerry beat Bush by approximately 3% of the vote nationwide. Yet, according to official vote counts, Bush won nationally by about 2.5%. This is a 5.5% discrepancy.

The National Election Data Archive (NEDA) and others calculated that the odds of this discrepancy occurring due to random sampling error in the national exit polls were between one in 9,600 and one in 16 million, depending on assumptions.[7] Edison/Mitofsky (E/M) who conducted the exit polls for the National Election Pool (NEP)[8], acknowledged that the discrepancy could not be due to random chance and proposed that Bush voters were more reluctant than Kerry voters to complete exit polls. This was dubbed the "reluctant Bush responder" (rBr) hypothesis. [9]

NEDA mathematically tested the rBr hypothesis by mathematically estimating the Bush and Kerry voter exit poll response rates required to generate the actual reported exit poll WPD.[10] In March, NEDA issued a report showing that the rBr explanation cannot sufficiently explain the exit poll discrepancies in the national sample because the rBr explanation could not produce the exit poll discrepancies (WPD) and response rates given by pollsters Edison/Mitofsky.[11]

Ohio's precinct-level exit polls over-estimated Kerry official vote by an average 5.8%. The overall discrepancy between exit poll margin and official vote margin was double that, 11.7%.

On June 6, 2005 The Election Sciences Institute (ESI) with Mitofsky[12] released a report on the Ohio precinct level exit poll data purporting to rule out vote fraud as the cause of the discrepancies. The (ESI) report entitled "*Ohio Exit Polls: Explaining the Discrepancy*" by Susan Kyle, Douglass A. Samuelson, Fritz Scheuren, Nicole Vicinanza, Scott Dingman and Warren Mitofsky, concluded:

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[5] For a comprehensive historical summary of the debate over the validity of the 2004 presidential election, see "History of the Debate Surrounding the 2004 Presidential Election" at http://electionarchive.org/ucvAnalysis/US/Presidential-Election-2004.pdf.

[8] ABC News, Associated Press, CBS News, CNN, Fox News, NBC News

[9] http://exit-poll.net/election-night/EvaluationJan192005.pdf

[10] Edison and Mitofsky International had released its own report with some limited exit poll data on January 19th, 2005 one day before the swearing in of President Bush. NEDA used the data in the Edison/Mitofsky report to develop its own analysis.

[11] This is statistically significant using conservative estimates. See Appendix G of Sept. 8 USCV report op. cit. Precincts with Bush official vote share of 80% or higher would require a much larger Kerry-to-Bush voter exit poll response ratio, whereas precincts with Kerry official vote share of 80% or higher would require virtually equal response rates by Kerry and Bush voters. Common experience indicates that Kerry voters would be more reluctant to answer polls when surrounded by Bush voters rather than more responsive when surrounded by Bush voters and less responsive when surrounded by Kerry voters. If partisan Kerry pollsters caused this bias in exit poll response rates why would they be so prevalent in precincts with high Bush official vote. See July 8, 2005 and March 31, 2005 reports at: www.uscountvotes.org and discussion below.

[12] of Kyle et. al. and Warren Mitofsky who is listed as an assisting author.

"...the data do not support accusations of election fraud in the Ohio Presidential election of 2004".[13]

ESI's premise is that if there were vote fraud, then the 2004 exit poll discrepancy would be correlated with Bush vote share increases from the 2000 election. Finding no such correlation, ESI ruled out vote fraud as an explanation of the exit poll discrepancies.[14] ESI's method of exit poll analysis was included on October 14, 2005, in a presentation by Warren Mitofsky to the American Statistical Association fall conference in a talk entitled "The 2004 U.S. Exit Polls".

In an October 31st paper, NEDA mathematically proved that ESI's and Mitofsky's analyses were incorrect because many counterexamples exist to its basic premise.[15] In other words, NEDA proved mathematically that ESI's and Mitofsky's analysis of Ohio's and national exit poll data is of no *analytical* value and no conclusions about the presence or absence of vote fraud can be drawn from them.[16]

The ESI report had made *no* attempt to *explain or mathematically analyze* the actual 2004 exit poll discrepancies and the ESI report was missing key data. To date, Mitofsky and ESI have provided no explanation for the exit poll discrepancy that is supported by data and analysis.

The faulty analysis by ESI, the evidence of vote count corruption in Ohio and elsewhere[17], and the exit poll discrepancy patterns increase doubts about the accuracy of the 2004 presidential election results.

Virtually Impossible Discrepancy or Unexplained Exit Poll Error in 6% of

[13] See http://www.votewatch.us/reports/view_reports , "ESI Brief - Analysis of the 2004 Ohio Exit Polls and Election Results".

[14] ESI's invalid hypothesis is that, "If systematic fraud or error in vote counting [favoring Bush] occurred [in precincts] in 2004 but not in 2000, [then] Bush would have done significantly better in those precincts in 2004 [than in 2000], and we would see larger differences between the reported vote and exit poll in those precincts [than in other 2004 exit-polled precincts]." NEDA showed in its paper "*Mathematical Proof that Election Sciences Institute's Test to Rule Out Vote Fraud is Logically Incorrect"* that any relationship between Bush vote share differences in 2000 and 2004 is compatible with vote fraud or error in vote counting.

[15] Any mathematics department at a reputable university can verify this by examining both ESI's report and NEDA's mathematical logic proof.

[16] "Mathematical Proof that Election Sciences Institute's Test to Rule Out Vote Fraud Is Logically Incorrect", November 2, 2005. See http://electionarchive.org/ucvAnalysis/US/exit-polls/ESI/ESI-hypothesis-illogical.pdf. An empirical analysis provided in Appendix D of this report also shows that the ESI analysis is inadequate and inconclusive.

[17] See http://www.flcv.com/ohiosum.html for a list of evidence of vote miscounts in Ohio's counties, and see http://electionarchive.org/ucvAnalysis/US/Presidential-Election-2004.pdf for evidence of vote miscounts in other states.

Precincts

Exit polls were conducted in a representative sample of 49 of Ohio's 11,360 precincts in the 2004 election.[18] Three virtually impossible Ohio precincts have results indicating either massive vote miscount or psychologically implausible behavior such as Bush voters lying much more than Kerry voters.[19] In all three precincts Kerry won according to exit polls, yet Bush won according to official vote counts. There are two ways to calculate the odds of the exit poll discrepancies:

- by assuming that official vote counts are the best estimate of actual votes, or
- by assuming that exit poll shares are the best estimate of actual votes.

NEDA calculates the probabilities both ways and uses the most conservative results.

Calculation Assumes Exit Poll Share Best Estimate of Actual Vote							
Mitofsky Precinct Number	Official Vote	ESI Table 1: "Exit Poll Original"	WPD Official Vote minus Exit Poll margins	Standard Deviation for Kerry Exit Po Discrepancy	Number of Respondents 2 times # Roper Data Surveys	Probability of Official Kerry Vote Given E Poll	Odds of Kerry Official Vote Being this L
27	38%	67%	-58%	4.70%	100	0.000000%	2,881,322,15
25	40%	68%	-56%	5.92%	62	0.000114%	874,855
4	55%	70%	-30%	3.87%	140	0.005376%	18,603

Calculation Assumes Official Vote Count is Best Estimate of Actual Vote							
Mitofsky Precinct Number	Official Vote	ESI Table 1: "Exit Poll Original"	WPD Official Vote minus Exit Poll margins	Standard Deviatic for Kerry Exit P Discrepancy	Number of Respondents = times # Roper Data Survey	Probability of Official Kerry Vote Given Exit Poll	Odds of Kerry Exit Poll Share Being this much Higher than Official Vote Share
27	38%	67%	-58%	4.85%	100	0.000000%	867,205,55
25	40%	68%	-56%	6.22%	62	0.000339%	294,832
48	22%	38%	-32%	4.14%	100	0.005613%	17,815

Assuming that official vote counts are the best estimate of actual vote gives us less than a one in 867,205,553, a one in 294,832, and a one in 17,815 chance that random sampling error would cause these precincts to have such high discrepancies between their exit poll and official vote margins.[20] On-the-ground investigation of these precinct vote counts is needed.

[18] ESI's report stated that "47 of 49 precincts" fell within the "non-responder ranges" and thus acknowledged, in a casual way, that two (4%) of the Ohio polled precincts were virtually impossible. Precinct #25 is one of these ESI "out of range" precincts, but precinct #27 is not. The other ESI outlier is #47– see Appendix B.

[19] labeled "Mitofsky Precinct Numbers" 25 and 47 in ESI Table 1, and in Table 2 of Appendix B of this report.

[20] See Table 2, Appendix B. As E/M has not released sample sizes for the Ohio exit polled precincts. NEDA has estimated both based on UMich/Roper data. Email communication from Warren Mitofsky indicates that actual sample sizes were roughly double the number of individual surveys stored at

It is not unusual for survey data to include a number of "impossible" outliers. However, such outliers are usually omitted from reports if they are clearly erroneous. The Edison/Mitofsky January 19 report states that it omitted data in its national and state samples from 20 precincts from which vote returns were not obtained; precincts with fewer than 20 respondents; and three precincts "with large absolute WPD (112, -111, -80) indicating that these three precincts' vote counts were recorded incorrectly." [21]

The fact that they were not omitted from the data, suggests that there were no obvious reporting, low response, or other exit poll errors for these precincts. Note that:

- the *magnitudes* of these discrepancies are statistically impossible to attribute to random chance;
- these virtually impossible discrepancies all occur in precincts with Bush official vote shares of 60% or higher when plotted by official vote[22]; and
- no explanation is offered by E/M or ESI for the three Ohio precincts with virtually impossible exit poll discrepancies.

If vote miscount caused Ohio's virtually impossible results and precinct selection was random with regard to this characteristic, then the overall estimated number of precincts in Ohio with virtually impossible results would be approximately 695 (6.1% of 11,360).[23]

Significant Discrepancies in over 40% of Ohio Polled Precincts

Over 40% of Ohio's exit polled precincts have statistically significant discrepancies. This is over four times the number of expected precincts with significant discrepancy.

- 45.1% (22 of 49) of Ohio's polled precincts have significant discrepancy when calculations assume that official vote counts most accurately estimate actual vote share, and

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UMich/Roper. - see Appendix B. The publicly released "raw data" is thus apparently only about 50% of the actual data. Moreover, one of two precincts (Mitofsky #4) with a large (greater than $\pm$ 3%) discrepancy between ESI reported and UMich/Roper reported "exit poll" results would have *had by far the largest and most implausible official Kerry result* (odds of less than 187 trillion!) with a "raw data" Kerry exit poll value of 79%, rather than the ESI "original exit poll" value of 70% for this precinct. The other of these two precincts (Mitofsky #35) would be much more highly significant odds (of less than 526,000) that the Kerry official result actually occurred given the exit poll. Mitofsky has not offered any explanation for this deviation of the ESI exit poll results from the UMich/Roper results. These large and suggestive data inconsistencies underscore the need for a full release of *all* the relevant data – see below.

[21] E/M January 19, 2005 report, op. cit., p. 34.

[22] Ignoring independent votes they had official Bush vote shares of 60% (#25), 62% (#27), and 70% (#4) – see appendix B.

[23] Three precincts are 6.1% of the 49 Ohio precincts at which exit-polls were conducted in 2004. Probabilities for obtaining *at least* one corrupted precinct from a random pick of 49 out of 11,360 with different proportions of corrupted precincts among the 11,360 are calculated in Appendix A.

- 40.7% (20 of 49) of Ohio's polled precincts have significant discrepancy when calculated by assuming that exit poll results are a better estimate of real vote share.

The following two tables list Ohio's precincts with significant discrepancies, calculated using different assumptions. Each table row show's one precinct's vote count, exit poll discrepancy, and odds of occurring due to random chance.

Assumes Correct Official Count		
Official Vote	WPD	Odds - One in
22%	-32%	17,815
25%	-18%	23
30%	-22%	36
32%	-22%	1,449
34%	-20%	71
34%	-18%	38
36%	-34%	3,844
37%	-24%	134
38%	-58%	867,205,553
39%	-22%	21
40%	-56%	294,832
46%	-16%	20
52%	-28%	430
54%	-30%	125
54%	-24%	102
55%	-30%	5,550
57%	-22%	76
57%	32%	128
62%	-26%	154
71%	-22%	399
80%	-20%	173
81%	26%	360

Assumes Correct Exit Polls		
Official Vote	WPD	Odds - One in
22%	-32%	2,042
30%	-22%	27
32%	-22%	775
34%	-20%	55
34%	-18%	31
36%	-34%	2,364
37%	-24%	107
38%	-58%	2,881,322,159
40%	-56%	874,855
46%	-16%	20
52%	-28%	705
54%	-30%	211
54%	-24%	142
55%	-30%	18,603
57%	-22%	109
57%	32%	134
62%	-26%	373
71%	-22%	2,178
80%	-20%	2,627
81%	26%	101

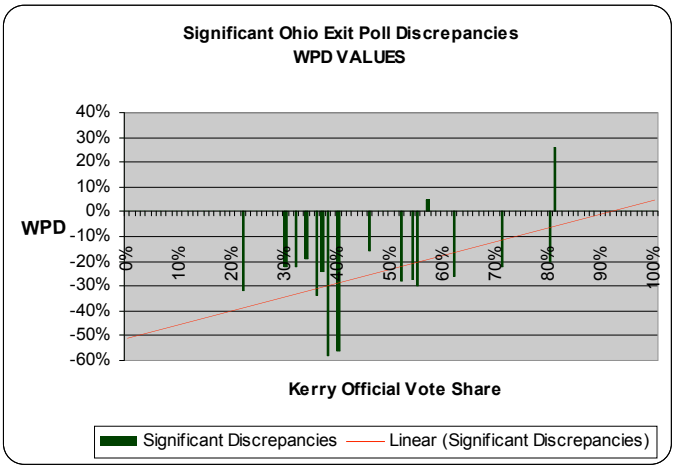
Ohio's significant exit poll discrepancies overwhelmingly over-estimated Kerry's official vote share:

- Over 35% of precincts had official Kerry vote counts and exit poll share that had less than a 5% chance of occurring. In other words, Kerry official vote share was much smaller than expected given Kerry exit poll share in these precincts, and
- 4% (2) of Ohio's exit polled precincts had official Bush official vote that had less than a 5% chance of occurring. In these precincts Bush official vote share (assumed to be one minus their Kerry share) was much smaller than expected, given Bush's exit poll share. See Graph 1 below.[24]

[24] Detailed data and calculations are shown in Table 2 of Appendix B. Precinct sample sizes can be estimated from the Roper raw surveys which Mitofsky says contain roughly 50% of the survey results for Ohio. NEDA uses precincts' sample sizes to calculate standard deviations and obtain 95% one-tail sample error confidence intervals for the discrepancies between exit poll results and official election results. The

In a perfect exit poll sample, the "votes" of the exit poll responders would on average split in the same proportion as the actual vote count. It is important to include sampling error probability estimates when reporting exit poll data in order to differentiate between random sampling error and other sources of exit poll error.[25] Exit-pollsters are unlikely to obtain a perfect random sample of voters due to factors such as education level and partisanship of the pollsters, and how far from the precincts pollsters have to stand when conducting polls.[26] If the pattern of discrepancies that cannot be explained by random sample error is a result of "exit poll error" rather than vote miscount, it should be possible to link the discrepancies to these non-statistical sources of potential exit poll error

The graph below shows Ohio's statistically significant discrepancies plotted by their precinct official vote share. Precincts with highest Kerry official vote share are plotted on the right and precincts with highest Bush official vote share are plotted on the left.



The vertical bars show the discrepancies or WPD. WPD in precincts with less official Kerry vote than exit polls predicted appear as negative vertical bars. WPD in precincts with less official Bush vote share than predicted appear as positive bars.

The graph below shows

- Kerry official vote count share for each precinct (square boxes),
- exit poll share for each precinct (diamonds), and
- estimated one-sided confidence intervals of one standard deviation (one-tail probabilities of about 84%) (vertical bars).

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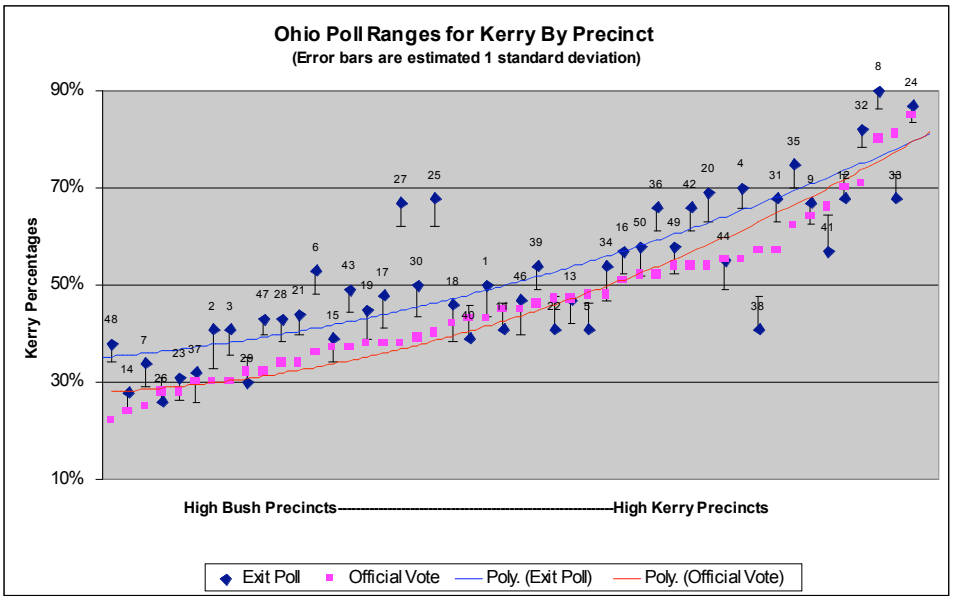
vote count data is not provided with the Roper survey data, allegedly to protect voter privacy and to keep the public from knowing exactly which precincts showed these gross discrepancies.

[25] The average exit poll response for Ohio was 2042/49=41.7 – see www.exit-poll.net/election-night/MethodsStatementStateGeneric.pdf (see E/M Jan. 19 report, p. 37).

[26] See Edison Mitofsky report of January 19, 2005 for a discussion of factors causing exit poll error (except for partisanship of the pollster - see text and footnote below) at: www.exit-poll.net/election-night/EvaluationJan192005



Official reported Kerry vote share falls below the 95% confidence intervals for Kerry vote estimates in over 35% of the 49 precincts, indicating significant overestimates of Kerry vote counts.[27] Kerry official vote share is above the confidence interval in two precincts where exit polls overestimated Bush vote counts.[28] As Kerry official vote share increases, exit poll discrepancy trends to zero.[29] As Bush vote share increases, exit poll overestimates of Kerry vote share rises.

Ohio's exit poll discrepancy pattern is statistically implausible and has not been supportably explained in terms of any factors that cause exit poll error.[30] Edison/Mitofsky and their NEP media clients have not publicly released information on the exact sample sizes, type of voting system, locations of precinct, or other exit poll factors to allow investigation or independent analysis. *All* precincts with statistically significant discrepancy deserve on-the-ground investigation especially when there are so many more such precincts than would be expected due to random sampling error.

[27] If we assume that our confidence interval estimates are correct, precinct level exit polls should fall outside this one-sided confidence interval in about 16% of the precincts.
[28] This indicates a significant pro-Kerry exit poll discrepancy as there should be underestimates of the Kerry reported vote share that falls below (on the other side) of confidence interval in about 16%, not 4%, of the precincts.
[29] This is similar to that in the national exit poll data. See national data results in footnote above.
[30] For a review of possible factors, see E/M January 19, 2005 report, op. cit., and discussion below.

Discrepancy Pattern is Inconsistent with Differing Exit Poll Completion Rate Explanation

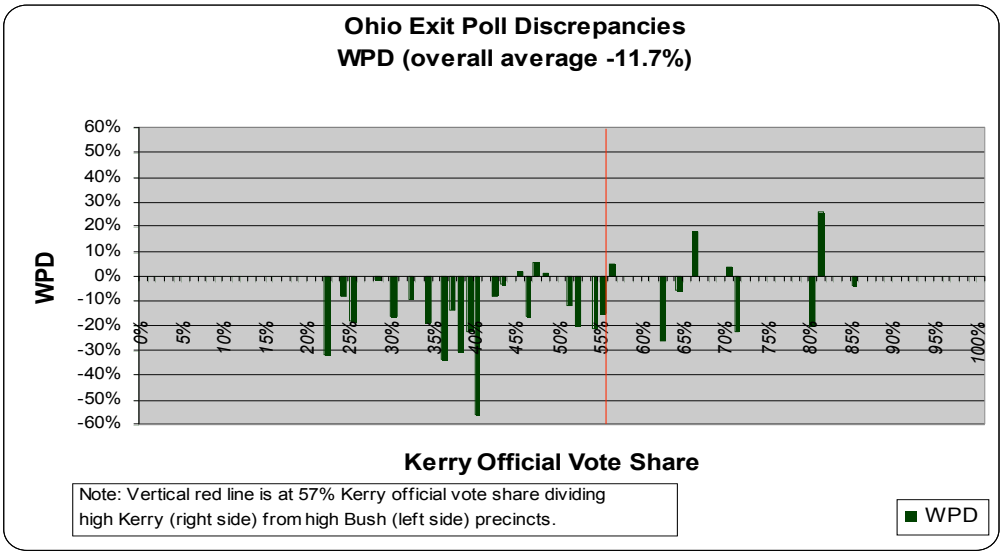
E/M's previous report[31] on the national sample data explained the massive exit poll overestimate of Kerry vote share by stating:

> "While we cannot measure the completion rate by Democratic and Republican voters, hypothetical completion rates of 56% among Kerry voters and 50% among Bush voters overall would account for the entire Within Precinct Error that we observed in 2004."[32]

E/M's analysis that supports their statement above has never been publicly revealed and is unlikely to be correct because if exit poll discrepancy (WPD) were caused by exit poll response bias, as ESI claims, then a "U" shape pattern would be produced when WPD is plotted against precinct official vote share with longer bars in the center where vote shares are 50/50 and shorter negative bars appear on either side, tending to zero at the endpoints, and this "U" shape would vanish when adjusted for exit poll response bias.[33] This is not the case in Ohio's exit polled precincts as can be clearly seen in the graph below.

This graph, which is based entirely on (*uncorrected* – see discussion below) ESI precinct level Ohio data, includes all of Ohio's 49 exit polled precincts, not just the statistically significant ones. Not all precincts appear as separate bars because some precincts have the same official vote share and their WPD is averaged for these charts.[34]

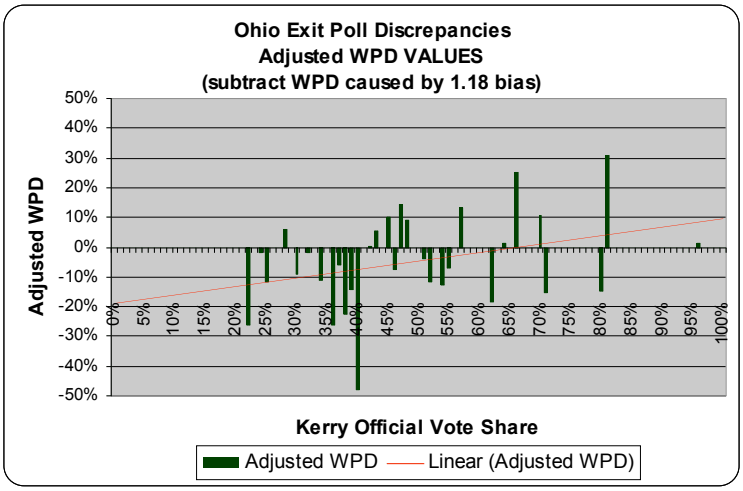
[31] See E/M Jan. 19, 2005, and USCV March 31, reports, op. cit.
[32] E/M Jan. 19 report op. cit., p. 31.
[33] This was shown in a previous NEDA analysis. See USCV Sept. 8 report op. cit.
[34] 22 precincts where Kerry lost the official vote and 9 precincts where Bush won the official vote have the same vote share



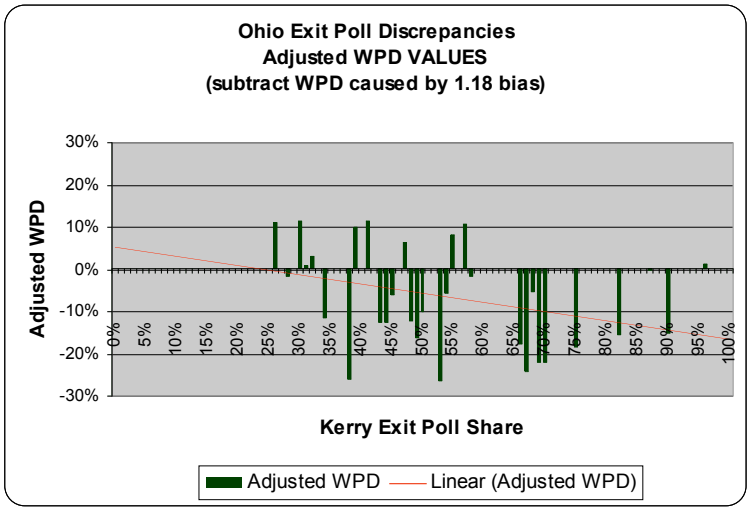
To evaluate whether or not Ohio's discrepancies are likely to be explained by Kerry voters completing exit polls at a higher rate than Bush voters, we adjust Ohio's exit poll discrepancies by subtracting the WPD that would be caused by such differing partisan exit poll response rates. After some experimentation, we find that the number of significant discrepancy is reduced most by subtracting the WPD caused by a uniform 59% to 50% (1.18) Kerry-to-Bush voter response ratio. We subtract what would be produced in each Ohio precinct by this 1.18 response bias and evaluate the remaining WPD pattern to see if it is consistent with a pattern of WPD caused by random sampling error.

In the absence of WPD caused by exit poll response bias or vote miscounts, WPD caused by random sampling error, both positive and negative, would be interspersed more or less randomly along the x axis and the slope of the trend-line would be close to zero. Deviations overestimating Kerry and Bush votes would be distributed more or less randomly throughout the precincts (equally above and below the horizontal axis) and there would be a normally expected number of precincts with significant discrepancies. When normalized by subtracting a 1.18 response bias and plotted against official vote share, as seen in the graph below, 30% of Ohio's polled precincts still have significant discrepancy (11 significant Kerry vote overestimates and 4 significant Bush vote overestimates). *This leaves an overall unexplained WPD of -4.3% which is still more than the margin of victory in Ohio's election, and a pattern of WPD that is inconsistent with sampling error.*

Below is the chart showing remaining WPD after subtracting WPD caused by a 59%-to-50% Kerry-to-Bush voter exit poll completion rate. It is inconsistent with a pattern that would be due to random sampling error.


Ohio Exit Poll Discrepancies
Adjusted WPD VALUES
(subtract WPD caused by 1.18 bias)
Adjusted WPD
50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Kerry Official Vote Share
Adjusted WPD
Linear (Adjusted WPD)

The graph below shows these adjusted discrepancies plotted by exit poll share.



The effect of a calculated 1.18 overall exit poll response bias has been subtracted shows

- the trend line has negative slope consistent with WPD produced by vote miscounts which take a proportion of votes from one candidate and add them to the other candidate's total,
- a majority of discrepancies where Kerry vote is overestimated occur where Kerry exit poll share is *more* than 50%, and the majority of discrepancies where Bush vote was overestimated occur where Bush exit poll share is over 50%, and
- the overestimates of the Kerry vote tend to be larger as Kerry exit poll share increases to the right and overestimates of Bush vote are generally larger as Kerry exit poll share decreases to the left.

The Ohio exit poll discrepancy pattern remains consistent with a pattern produced by vote miscounts primarily, but not all, benefiting Bush, even if WPD produced by partisan exit poll completion rate differences is subtracted from the data.

ESI's Report is Empirically and Logically Invalid & its Data is Inconsistent

In an ESI report cited above[35], proponents of an "exit poll error" hypothetical attempt to use *undisclosed and circumstantial* evidence from the 2000 election to explain the Ohio exit poll discrepancy instead of *publicly accessible* data from the 2004 election.

Given the fact that Bush received less than a 1% increase in vote share from 2000 to 2004 in Ohio, Appendix D below shows that the ESI argument is empirically untenable. It is impossible to use 2000 precinct-level Bush vote shares (even if one assumes that the data and reported results are accurate) as a "bench mark" against precinct- level 2004 Bush vote shares, as there are simply too many factors besides possible vote miscount that can cause candidate vote shares to shift in any given precinct.[36]

This is rigorously demonstrated in a number of NEDA papers that use counter examples to show that the underlying analysis used by the Election Science Institute (ESI) is logically invalid and has no *analytical* value.[37]

ESI compared 2004 election and exit poll results with 2000 election results in the forty-nine Ohio precincts.[38] ESI's claim is that if there is vote fraud, then WPD would be positively correlated with Bush vote share increases from 2000 to 2004. NEDA's math logic proof shows that exit poll discrepancies (WPD) caused by outcome-changing vote miscounts coexist with any relationship of the variables which ESI analyzed and thus nothing can be concluded from ESI's analysis. ESI's faulty June analysis was later repeated on the national exit poll data and presented by Warren Mitofsky at October 14, 2005 ASA conference. *No scientifically supportable* attempt was made by them to *explain* the historically large 2004 exit poll discrepancies themselves.

NEDA's papers which mathematically prove that ESI's June analysis and Mitofsky's October presentation to the American Statistical Association are mathematically incorrect, are contained in two papers:

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[35] *Ohio Exit Polls: Explaining the Discrepancy,* by Susan Kyle, Douglass A. Samuelson, Fritz Scheuren, Nicole Vicinanza, Scott Dingman and Warren Mitofsky, Election Sciences Institute, June 6, 2005.

[36] For example the relative effects of: a) changes in turnout (by all indications there were more Democratic registrations in 2004), b) independent votes (larger in 2000), c) within-precinct demographic shifts over four years, d) possible changes in precinct geography (Ohio had a redistricting in 2002).

[37] See NEDA report: *Mathematical Proof that Election Sciences Institute's Test to Rule Out Vote Fraud is Logically Incorrect* which can be found at http://electionarchive.org/ucvAnalysis/US/exit-polls/ESI/ESI-hypothesis-illogical.pdf. In an October 31 paper, "*Mathematical Proof that Election Sciences Institute's Test to Rule Out Vote Fraud is Logically Incorrect"* NEDA proves that ESI's hypothesis is invalid. ESI claims that, "If systematic fraud or error in vote counting [favoring Bush] occurred in 2004 but not in 2000, [then] Bush would have done significantly better in those precincts in 2004 [than in 2000], and we would see larger differences between the reported vote and exit poll in those precincts [than in other 2004 exit-polled precincts]."

[38] We would welcome a thorough investigation of the 2000 Ohio results. However, we have not been able to obtain even "blurred" precinct-level election results for the 2004 exit polled precincts from ESI, or the underlying raw data from which the charts and tables in the ESI report were constructed. Without this data we cannot, for example, verify that the precincts in 2000 had the same geographical boundaries as these same precincts in 2004, or whether they adequately represented the state vote in 2000. We consider the withholding of the data from independent reviewers to be a violation of standard professional and scientific norms. This is especially problematic in this case because the ESI report is *not* an independent review since Warren Mitofsky is an author.

- "*Mathematical Proof that Election Sciences Institute's Test to Rule Out Vote Fraud Is Logically Incorrect*" http://electionarchive.org/ucvAnalysis/US/exit-polls/ESI/ESI-hypothesis-illogical.pdf
- " Response to Lindeman's Response to "Mathematical Proof that Election Science Institute's Test to Rule Out Vote Fraud is Logically Invalid" http://electionarchive.org/ucvAnalysis/US/exit-polls/ESI/Mark-Lindeman-Response.pdf

ESI's Data is Inconsistent

NEDA obtained precinct-level Ohio exit poll data for this analysis from the ESI June 6th report and by collating actual questionnaires available from the Roper institute. When ordered from low to high, Kerry exit poll shares tabulated from the Roper/UMich data are generally within ± 3% of the "original exit polls" reported by ESI. However for two precincts, ESI exit poll shares for Kerry are 9% and 6%, respectively, lower than their Roper/UMich values. The ESI exit poll values dramatically reduce the WPD odds for these precincts (in one case from less than 187 trillion to 18,603) – see Appendices B and C. Warren Mitofsky, in written correspondence to NEDA, has stated that the UMich/Roper surveys are a sample of about 50% of the complete set of exit poll responses used to derive the ESI exit poll values.

ESI and E/M have been withholding data from independent analysts, and producing reports based on partial and missing data. Moreover, data that has been released is inconsistent in ways that dramatically reduces pro-Kerry WPD. This is an violation of standard scientific norms. ESI's and E/M's non-response to inquiries on this matter further compounds the problem.[39]

NEDA concludes that the ESI June report and similar analyses presented separately by Mitofsky is another failed effort to show that there is no problem of "unexplained exit poll discrepancy" rather than a substantive statistical analysis that would explain the exit poll discrepancies in Ohio.[40] In the absence of a *substantive* statistical explanation for the 2004 Ohio and national exit poll discrepancies, the accuracy of the official 2004 presidential election result is in growing doubt.

However, we have no choice but to work with the data that ESI and E/M have released, so NEDA's analysis proceeded as if the data released by ESI (see appendix D) is an accurate rendition of the Ohio exit poll data.

Conclusion - Ohio's Exit Poll Pattern is Consistent with Outcome-Altering Vote

[39] Per discussion above, over a month ago Warren Mitofsky said that he would "look into" the discrepancies between ESI and UMich/Roper exit poll results, but has not gotten back to us.
[40] Better analysis is essential, based on "model" and not "data" variance – see comments and footnotes above.

Miscounts

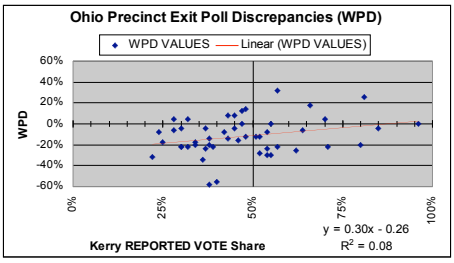
Ohio's exit poll discrepancy pattern is consistent with a hypothesis of outcome-altering vote miscounts primarily favoring Bush.[41] In other words, Ohio's exit poll discrepancies are consistent with the hypothesis that Kerry would have won Ohio's electoral votes if Ohio's official vote counts had accurately reflected voter intent. The patterns of Ohio's exit poll discrepancies are similar to the patterns in the national exit poll sample shown in the January 19, 2005 Edison/Mitofsky (E/M) report and discussed in earlier USCV reports.[42]

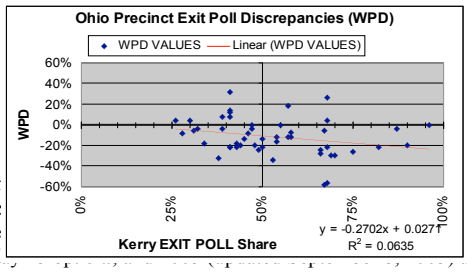
Ohio's exit poll discrepancies vary with official precinct vote share in ways that cannot be fully explained by any "reluctant Bush responder" or exit poll error hypothesis offered to date.

It is over one year after the 2004 presidential election and no valid explanation for the exit poll discrepancies has been offered. The detailed national exit poll data, including a complete data set with sample sizes, exit poll and vote count share, and data on the exit pollsters and precinct exit polling conditions, have not been publicly released by E/M or the NEP for independent analysis and investigation.[43]

At least two plausible vote miscount hypotheses are consistent with Ohio's exit poll discrepancy:

a) A *strict interpretation* of statistical odds suggests that most of the significant discrepancies[44] are caused by vote miscount.[45] Based on this hypothesis, Kerry *exit poll share* may provide a better indication of *true* candidate precinct vote share than reported





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March 31, 2005 scientific papers at: www.uscountvotes.org .

[43] Except for these precinct level data for Ohio (initially released exclusively to the, clearly *non-independent*, ESI team which included Warren Mitofsky) which still does not include information on pollsters and polling conditions. However, the fact that the Ohio data was released, belies E/M's claims that because of the need to preserve (exit poll) respondent confidentiality it *cannot* release *national* unadjusted precinct level data.

[44] possibly after adjustment for some level of Bush voters completing fewer exit polls (pervasive rBr)

[45] A "statistically significant" discrepancy is one that has less than a 1 in 20 chance of occurring purely because of random sampling error. NEDA's Ohio report conservatively adjusts for an rBr "response bias" of 1.18 (this would occur, for example, if Kerry voters have a 59% exit poll response rate and Bush voters a 50% rate) because this level of bias explains more of the significant exit polled discrepancies than any other level of bias. However this still leaves 30% of Ohio exit polled precincts with significant discrepancies (11 negative, and 4 positive). See January 2006 NEDA "smoking gun" report, op.cit.

official vote counts, so that the effect of vote miscount on the election may be seen by plotting exit poll discrepancy (WPD) with exit poll share. Mathematics (beyond the level of this report) show that a downward slope (from left to right) of the best fit trend line (red line in right graph below) of WPD plotted by exit poll share is consistent with vote fraud and miscounts. Clearly Ohio's discrepancy pattern is consistent with vote miscounts.

Ohio's pattern of exit poll discrepancy is consistent with vote miscounts, primarily, but not all, favoring Bush. This hypothesis assumes WPD is explained by vote miscounts, including a few miscounts favoring Kerry, with most miscounts favoring Bush and thus resulting in net overall negative WPD. In this view, given the absence of a statistically rigorous exit poll error explanation, there is no plausible explanation, other than vote miscount, for the massive statistically significant discrepancies (including the two large and statistically significant positive discrepancies where Bush vote was lower than his exit poll share) in the Ohio precinct-level data. This nonpartisan view assumes that the significant discrepancies in some precincts are consistent with vote miscounts favoring Kerry.

The charts below show WPD plotted in scatter plots. The left chart plots WPD by precinct reported vote share and is essentially the same as the chart shown above on p. 6 (but all precincts are shown because none are averaged together). The right chart below plots WPD by precinct exit poll share.

When plotted by reported vote (left chart) precincts with the most negative discrepancy appear where Bush reported vote share is over 50%. However when plotted by exit poll share (right chart) those same precincts with highest negative discrepancy appear where Kerry share is over 50%.

b) On the other hand, a *generous interpretation* of the statistics assumes that some of the even quite large significant discrepancy may be a result of exit poll error.

In this view, it is possible that some pollsters were not strictly following guidelines and may have missed a lot of nth people and polled some "clumps" to make it up, or maybe even made up some numbers, or made other mistakes. This would imply that some of the significant discrepancy is due to exit poll error rather than vote miscount. However, this kind of (non-sampling) exit poll error would be more or less random and go both ways, so that on-average it should give a WPD that is close to zero.

This interpretation focuses on the implausible *pattern* of the discrepancies overall. In precincts with over 57% Kerry vote share the pattern could be consistent with random exit poll error having both negative and positive discrepancies and a nearly zero average discrepancy (See the right side of graph on p. 6 or of the left graph above); but in

precincts with less than 57% Kerry vote share, the pattern is obviously nonrandom and is consistent with vote miscounts that favor Bush as the cause of the exit poll discrepancy.[46]

In this view these densely packed and *overwhelmingly one-sided negative discrepancies* (where Kerry vote share is less than predicted by his exit poll share) *which occur where Kerry reported vote is less than 57%, could not have resulted from random exit poll error*.

If we assume that the random pattern in precincts where Kerry has highest reported vote (on the right of the left chart above, also reproduced on page 11) is explained by exit poll error and continues where Bush has the highest reported vote (on the left), then there are about 10 precincts with large negative discrepancies that could only be attributed to vote miscount favoring Bush. If these precincts' exit poll results are a more accurate reflection of their "true" Kerry vote shares, then most of these precincts would have a true Kerry vote share of more than 50%.[47] This is more a partisan view because it assumes vote miscounts only favored Bush.

Thus, even a generous interpretation of the possible sources of Ohio's exit poll discrepancies, suggests vote miscount favoring Bush in 20% of Ohio's precincts, adequate to change the election outcome. [48]

The vote miscount explanation for the 2004 presidential exit poll discrepancies is supported by well-documented irregularities in the 2004 election in Ohio and other states.[49] Missing data and mathematically invalid analysis that has been released by E/M and ESI raises further concern over the accuracy of the 2004 election results. The

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[46] 57% looks like the dividing line, but it could be further to the left. What is clear is that there is a change in the WPD pattern from right to left. WPD/2 (=Kerry official vote share minus Kerry exit poll share) for the 11 precincts with a 57% or greater Kerry official vote share on the right portion of the graph is -0.9%. The more or less random pattern of discrepancies in these precincts average to a small negative WPD that may be the result of non-sampling exit poll error, with perhaps Kerry voters completing exit polls slightly more than Bush voters to explain the slightly negative average. Average WPD/2 for the 38 precincts with a less than 57% official Kerry vote share on the left side of the graph is -7.3%.

[47] If negative WPD in precincts with high reported Kerry votes on the right side of the graph is a result of vote miscount, it would have had to be caused by "left shifts" from precincts with even higher "true" Kerry vote shares of 87%, 90%, 82%, 67%, 75%, 68% (applying left shifts equaling WPD/2 for each of the for each of the 6 precincts with the highest Kerry vote shares – see table on p. 21 of study). Similarly the 4 precincts on the right with positive discrepancies would have had to have been "right shifted" from precincts with lower "true" Kerry vote shares of 57%, 68%, 68%, and 25% (for the first 4 from the right). These are all precincts with 57% or more official Kerry vote.

[48] Ten precincts represent about 20% (10 out of 49) of Ohio's precincts.

[49] A very large number of documented vote count impossibilities, illegalities, and extreme implausibility's were found in multiple precincts in Ohio in 2004 - see: *Did George W. Bush Steal America's 2004 Election? Ohio's Essential Documents*, by Bob Fitrakis, Harvey Wasserman, and Steve Rosenfeld. Steve Freeman provided additional evidence for this hypothesis in a debate with Warren Mitofsky at the October 14, 2005 Fall meetings of the American Statistical Association. Freeman showed correlations between states with Republican Governors, African American voters, and reported election administration problems, and unadjusted precinct level exit poll discrepancy based on E/M reported data. See Freeman presentation at: http://www.appliedresearch.us/sf/epdiscrep.htm

possibility that vote miscounts caused the 2004 presidential election exit poll discrepancies has become increasingly credible.

Recommendations - Ways to Ensure that Vote Counts Accurately Reflect Voter Intent

U.S. Election Systems are wide open to insider vote tampering and innocent errors. There is no such thing as a perfectly accurate, tamper-proof voting system. Yet, we can take commonly used measures to ensure integrity of our vote counts such as:

1. Routine Independent Audits of Vote Counts

Current U.S. election systems are vulnerable to tampering because vote counts are not routinely independently audited. To be effective, audits must be independent of any insiders within the system, including election officials, poll workers, and voting machine vendor staff. To be independent of voting machine programmers requires voter verified paper ballots that can be hand-counted using the same method that the voter used to verify the ballot.[50] To be scientifically valid, each precinct or machine count must have an equal probability of being randomly selected immediately after polls close.

As few as 2 to 5% of precinct or machine vote counts could be *independently* audited to ensure a high likelihood of detecting any vote miscounts that occur in at least 10% of precincts or voting machines. Many digital recording electronic (DRE) voting systems make it difficult to implement independent audits. Yet any electronic vote count is trivially easy for insiders to undetectably manipulate, while passing all "logic and accuracy" testing before and after elections. Experiments show that errors on DRE paper rolls are often missed by voters because only 30% of voters take the extra step to verify them. Furthermore, paper rolls are virtually impossible to hand recount accurately and, because they store ballots in the same order as voters vote, risk violating voter anonymity. Furthermore, the bar codes on paper rolls are not verifiable by the voter, and would normally contain the same errors as the electronic counts.

Until all vote counting systems are routinely independently audited and more secure, another method to detect and correct vote miscounts is urgently needed.

2. Detailed Public Election Data Reporting

Public release of detailed vote counts broken out by vote type (absentee, overseas, Election Day, provisional, and so on) would permit independent monitoring of vote count accuracy. Almost unbelievably, today every county in America now reports its election data in a way that hides evidence of vote miscounts. Yet, we could detect probable vote miscounts immediately after any election by analyzing detailed vote count and exit poll data. Here is how it would work:

[50] More information on independent audits of vote counts is available on ElectionArchive.org.

a. Volunteers in each state obtain the detailed election data that is available under every state's open records laws from the over 3,300 county and township election offices (because not one state in America yet collects its own data!)[51] Unofficial and officialote counts are needed broken out by precinct *and* by vote type (absentee, early – provisional, election day – provisional, early, election day, overseas, military) and the vote counting method for each type.

b. Volunteers or election officials from each state upload original election results documents in electronic format to ElectionArchive.org. These original documents are in a myriad of file types and formats, depending on voting machine vendor and local election officials.

c. These documents are made publicly available by ElectionArchive.org and can be used by any independent analyst.

d. Programs are written to electronically parse the original electronic documents and put the data into standardized tables which are publicly posted on the Internet.

e. Statistical programming automates the analyses of this database and the results are publicly posted. The analyses are verifiable by any independent analysts by using the original official election documents in the archive.

This election data monitoring system could pinpoint precincts with probable vote count errors and its methods be refined and improved via independent recounts or audits, as they become available, to increase the accuracy of its predictions. NEDA's construction of a national election data archive so that vote count data can be analyzed before candidates concede elections, needs to be funded immediately if it is to be ready by November 2006.

3. Publicly Available Exit Poll Data

Precinct-level, unadjusted exit poll data including sample sizes, the data on exit pollsters and polling conditions, voting equipment, and county identifiers need be released to enable independent observers to test any hypothesized explanations of exit poll discrepancies.[52] If exit poll data were made publicly available, then independent analysts could effectively detect probable count errors which could be investigated before candidates are sworn into office.[53]

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[51] Links to each state's freedom of information act and sample letters requesting are available on ElectionArchive.org. It would help to have the assistance of a local attorney in each state to make the requests to each county or township in the case of non-cooperative election officials. Legal suits may have to be brought in order to obtain the data in original electronic formats in timely fashion.

[52] See Sept. 8 report op. cit., p. 4-5 for an explanation of the need for an explanation based on "model" and not "data" variance. Precinct level data on the pollsters and on polling conditions that is necessary for a substantive statistical analysis has not been provided, even for Ohio.

[53] Probabilities for obtaining *at least* one corrupted precinct from a random pick of 49 out of 11,360 with different proportions of corrupted precincts among the 11,360 are calculated in Appendix A.

> If exit poll data were routinely publicly available, including official vote counts, sample sizes, and exit poll results for each precinct, then scientific analyses of exit poll discrepancies could be performed. Where valid scientific analysis raises further questions about the validity of official vote counts, as it does in Ohio's 2004 presidential race, further detailed exit poll data, including voting equipment, precinct location, and information on exit pollsters can be analyzed. On-the-ground investigation might determine the cause of any discrepancy patterns indicating vote fraud.

In the Future, Whenever Suspicious Exit Poll Patterns Occur, Candidates Should Not Concede or Be Sworn into Office Until After Further Analysis and Investigation. Lives and economies depend deeply on the integrity of American democracy. Accurate vote counts are critical to healthy U.S. and world economies and to the environment upon which they depend. There is no reasonable excuse for not independently auditing and monitoring U.S. vote counts to ensure that they are counted accurately.

Appendix A: Chance of Finding Corrupted Precincts with Ohio's Exit Poll "Audit"

The table below shows probabilities for finding at least one corrupted precinct when selecting 49 out of 11,360 based on a hypothetical number of corrupted precincts" ranging from 50% to 0.1%. The probability estimates are based on a "hyper geometric" distribution for determining the probability of finding:

a) **x** (corrupted precincts),
b) in an overall sample of **n** (Number of Audited Precincts)
c) when there are **X** (Hypothetical Number of Corrupted Precincts)
d) out of **N** (Total Number of Precincts).

This distribution is calculated using the Excel function HYPGEOMDIST(x, n, X, N). The hyper geometric assumes all individual "picks" are random but adjusts this random probability for each pick. The first row in Table 2 for example, assumes a 50% probability that the first of 49 picks will be corrupted, a 5,679/11,359 probability that the second will be corrupted if the first one is and a 5,680/11,359 probability that the second will be corrupted if the first one isn't, and so on for all 49 picks. It then uses these individual pick probability estimates to calculate the probability that none of the 49 picks will be a corrupted precinct (x=0), exactly one of the 49 will be a corrupted precinct (x=1), and so on.

In Table 1 below the probability that *at least one* of the 49 is corrupted is estimated. For the first row, for example, this equals: 1 - HYPGEOMDIST(0, 49, 5680, 11,360)

The table below shows that if 5% of precincts are corrupted, there is a 91.94% probability that any sample of 49 precincts will have one or more corrupted precinct, with an expected value of 2.45 corrupted precincts in the sample of 49. Ohio's sample had three precincts that were virtually impossible strongly suggesting that *at least* 5% of Ohio precincts were corrupted.

Total Number of Precincts	Hypothetical Number of Corrupted Precincts	Percent Corrupted Precincts	Number of Audited Precincts	Expected Value	Standard Deviation	Chance of Finding one or more Corrupted Precincts
11360	5680	50.0%	49	24.50	3.50	100.00%
11360	5112	45.0%	49	22.05	3.48	100.00%
11360	4544	40.0%	49	19.60	3.43	100.00%
11360	3976	35.0%	49	17.15	3.34	100.00%
11360	3408	30.0%	49	14.70	3.21	100.00%
11360	2840	25.0%	49	12.25	3.03	100.00%
11360	2272	20.0%	49	9.80	2.80	100.00%
11360	1704	15.0%	49	7.35	2.50	99.97%
11360	1136	10.0%	49	4.90	2.10	99.43%
11360	568	5.0%	49	2.45	1.53	91.94%
11360	454	4.0%	49	1.96	1.37	86.50%
11360	341	3.0%	49	1.47	1.19	77.61%
11360	114	1.0%	49	0.49	0.70	39.06%
11360	57	0.5%	49	0.25	0.49	21.89%

Appendix B: Tables & Details of Statistical Analysis

NEDA's statistical estimates are shown in detail in the table below:

2	3	4	5	6	7
Mitofsky Precinct Number	Official Vote	ESI Table 1: "Exit Poll Original"	WPD Official Vote minus Exit Poll margins	Standard Deviation for Kerry Exit Poll Discrepancy	Number of Respondents = 2 times # Roper Data Surveys
	-0.1		2*((3)-(4))	sqrt((3)x(1-(3))/(7))	
48	0.22	0.380	-0.32	0.04	100
14	0.24	0.280	-0.08	0.04	104
7	0.25	0.340	-0.18	0.05	68
26	0.28	0.260	0.04	0.05	90
23	0.28	0.310	-0.06	0.05	94
37	0.30	0.320	-0.04	0.06	56
2	0.30	0.410	-0.22	0.08	30
3	0.30	0.410	-0.22	0.06	64
29	0.32	0.300	0.04	0.05	92
47	0.32	0.430	-0.22	0.03	184
28	0.34	0.430	-0.18	0.05	104
21	0.34	0.440	-0.20	0.05	108
6	0.36	0.530	-0.34	0.05	96
15	0.37	0.390	-0.04	0.05	98
43	0.37	0.490	-0.24	0.05	96
19	0.38	0.450	-0.14	0.06	58
17	0.38	0.480	-0.20	0.07	50
27	0.38	0.670	-0.58	0.05	100
30	0.39	0.500	-0.22	0.07	54
25	0.40	0.680	-0.56	0.06	62
18	0.42	0.460	-0.08	0.08	40
40	0.43	0.390	0.08	0.07	58
1	0.43	0.500	-0.14	0.07	54
11	0.45	0.410	0.08	0.05	88
46	0.45	0.470	-0.04	0.07	46
39	0.46	0.540	-0.16	0.05	106
22	0.47	0.410	0.12	0.07	58
13	0.47	0.470	0.00	0.05	100
5	0.48	0.410	0.14	0.05	86
34	0.48	0.540	-0.12	0.07	46
16	0.51	0.570	-0.12	0.05	104
50	0.52	0.580	-0.12	0.06	62
36	0.52	0.660	-0.28	0.05	102
49	0.54	0.580	-0.08	0.06	74
42	0.54	0.660	-0.24	0.05	94
20	0.54	0.690	-0.30	0.06	64
44	0.55	0.550	0.00	0.06	64
4	0.55	0.700	-0.30	0.04	140
38	0.57	0.410	0.32	0.07	56
31	0.57	0.680	-0.22	0.05	100
35	0.62	0.750	-0.26	0.05	86
9	0.64	0.670	-0.06	0.05	104
41	0.66	0.570	0.18	0.07	44
12	0.70	0.680	0.04	0.05	88
32	0.71	0.820	-0.22	0.04	134
8	0.80	0.900	-0.20	0.04	102
33	0.81	0.680	0.26	0.05	70
24	0.85	0.870	-0.04	0.04	104
10	0.96	0.960	0.00	0.03	58
			-0.1167		

Sample sizes in these tables are estimated by precinct-level tabulations of individual exit poll responses with Presidential preferences provided in the UMich ICPSR or Roper raw data files. See Appendix C below for more detailed descriptions of the UMich/Roper and ESI data and of the matching.

The table below shows the three Ohio precincts with "virtually impossible" results.

1	2	3	4	5	6	7	8	9	10
Almost Impossible Outcome	Mitofsky Precinct Number	Official Vote	ESI Table 1: "Exit Poll Original"	WPD Official Vote minus Exit Poll margins	Standard Deviation for Kerry Exit Poll Discrepancy	Number of Respondents = times # Roper Data Survey	Probability Official Kerry Vote Given Exit Poll	Less than 5% Probability that Kerry Official Vote could be this low	Odds of Kerry Official Vote Being this Low
				(2)-(4)	sqrt((4)x(1-(4))/(7))		normdist((3),(4),(6),(	(8) < 0.05	1/(8)
x	27	0.38	0.67	-0.58	0.05	100	0.000000	1	867,205,553
x	25	0.40	0.68	-0.56	0.06	62	0.000003	1	294,832
x	4	0.55	0.70	-0.30	0.04	140	0.000180	1	5,550

Estimates of the probability of obtaining the Kerry exit poll share for precincts #27, #25 and #4, given their official vote share, is almost zero. These odds are far smaller than the odds for other pro-Kerry or pro-Bush exit poll discrepancies.

Columns 13 through 19 in the table below normalize WPD for possible pervasive pro-Kerry exit poll response bias using the bias equation:[54]

$$\text{WPD} = \frac{2bk(1-\alpha)}{k\alpha + b} \quad (1)$$

See Appendix E below for a detailed derivation of this formula which assumes zero average sampling error and no vote miscount. Calculations used in the next table (below) show that, as NEDA has shown for the national data[55], the E/M hypothetical exit poll response bias of 1.12 (56% of approached Kerry voters but only 50% of Bush voters complete exit polls, so that K/B = 0.56/0.50 = 1.12), is *not* sufficient to produce the average Ohio WPD of -0.058.

The table shows that a bias (or α) value of 1.299 (response rates of about 65% of Kerry voters but only 50% of Bush voters) is necessary to generate the overall average WPD of -11.7% the E/M reports for Ohio exit polls.

Column 13 applies equation (1) to estimate WPD for each precinct assuming a pro-Kerry exit poll response bias of 1.18 because, by experimentation, this amount of response bias produces an amount of WPD, that when subtracted from the actual data, most reduces the number of significant discrepancies. When the WPD produced by this exit poll response bias is subtracted from the original WPD, it results in an overall average WPD of -4.3%

[54] Sept. 8, 2005 USCV paper, op. cit., see Appendix C, Equation 7. This estimate of expected WPD from a given level of exit poll response bias is equivalent to Liddle's and Mitofsky's "WPE Index" before taking a natural log – see discussion in USCV "History of the Debate" paper, op. cit.
[55] See USCV Sept. 8 paper, op. cit., Appendix F, Table 6.

and the resulting number of significantly discrepant precincts is still 30% of precincts, reducing the overall number of significant discrepancies from at least 40% to 30%. Moreover, while assuming this level of response bias reduces the number of precincts with significant Kerry overestimates from at least 18 down to 11, it increases the number of precincts with significant Bush overestimates from 2 to 4. It is thus clear that the "pervasive Kerry voter response bias hypothetical" cannot explain the overwhelming and highly significant pro-Kerry WPD revealed by the Ohio exit poll data. he estimated WPD values in column 13 follow the asymmetric "U" pattern.[56] However, as has been extensively pointed out by USCV in earlier reports[57], the table shows that this pattern cannot explain the observed exit poll discrepancies.

In Column 14, Kerry exit poll results are adjusted by these WPD values. Column 15 then estimates the probability of the officially reported Kerry vote share given this adjusted exit poll result. *Columns 16-18 show that exit poll bias adequate to explain the overall Ohio average WPD cannot explain either the extreme WPD in precincts #27, #25, and #4 (or #48), or the overall pattern of WPD.*

The analysis shows that even if exit poll response bias is assumed to have occurred:

- WPD significance levels for precinct #27 and #25 remain statistically impossible; and although precinct #4 becomes more believable, precinct #48 then becomes statistically impossible, and
- an unexplained WPD pattern, going from significant pro-Kerry discrepancy in Bush partisan precincts to significant pro-Bush discrepancy in Kerry partisan precincts, remains; and
- 30% of Ohio exit-polled precincts still have significant unexplained exit poll discrepancy.

[56] See USCV Sept. 8 paper, op. cit., Appendix B; and USCV "History of the Debate" paper, op. cit.
[57] See USCV Sept. 8 paper, op. cit.

Appendix C: Where Does the Data Come From?

The table below shows how the ESI and Roper/UMich (ICPSR) exit polls were matched so that the UMich ICPSR presidential exit poll response tabulated by precinct could be matched to the ESI exit poll and blurred official results data. In accordance with information supplied by Warren Mitofsky that the UMich ICPSR data is a roughly 50% random sample of the complete exit poll response data used to generate the ESI "Original Exit Poll" values, these precinct exit poll response totals were doubled to derive final sample size estimates. Column's A-C are ordered by Column C. Column's D and F are ordered by Column D. Columns A-C and D and F are then aligned with each other producing a "matching" of the two exit polls in columns C and D. Column E shows that this matching is within plus or minus 3% (as one would expect for a 50% random sample) except for Mitofsky precinct numbers 4 and 35 (at the bottom of the graph) for which the difference between the two exit polls is inexplicably large: -9% and -6% respectively, meaning that Kerry's UMich ICPSR exit poll discreapancy is, for some unknown reason, reported as being *substantially smaller* in the ESI "Original Exit Poll" relative to the UMich ICPSR exit poll see discussion below.

Note that the matching procedure *minimizes* the discrepancies between ESI exit poll and UMich ICPSR exit poll values, and ESI blurred official vote shares, assuming ESI exit poll values are ordered from lowest to highest based on non-reported additional digits. *Thus, to the extent that this matching is incorrect, actual Ohio precinct-level exit poll discrepancies will be larger than the estimates used in this report.*[58] The only time averaging is necessary is when both the ESI and the UMich exit polls are equal for Mitofsky precinct numbers 30 and 1. In this case the average of 16 and 38 (=27) becomes the basis for an estimated sample size of 54 (=2 x 27).

Both sets of Ohio exit poll data included 49 precincts. The differences between the two available data sets include:

UMich/Roper data:

- contains complete individual surveys for each precinct
- does not include official vote counts
- includes roughly half of the surveys that the ESI data does, according to Warren Mitofsky's email correspondence with US Count Votes

ESI report data:

- does not include sample sizes
- includes "blurred" official vote counts

[58] In any case, in a 12/06/2005 email correspondence with Ron Baiman, Mitofsky did not dispute this matching or the fact of the large discrepancies in the two precincts that don't match well. In the email he states that "…we are looking into the source of the difference."

- includes twice the number of respondents deposited in the Roper/UMich data set

The publicly released "raw data" is thus only about 50% of the actual data. Moreover, one of two precincts (Mitofsky #4) with a large (greater than $\pm$ 3%) discrepancy between ESI reported and UMich/Roper reported "exit poll" results would have *had by far the largest and most implausible official Kerry result* (of more than187 trillion (187,306,286,930) rather than 18,603!) if the UMich/Roper Kerry exit poll value of 78.57%, rather than the ESI "original exit poll" value of 70%, is used for this precinct. The other of these two precincts (Mitofsky #35) would have much more highly significant odds (of more than 526,000 (526,406) rather than 373) that the Kerry official result actually occurred if the UMich/Roper Kerry exit poll value of 81.40%, rather than the ESI value of 75%, is used. Though specifically asked about this in November 2005, Mitofsky has, to date, not offered any explanation for these large reductions in the ESI Kerry exit poll values relative to the UMich/Roper results. These large and suggestive data inconsistencies underscore the need for a full release of *all* the relevant data.

In any case, because valid analysis of Ohio's exit poll results requires both sample sizes and official vote counts, US Count Votes did its best to conservatively estimate the sample sizes for analyzing the ESI report data, and to pair up UMich/Roper data precincts based on exit poll share with the ESI reported data to obtain the most conservative vote count estimates to analyze the UMich/Roper data.

In other words, US Count Votes estimated the missing information from the given data in a way that was *least likely* to produce data that favored the vote miscount hypothesis.

It is truly unconscionable that, given the serious questions surrounding the validity of the 2004 presidential election results that the data for independent scientific analysis of exit poll disparities has yet to be fully released for investigation.

A	B	C	D	E	F	G	H	I
ESI Mitofsky Precinct Number	ESI Blurred Official Vote Matched to ESI Exit Poll	ESI Exit Poll	UMich ICPSR Raw Data Exit Poll Values	ESI Minus Est. EM Exit Poll Values	UMich ICPSR Raw Data Number of Respondents with Presidential Preference Matched to Umich/Roper Exit Poll	Estimated Number of Exit Poll Respondents with Presidential Preference		UMich ICPSR Precinct Number
26	28%	26%	24.44%	2%	45	90		94
14	24%	28%	25.00%	3%	52	104		54
29	32%	30%	28.26%	2%	46	92		26
23	28%	31%	29.79%	1%	47	94		63
37	30%	32%	32.14%	0%	28	56		118
7	25%	34%	32.35%	2%	34	68		49
48	22%	38%	36.00%	2%	50	100		27
15	37%	39%	36.73%	2%	49	98		9
40	43%	39%	37.93%	1%	29	58		101
2	30%	41%	40.00%	1%	15	30		48
3	30%	41%	40.63%	0%	32	64		98
11	45%	41%	40.91%	0%	44	88		7
22	47%	41%	41.38%	0%	29	58		3
5	48%	41%	41.86%	-1%	43	86		115
38	57%	41%	42.86%	-2%	28	56		57
47	32%	43%	43.48%	0%	92	184		47
28	34%	43%	44.23%	-1%	52	104		24
21	34%	44%	44.44%	0%	54	108		114
19	38%	45%	44.83%	0%	29	58		41
18	42%	46%	45.00%	1%	20	40		21
46	45%	47%	47.83%	-1%	23	46		39
13	47%	47%	48.00%	-1%	50	100		2
17	38%	48%	48.00%	0%	25	50		36
43	37%	49%	50.00%	-1%	48	96		33
30	39%	50%	50.00%	0%	16	54	Averaged	55
1	43%	50%	50.00%	0%	38	54	Averaged	67
6	36%	53%	50.00%	3%	48	96		105
39	46%	54%	50.94%	3%	53	106		78
34	48%	54%	52.17%	2%	23	46		1
44	55%	55%	53.13%	2%	32	64		8
16	51%	57%	53.85%	3%	52	104		100
41	66%	57%	54.55%	2%	22	44		106
50	52%	58%	54.84%	3%	31	62		103
49	54%	58%	59.46%	-1%	37	74		119
36	52%	66%	64.71%	1%	51	102		91
42	54%	66%	65.96%	0%	47	94		14
27	38%	67%	66.00%	1%	50	100		23
9	64%	67%	67.31%	0%	52	104		104
25	40%	68%	67.74%	0%	31	62		52
31	57%	68%	68.00%	0%	50	100		42
12	70%	68%	68.18%	0%	44	88		72
33	81%	68%	68.57%	-1%	35	70		5
20	54%	69%	68.75%	0%	32	64		76
4	55%	70%	78.57%	-9%	70	140		88
35	62%	75%	81.40%	-6%	43	86		120
32	71%	82%	82.09%	0%	67	134		74
24	85%	87%	88.46%	-1%	52	104		51
8	80%	90%	92.16%	-2%	51	102		11
10	96%	96%	96.55%	-1%	29	58		15

Appendix D: ESI Conclusions are based on a Faulty Methodology

The graph below is ESI's Figure 2.[59]

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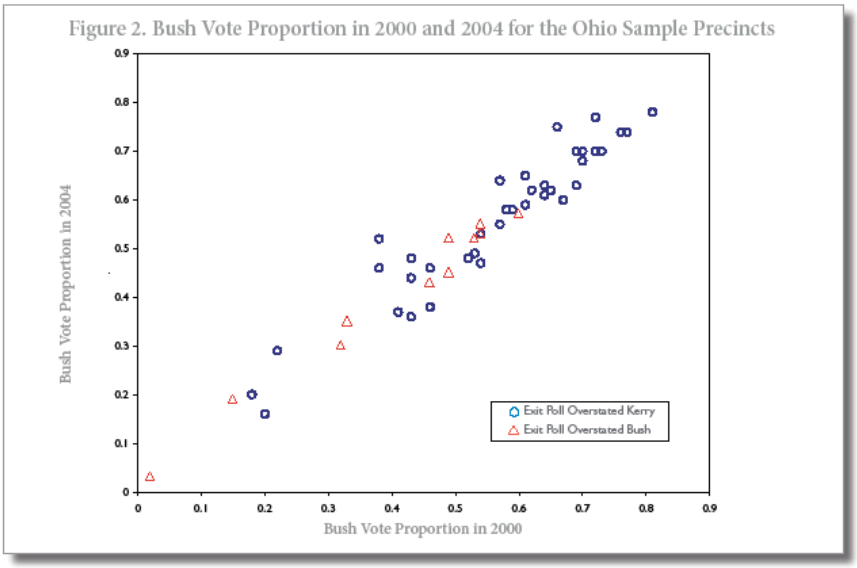
Figure 2. Bush Vote Proportion in 2000 and 2004 for the Ohio Sample Precincts



The chart above plots the proportion of the vote Bush received in each of the sample precincts in 2004 (vertical axis) and the proportion he received in the same precincts in 2000 (horizontal axis). The different symbols indicate whether the 2004 exit poll result for the precinct overestimated the proportion for Bush (△) or for Kerry (⬡). What is evident from the plot is that all the precincts voted very similarly in 2000 and 2004, and the direction of error in the exit poll estimates does not appear to be strongly related to how large a proportion of the vote Bush received in the precinct.

ESI For further information contact info@electionscience.org.

It can be seen from Figure 2 that the number of precincts below a diagonal (drawn from the lower left corner to the upper right corner) of the graph is less than the number of precincts above this diagonal. This implies that the number of precincts where Bush vote share improved in 2004 over 2000 was *greater* than the number of precincts where Bush share decreased.

[59] See ESI "no smoking gun" report, op. cit. There are only 47 precincts in graph 4, but we know (from ESI Table 1) that there were 49 exit polled precincts in Ohio in 2004. Our requests to ESI for clarification regarding the two missing precincts but have not, to date, received a response. Though missing data may simply be a result of overlap in the graph, it underscores the need for ESI (and E/M) to release all of the relevant exit poll, and polling data.

Below is a reproduction of ESI Figure 3.[60]

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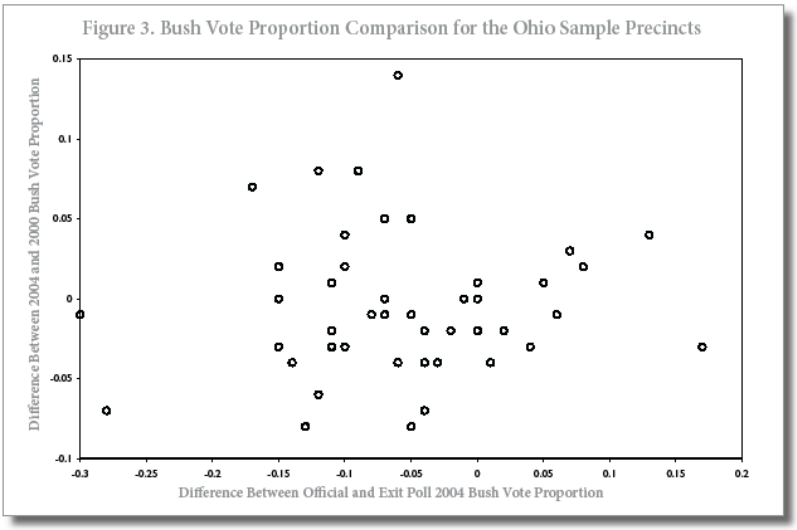
Figure 3. Bush Vote Proportion Comparison for the Ohio Sample Precincts



The vertical axis of the above chart represents the proportions of the vote Bush received in these precincts in 2000 and 2004 (vertical axis). The horizontal axis represents the difference between the official and exit poll results for these precincts (horizontal axis.) If systematic irregularities in vote counting in some precincts occurred in 2004 but not in 2000, we would expect that Bush would do significantly better in those precincts in 2004, and that larger exit poll errors would also tend to occur in those precincts. However, these two sets of differences are not associated.

ESI For further information contact info@electionscience.org.

We know (and Table 1 from the ESI report confirms) that the Ohio exit polls generally under-estimated the reported Bush vote. This implies that the horizontal axis of Figure 3 must be interpreted as:

$B_{ep} - B_{rv}$

where B_{ep} is the Bush exit poll percentage and B_{rv} is the Bush reported vote percentage, because there are many more circles on the left side (less than 0) of the axis than on the right side.

[60] Note that Figure 3 is missing even more data. There are only 44 points in the Graph. Data for five exit polled precincts are missing from this graph. NEDA asked ESI for a clarification regarding the missing precincts in these Graphs but it has, to date, not received an answer. Again, this could be a result of overlap or averaging. However, in this case the five missing data points could significantly change this Graph. We note again that ESI and E/M have been withholding data from independent analysts. This is an unacceptable violation of standard scientific norms. ESI's non-response to inquiries on this matter further compounds the problem. However, we have no choice but to work with what ESI and E/M have released, so we proceed as if Figure 3 is an accurate rendition of the Ohio exit poll data.

But from Figure 2 we know that a larger number of these precincts received higher Bush shares in 2000 than in 2004. Hence, because most of the points in Figure 3 are in the lower left hand quadrant (in terms of 0 horizontal and vertical values), this implies that the label for the vertical axis of Figure 4 is:

B2004 – B2000

That is, the vertical axis of ESI figure 3 is Bush reported vote percentage in 2004 minus that for 2000.

Robert D. Klauber 5/24/06 9:14 PM
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Having cleared up the ambiguously labeled axes of ESI Figure 3, we can, more easily, count the number of precincts with higher 2004 Bush vote shares and see clearly that Bush's vote share increased from 2000 to 2004 in 15 precincts and declined in 25 Ohio exit polled precincts. Four precincts appear to have about equal 2004 and 2000 vote shares. Thus, even if the five *missing* precincts had higher 2004 Bush vote shares, the overall number of precincts with higher 2004 shares would be smaller than the number with higher 2000 shares.

ESI Claims

The text below Figure 2 of the ESI report[61] states that:

> "If systemic irregularities in vote counting occurred in some precincts in 2004 but not in 2000, we would expect that Bush would do significantly better in those precincts in 2004 [than in 2000], and that larger exit poll errors would also tend to occur in those precincts."

Thus ESI appears to be claiming that, if we drew a diagonal from the lower left corner to the upper right corner of Figure 2, pro-Bush vote miscount would produce a disproportionate number of circles (relative to triangles) above the diagonal.

Similarly, ESI's text at the bottom of Figure 3 states that:

> "If systemic irregularities in vote counting occurred in some precincts in 2004 but not in 2000, we would expect that Bush would do significantly better in those precincts in 2004 [than in 2000], and that larger exit poll errors would also tend to occur in those precincts."

So that ESI appears to be similarly claiming that pro-Bush vote miscount would cause Bush exit poll "understatements" to be correlated with larger 2004 Bush reported vote shares (relative to 2000). This would cause the precinct data points in Figure 3 to cluster around a downward sloping line going from the upper left to the lower right corner of the graph.

Note that both of these inferences depend on the premise that in both figures *ratios of precinct counts reflect relative Ohio Bush vote shares.*

[61] See Election Science Institute report on the Ohio exit polls, by Kyle et. al., op. cit.

However, they do *not* for the following reasons:

a) Simple *counts of precinct points can be misleading* as some precincts clearly represent more votes than others:

- ESI Figure 3 shows that more exit polled precincts had higher Bush shares in 2000 compared to 2004 than the reverse.
- But official Ohio Bush vote data shows that Bush got a higher vote share in 2004 than in 2000 (50.81% to Kerry's 48.71% in 2004, 49.97% to Gore's 46.46% in 2000).[62]
- This means that the points in the upper half of ESI Figure 3 have to represent more Bush votes than the (larger number) of points in the lower half of the graph.
- The precincts thus do *not* represent equal shares of Bush votes so counting precincts does not correlate with counting vote shares. *Unweighted* correlations of precinct points with vote shares are therefore meaningless and may, as in this case, produce very misleading results.[63]

b) Because *numerous factors* besides vote miscount could cause the very small (overall) Bush increase in vote share in 2004 to be larger or smaller than the 2000 official Bush vote share, no conclusion with regard to vote miscount can be inferred from a precinct level comparison with 2000.

- The relative effects of changes in turnout (by all indications there were more Democratic registrations in 2004), independent votes (larger in 2000), within-precinct demographic shifts and possible changes in precinct geography (Ohio had a redistricting in 2002), could have easily affected the change in Bush's share from 2000 to 2004 by more than 0.8% in any given precinct.[64]
- So counting precincts where his share was larger or smaller from 2004 to 2000 is virtually meaningless. There are not enough controls for the numerous factors that could affect his 2004 share compared to his 2000 share to make the ordinal (larger or smaller without taking magnitude into account) relationship with the 2000 precinct shares a meaningful measure.

c) Even if one posits (without any empirical justification per point b) that comparing 2004 to 2000 precinct-level vote shares might be meaningful, the *Bush exit poll "underestimation" has a strong correlation with the precincts that gave Bush his largest margin over Kerry.*

- More precisely, if all the points in the bottom half of Figure 3 were arrayed along a horizontal line at the zero Y axis value, and these were the only precincts in the exit poll, Bush's vote share in 2004 would equal his 2000 share of 49.97%.

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[62] See http://uselectionatlas.org/USPRESIDENT/index.html.
[63] Note that though the 49 exit polled precincts in 2004 are supposed to be representative of the 2004 Ohio electorate, these same precincts in 2000 are probably not representative of the 2000 Ohio electorate.
[64] See press reports in Crispin Miller, op. cit.

- Given that most of these points are well below the horizontal axis at zero, they (by themselves) would predict a Bush 2004 vote below 49.97% - of lets say 49.57%. This would give Bush a margin of about 0.9% over Kerry in 2004.
- But Bush won by 2.1% in 2004. This implies that the points above the horizontal axis at zero represent a margin over Kerry of 1.2% - i.e. most of Bush's victory margin.
- But as there are more than double the number of precincts in the upper left compared to the upper right - this 1.2% (the largest part) of the Bush margin is correlated Bush exit poll "under-statements".
- This is not conclusive proof that these precincts gave Bush his victory but it shows that they may have given him most of his victory.

Appendix E: Derivation of the Exit Poll Discrepancy (WPD) Function

Variables:

WPD within precinct discrepancy is defined as Exit Poll Margin - Official Vote Margin

k proportion of Kerry votes in the precinct grouping

b proportion of Bush votes in the precinct grouping

s_b precinct vote miscount share for votes shifting to Bush from Kerry

s_k precinct vote miscount share for votes shifting to Kerry from Bush

K proportion of Kerry voters in the sample who complete exit polls (Kerry voter response rate)

B proportion of Bush voters in the sample who complete exit polls (Bush voter response rate)

α is defined as K/B and referred to as "response bias" ratio

e_s random sampling error in exit polling

Example: We have a polled precinct with the following values:

200 voters cast votes, 108 of them for Kerry; 92 of them for Bush
Thus, $k = .54$ and $b = .46$

100 voters are asked to be polled so. Ignoring random sampling error for now we can assume that 54 of the sample are Kerry voters and 46 of the sample are Bush voters.

55 of the 100 voters asked agree to be polled
31 (31/54=57.4%) of Kerry voters complete exit polls
24 (24/46=52.17%) of Bush voters complete exit polls

So, in this example K=29/54=0.537, B=21/46=0.4565, k=0.54, and b=0.46. These values can be substituted into the equation derived below to calculate within precinct discrepancy. This will result in a WPD of -8% due to the disparity in exit poll completion rates between Kerry and Bush voters. WPD due to exit poll response bias is always greatest in precincts in which vote counts are closest to 50/50.

WPD = Official Vote Margin - Exit Poll Margin

WPD =

$$\frac{KerryOfficialVote - BushOfficialVote}{KerryOfficialVote + BushOfficialVote} - \frac{KerryExitPollShare - BushExitPollShare + e_s}{KerryExitPollShare + BushExitPollShare}$$

$$WPD = \frac{[k - s_b k + s_k b - (b + s_b k - s_k b)]}{[k - s_b k + s_k b + (b + s_b k - s_k b)]} - \frac{(kK - bB + e_s)}{(kK + bB)}$$

Vote miscounts affect only the official vote count margin and do not affect the exit poll margin. This formulation for vote miscounts is consistent with most, but not all possible

patterns of vote miscounts. Vote miscounts that benefit one candidate can be taken from the opposing candidate. In some cases, this may mean that a proportion of votes of one type are taken from one candidate and given to another. In other cases, because vote counts are added together before publicly reporting them[65], votes can be padded for one candidate in one ballot type, and subtracted for another candidate in another ballot type so that a proportion of one candidate's votes overall are taken and added to the other. The assumption, that the total votes cast equals the total votes counted, causes absolute value of WPD due to vote miscounts benefiting one candidate to increase as vote share for the benefiting candidate decreases - giving a distinctive pattern when WPD is plotted by exit poll share. If votes are subtracted from one candidate, but not added to the other candidate's total or added to one candidate's total without being subtracted from the other's, the above WPD equation can be simply modified to handle that situation. The resulting formula for WPD is still proportional to candidate's actual vote share.

Exit poll completion rate differences of voters for candidates would modify the exit poll margin only and not the official vote count margin.

Simplifying, we get

$$WPD = \frac{[k - b - 2s_b k + 2s_k b]}{k + b} - \frac{(kK - bB + e_s)}{kK + bB}$$ Using $k + b = 1$ and simplifying, we get

$$WPD = \frac{2k - 1 - 2s_b k + 2s_k(1 - k)}{1} - \frac{kK - B + Bk + e_s}{kK + B - Bk}$$

Gives us Equation 1: $$WPD = 2k - 1 - 2s_b k + 2s_k(1 - k) - \frac{kK - B + Bk + e_s}{kK + B - Bk}$$

Equation 1 gives us a function for WPD that is produced by vote miscounts, differing partisan exit poll response rates and random sampling error. The random sampling error portion must be simulated, using a randomization function, the sample size, and the value of k, due to its randomness. We use the Normal distribution to simulate random sampling error.

Setting vote miscounts and sampling error equal to zero gives us WPD caused by exit poll response bias gives: $WPD = 2k - 1 - \frac{kK - B + Bk}{kK + B - Bk}$, with no random sampling error or vote miscounts.

[65] Unfortunately, it is common practice to add together before publicly reporting election results, the vote counts of absentee, overseas, military, Election Day, Election Day - provisional, early, and early-provisional voting in all counties in America as of the date of this paper. This unfortunate practice hides the evidence of vote padding in one vote type for one candidate while simultaneously subtracting votes for another candidate in another vote type. Under every state's open records laws, we have the right to obtain the detailed counts and U S Count Votes has plans to obtain and analyze this data once it obtains the funding to build a public national election data archive.

Since α =K/B this can also be written as: $WPD = 2k - 1 - \frac{k(\alpha+1)-1}{k(\alpha-1)+1}$ or:

$WPD = \frac{2k(k(\alpha-1)-(\alpha-1))}{k\alpha - k + 1}$, which, after substituting in $b = 1 - k$ becomes:

(1) $$WPD = \frac{2kb(1-\alpha)}{k\alpha + b}$$

This formula is used on page 23 above.

WPD patterns produced by vote miscounts, random sampling error, and partisan exit poll response rate differences are described in NEDA's paper, "*Vote Miscount or Exit Poll Error? New Mathematical Function for Analyzing Exit Poll Discrepancy"*, which is publicly available at http://electionarchive.org/ucvAnalysis/US/Exit-Poll-Analysis.pdf