

Monetary Incentives and Response Rates in Household Surveys: *How much gets you how much?*

Andrew Caporaso, Westat

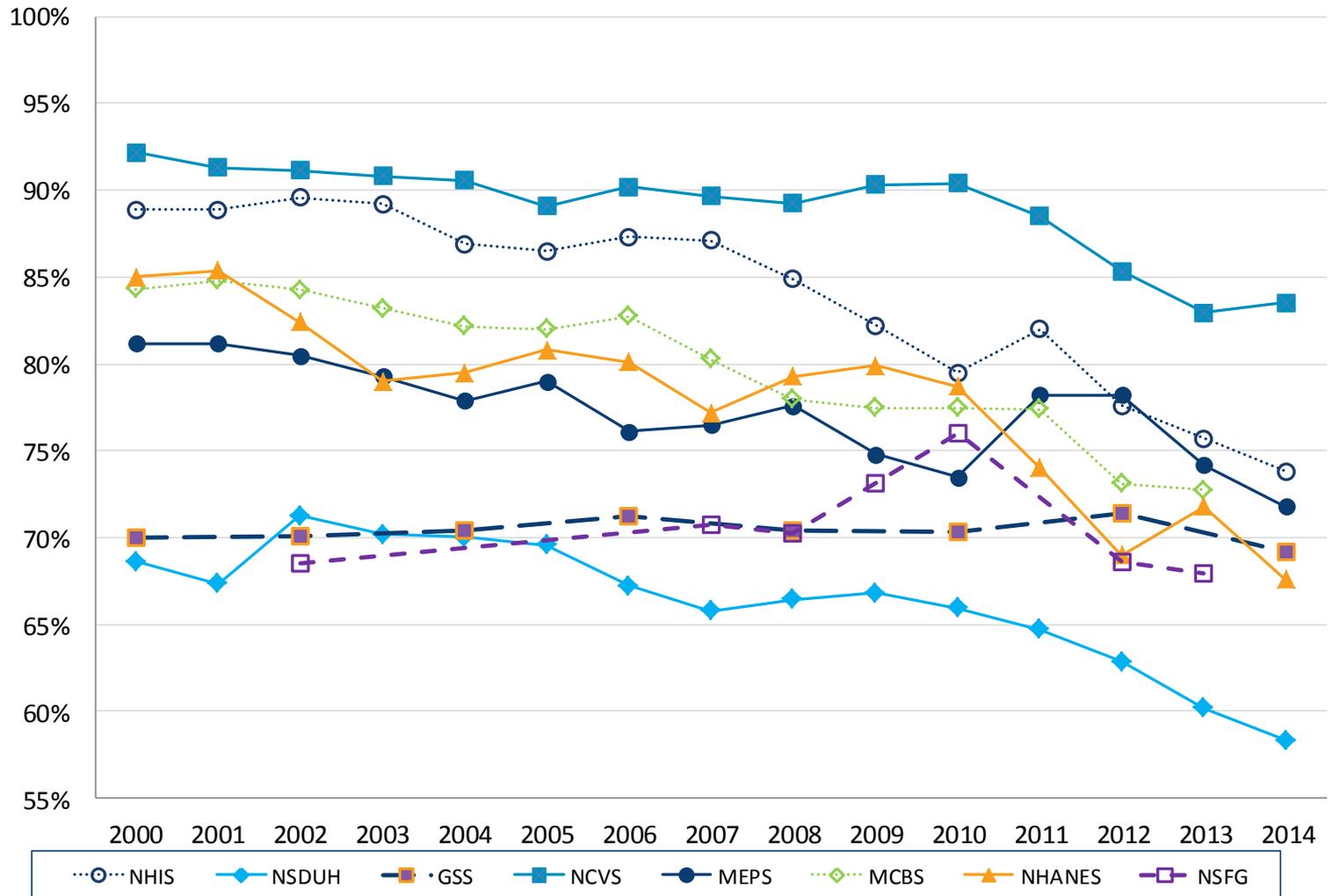
Andrew Mercer, Pew Research Center

David Cantor, Westat

Reanne Townsend, Westat

Response Rates, 2000–2014: All Studies

(Williams, Brick & Hubbard (2016))



Incentives and Response Rates

- **Incentives improve response rates**
 - Monetary > Non-monetary
 - Prepaid > Promised
 - Is this true across for all modes of data collection?
 - More money > Less money
 - \$0 vs \$1 vs \$2 vs \$5 vs \$10?
- **“...no good evidence for how large an incentive should be.” (Singer & Ye, 2013)**
 - *Should* depends on desired response rate and costs

Our Research Questions

- **What is the expected improvement in response rate per dollar of incentive?**
 - The dose-response relationship
- **How is this relationship impacted by...**
 - Incentive timing (prepaid or promised)?
 - Data collection mode?
 - Burden & sponsorship?
- **Has the relationship changed over time?**
 - We look at research from the past 2 decades

Methodology – Meta-analysis

- Meta-analysis of experimental* literature on incentive use...
 - Published 1992 or later
 - Pertaining to a mail, telephone or in-person survey
 - Targeted at general population samples
 - Testing monetary incentives offered at the onset of the survey request (prepaid or promised)
 - In cross-sectional survey, or 1st round of panel

**comparison of two or more incentives in the same survey*

Methodology – Data Captured

- **DV:** Response rate;
- **IV:** Incentive amount, converted to \$2012 USD, natural log transformation
- **Incentive timing** (Prepaid, Promised);
- **Mode** (Mail, Telephone, or In-person);
- **Survey sponsor** (Government/University, or Private);
- **Survey considered burdensome** (Yes, No);
 - Definition from Singer, et al. (1999).
 - Longitudinal; > 1 hour; sensitive questions, add'l tasks besides survey
- **Year of experiment or year/publication;**

Meta-analysis – Literature Search

- After conducting a thorough literature search...
 - Over 200 reports found on incentive effects
 - 40 met criteria for meta-analysis
 - **55 experiments** summarized in 40 reports
 - **178 conditions** tested across 55 experiments

Data Summary I

Distribution of experimental conditions by mode of experiment, incentive timing, and incentive value details.

	Telephone (n = 59)	Mail (n = 94)	In-Person (n = 25)
Timing			
Prepaid	17	73	8
Promised	21	2	11
No Incentive	21	19	6
Prepaid Values (\$2012)			
Min Value	\$1.38	\$1.06	\$1.54
25th Percentile	\$2.50	\$2.82	\$10.29
Median Value	\$2.82	\$6.38	\$18.44
75th Percentile	\$6.89	\$11.27	\$32.53
Max Value	\$7.04	\$56.94	\$56.38
Promised Values (\$2012)			
Min Value	\$5.88	\$5.54	\$1.54
25th Percentile	\$12.15	\$7.14	\$28.96
Median Value	\$21.46	\$8.75	\$36.85
75th Percentile	\$29.27	\$10.35	\$52.98
Max Value	\$50.07	\$11.96	\$74.65

Data Summary II

Distribution of experimental conditions by mode of experiment, year, burden, and survey sponsorship.

	Telephone (n = 59)	Mail (n = 94)	In-Person (n = 25)
Year			
1987–1991	2	0	4
1992–1996	11	4	3
1997–2001	21	54	3
2002–2006	21	23	6
2007–2011	4	13	9
Burden			
Low Burden	59	38	3
High Burden	0	56	22
Sponsor			
Government	25	36	21
University	24	16	4
Private	10	42	0

Methodology – Statistical Analysis

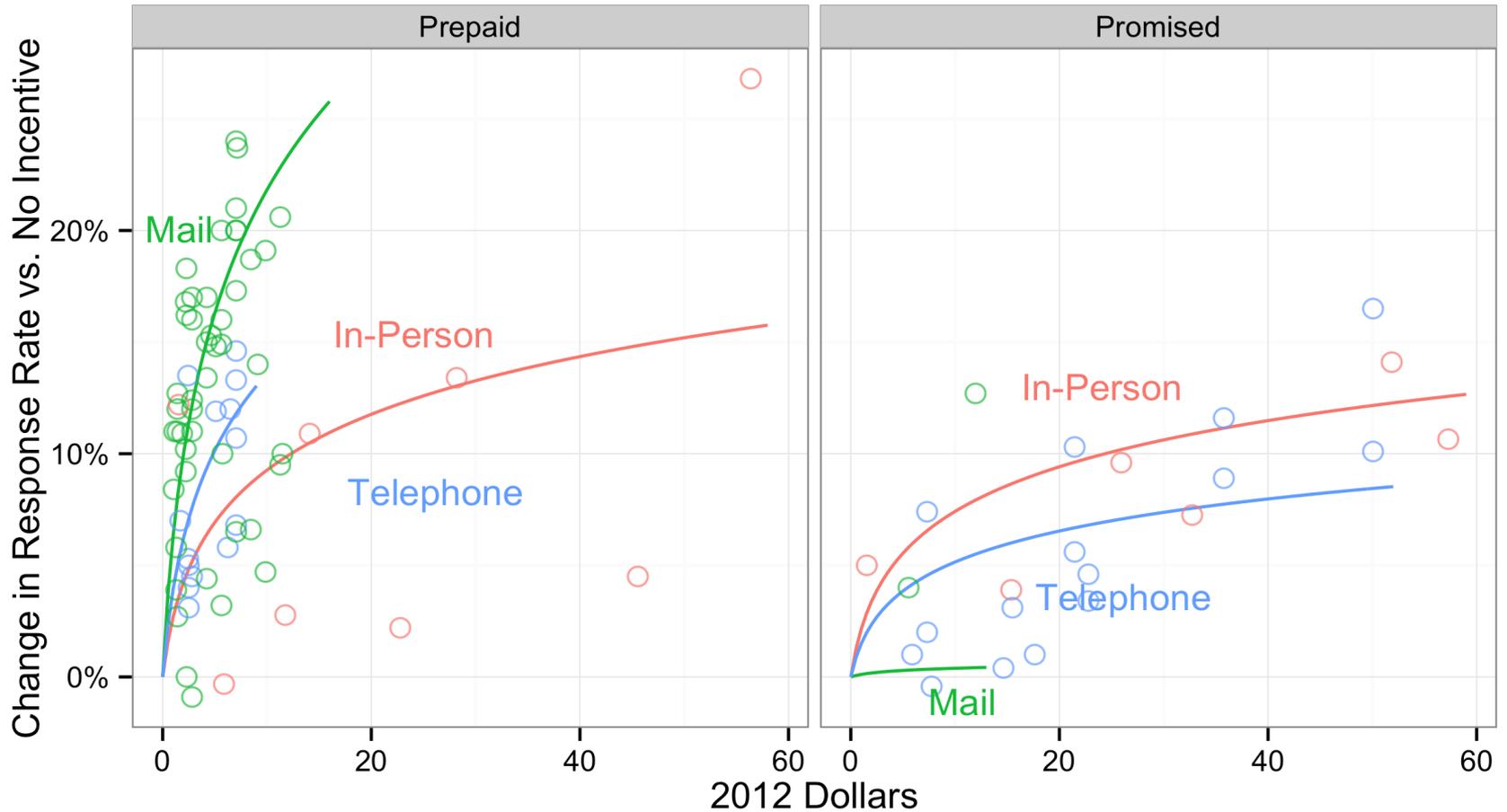
- Hierarchical regression model
 - Level 1: Conditions
 - Level 2: Experiments
- Weighted by precision
 - Based on condition sample size

Regression Model Predicting Response Rate

Parameter	B	S.E.
Intercept	0.26	(0.062)*
ln(\$) [prepaid]	0.06	(0.009)*
Mail	0.01	(0.056)
In-Person	0.37	(0.092)*
High Burden	-0.27	(0.063)*
Gov./Univ. Sponsor	—	—
Year minus 2013	-0.02	(0.004)*
ln(\$) x Promised	-0.04	(0.011)*
ln(\$) x Mail	0.03	(0.011)*
ln(\$) x In-Person	-0.02	(0.016)
ln(\$) x Burden	—	—
ln(\$) x Gov./Univ. Sponsor	—	—
ln(\$) x Year	—	—
ln(\$) x Mail x Promised	-0.05	(0.019)*
ln(\$) x In-Person x Promised	0.03	(0.020)

* $p < .05$

Change In RR by Mode/Timing



Estimated improvement in response rate relative to no incentive by incentive value, timing and mode.

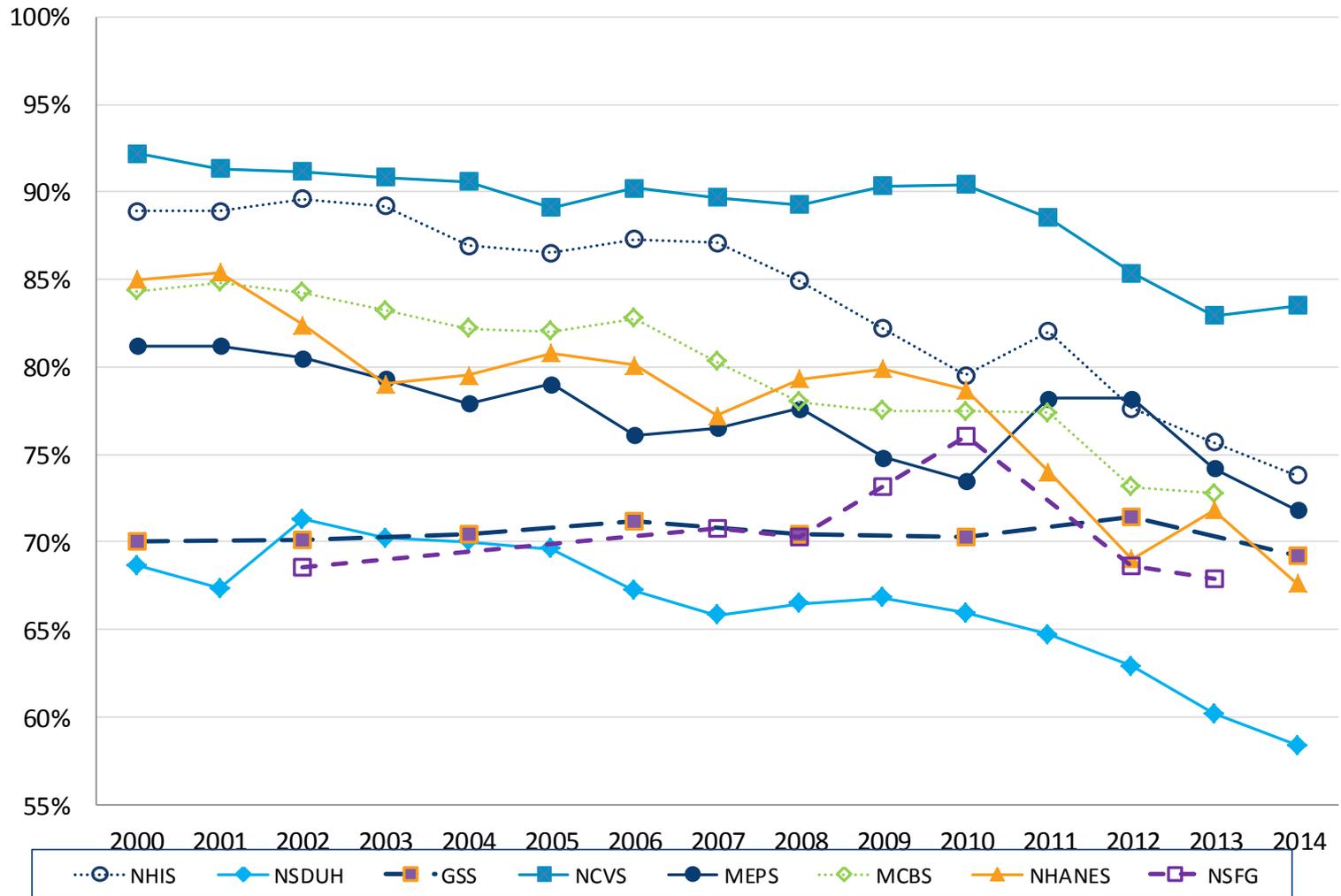
2012\$	Mail prepaid	Phone prepaid	Phone promised	In person
\$1	+0.06	+0.04	+0.01	+0.02
\$2	.10	.07	.02	.03
\$3	.12	.08	.03	.04
\$4	.14	.10	.03	.05
\$5	.16	.11	.04	.05
\$10	.22	.14	.05	.07
\$15	.25	.17	.06	.08
\$20	.27	.18	.06	.09
\$30	.31	.21	.07	.10
\$40	.33	.22	.07	.11
\$50	.35	.24	.08	.12

Incentive Conclusions

- Effects on response rates:
 - Dependent on mode and incentive timing
 - Still much variability across studies
- Effect of survey characteristics:
 - Incentive timing matters
 - Most important in telephone surveys
 - Least important for in-person surveys
 - Inconclusive for mail
 - Findings inconclusive for sponsorship, burden
- Effects over time:
 - No changes observed over time*
 - *mitigated by declining response rate overall

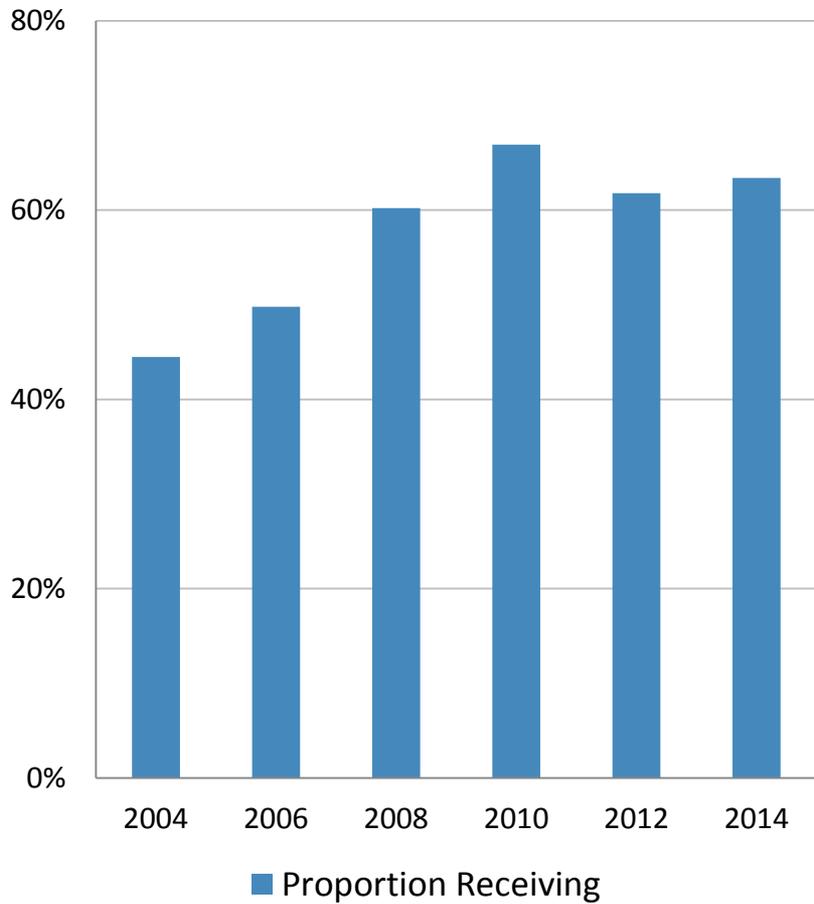
Response Rates, 2000–2014: All Studies

(Williams, Brick & Hubbard (2016))



GSS Incentives, 2004–2014

(Williams, Brick & Hubbard (2016))



Incentives and Longitudinal Surveys

- Incentives work similarly in panel surveys as they do in cross-sectional surveys
 - “the evidence suggests consistently that attrition rates would be higher in the absence of incentives, but we have limited knowledge of what the optimum strategies are for any given design...” (*Laurie & Lynn, 2009*)
- Some evidence that cost of increased incentives partially offset by reductions in other data collection costs over time

Incentives, Data Quality, and Costs

- Literature mixed on impact of incentives on other data quality indicators (*Singer & Ye, 2013*)
 - Sample composition
 - Item missing, completion rates
 - Nonresponse bias
- Some evidence that incentives can facilitate reductions in other data collection costs
 - Cost-savings greatest when these costs are high

Future Research

- Incentives for web surveys
 - Lotteries, panel points
- Quasi-monetary incentives
 - Difference between cash vs debit cards?
- Promised mail incentives
 - Mail to web?
- Incentives for other populations?
 - Establishments, physicians, low income?

Thank You

- Bureau of Labor Statistics
- Andrew Mercer, Reanne Townsend, David Cantor
- Aaron Maitland, Roger Tourangeau, Mike Brick, Doug Williams, Darby Steiger, Jon Ratner
- Everyone in AAPOR & beyond who contributed research

andrewcaporaso@westat.com