Designing a Multipurpose Longitudinal Incentives Experiment for the SIPP

Ashley Westra & Mahdi Sundukchi U.S. Census Bureau FedCASIC March 5, 2015





Overview

- Background/Previous SIPP Incentive Experiments
- SIPP 2014 Experiment
 - Design
 - Wave 1 Results
 - Wave 2 Goals
 - Future Plans





The SIPP Survey

- The Survey of Income and Program Participation (SIPP) is a demographic longitudinal survey that collects data and measures change for many topics, including:
 - Economic Well-being
 - Family Dynamics
 - Education
 - Assets
 - Health Insurance
 - Childcare
 - Food Security





The SIPP Survey Design

- Previous Panels (1996, 2001, 2004, 2008)
 - 3-5 year panels
 - Conducted in waves, each 4 months long
 - 4 equally sized rotation groups
- 2014 Panel
 - 4 year panel
 - Conducted in waves, each 1 year long
 - No rotation groups





Previous SIPP Incentive Experiments

- Since the 1996 Panel, SIPP has conducted several incentive tests of different types.
- Designed to test the effect of monetary incentives on overall response rates.



Previous SIPP Incentive Experiments

- Tested both conditional and unconditional incentives.
- Tested both random assignment as well as discretionary incentives
- Experimented with the monetary amount of the incentive, with \$10, \$20, and \$40 being the typical choices.



1996 Panel

 \$20 (but not \$10) unconditional incentives were effective in reducing household nonresponse in Wave 1, and this effect remained in later waves.



2001 Panel

 For 7 out of 9 waves, \$40 conditional discretionary incentives increased response rates.



Census Bureau

2004 Panel

 Households that receive \$40 discretionary incentives are more likely to receive them in later waves.





2008 Panel

- The Wave 1 \$20 unconditional incentive effectively improved response rates in Waves 1-3 by 1.1-1.4% compared to the control.
- The discretionary \$40 conditional incentive (in any wave) had an effect in Waves 7-9, improving response rates by 1.6-3.1% compared to the control.



2014 Panel – Experimental Design

- Households randomly put into 1 of 4 equally sized groups (≈ 13,000 households).
- Conditional incentives are distributed as debit cards by NPC.
- Testing the use of a propensity model to assign incentives in later waves.

Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0





2014 Panel Wave 1 – Results

- Households were randomly assigned to \$0, \$20, or \$40 conditional incentives.
 - \$20 increased the response rate by 1.2%
 - \$40 increased the response rate by 3.5%

Group	Wave 1
1	\$0
2	\$0
3	\$20
4	\$40





2014 Panel Wave 1 – Results

<u>Gender</u>

Response Rates

Incentive		
Group	Male	Female
\$0	68%	71%
\$20	70%	72%
\$40	71%	74%
ALL	69%	72%

Distribution of Interviewed Incentive Male Female Group \$0 47% 53% \$20 47% 53% \$40 47% 53% ALL 47% 53%

Poverty Stratum

Response Rates

Incentive	Low	Non-Low
Group	Income	Income
\$0	71%	66%
\$20	73%	67%
\$40	76%	68%
ALL	72%	67%

Distribution of Interviewed

Incentive	Low	Non-Low
Group	Income	Income
\$0	38%	62%
\$20	39%	61%
\$40	39%	61%
ALL	39%	61%

While incentives affected response rates, they did not affect the distribution of the interviewed.





2014 Panel Wave 2 – Model

- Create a logistic regression model predicting the probability of response given certain household characteristics
 - Census Region
 - Age of Householder
 - Gender
 - Race
 - Hispanic Origin
 - Education
 - Marital Status
 - Income
 - Work Status
- Assign incentives to those with the lowest probabilities of responding to improve coverage.



Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0



- Effect of randomly assigned incentives on *response rates*
 - Does the Wave 1 incentive effect carry-over to Wave 2?
 - 4(b) vs. 1
 - 3 vs. 1

Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0





- Effect of randomly assigned incentives on *response rates*
 - What is the effect of duplicate incentives?
 - 4(a) vs. 1
 - 4(a) vs. 4(b)

Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0





- Effect of randomly assigned incentives on *response rates*
 - What is the effect of a later incentive?
 - 2 vs. 1

Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0





- Effectiveness of the propensity model in assigning incentives, conditional on Wave 1 incentives.
- For a given percentage of households with the lowest propensities, compare the *distributions* and *response rates* of:
 - Groups 1 and 2
 - Groups 4(a) and 4(b)
 - Groups 4(a) and 2

Group	Wave 1	Wave 2
1	\$0	\$0
2	\$0	\$40
3	\$20	\$0
4	\$40	(a) \$40
		(b) \$0



2014 Panel Wave 3 Plans

- Depending on the results of Wave 2, we may decide to implement the propensity model.
- We are concerned that the group of households that received \$40 incentives for two consecutive waves will expect them again.







Contacts: <u>Ashley.M.Westra@census.gov</u> Mahdi.S.Sundukchi@census.gov



