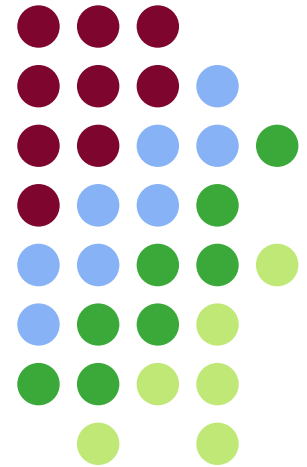


A Comparison of Landline Telephone Households in Zero-Banks to Those in a Traditional RDD Sample: Is Lack of Coverage a Source of Bias?

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Background



1. In a landmark article, Brick, Waksberg, et al (1995) assert that:
 - The proportion of residential households with zero-bank listed telephones is quite small (3.7%)
 - Zero-bank and list-assisted strata are not significantly different across most demographic measures
 - The authors conclude that “the bias due to excluding the zero-listed stratum is minor.”
2. However since then, the proportion of residential households with zero-bank telephone numbers has increased to 15 percent

RESEARCH QUESTION: Given the increase in zero-bank households, are there now demographic differences between 1+listed and zero-bank households?

Study Overview



- Zero-Bank sample randomly mixed into omnibus survey over 6 month period
- Results: 140 zero bank interviews
- Instrument: 4 minutes of demos, questions on voter registration, party ID and health insurance status
- Parallel cell only sample interviewed as well

Efficiency/Cost of Dialing Zero-Bank Sample



- Sample inefficient even after CSS procedures
- Sample inefficient within active
- Cost of sample 10 times more
- Cost of interviewing 13 times more

	1+Listed	0-Listed
Complete	5%	0.04%
Refused/Breakoff	11%	0.2%
Busy/No Answer	28%	8%
Fax/NW/Business	55%	91%
Busy/NA (% of Active)	66%	96%
Sample Costs/Complete	\$1.62	\$16.51
CPI for Interviewing	\$3.01	\$40.04

Results: Demographic Comparisons



- Substantial differences by age and other factors

Demographic Attribute	0-Listed	1+Listed	<i>t</i>
Age 18 to 29	32%	9%	-8.1***
Own Home	51%	78%	6.9***
White	64%	82%	5.0***
Student/Not Employed	21%	42%	4.7***
Children under age 18 living in HH	40%	29%	-2.7**
Live in the North East Region	47%	40%	-3.1**
Two or more adults living in Household	51%	41%	-2.1*
Single (never married)	27%	12%	-4.8***

* $p < .05$; ** $p < .01$; *** $p < .001$

n = 1006 for 1-listed; 140 for zero-bank

Results: Demographic Comparisons



	Exp(B)
18 - 29 Years Old	3.8***
30 - 49 Years Old	2.2**
Two + Adults in Household	2.0*
Children in Household	0.9
Home Owned	0.4***
Ethnic/Racial Minority	1.5*
Two or More Phones in Household	1.3
North East	1.5*
North Central	0.9
West	0.7
H.S. Diploma or Less	0.8
Some College	0.7
Employed	0.8
Single	1.7*
Divorced/Separated/Widow	1.1
Income Under \$50k	0.9

- Even in logistic regression, age, number of adults in HH, and home ownership remain substantially significant
- Region, ethnic/racial minority, and marital status also significant.

* p < .05; ** p < .01; *** p < .001

n = 839 for 1-listed; 122 for zero-bank; r² = .18

Results: Health/Political Comparisons



- Differences, in bivariate comparisons, extend into health and political measures

	0-Listed	1+Listed	<i>t</i>
Registered to Vote	63%	84%	6.5***
Democrat	36%	34%	-0.4
Republican	19%	29%	2.1*
Uninsured	24%	8%	-5.4***
Medicare / Medicaid	17%	30%	1.3
Private	54%	60%	3.1**

* $p < .05$; ** $p < .01$; *** $p < .001$

$n = 1006$ for 1-listed; 140 for zero-bank

Results: Health/Political Comparisons

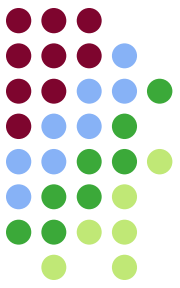


	Exp(B)	Exp(B)
18 - 29 Years Old	3.8***	2.9***
30 - 49 Years Old	2.2**	2.0**
Two + Adults in Household	2.0	1.9
Children in Household	0.9	1.0
Home Owned	0.4***	0.5***
Ethnic/Racial Minority	1.5	1.7*
Two or More Phones in HH	1.3	1.5
North East	1.5*	1.8*
North Central	0.9	1.1
West	0.7	0.9
H.S. Diploma or Less	0.8	0.8
Some College	0.7	0.7
Employed	0.8	0.7
Single	1.7*	1.3
Divorced/Separated/Widow	1.1	1.0
Income Under \$50k	0.9	0.9
Registered to Vote		0.6*
Republican		0.6
Democrat		0.7
Uninsured		2.5***
Medicare/Medicaid		0.5*

● Even in fully specified model, zero bank households less likely to be registered to vote and be on government health care, and substantially less likely to be insured

* p < .05; ** p < .01; *** p < .001
 n = 690 for 1-listed; 117 for zero-bank;
 r² = .23

Zero Bank: Difference to Dual Frame?



- Substantial differences by age and other factors

Demographic Attribute	1+Listed	0-Listed	Cell Only
Age 18 to 29	9%	32%	53%
White	82%	64%	59%
Children under age 18 living in HH	29%	40%	36%
Live in the North East Region	40%	47%	14%
Two or more adults living in Household	41%	51%	61%
Registered to vote	84%	64%	62%
Republican	29%	19%	28%
Uninsured	8%	24%	31%
Medicare	30%	17%	5%

Properly Weighted, Does Zero-Bank Make A Difference?



- No significant differences between a weighted 1-listed sample and a weighted 1-listed + zero bank sample

Attribute	1+Listed	1+Listed & 0-Listed	<i>t</i>
Two adults	76%	78%	1.1
\$50k	53%	54%	0.5
2 Telephones	22%	23%	0.5
Owned	76%	73%	1.6
Children	38%	38%	0.0
Registered	86%	84%	1.1
Republican	28%	27%	0.5
Democrat	33%	33%	0.0
Uninsured	17%	18%	0.5
Private	63%	61%	1.1
Medicare	18%	18%	0.0
Single	21%	21%	0.0

* $p < .05$; ** $p < .01$; *** $p < .001$

n = 1006 for 1-listed; 140 for zero-bank

Weighted 1-Listed vs. Weighted 1-Listed, Zero Bank, and Cell-Only



- Significant differences between a weighted 1-listed sample and a weighted 1-listed + zero bank + cell only sample on income, voter registration, and health insurance

Attribute	1 Listed	1+Listed & 0-Listed & Cell-Only	t
Two adults	76%	74%	1.1
\$50k or Less	53%	58%	2.7**
2 Telephones	22%	19%	1.6
Children	38%	36%	1.1
Registered	86%	81%	2.7**
Republican	28%	27%	0.5
Democrat	33%	32%	0.5
Uninsured	17%	19%	1.1
Private	63%	58%	2.7**
Medicare	18%	18%	0.0

* p < .05; ** p < .01; *** p < .001

n = 1006 for 1-listed; 140 for zero-bank

Summary and Implications



- Zero bank sample as inefficient and costly to use as ever
- As zero bank has grown from 2% to 15% of residential households in the past 15 years, such growth has been disproportionate to household with people under the age of 35
- Bias evident in variables related to age...but age does not completely erase such bias alone
- Bias in 1+listed samples compared to 1+listed plus zero bank not yet significant, but differences are significant when cell-only is added

Thanks and Contact



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