The United States of Ukraine?: Exit Polls Leave Little Doubt that in a Free and Fair Election John Kerry Would Have Won both the Electoral College and the Popular Vote
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Introduction

Much ink has been spilled over the exit poll/actual result mismatch in the 2004 U.S. Presidential election. The most important statistical studies have been those of Freeman (2004) and CalTech/MIT (2004). Another, less academic, study has been done by Simon (2004).[1]

Whereas Simon and Freeman are based on relatively unadjusted late evening exit poll numbers, as reported and collected by Simon, CalTech/MIT and journalistic reports such as Corn (2004) and Levin (2004) compare with final "exit poll" numbers.[2]

The final "official" exit poll numbers, however, cannot be seen as independent predictors as they have been adjusted to match the actual reported outcome. The "final" numbers are not meant to be independent predictors of the outcome but rather a data source on who voted and why.

Though the late evening "pure" exit poll data reported by Simon are drawn from screen print outs of exit polls reported on CNN's web site from about 7:30PM to 12:30 AM. CNN was a member of the National Election Pool (NEP) that contracted with the Mitofsky/Edison polling firm to conduct the exit polls. These were therefore, early unadjusted (but not too early), exit poll results that were released by the polling firm.[3] Aside from some possible minor errors in calculating overall candidate vote shares from the male and female vote shares shown on the screen, these can be regarded as relatively unadjusted real exit poll data. These are the best exit sample data for the 2004 U.S. election currently available.

In contrast, the "final" exit poll data analyzed in the CalTech/MIT study, and discussed by Corn and Levin, are useless as an indicator of exit-poll/actual-vote divergence.[4] This

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[1] Freeman study is at: http://www.buzzflash.com/alerts/04/11/Expldiscrpv00oPt1.pdf, Cal-Tech/MIT study is at http://www.vote.caltech.edu/Reports/VotingMachines3.pdf, and Simon study is at: http://www.scoop.co.nz/mason/stories/HL0411/S00142.htm.
[2] Levin's article is at: http://www.slate.com/id/2109141/, David Corn's is at: http://www.thenation.com/doc.mhtml?i=20041129&s=corn
[3] Freeman, op. cite., Appendix B, lists earlier 4:00 PM exit polls that show Kerry winning all of the critical states.
[4] A latter addendum to the Cal-Tech/MIT study acknowledges that final exit poll data has been adjusted but continues to erroneously claim that "American exit polls showed less than a two percent discrepancy from the official national results."(p. 6). It also claims that there is no correlation between voting equipment and error margin and that immediate pre-election polls showed a Bush lead. It does not otherwise acknowledge, or address, the massive errors in exit sampling. See: http://www.vote.caltech.edu/Reports/Addendum_Voting_Machines_Bush_Vote.pdf .

confusion over the data (or lack of investigatory diligence as this point is spelled out in great detail in the widely publicized Freeman and Simon pieces) has however sufficed to convince the mainstream media that there was no unexplained exit poll discrepancy.[5]

Exit Sampling Error

Real, unadjusted, exit "polls" are scientific samples of the self reported votes of actual voters that cannot be ignored. In an exit poll voters are asked to respond in person as they leave polling precincts. The response rate for an exit poll is thus both much higher and more accurate than for a pre-election telephone poll. Exit polls are not subject to uncertainty with regard to who will actually vote, and do not depend on the willingness and ability to respond to a phone call from an anonymous pollster to a listed residential telephone number. Because they are samples and not polls in the usual sense, I will henceforth refer to "exit polls" as "exit samples".

Aside from gross accidents or malfeasance in taking and recording survey information, calculation error, etc., exit samples have three major possible sources of error.

The first source of possible exit sampling error is unavoidable random statistical error. This is an unavoidable consequence of using a smaller "sample" to predict an outcome for a larger "population. For example if you try to predict the proportion of heads in 1,000,000 coin tosses by tossing a coin 100 times, you will generally not get exactly 50%, even though in this case we know that the "true" proportion of heads in "population" of 1,000,000 unbiased or "free and fair" coin tosses will be 50% (there is only a 1/ 3,920,216,525 that this will not be the case). There is less than a 2.5% probability (a one in 40 chance) of 60 or more heads when a coin is freely and fairly flipped 100 times. In other words, there is only a one in 40 chance that a "sample" of 100 coin flips will "over predict" the "true" 50% proportion of heads in a population of 1,000,000 coin flips by 10% or more.

A second non-random statistical error may occur if the sample is not perfectly random like sample of free and fair coin tosses. As exit samples sample precincts rather than voters they are "cluster" samples. Because voters in the same precinct share demographic and voting characteristics these samples are not perfectly random. Studies of this "design effect" indicate that the standard error of exit samples will be about 30% higher than that of a pure random sample because of clustering. In most of our calculations below we will assume that exit samples are not perfectly random and raise their standard deviations by 30%.[6]

A third source of possible exit sampling error may occur because of "biased" sampling. Biased sample error will occur if a disproportionate share of the sample is taken at times or at precincts that favor one candidate over another, or if voters of one candidate respond

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[5] "Vote Fraud Theories, Spread by Blogs, Are Quickly Buried" Tom Zeller, NY Times (posted Nov 20,2004 original Nov 12, 2004).

[6] Information on the 1996 VNS exit sampling procedure is from "A Review of the 1996 Voter News Service Exit Polls from a Total Survey Error Perspective," Daniel Merkle and Murray Edelman, in *Election Polls, the News Media, and Democracy*, Lavrakas and Traugott, Eds. (NY: Chatham House Publishers, 2000).

more often or more accurately than voters for another candidate. This source of possible error can occur because of coverage error, non- response error, and measurement error.

Coverage error may occur because of early and absentee voting. There is some indication that these voters may have significantly different voting patterns than on-site voters depending on party mobilization and the absentee vote share in a given state. However, the NEP conducted early telephone samples of absentee ballots in Arizona, California, Colorado, Florida, Iowa, Michigan, Nevada, New Mexico, North Carolina, Oregon, Tennessee, Texas, and Washington, where absentee voters made up 13% of total voters and incorporated them into its exit sample.[7] These therefore cannot explain exit sample discrepancies from on-site voting. Another source of coverage error may occur if voting behavior changes over the course of the day and exit samples do not cover the entire day. In 1996 early voters were more Republican and late voters more Democratic and the exit sampling share for Clinton was off by at most 1% from 1:26PM to 2:40AM with at most a 2% swing from one time period to the next. In any case, this error should not have a large impact on exit sample results tabulated late in the day if pollsters sample throughout the day as NEP has been doing.[8]

Non-response error may occur if the voting of non-respondents differs significantly from that of respondents. Based on a comparison with population demographic characteristics from the Current Population Survey (CPS) collected by the government, this did not appear to be the case in 1996. Though exit sample responders had a higher share of "College Degrees", the CPS had a separate category for "Associate's Degree". Efforts to increase the exit sampling response rate in the New York City general elections of 1997 by offering free pens and colored pads to respondents actually increased the exit sampling error.

Finally, measurement error may occur because of differences in how questions are asked. This should not effect the simple binary Presidential voting question.

Exit Sampling Results

Simon's exit sample data predicted that Kerry would win 52.1% of the Ohio Presidential vote. The actual certified result shows Kerry winning 48.7% of the Ohio vote. The difference between the exit sample projection of Kerry's share of the vote and the certified actual Kerry share of the Presidential vote is 3.4%. Exit sample data for other states, and especially other critical states, also predicted a Kerry victory. These results indicate that either the exit sampling was flawed or the election was not honest.

If the exit sample data are in error, the error in different states should either be: a) unrelated if errors were state specific, b) similar in all the states if there was a systemic flaw in the Edison/Mitofsky exit sample sampling methodology, or c) similar in groups of states if there was a systemic polling flaw related to a shared demographic characteristic.

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[7] See FAQ – Exit Poll Information – 2004 US General Election Edison/Mitofsky at http://exit-poll.net/faq.html.
[8] Op. cite.

But a review of Simon's data for all 45 states and the District of Columbia for which data is available indicates the following: [9]

a) State Specific Error

If errors were state specific, assuming a perfectly random exit sample and an honest vote count, there is a probability of roughly one in a thousand (0.0012) that the certified election outcome in Ohio would occur. This implies that there is a 999/1000 chance that the Ohio exit sample result is either not random or that the election itself was not honest. However, as has been noted above exit samples may not be perfectly random as they sample precincts rather than voters. If we conservatively assume that the sample error could be off by the full 30%, there is a probability of one in one hundred (0.010) that the certified Ohio election result could occur in a free and fair election.[10]

Again, assuming state specific error and performing a similar calculations for the other most critical of the critical states: Florida and Pennsylvania, the probability that that perfectly random exit samples would be off by as much as they were in the three critical states of Ohio, Florida, and Pennsylvania is less than one to 152 million (1/152,209,887). The probability that non-random exit samples would be simultaneously in error in all three states at once is about one to 468 thousand (1/467,907), or in lay terms: impossible.

A "state specific" error hypothesis is also inconsistent with the pervasive pro-Bush bias of the election outcomes relative to the exit samples. Ten out of 11 critical states, and 27 out of 34 non-critical states, also have pro-Bush errors.

b) Systemic Error

It is it hard to imagine that a professional exit sampling firm with a decades old reputation could make a systemic error of this magnitude. Indeed the National Election Pool and Edison/Mitofsky state that:

"The mistakes made during the 2000 elections were unusual. During the 10 years before that VNS and the poll before it made only one mistake from 1990 to 1998. Before that when the broadcast networks made their own projections there were similarly very few mistakes during the 1970s and 1980s. There were no mistakes during the limited coverage in 2002. There were no mistakes made during the 2004 Democratic primaries. Many lessons were learned from the 2000 experience and changes were made to see that mistakes like the ones in 2000 would be very unlikely to occur again."[11]

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[9] I did not use the Alaska data as it was downloaded at 1:00 AM and like the New Jersey, New York, North Carolina, and Virginia data could therefore have been corrupted by actual reported election data (see Simon article op. cite).
[10] My numbers differ slightly from those calculated by Freeman (op. cite) as he used the uncertified Ohio result.
[11] See http://www.exit-poll.net/faq.html

Freeman also provides examples of student exit pollsters in Utah who have been accurately predicting elections since 1982, and of very accurate exit samples in Europe over many years.

Hypothesis b) is also inconsistent with the fact that the exit sample for California had no (random sample) error within a tenth of a percent, and 14 other critical and non-critical states have exit samples with random sample errors of less than one standard deviation in either direction. This includes about 68% of the probable random outcome putting the error for these states well within the standard 95% confidence interval for a random and a, more divergent, non-random sample.

c) Group Error

Again, it is hard to imagine how a professional exit polling firm could make an error related to a demographic characteristic shared by a number of states of this magnitude. This error would have to apply to a number of states and be larger than the 30% increase in standard error that we have added for possible non-random sampling of precincts without any corrective demographic weighting.

In any case if one assumes that these exit sample data needed to be "adjusted" so they reproduce the actual election outcomes on average, I found that the "adjustment" necessary for the critical states of: Colorado, Florida, Iowa, Michigan, Minnesota, Nevada, New Hampshire, New Mexico, Ohio, Pennsylvania, and Wisconsin, was roughly three times (2.82) less likely than the exit sample "adjustment" necessary for the 35 remaining "non-critical" states for which data were available (assuming non-random sampling).

The largest outcome errors, of over 2.8 standard deviations, all in Bush's favor, occurred in: Ohio, Pennsylvania, Florida, Hew Hampshire, and South Carolina. These result in an average exit sample error for Ohio, Pennsylvania and Florida that is about 12.7 times less likely than the average exit sample error for the non-critical states (again assuming non-random sampling).

Moreover, hypothesis c) is not consistent with the fact that the only obvious characteristic shared by Ohio, Florida, Pennsylvania, New Hampshire, and South Carolina is political. They are (except for South Carolina) all critical states, and three of these are the most critical of the critical states.

Finally, if we use a more liberal standard test of statistical significance we get the same pattern. Exit samples are in error (for non-random samples) in 5 out of the 11 of the critical states (Ohio, Florida, Pennsylvania, New Hampshire, and Minnesota). In all of these states the error lies outside of the standard 95% confidence interval. These means that there is less than a 5% (or 1/20) chance of each one of these errors occurring, and a less than a 0.000031% (or 1/3,200,000) chance of these five "errors" occurring simultaneously - all with outcomes that favor Bush. But this is true for only 4 out of the 35 non-critical states (Nebraska, South Carolina, Delaware, and Vermont) and again all

of these "errors" favor Bush. No states have exit sample versus outcome errors of this magnitude that favor Kerry. Statistically this is as close to impossible as one can get.

The National Exit Sample

In addition to state specific exit sampling, Edison/Mitofsky and the National Election Pool also provided exit sample results for a large national sample of 13,047 voters that was downloaded by Jonathan Simon at 12:33 AM on November 3, 2004. This national exit sample was most likely compiled from a random sub-sample of the 1,480 state exit sampling sites used to collect state samples (See Freeman paper, p. 11 and Appendix A). Because the large size of this sample should have allowed for a better national voter characteristic match, and because in this multi-state sample state specific polling errors would be more likely to offset each other, this sample should have provided a more accurate prediction of national popular vote than the state vote predictions of any of the state exit samples.

This national exit sample sample, gives the following results: for male voters (46%): Kerry 47% and Bush 52%, for female voters (54%): Kerry 54% and Bush 45%. Thus the national exit sample predicted that Kerry would win the national popular vote by 50.8% to Bush's 48.2%, a popular vote win of 2.6%. This in contrast to the Bush win of the popular vote by an even larger 51.2% to 48.4%, or 2.8% (Nader got 0.3%). This is more than a 100% swing in the other direction of the exit sample margin. This represents a pro-Bush national exit sampling overestimate of Kerry's vote by 2.4% (50.8% minus 48.4%).

This national exit sample has a very small variance because of its large size. Assuming a random sample the 2.4% pro-Bush error has a standard error of over five standard deviations (5.37). There is less than a one in 25 million (1/25,507,308) chance of this occurring. Even if we conservatively assume a non-random precinct sample (as explained above) without demographic corrections, there is only a one in 55 thousand (1/55,499) chance that this magnitude of exit sample error could occur.

Indeed Edison/Mitofsky give only a 1% chance of error at the 95% level of confidence for this size sample for a "characteristic" shared by roughly 50% of the population.[12] The 2.4% pro-Bush error is thus more than twice the firm's own very liberal self declared margin of error. The odds of this occurring, based on the polling firm's own probability of error estimate, is less than one to 780,000 (1/783054). In short, assuming a free and fair election, this national exit sample error is, in lay terms, impossible.

This indicates either that the national popular vote count was not honest or that there was an impossible to conceive of error in the Edison/Mitofsky exit sample sampling methodology. As with state polling, it is it hard to imagine that this could occur in a professional exit sampling firm especially for a national sample of this size.

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[12] See "Methods Statement" at http://www.exit-poll-net.faq.html.

Conclusion

These unexplained statistical anomalies in the vote count in critical states, such as Ohio, Florida, and Pennsylvania, and in the national popular vote for the 2004 Presidential elections, indicate:

a) Implausibly erroneous exit sampling especially for the national sample and for the most critical states where one would have expected pollsters to be most careful, and/or

b) Election fraud and/or discriminatory voter suppression that resulted in a in an election result in Ohio, Florida, and other states, and in the national popular vote outcome, that is contrary to what would have occurred in a free and fair election.

I conclude that, based on the best exit sample data currently available, neither the national popular vote, or many of the certified state election results, are credible and should not be regarded as a true reflection of the intent of national electorate, or of many state voters, until a complete and thorough investigation of the possibilities a) and b) above is completed.

An election that is not "free" because of discriminatory suppression of the vote by not supplying an adequate number of voting machines, or by other means, could lead to an exit sampling discrepancy, as exit sampling is in part based on historic patterns of voter turnout. However the actual outcome in such an election would not be free or fair and would be less reflective of voter intent than exit sampling. Analysis of raw precinct level exit samples (which so far have not been released) should shed some light on where and when changes in the weights for raw precinct numbers, necessary to get state samples, were made.

This raises the more general question of what form of vote counting is more reliable. Vote counting that is overseen by a highly partisan Secretary of State with a clear vested interest in the outcome with election equipment that leaves no audible paper trail and/or central tabulating equipment that has been shown to easily hacked, or vote counting by exit sampling firms whose major vested interest is in getting the prediction right.[13] These "unfair" elections in the U.S. mirror the situation in the Ukraine where one party controlled the collection and tabulation of the vote. At a minimum one would have thought that the oldest democracy in the world would implement its elections with unbiased civil servants and a uniform code of regulations. "Neutral" election implementation was a key demand of the Ukrainian opposition.

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[13] See http://blackboxvoting.org/

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Appendix

State Exit Poll Analysis

Critical States

	Actuals		Exit Polls				Add 30% to Standard Deviation to Account for Possible Non-Random Sample	Exit Poll Overestimate of Kerry Vote	Prediction Error Z-Score	Z-Score Probability of Random Occurance	Z-Score Probability of Non-Random Occurance	Adjusted Z-Scores	Adjusted Exit Poll Overestimate of Kerry Vote	Adjusted Exit Poll Result for Kerry	Adjusted Z-Score Probability of Random Occurance
	Bush	Kerry	Bush	Kerry	Sample Size	Standard Deviation									
COLORADO	52.00%	46.80%	49.90%	48.10%	2515	0.00995	0.012934603	1.30%	1.306572774	0.0956789886	0.1574349553	1.31	-0.0011	46.69%	54.21%
FLORIDA	52.10%	47.10%	49.80%	49.70%	2846	0.009357	0.012163658	2.60%	2.77876939	0.0027283207	0.0162780085	2.78	-1.0393	48.29%	10.08%
MICHIGAN	47.80%	51.20%	46.50%	51.50%	2452	0.010094	0.013122845	0.30%	0.297191645	0.3831601645	0.4095864719	0.30	-1.0623	50.09%	86.32%
MINNESOTA	47.60%	51.10%	44.50%	53.50%	2178	0.010711	0.01392449	2.40%	2.240656587	0.0125241230	0.0423916290	2.24	-1.0413	52.09%	17.65%
NEVADA	50.50%	47.90%	47.90%	49.20%	2116	0.01086	0.014117966	1.30%	1.19705627	0.1156423727	0.1785741343	1.20	-1.0523	47.79%	53.86%
NEW HAMPSHIRE	49.00%	50.30%	44.10%	54.90%	1849	0.011628	0.015116007	4.60%	3.95607121	0.0000381128	0.0011707183	3.96	-1.0193	53.49%	0.30%
NEW MEXICO	50.00%	48.90%	47.50%	50.10%	1951	0.011317	0.014712267	1.20%	1.060339649	0.1444950818	0.2073512884	1.06	-1.0533	48.69%	57.19%
OHIO	50.82%	48.70%	47.90%	52.10%	1963	0.011281	0.014665821	3.40%	3.013810237	0.0012900148	0.0102160635	3.01	-1.0313	50.69%	3.85%
PENNSYLVANIA	48.60%	50.80%	45.40%	54.10%	1930	0.01138	0.014793778	3.30%	2.899867715	0.0018666677	0.0128515389	2.90	-1.0323	52.69%	4.79%
WISCONSIN	49.40%	49.80%	48.80%	49.20%	2223	0.010605	0.01378606	-0.60%	-0.565788938	0.7142314053	0.6682994180	-0.57	-1.0713	47.79%	97.07%
IOWA	50.10%	49.20%	48.40%	49.70%	2202	0.010653	0.013849035	0.50%	0.469346773	0.3194109044	0.3590363340	0.47	-1.0603	48.29%	80.22%
Average	49.81%	49.25%	47.34%	51.10%	2202	0.010653	0.013849269	1.85%	1.732287058	0.0416111934	0.0913433526	1.73	-1.0469	49.69%	33.97%
Average Error Z-Score for OH,PA,and FL	50.51%	48.87%	47.70%	51.97%	2246	0.010547	0.013710859	3.10%	2.939276108	0.0016449675	0.0118801605				
Probability of Exit poll Error in OH, PA, and FL										0.0000000066	0.0000021372	152209886.99	467907.51		

Non-Critical States

	Bush	Kerry	Bush	Kerry	Sample Size	Standard Deviation									
ALABAMA	62.50%	36.80%	58.10%	40.50%	730	0.017849	0.023204081	3.70%	2.072911236	0.0190902047	0.0554067740	2.07	-1.0283	39.09%	9.93%
ARIZONA	54.90%	44.50%	52.80%	46.70%	1859	0.011526	0.014984082	2.20%	1.908692112	0.0281508431	0.0710216345	1.91	-1.0433	45.29%	24.52%
ARKANSAS	54.30%	44.50%	52.90%	46.10%	1402	0.013272	0.01725424	1.60%	1.205500771	0.1140050825	0.1768832238	1.21	-1.0493	44.69%	44.16%
GEORGIA	58.10%	41.40%	56.60%	42.90%	1536	0.012568	0.016337918	1.50%	1.193542501	0.1163285495	0.1792807139	1.19	-1.0503	41.49%	46.99%
IDAHO	68.50%	30.40%	65.70%	32.90%	559	0.019455	0.025291749	2.50%	1.285004063	0.0993954975	0.1614625672	1.29	-1.0403	31.49%	28.68%
INDIANA	60.10%	39.20%	58.40%	40.60%	926	0.016043	0.02085608	1.40%	0.872647213	0.1914276556	0.2510251281	0.87	-1.0513	39.19%	50.13%
KANSAS	62.20%	36.50%	64.50%	34.10%	654	0.018825	0.024473032	-2.40%	-1.274822699	0.8988227825	0.8366225729	-1.27	-1.0893	32.69%	97.84%
KENTUCKY	59.50%	39.70%	58.40%	40.20%	1034	0.015216	0.019780488	0.50%	0.328606662	0.3712265704	0.4002213458	0.33	-1.0603	38.79%	72.40%
LOUISIANA	56.80%	42.20%	54.70%	43.90%	1669	0.012089	0.015715758	1.70%	1.406231898	0.0798276883	0.1396892180	1.41	-1.0483	42.49%	40.36%
MISSISSIPPI	59.60%	39.60%	56.50%	43.00%	798	0.017313	0.0225065	3.40%	1.963877075	0.0247721045	0.0654357036	1.96	-1.0313	41.59%	12.46%
MISSOURI	53.40%	46.10%	52.00%	47.00%	2158	0.01073	0.013949623	0.90%	0.838732331	0.2008097110	0.2594056225	0.84	-1.0563	45.59%	68.11%
MONTANA	59.10%	38.60%	58.00%	37.50%	640	0.019244	0.025016768	-1.10%	-0.571616602	0.7162091690	0.6699246119	-0.57	-1.0763	36.09%	90.35%
NEBRASKA	66.60%	32.10%	62.50%	36.00%	785	0.016663	0.021661869	3.90%	2.340518251	0.0096284784	0.0359988029	2.34	-1.0263	34.59%	6.72%
NORTH DAKOTA	62.90%	35.50%	64.40%	32.60%	649	0.018783	0.024418278	-2.90%	-1.543925401	0.9386967825	0.8825113040	-1.54	-1.0943	31.19%	98.90%
OKLAHOMA	65.60%	34.40%	65.00%	34.60%	1539	0.012109	0.015741829	0.20%	0.165165054	0.4344070291	0.4494503572	0.17	-1.0633	33.19%	84.02%
SOUTH CAROLINA	58.00%	40.80%	53.40%	45.10%	1735	0.011799	0.015338559	4.30%	3.644401027	0.0001340369	0.0025284649	3.64	-1.0223	43.69%	0.71%
SOUTH DAKOTA	59.90%	38.40%	61.00%	36.50%	1495	0.012579	0.016352295	-1.90%	-1.510491303	0.9345409220	0.8773652294	-1.51	-1.0843	35.09%	99.57%
TENNESSEE	56.80%	42.50%	58.00%	40.60%	1774	0.011737	0.015257906	-1.90%	-1.618832897	0.9472583970	0.8934811166	-1.62	-1.0843	39.19%	99.76%
TEXAS	61.20%	38.30%	62.20%	36.30%	1671	0.011892	0.015459559	-2.00%	-1.681807371	0.9536969266	0.9021150527	-1.68	-1.0853	34.89%	99.79%
UTAH	71.10%	26.40%	68.10%	29.10%	798	0.015604	0.020285363	2.70%	1.730311679	0.0417872633	0.0915930899	1.73	-1.0383	27.69%	20.33%
WEST VIRGINIA	56.10%	43.20%	54.00%	44.50%	1722	0.011937	0.015518253	1.30%	1.089040133	0.1380681314	0.2010930412	1.09	-1.0523	43.09%	53.51%
WYOMING	69.00%	29.10%	65.50%	30.90%	684	0.017368	0.022577971	1.80%	1.036408447	0.1500058353	0.2126565579	1.04	-1.0473	29.49%	41.01%
CALIFORNIA	44.30%	54.60%	46.60%	54.60%	1919	0.011365	0.014775089	0.00%	0	0.5000000002	0.5000000002	0.00	-1.0653	53.19%	89.18%
CONNECTICUT	44.00%	54.30%	40.90%	57.70%	872	0.016869	0.021930227	3.40%	2.015483025	0.0219269620	0.0605261934	2.02	-1.0313	56.29%	11.85%
DELAWARE	45.80%	53.30%	40.70%	57.30%	770	0.017979	0.0233733	4.00%	2.224760725	0.0130486085	0.0435078205	2.22	-1.0253	55.89%	7.45%
DISTRICT OF COLUMBIA	9.30%	89.50%	8.20%	89.80%	795	0.010872	0.014134028	0.30%	0.275929829	0.3913010421	0.4159545825	0.28	-1.0623	88.39%	84.53%
HAWAII	45.30%	54.00%	46.70%	53.30%	499	0.022311	0.029004733	-0.70%	-0.313741896	0.6231413959	0.5953541154	-0.31	-1.0723	51.89%	82.73%
ILLINOIS	44.80%	54.60%	42.40%	56.60%	1392	0.013345	0.017347943	2.00%	1.498736781	0.0669709933	0.1244810146	1.50	-1.0453	55.19%	32.79%
MAINE	44.60%	53.40%	44.30%	53.80%	1968	0.011245	0.014618217	0.40%	0.355720547	0.3610249879	0.3921840913	0.36	-1.0613	52.39%	81.43%
MARYLAND	43.30%	55.70%	42.30%	56.20%	1000	0.015708	0.020420803	0.50%	0.318302862	0.3751276720	0.4032869751	0.32	-1.0603	54.79%	71.78%
MASSACHUSETTS	37.00%	62.10%	32.90%	65.20%	889	0.016271	0.021152314	3.10%	1.905228938	0.0283750917	0.0713840362	1.91	-1.0343	63.79%	14.88%
OREGON	47.60%	51.50%	47.90%	50.30%	1064	0.015322	0.019918059	-1.20%	-0.783208832	0.7832478234	0.7265688354	-0.78	-1.0773	48.89%	95.55%
RHODE ISLAND	38.90%	59.50%	34.90%	62.70%	809	0.017259	0.022436499	3.20%	1.854121734	0.0318608109	0.0768985048	1.85	-1.0333	61.29%	14.92%
VERMONT	38.90%	59.10%	33.30%	63.70%	685	0.018785	0.024420439	4.60%	2.44876846	0.0071672818	0.0298048801	2.45	-1.0193	62.29%	4.45%
WASHINGTON	45.60%	52.90%	44.00%	54.10%	2123	0.010833	0.014083372	1.20%	1.107689282	0.1339980576	0.1970879370	1.11	-1.0533	52.69%	57.51%
Overall Average	52.37%	46.55%	50.49%	47.96%	1464	0.012905	0.016776061	1.41%	1.088841871	0.1381118492	0.2011358808	0.79			
Overall Average of Z scores									1.065349862						
Average Non-Critical States	53.30%	45.56%	51.65%	46.77%	1189	0.014294	0.018582365	1.21%	0.843503269	0.1994734661	0.2582180313				
						I15-i57=		0.89	j57/j15 and L57/I15	4.7937453827	2.8268946121				
									J57/j16 and L57/L16	121.2628592236	21.7352308118				

National Exit Poll Analysis

Exit Poll Results

	Kerry	Bush	Total
Male	0.47	0.52	46.00
Female	0.54	0.45	54.00
Total	50.78	48.22	

National Election Results

		118304480.00
Bush	60,608,582	0.5123
Kerry	57,288,974	0.4843
Nader	406,924	0.0034

National Exit Poll Results

	Actuals		Exit Polls		1% Error	2.4% Error	Sample Size	Standard Deviation	Add 30% to Standard Deviation to Account	Mitofsky Standard Deviation	Exit Poll Overestimate of Kerry Vote		Prediction Error Z-Score	Mitofsky Error Z-Score	Mitosfsky 5% Confidence Interval Z-Score Prob of Random Occurance	Z-Score Probability of Random Occurance	Z-Score Probability of Non-Random Occurance
	Bush	Kerry	Bush	Kerry													
United States	51.23%	48.43%	48.22%	50.78%	49.43%		13047	0.004375226	0.005688	0.005102	2.35%	1.00%	5.371151	1.96	0.024998	0.0000000392	0.0000180183
													Odds:			25507308.18	55499.2195
United States	51.23%	48.43%	48.22%	50.78%		50.83%	13047			0.005102	2.35%	2.40%		4.704	0.000001		
	Heads	Tails															
	0.5	0.5	0.60	0.4			100	0.05	0.065		-10.00%			Odds:	783053.661362	0.9772499380	0.9380320808
			60.00	40												0.9544998759	