

Gunfight At The Cleveland Mayoral Primary Corral¹

RBS vs RDD in a Head-to-Head Test

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Abstract

Prior to the October 2005 Cleveland Mayoral Primary, SurveyUSA conducted two separate but parallel pre-election polls, identical in every respect except that the sample for one was Random Digit Dial (RDD, provided by Survey Sampling) and the sample for the other was Registration Based Voter Lists (RBS, provided by Aristotle International). The two identical surveys produced opposite results. One version of the poll said a white woman would win by 5 points. The other version said a black man would win by 9 points. No amount of weighting could reconcile the two disparate results. SurveyUSA reported that the black man would win by 9. A competing poll had been published which said the white woman would win by 6. The stage was set. Which sampling method produced the better outcome in this contest? What learning can we take away from this geography? How much of the learning applies to other geographies? Theories that explain the discrepancy are advanced. Recommendations for future best practice are made.

Background

Eight candidates ran for Mayor of Cleveland, Ohio, in 2005. Jane Campbell, the **White Female Incumbent** (hereafter: WFI Campbell), was opposed by Frank Jackson, a **Black Male Challenger** (hereafter: BMC Jackson), and 6 others. The top two finishers in a 10/04/05 Primary would advance to the General Election on 11/08/05.

Two opinion pollsters worked the race.

- Mason-Dixon Polling & Research Inc., of Washington, DC, for the Cleveland Plain Dealer.
- SurveyUSA, of Verona NJ, for WKYC-TV, the NBC affiliate in Cleveland.

Two weeks before the primary², both pollsters released data:

- SurveyUSA found BMC Jackson ahead by 7 points.³
- Mason Dixon found WFI Campbell ahead by 6 points.⁴
- A 13-point difference.

¹ Richard Morin's 2003 article, *Smackdown in Maryland*, (Public Perspective, Issue 14), inspired the title for this paper.

² SurveyUSA field period: 9/19/05 through 9/21/05. Mason-Dixon field period: 9/20/05 through 9/22/05.

³ SurveyUSA published data: BMC Jackson 30%, WFI Campbell 23%.

⁴ Mason-Dixon published data: WFI Campbell 32%. BMC Jackson 26%.

Both polls could not be right.

What To Do?

SurveyUSA has conducted pre-election polling in 640 discrete election contests. In most of the 640, SurveyUSA worked from “**R**andom-**D**igit-**D**ial” sample (hereafter: RDD). An alternative to RDD is “**R**egistration **B**ased **S**ampling” (hereafter: RBS).

In 2002, Yale University organized a test of RDD versus RBS polling in four states. Fieldwork was done by three polling organizations:

- Quinnipiac University Polling Institute (in New York state and Pennsylvania)
- The Washington Post (in Maryland)
- CBS News (in South Dakota).

Yale Researchers Green, Gerber and Mann found:

1. Urban areas were under-represented in New York and Pennsylvania.
2. African Americans were under represented in Maryland.
3. RBS polls were more accurate in 6 of 8 cases.

In 2004, Mitofsky International and the University of Oregon conducted another RDD versus RBS study. This study supplemented RBS sample with RDD in two contests. No significant differences in vote predictions were found. The RBS sample slightly over-represented men and respondents age 65+.

No published RDD versus RBS testing has been done ...

- Of a city geography.
- In a primary.

While SurveyUSA could not, two weeks prior to the Cleveland Primary, know if the differences between SurveyUSA’s results and Mason-Dixon’s results were because of sample source,⁵ SurveyUSA felt there was an exquisite opportunity for learning, given that the Cleveland Primary was ...

- a. Of a city geography
- b. In an urban area
- c. With a significant African American population, featuring
- d. A black candidate

⁵ Mason-Dixon does not disclose whether it uses RDD or RBS sample for its polls. Subsequent to the Primary, and as part of the preparation for this document, SurveyUSA twice in writing asked Mason-Dixon whether it had used RBS or RDD sample for its work in Cleveland. Neither request was acknowledged. SurveyUSA received no reply.

- e. A white candidate
- f. A male candidate, and
- g. A female candidate

SurveyUSA decided to make its final pre-election poll in the Cleveland Mayoral Primary, conducted the weekend before the Primary, a parallel test between RBS sample and RDD sample.

SurveyUSA obtained RBS sample from Aristotle International, Inc., of Washington, DC. SurveyUSA obtained RDD sample from Survey Sampling International (SSI), of Fairfield CT.

RDD and RBS have complementary advantages:

Advantages of RDD:

This method aims to give every possible residential phone number an equal chance of being called. Known business, non-residential, and cell phone numbers are excluded from RDD samples.

1. All residential phone numbers have the potential to be covered by RDD sample.
2. RDD sample is less expensive per phone number purchased.

Advantages of RBS:

RBS relies on the fact that cities, counties, and states maintain Voter Registration information which is available to the public. RBS sample includes the name and address for all voters, but the phone number for only *some* voters.⁶

1. RBS phone numbers are more likely to be working residential numbers, so fewer calls need to be made.
2. RBS sample has greater geographic precision since addresses are available.
3. Information on voting history is available which can be used to identify Likely Voters.

Methodology of SurveyUSA Parallel Test

SurveyUSA conducted two parallel polls. The only difference was the source of phone numbers.

Both polls were conducted as follows:

1. Data was collected Friday 9/30/05 through Sunday 10/2/05
2. The total field period was 20 hours

⁶ In Cleveland, 58% of the RBS sample was matched to a telephone number. By comparison, 61% of the RBS sample in the 2004 Mitofsky study was matched to a phone number. In the Yale study the proportion of the RBS sample that was matched to a phone number ranged from 65% to 70% in the 4 states that were polled.

3. Phone numbers were attempted a maximum of 5 times over 3 days
4. The poll introduction and questionnaire were voiced by Del Donahoo, a TV news reporter who has been “on the air” at WKYC-TV for 38 years.
5. Respondents were asked whether they lived within Cleveland City Limits. Those who said they did not were thanked and terminated.
6. The remaining respondents were asked whether they were registered to vote.
7. Registered voters were asked how likely they were to vote, on a four-point scale.⁷ Those respondents who said they “probably will vote” and those who said they are “absolutely certain to vote” were asked for whom they would vote.⁸
8. Two additional questions were used to help separate true Likely Voters from the *poseurs*.
 - a. Interest in Cleveland politics on 1 to 10 scale
 - b. Whether the respondent knew where to go to cast his/her vote.
9. Demographic questions on gender, age, and race were asked for weighting purposes
10. Several other questions were asked for reporting crosstabs or for possible use in adjusting weights

The polls were as parallel as they could be.⁹

Results of the two polls, UN-Weighted Data

In unweighted data:

- In the RBS poll, WFI Campbell led by 5 points.¹⁰

⁷ The exact question wording was: “Which of these 4 statements best describes you: One: I absolutely will not vote in the Primary. Two: I probably will not vote. Three: I probably will vote. Four: I am absolutely certain to vote in the Primary.”

⁸ The exact question wording was: “If the Primary for Mayor of Cleveland were today, and you were standing in the voting booth right now, who would you vote for? Jam Campbell? James Draper? Frank Jackson? David Lynch? Robert Triozzi? Or, some other candidate?”

⁹ Two issues make the polls less than perfectly “parallel.” *Issue #1: Demographic balancing.* In order to adjust for demographic imbalances in the sample, the RDD poll was weighted with data from the 2000 Census, using a 3-dimensional “cell” data structure with dimensions for Gender, Age, and Race. All adults were asked these demographic questions. The RBS poll involved a sample of Registered Voters, not adults. Instead of Census data, SurveyUSA used Gender and Age data from the Cleveland Voter list provided by Aristotle International to weight the respondents with a 2-dimensional cell structure. Race data is not available for Registered Voters in Cleveland, because Ohio is not a state federally mandated to track voter race data. SurveyUSA examines here the demographic differences between the samples and the effect of weighting. *Issue #2: Geographic precision.* SurveyUSA’s RDD does not come with addresses. When polling a city geography, SSI shows the researcher all of the area codes and exchanges that are wholly within the city limits, those exchanges that are primarily within the city limits, and those exchanges that are partially within the city limits but primarily outside. There is a tradeoff of coverage and cost. Once you begin dialing exchanges which are primarily outside of the city limits, your yield drops. The alternative – to not dial at all into exchanges that “straddle” the city limits – is not inherently better, just more efficient. SurveyUSA chose to error on the side of inclusiveness. All exchanges where even a minority of phone numbers were within the city limits were attempted. As a result, 62% of the individuals reached using RDD said they lived outside the city limits. Those respondents were thanked and terminated. In the RBS version of the poll, SurveyUSA did have addresses to identify Cleveland residents. However, 8% of respondents whose phone numbers came with a city of Cleveland address said they did not live in the city.

¹⁰ RDD: 2,404 city of Cleveland adults were interviewed, of whom 2,092 identified themselves as Registered Voters. 670 were determined to be “Likely Voters.”

- In the RDD poll, BMC Jackson led by 9 points.¹¹

RDD	UN-Weighted	RBS	UN-Weighted
BMC Jackson	36%	WFI Campbell	34%
WFI Campbell	27%	BMC Jackson	29%
BMC Wins By	9 points	WFI Wins By	5 points

Let's examine the subpopulations that make up these Likely Voters:

Here are the demographic profiles for the two populations of "Likely Voters":

UN-Weighted	RDD	RBS	Difference
Male	37%	36%	1 point
Female	63%	64%	- 1 point
Total	100%	100%	

UN-Weighted	RDD	RBS	Difference
Age 18 to 34	15%	11%	4 points
Age 35 to 49	35%	33%	2 points
Age 50 to 64	33%	29%	4 points
Age 65 +	17%	27%	- 10 points
Total	100%	100%	

UN-Weighted	RDD	RBS	Difference
White	41%	45%	- 4 points
Black	54%	50%	4 points
Total	95%	95%	

¹¹ RBS: 1,078 city of Cleveland adults were interviewed, of whom 1,032 were registered. 418 were determined to be "Likely Voters".

UN-Weighted	RDD	RBS	Difference
No H.S. Degree	8%	7%	1 point
High School Grad	31%	31%	0
Some College	30%	32%	- 2 points
4-year College	16%	16%	0
Grad School	14%	15%	- 1 point
Total	100%	100%	

UN-Weighted	RDD	RBS	Difference
East Side	65%	58%	7 points
West Side	35%	42%	- 7 points
Total	100%	100%	

RBS voters are older, whiter and more likely to live West of the Cuyahoga River. Gender and Education show no significant differences.

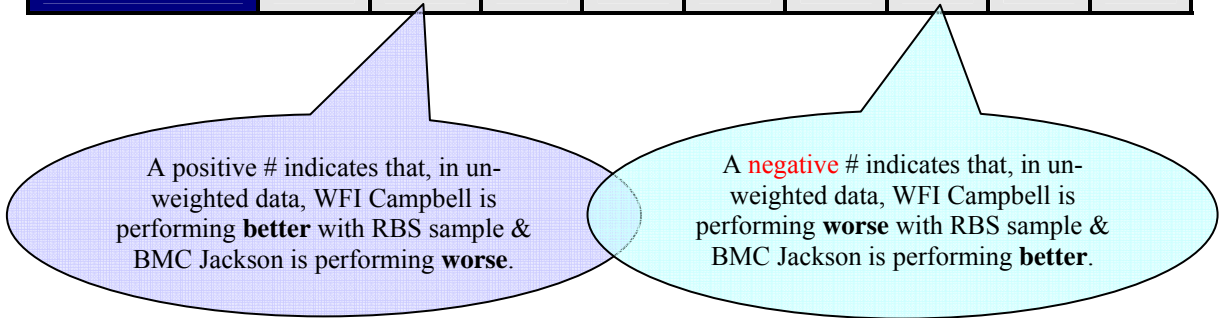


How did each demographic group vote (un-weighted data)?

RDD									
UN-Weighted	All	M	F	18-34	35-49	50-64	65+	Black	White
WFI Campbell	27%	26%	27%	15%	20%	28%	47%	24%	31%
BMC Jackson	36%	31%	39%	43%	37%	36%	25%	51%	17%
Difference	-9	-5	-12	-28	-17	-8	22	-27	14

RBS									
UN-Weighted	All	M	F	18-34	35-49	50-64	65+	Black	White
WFI Campbell	34%	36%	33%	18%	24%	36%	51%	31%	41%
BMC Jackson	29%	25%	32%	39%	27%	26%	32%	46%	12%
Difference	5	11	1	-21	-3	10	19	-15	29

RDD minus RBS									
UN-Weighted	All	M	F	18-34	35-49	50-64	65+	Black	White
Difference	14	16	13	7	14	18	-3	12	15



For every Demographic category except Likely Voters age 65+, the RBS sample is more pro-Campbell and the RDD sample is more pro-Jackson.

This foreshadows that no amount of balancing, or weighting, will bring the two samples into alignment.

Balancing The Data

Now SurveyUSA weights the data.

- RDD data is weighted to Census targets, using [2 Genders x 8 Age Breaks x 4 Races = a total of] 64 weighting cells.
- RBS data is weighted to Voter Registration, using [2 Genders x 7 Age Groups = a total of] 14 weighting cells.

RDD									
Weighted Data	All	M	F	18-34	35-49	50-64	65+	Black	White
WFI Campbell	25%	24%	25%	17%	19%	28%	47%	23%	28%
BMC Jackson	35%	32%	38%	40%	37%	35%	25%	51%	17%
Composition	100%	51%	49%	24%	38%	24%	15%	51%	42%

RBS									
Weighted Data	All	M	F	18-34	35-49	50-64	65+	Black	White
WFI Campbell	32%	34%	30%	19%	26%	37%	53%	29%	37%
BMC Jackson	28%	24%	33%	36%	25%	26%	31%	45%	13%
Composition	100%	49%	51%	19%	37%	28%	17%	48%	45%

Weighted Data	
RDD	BMC Jackson Leads By 10 Points
RBS	WFI Campbell Leads by 4 Points
Difference	14 points

Balancing the data increased Jackson’s margin of victory in the RDD sample by 1 point, from a 9-point lead in un-weighted data to a 10-point lead in weighted data.

Balancing the data decreased Campbell’s margin of victory in the RBS sample by 1 point, from a 5-point lead in un-weighted data to a 4-point lead in weighted data.

Applying the weights leaves us where we started: with a 14-point discrepancy on the outcome of the contest between RDD and RBS.¹²

Remember that the RBS data is not weighted to Race, because the Voter Registration files do not track Race characteristics. As such, the weighted RDD sample, which was weighted to Census targets for Race, is now whiter than the RBS sample.

- Weighted, the RDD Likely Voters are 51% black.
- Weighted, the RBS Likely Voters are 48% black.

Would the outcome of the two parallel polls be more comparable if the race composition of the two polls were forced to match?¹³ Doing so brings the two sets of results only one point closer into alignment.¹⁴

¹² As another check, we can delete the non-Registered voters from the RDD sample, and apply the same Gender-Age weighting data obtained from the Voter List, in order to eliminate any discrepancy arising from using two different sources of Demographic information. The RDD results do not differ significantly with the new weighting data: Jackson wins by 9, the same as in the unbalanced data and 1 point less than in the Census-weighted data. When applied to the RDD sample, the Voter List weights make the “Likely Voters” older but do not significantly affect the Gender and Race distributions of Likely Voters compared with the Census weights.

¹³ From the theoretical point of view, there is no justification for introducing Race weighting into the RBS sample. At this point, SurveyUSA does not know which of the two polls is “right” about the racial composition of the electorate, or if both are wrong.

However: the tiny effect this adjustment has shows that Race alone cannot be the answer.

Said differently: The two candidates are of different races, but that is not the explanation for the differences in these two parallel polls.¹⁵

Something else has to be going on as well.

Effect of “Likely Voter Model”

SurveyUSA’s parallel polls both used a “Likely Voter filter” which filters out a majority of Registered Voters as “Unlikely Voters” and leaves in a minority of Registered Voters as “Likely Voters.”

- In the RDD poll, 32% of Registered Voters were deemed “Likely.”
- In the RBS poll, 41% of Registered Voters were deemed “Likely.”

Could SurveyUSA’s filtering be responsible for the different outcomes?

SurveyUSA examines what happens if it uses a less stringent criteria that allows a larger percentage of Registered Voters to be Likely Voters.

If a less stringent filter is used, the discrepancy between the two methods becomes much smaller.

RDD			
UN-Weighted	Strong Filter	Weak Filter	Difference
WFI Campbell	27%	29%	2
BMC Jackson	36%	35%	- 1
BMC Wins By	9	6	

RBS			
UN-Weighted	Strong Filter	Weak Filter	Difference
WFI Campbell	34%	32%	- 2
BMC Jackson	29%	32%	-3
WFI Wins By	5	0	

RDD - RBS		
Difference	14 points	6 points

¹⁴ Instead of the two parallel polls being “off” by 14 points, they would now be off by 13 points. A side effect of forcing the RBS weighted data to have the same racial composition as the RDD data is that the discrepancy in regional composition between the RDD and the RBS polls is reduced, from 7 points to 3 points. This remaining discrepancy is not statistically significant, and reweighting the polls to force the regional compositions to match would affect candidate vote percentages by less than 0.5%.

¹⁵ Print and Broadcast media coverage of the Cleveland Mayor’s Race referred to Jackson as black, and Jackson campaigned as an African American. In fact, Jackson is biracial. His father is African American. His mother is Italian American.

Using a weak filter¹⁶ reduces the discrepancy between the two parallel polls from 14 points to 6 points.

There are two ways to understand this:

- Those respondents with the weakest stated intention of voting are the most similar.
- Those respondents with the greatest stated intention of voting are the most different.

Voter History Information

To keep the polls parallel, SurveyUSA’s RBS test poll used the same “Likely Voter model” as SurveyUSA’s RDD poll, and did not make use of the additional information on “voter history” that the RBS list provides. One theoretical reason RBS sampling is recommended as an alternative to RDD is that information on which elections a particular voter has voted on in the past, which is part of the RBS record, is considered by some to be a more reliable indicator of likeliness to vote than what the voter may say about his/her intentions in response to poll questions.

So, SurveyUSA’s next attempt to reconcile the disparate data was to examine how a different Likely Voter model, based entirely on RBS voting history, affected the outcome of the RBS data collected.

The contest at hand was an “odd-numbered year” Primary. The election could be expected to have a lower turnout than a presidential election, a presidential primary, a mid-term election, or a mid-term primary. The best predictor of who might vote in a 2005 Primary, to SurveyUSA’s thinking, was who had voted in a 2001 Cleveland Mayoral Primary, 4-years prior, and who had voted in a November 2001 Cleveland Mayoral General Election.¹⁷ Here is what happens when SurveyUSA took the RBS respondents and looked only at those who had voted in the most parallel prior elections:¹⁸

RBS				
UN-Weighted	SUSA Likely¹⁹	Voted in ‘01 Primary²⁰	Voted in ‘01 General²¹	Difference
WFI Campbell	34%	35%	35%	≤ 1 pt
BMC Jackson	29%	28%	31%	≤ 3 pts
Difference	5	7	4	

The size of BMC Campbell’s margin of victory does not differ significantly between the 3 methods.

By comparison, if SurveyUSA had chosen to include those who voted in the most recent election for which there was data, the very high-turnout 2004 Presidential election, WFI Campbell would have led by 1 point,

¹⁶ The “weak filter” counts all Registered Voters who said they would “probably” vote or were “certain” to vote. The “strong” filter counts only those Registered Voters who said they were “certain” to vote *and* who rated their level of interest in Cleveland politics at 6 or higher on a 1 to 10 point scale. The exact wording of the political interest question was: “On a scale of 1 to 10, how interested are you in Cleveland politics, where 10 means you are intensely, passionately interested in Cleveland politics, and 1 means you have no interest in Cleveland politics whatsoever? ... Please enter a number between 1 and 10 nowwhere 10 means you are intensely, passionately interested in Cleveland politics, and 1 means you have no interest in Cleveland politics whatsoever.”

¹⁷ In both the 2001 Primary and the 2001 General Election, a white woman and a black man were on the ballot, just as in 2005.

¹⁸ SurveyUSA’s “Likely Voter” model resulted in 418 Likely Voters. Using the 2001 Primary as criteria for inclusion results in 365 Likely Voters. Using the 2001 General Election as criteria results in 454 Likely Voters.

¹⁹ n = 418.

²⁰ n = 365.

²¹ n = 454.

32% to 31%.²² This is consistent with the findings of the previous section, where a higher turnout benefited BMC Jackson in the RBS poll.

It appears that, although the *amount* of filtering can make a large difference, the *type* of filtering used (voter history versus stated respondent intention) makes comparatively little difference.

Decision Time

It is Sunday night, 10/2/05. SurveyUSA has 12 hours to make a decision. By Noon ET, Monday 10/3/05, SurveyUSA must deliver to its client, WKYC-TV, poll results for Broadcast on Channel 3 News on Primary Eve.

SurveyUSA is staring at two parallel polls that produced opposite results.

For **RDD**, SurveyUSA sees:

UN-Weighted BMC Jackson Leads by 9 points	And	Balanced BMC Jackson Leads by 10 points
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For **RBS**, SurveyUSA sees:

UN-Weighted WFI Campbell Leads by 5 points	And	Balanced WFI Campbell leads by 4 points
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The only other data point available to SurveyUSA is the published Mason-Dixon poll, which showed WFI Campbell leading by 6 points. There was considerable pressure, and temptation, to either:

- Publish the RBS data, which was almost identical to the data released by the competing pollster.
- Split the difference, and publish some blended set of data, which combined the results of SurveyUSA's RBS test with the results of SurveyUSA's RDD test, and produce an outcome approximately half way between WFI Campbell Up By 4 and BMC Jackson Up By 10.²³

SurveyUSA did neither.

SurveyUSA published the RDD data, only, which incorporated the same methodology SurveyUSA had used in the Primary Poll it released 9/22/05, which, on that date, had BMC Jackson ahead by 7 points.

Why?

The discrepancy between the RBS data and the RDD data was so consistent across almost all Demographic sub-groups, that it suggested to SurveyUSA a coverage bias in the RBS poll – a general pattern that was consistent with BMC Jackson supporters being systematically under-represented in the RBS sample.

It is easy to mis-read and misunderstand this finding to be:

BMC Jackson supporters were undercounted in RBS sample because they were black.

²² n = 699..

²³ The blended number may not have been precisely the mean of the two sets of data, for there were more Likely Voters in the RDD sample, and other variables may have interacted in the balancing process.

This is *not* what SurveyUSA found. SurveyUSA found that BMC Jackson supporters of both genders, most ages and all races, appear to have been under-counted using RBS sample.

A compelling counter-argument could be made that SurveyUSA's RDD data overstated BMC Jackson's support. SurveyUSA has evidence, from other election contests it has worked – evidence which is consistent with published findings from other polling firms – that African Americans over-state their intentions to vote, and vote in lower numbers than whites.²⁴ In any contest where white voters and black voters vote oppositely, any overstatement of African American support will inflate the estimate for the candidate supported by black voters.

We discuss other possible explanations below.

Theories To Explain The RDD-RBS Discrepancy

Since both polls were experienced identically by respondents, and since the technical adjustments made to the data had a negligible impact, possible explanations for the 14-point discrepancy must focus on sampling differences.

We will consider three main theories.

1. **Coverage Bias** – if Registered Voters with available phone numbers vote differently from Registered Voters with unavailable phone numbers, the RBS poll will be wrong. (Recall that 42% of the RBS sample purchased did not come with a matching phone number.)
2. **Likely Voter Identification** – if many adults who are unregistered say they are registered for “social desirability” reasons, and they have different candidate preferences than the real voters, the RDD poll which interviews all adults instead of Registered Voters will be wrong.
3. **Turnout Model** – both the RDD and RBS polls assumed a low voter turnout, 40% or less of Registered Voters. We saw that the discrepancies were much smaller if fewer voters were excluded. If the discrepancies are concentrated entirely among a “hard core” of the most Likely Voters, but other people vote too, the discrepancies will be exaggerated and *both* polls will be wrong in opposite directions.

Each of these theories gives a different prediction, and we can only choose between them by comparing the polls with the actual election results.

Two additional theories can be dismissed on the basis of the parallel test data, even before the election.²⁵

4. We dismiss the theory “the demographics of the samples are biased” because the vote preference discrepancies occurred in all demographic groups and did not disappear when the data was demographically weighted

²⁴ The lower likelihood of African-Americans to be registered to vote, and to vote if registered, is documented by the U.S. Census Bureau here: http://www.jointcenter.org/DB/table/databank/voting/1998/reg_voting_1964_1998.txt

²⁵ A sixth and seventh theory were also considered and rejected on the basis of parallel test data, but the details are not shown here. The theory that “geographic imprecision of the RDD sample was responsible for bad data” was rejected, because SurveyUSA conducted additional “control” interviews of RBS voters whose voter list addresses were outside the city limits, and those who claimed to live within the Cleveland city limits did not vote differently than the RBS voters with Cleveland addresses who were actually included in the study. The theory that “the RDD poll is wrong because it samples phone numbers not people” was rejected, because the two samples had a similar distribution of adults per household, and because data collected concurrently for a SurveyUSA study on intra-household selection, that is unrelated to the findings being reported here, showed that the selection of adults within a household had no effect on vote preferences in this contest.

- We dismiss the theory “the RBS poll was conducted improperly because it failed to use voting history information” because an alternate Likely Voter model using voter history did not materially affect the results of the RBS poll.

The Outcome of the Primary

On Primary Day, 10/4/05, BMC Frank Jackson defeated WFI Jane Campbell by 9 points, 38% to 29%.

Cleveland Mayoral Primary	Actual Results 10/4/05	SurveyUSA RDD As Released ²⁶	SurveyUSA RDD Un-Released	SurveyUSA RBS Un-Released	Mason-Dixon As Released
BMC Jackson	38%	35%	35%	28%	26%
WFI Campbell	29%	26%	25%	32%	32%
Margin	9	9	10	- 4	- 6

SurveyUSA’s Mosteller 5 Error is Zero.²⁷

Theory #1 is supported.

Theory #2 and Theory #3 are rejected.

Applicability To Other Geographies

SurveyUSA conducted RDD versus RBS parallel testing in four other geographies in 2005:

- The city of Cincinnati
- The city of Detroit
- The city of Seattle
- The state of Virginia.

²⁶ SurveyUSA’s publicly released RDD poll included 4 additional minor weighting adjustments, beyond those described here, each of which had a negligible impact, and which in the aggregate added 1 point to WFI Campbell’s total.

²⁷ Here are the calculated Error Measures for all methods of data compilation in this contest:

Error (Smaller is Better)	SurveyUSA RDD As Released	SurveyUSA RDD Un-Released	SurveyUSA RBS Un-Released	Mason-Dixon As Released
Mosteller 1	3.0	3.0	10.0	12.0
Mosteller 2	1.3	1.9	21.7	25.3
Mosteller 3	3.0	3.5	6.5	7.5
Mosteller 4	10.0	12.3	22.6	27.8
Mosteller 5	0.0	1.0	13.0	15.0
Mosteller 6	3.0	4.0	10.0	12.0
Traugott	2.7	6.6	40.4	47.8
Shipman	2.5	3.0	13.0	15.0

In three of four cases, only minor differences were observed between RDD and RBS samples.²⁸ In the other geography, the racial composition of the two samples showed significant differences, but only limited conclusions can be drawn because the test poll was done 2 weeks before the election and candidate support showed significant movement in the final 2 weeks of the campaign.²⁹

In all four other geographies, as in Cleveland, the RBS Registered Voters were more “likely” than the RDD Registered Voters.

Efficiency of RDD Versus RBS Polling

Although this paper investigates the effect on poll *accuracy* of RDD versus RBS sampling, we remark here on the relative *efficiency* of the two methods. The RBS sample was more “productive” than the RDD sample in the following three ways:

1. Because the RDD sample includes many nonworking numbers, only 34% of the numbers called in the RDD sample reached a human being, compared with 64% of the numbers called in the RBS sample.
2. In this experiment, the RDD sample included all telephone exchanges which contained even a small percentage of city of Cleveland phone numbers; only 38% of the humans reached said they lived within the Cleveland City limits, compared with 92% of the people reached from the RBS list. This factor is unique to this particular geography, and we do not contend that RDD polls must include all possible telephone exchanges to be valid. There is a tradeoff between “coverage” (percent of the geography in the sample) and “accuracy” (percent of the sample in the geography) which was, for the purposes of this study, set to maximize “coverage”. “Accuracy” was separately addressed by asking respondents whether they lived within the Cleveland city limits, and eliminating those who did not.
3. Even after the preceding factors are discounted, the RBS poll was also more efficient at reaching “Likely Voters”: 39% of the RBS respondents were deemed to be “Likely Voters”, compared with 28% of the RDD respondents.

Comparison With Previously Published Research

The studies by the Yale group, and by Mitofsky et al, showed either no difference in accuracy between RDD and RBS, or an advantage to RBS.

²⁸ In a poll for Detroit Mayor, conducted 5 weeks prior to the 11/8/05 election, RDD data and RBS data each showed Freman Hendrix with an 11-point lead over Kwame Kilpatrick. In a poll for the Seattle Monorail Ballot Measure, conducted 5 weeks prior to the 11/8/05 election, RDD data and RBS data each showed the measure failing by 25 points. In a poll for Virginia Governor, conducted 3 weeks prior to the 11/8/05 election, RDD data showed Democrat Tim Kaine beating Republican Jerry Kilgore by 3 points, while RBS data showed Kaine beating Kilgore by 1 point. All of these polls showed no significant demographic differences.

²⁹ In a poll for Cincinnati Mayor, conducted 2 weeks prior to the 9/13/05 Primary, the Registered voters in the RDD sample were 57% White and 39% Black. The Registered voters in the RBS sample were 69% White and 28% Black. Relative to the RDD poll, the unweighted RBS poll overestimated the White candidate David Pepper, by 6 points and underestimated the Black candidate Alicia Reece by 11 points. After demographic weighting was applied, the RBS poll overestimated Pepper by 2 points and underestimated Reece by 8 points, relative to the RDD poll. Unlike Pepper and Reece, whose bases of support were racially polarized, two other Black candidates, Mark Mallory and Charlie Winburn, had multiracial support; their performances did not show large discrepancies between RDD and RBS data. The Primary results differed significantly from both the RDD and RBS data conducted two weeks prior to the vote; also, a subsequent SurveyUSA RDD poll showed a sharp drop in Reece’s support; therefore we draw no conclusions about the cause of the discrepancy between the parallel polls.

The most significant theoretical problem with RBS polling, coverage bias, would not be expected to occur in every election. The current study adds a data point to the accumulated literature and shows that a coverage bias can *indeed* occur, and the data supports the explanation that the bias in the 2005 Cleveland Mayoral Primary results from RBS sample containing incomplete phone records.

There are several differences between the current experiment and the 2002 studies:

1. The Cleveland geography is a city, not a state, and has a higher concentration of urban and minority voters.
2. RDD sample for city geographies contain some numbers outside the geography; this is not an issue for statewide polls.
3. The Cleveland polls were conducted the weekend before the election, while the polls in the Yale study were conducted 1 to 4 weeks before the election.
4. SurveyUSA uses a professional TV newscaster to ask its poll questions; Yale did not.
5. SurveyUSA obtained RBS sample from Aristotle; Yale used Voter Contact Services.
6. It was possible in the Yale study for the interviewers from CBS News, Quinnipiac and The Washington Post to ask for individual voters by name. SurveyUSA could not.

However, most of these differences do not diminish the applicability of this study:

Geographical imprecision is, if anything, an argument that RDD should have performed worse in the current study, but it performed better.

The field period difference suggests the data from the current study is more reliable, because there is less time between the poll and the election for extraneous events to influence the poll's accuracy.

The use of automated polling does not explain the RDD-RBS discrepancy because respondents in both SurveyUSA Cleveland polls experienced exactly the same survey.

Aristotle was chosen instead of Voter Contact Services because its sample had a greater "coverage" in the geographies SurveyUSA was studying. However, both companies are widely used for political polling.

Yale may have a distinct advantage in being able to ask for voters by name. Conversely, anonymity and confidentiality are central to an opinion survey, and a voter asked for by name may feel that any subsequent promises of confidentiality made by the interviewer are hollow. The persistence of the RDD-RBS discrepancy that SurveyUSA observed across most demographic subpopulations suggests that SurveyUSA's inability to ask for an RBS voter by name is not the reason for the RDD-RBS differences observed here.

Recommendations

The 2005 Cleveland Mayoral Primary is a cautionary tale. There appears to have been a bias against Jackson in the Registration Based Sample, probably because Jackson voters were disproportionately likely not to have phone numbers in the RBS data set. Although in many cases RDD and RBS samples give the same results, we do not know a way to predict the exceptions.

On the other hand, the combination of RDD and RBS sampling *can* provide insight that an RDD poll cannot, because Voter Lists not only provide information on who is actually a Registered Voter, but also on other characteristics, especially voting history.

For election polling, SurveyUSA *rejects* RBS as a *substitute* for RDD, because of the potential for an unpredictable coverage bias.

However, SurveyUSA sees an opportunity to use RBS to *supplement* RDD polling, as long as for *each* separate election contest polled, a parallel test is run to identify whether the two methods of sampling produce discrepant results. If they do, it may be evidence of the kind of coverage bias that SurveyUSA observes in Cleveland. If no such bias is observed, then the additional information that comes with Registration Based Sample, and the greater productivity of RBS, may justify using RBS.

References

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