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## Abstract<sup>1</sup>

Response rates to the Consumer Expenditures Quarterly (CEQ) Survey fell from 86 percent in 1990 to 76 percent by 2004. To reduce the current downward trend in CEQ response rates, the Bureau of Labor Statistics introduced an incentives experiment in November, 2005. The goal was to increase response rates by offering respondents a pre-paid monetary incentive that is unconditional on response to the survey. We mailed debit-card incentives along with the survey's advance letter prior to contacting the potential survey respondent for the Wave 1 interview. The experimental design contrasts a control group receiving no incentive with groups that receive either \$20 or \$40 debit cards. In this paper, we show the design of the incentives experiment, provide preliminary results on the effects of the incentives on response rates, and discuss our assessment of the debit cards.

**Keywords:** Incentives, Response rates, Experiment, Debit Cards

## 1. Introduction

### 1.1 Overview

Response rates to the Consumer Expenditures Quarterly (CEQ) Survey fell from 86 percent in 1990 to 76 percent (AAPOR RR1) by 2004. To reduce the current downward trend in CEQ response rates, the Bureau of Labor Statistics (BLS) introduced an incentives experiment beginning in November, 2005. This paper shows the design of the incentives experiment, provides preliminary results on the effects of the incentives on response rates, and discusses our assessment of the debit cards. Section 1 introduces the Consumer Expenditures Survey program and discusses the general incentives literature. Section 2 describes the design of the CEQ incentives experiment, and the specific literature we used to guide the design decisions. In Section 3, we present preliminary results including the effects of the incentives on response rates, possible effects of the incentives on nonresponse bias, and an assessment of the debit cards, including respondents' experiences cashing the cards and the rates at which respondents cash the cards. Section 4 shows some effects of the incentives on the interview process using contact history data. Section 5 provides a brief summary of findings to date, and Section 6 discusses future data analysis and areas for future research.

### 1.2 The U.S. Consumer Expenditure Program

The U.S. Consumer Expenditure Survey program provides continuous information on the expenditures of American consumers for use in economic research and in support of revisions to the Consumer Price Index. BLS sponsors the collection of expenditures in two separate surveys. First, the Consumer Expenditures Diary survey is designed to collect small, detailed expenditures that would be difficult for respondents to recall during an interview. The diary is a self-administered survey where respondents record all household expenditures for two one-week periods. Second, the Consumer Expenditures Quarterly (CEQ) survey is a detailed series of five interviews designed to collect less frequent purchases. Interviewers from the Census Bureau collect the data for both surveys. Results from the two surveys are integrated to create published expenditures estimates. The research described in this paper uses data from only the CEQ survey.

The Census Bureau conducts about 40,000 CEQ interviews across the nation each year. Each selected household<sup>2</sup> is interviewed five times over one year. The Wave 1 interview is primarily a bounding interview, designed to limit telescoping errors in the Wave 2 interview. Data from the first interview do not contribute to expenditures estimates. Waves 2-5 of the survey ask respondents about detailed expenditures for most non-food purchases, such as housing, furniture, automobile, and vacation expenses. The survey is administered by computer assisted personal interview (CAPI), either in person or over the telephone (not centralized). An average CEQ interview takes approximately one hour to complete.

### 1.3 Incentives Literature

Providing potential survey respondents with incentives generally increases response rates (Church, 1993; Singer, 1999). Incentives can be cash or non-cash gifts and are typically pre-paid to all potential respondents, or promised to potential respondents and paid upon compliance with the survey. Most early research on incentives occurred in mail surveys (Church, 1993; Shettle, 1999). However, Singer's (2002) meta-analysis on the effects of incentives in interviewer administered surveys (face-to-face and phone) showed that the incentive effects illustrated in the mail survey literature also apply to interviewer-administered surveys. Three important effects are that cash incentives perform better than non-cash incentives (e.g., gifts), pre-paid incentives are

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<sup>2</sup> The CEQ collects data from consumer units, which include people living in a household related by blood or marriage, or unrelated people who share household expenditures. Each household consists of one or more consumer units. For most housing units, the household and consumer unit are the same. For this paper, we use the terms interchangeably.

better than promised payment for survey cooperation, and response rates improve with increasing amounts of money.

Despite these known effects, government surveys have traditionally not offered respondents incentives to participate in surveys. This has begun to change. Beginning in 1996, the Census Bureau conducted a series of incentive experiments on the Survey of Income and Program Participation (SIPP). This research supports current literature, showing that incentives work similarly for large, interviewer-administered government surveys. In the 1996 SIPP panel, James (1997) found that a \$20 pre-paid incentive significantly lowered SIPP nonresponse rates in Waves 1-3 compared with a \$10 incentive and a no-incentive control group.<sup>3</sup>

## 2. Design of the Incentives Experiment

Because the CEQ is an interviewer administered survey, most of the decisions regarding the CEQ incentives experiment are based on results from the Singer meta-analysis. For cost estimates and expectations related to response rates, we relied on results from the SIPP experiments because of the similarities between the SIPP and CEQ (large, burdensome government surveys, face to face mode, Census interviewers).

The following sections discuss key design decisions we made while planning the CEQ incentive experiment.

### 2.1 Distribute Incentive Only in Wave 1

We made this decision for budget reasons, but the SIPP research also provided evidence that distributing incentives only in Wave 1 of a panel survey may have lasting effects. During the initial SIPP incentives experiment, the Census Bureau provided incentives only in Wave 1. Expanding on the James analysis of the 1996 SIPP experiment, Mack et al. (1998) reported that the \$20 Wave 1 SIPP incentive held nonresponse lower through Wave 6, two years out. Based on this experience, we decided to distribute the CEQ incentive only with the initial interview (Wave 1).<sup>4</sup> However, if later analysis of Waves 4 and 5 CEQ response rates shows a diminishing incentive effect, we will need to assess whether this design is adequate.

### 2.2 Use a Monetary Incentive (Debit Card)

Singer's (2002) meta-analysis demonstrates that monetary incentives are the preferred incentive. However, the monetary incentives tested in these studies are usually cash, not a cash substitute such as debit cards. Cash may be a more powerful incentive than any cash substitute, because the latter requires an effort by the respondent to convert into cash. Mitchell (2003) reports a study comparing various cash substitutes, including point of sale (POS) cards, checks, and telephone cards, but none of these forms of monetary payment was

compared with cash. The POS cards had the highest response rate, but only 36 percent of households used their cards. Also, 18 percent of the POS card recipients called with questions or complaints related to either the PIN or activation process.<sup>5</sup>

If respondents don't use the debit cards, the intended effect of the cash incentive may be reduced. A non-trivial percentage of card recipients assume the card is a scam, view cashing the card as an inconvenience, or have technical problems with the card. (See Section 3.5 for respondent's experiences with the debit cards in our incentive experiment.) If respondents don't perceive the debit card as a legitimate gift, they may not reciprocate by participating in the survey.

Despite these concerns, we selected debit cards for the CEQ incentive experiment because the Census Bureau has methods in place to use debit cards and has successfully used them on other surveys.<sup>6</sup> In addition, the cards are less susceptible to theft, and they cost less because a large percentage of respondents never use them.<sup>7</sup>

### 2.3 Use Pre-Paid and Unconditional Incentive

The incentives literature consistently demonstrates that pre-paid incentives that are unconditional upon survey response most effectively increase response rates (Singer, 2002; Berk, 1987). To prepay the incentives, we mailed the debit cards with the Wave 1 advance letter. We added the following paragraph to the current CEQ advance letter:

*"Please accept the enclosed Debit card as a token of our appreciation for considering this important survey. See the enclosed envelope for instructions about using the card, which you may use immediately."*

To make the incentive as easy to use as possible, we printed the personal identification number (PIN) and the debit card amount directly on the debit card.

### 2.4 Amount of the Incentive

As with all incentive experiments, the goal is to find the least expensive incentive that achieves the desired effects, mainly increasing response rates. Although academic and commercial survey research centers often provide \$1 and \$5 incentives, we felt that we needed larger incentives for two reasons. First, although small incentives generally work well, larger incentives work even better (Rodgers, 2002; James, 1997). Second, our decision to use debit cards constrained us to incentives in multiples of \$20, because many ATM

<sup>5</sup> Mitchell's study oversampled households in poverty, which may affect the number of problems administering the incentives.

<sup>6</sup> Census has used debit card incentives for the Survey of Income and Program Participation (SIPP), National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), and the Survey of Program Dynamics (SPD).

Because current Census Bureau policy does not permit the handling of cash, the Census Bureau's incentive programs have adopted debit cards as their standard without comparing their effects with true cash incentives. We are unaware of other empirical comparisons of the strengths and weaknesses of debit cards in relation to cash. Potential differences between debit cards and cash on survey response rates are unknown.

<sup>7</sup> Beckler and Ott (2006) reports cash rates of 39 percent in the Agriculture and Resource Management Survey (ARMS), while Marsh et al. (2002) reports 85 percent cash rates in an ATM card pilot test.

<sup>3</sup> In 1996, SIPP issued paper check vouchers. The Census Bureau now has methods in place to use the debit cards discussed in this paper.

<sup>4</sup> For the CEQ, one household member responds for the entire household. Each household receives only one incentive.

machines only distribute \$20 bills. We decided to use incentive treatment groups of \$20 and \$40, along with the control group. Amounts in excess of \$40 were ruled out for budget reasons.

We attempted to limit the number of discarded debit cards by delivering the incentives using priority mail. Because enhanced mail procedures are known to improve response rates (Piskurich, 2001), we split the \$0 control group to contrast the delivery of the survey’s advance letter by priority mail versus first class mail (see Table 1). This allows us to look at the effect of priority mail on CEQ response rates.

## 2.5 Sample Size and Design

Incentives primarily affect response rates and only modestly affect data quality (Singer, 2002), so we embedded the experiment within the production survey. We calculated that assigning half of the Wave 1 sample to the incentive condition and running the incentive experiment for one year would allow response rate differences of two or more percentage points across groups to be statistically significant. The experiment length was later reduced from one year to nine months for budget reasons.

We randomly assigned each Wave 1 sample unit to one of the four treatment groups shown in Table 1 (highlighted cells). Table 1 shows that the experimental design is not fully nested, because we decided not to send the debit cards by first class mail, hence the two cells with zero households.

Each treatment group has, in expectation, the same proportion of households by demographic and geographic variables. The experiment ran in all 12 Census regional offices (RO), and approximately half of each interviewer’s Wave 1 workload consisted of incentive cases.

Table 1. CEQ Incentives -- Experimental Design (Actual Household Sample Sizes for Good Addresses)

Mail Option	Incentive Amount			Total
	\$ 0	\$ 20	\$40	
First Class Mail	1,922 (Control)	0	0	1,922
Priority Mail	1,759	1,838	1,805	5,402
<b>Total</b>	3,681	1,838	1,805	7,324

Note: Table 1 contains Wave 1 housing unit sample sizes; we removed vacant and demolished units (Type B and C in Census terms) for the data analysis.

## 2.6 Interviewer Training

To introduce the incentives study and to explain changes in field procedures, the Census Bureau developed computer based training for the approximately 440 Census interviewers that work on the CEQ. In the fall of 2005, the interviewers completed the training on their laptop computers from their

homes. The training took about 30 minutes to complete. Although interviewers did not attend special classroom training prior to the experiment, discussions regarding the incentives were conducted during annual refresher training in the spring of 2006.

## 2.7 Debit Card Assessment Questions

We wanted to learn about the experiences respondents had when receiving and trying to use the debit cards. Respondents received the debit cards by mail prior to the attempted Wave 1 interview, and we indicated in the advance letter that the cards were for their immediate use. Therefore, we knew some percentage of respondents would attempt to use the debit cards prior to the interviewer’s first visit. We added the following five questions to the incentive version of the Wave 1 CEQ interview to learn from these respondents’ experiences.

- 1) The letter you received should have included a debit card, which was a gift from the Census Bureau. Did anyone living at this address receive the debit card?
- 2) The debit card was a gift for you to use. Has anyone tried to use the debit card?
- 3) Is there any reason you haven't tried to use the debit card?
- 4) Were there any problems using the debit card?
- 5) What problems did you have using the debit card?

## 3. Preliminary Results

### 3.1 Data

The CEQ incentives experiment includes housing units with scheduled Wave 1 interviews between November, 2005 and July, 2006. The sample size for the Wave 1 analyses shown in this report is the 7,324 households shown in Table 1. Except for Section 3.4, all data shown in this report are unweighted.

### 3.2 Field Issues

Several problems occurred early in the implementation of the incentives experiment. In November, one regional office<sup>8</sup> (RO) mailed advance letters with insufficient Priority Mail postage to Wave 1 incentive households. The post office left a notice with these households saying that they would have to come to the post office to pay the extra postage to collect this mail. Respondents who paid the additional postage were reimbursed by the Census interviewers.

In December, a different RO mistakenly mailed *all* Wave 1 households an advance letter indicating an incentive was included with their letter, but no debit card was included for the no-incentive designated part of the sample. To resolve this situation, interviewers promised the delivery of a debit card by

<sup>8</sup> The Census Bureau’s interviewing staff is managed by 12 regional offices (RO), so each error at the RO level affected approximately 1/12 of the incentive sample for that month (about 30 cases).

Federal Express at the first household visit. Because these errors had a negligible effect on the overall results, these cases remain in the analysis datasets used for this paper.

### 3.3 Effect of the Incentives on Response Rates

As expected, incentives positively impacted CEQ response rates. Table 2 shows that response rates increase across the four treatment groups in the expected direction, although only comparisons with the \$40 incentive reach statistical significance. The \$40 incentive produced significantly better Wave 1 response rates than the control group ( $p < .01$ ) and the \$20 incentive ( $p < .1$ ), which supports the literature that larger incentives work better than smaller incentives (Rodgers, 2002; James, 1997). Unexpectedly, the \$40 incentive primarily affected the noncontact rate as opposed to the refusal rate. The noncontact rate for the control group is about 50 percent greater than the \$40 group ( $p < .01$ ), compared with about a 10 percent difference in refusal rates (not significant). It is possible that the pre-paid incentive affected non-contact rates by influencing the respondents' decision whether or not to answer the door when our interviewer made the initial contact attempt.

Table 2. Effect of the Incentive on Wave 1 Response Rates

Treatment Group	n	Rate		
		Response Rate	Refusal Rate	Noncontact Rate
<b>Control Group</b>	1,922	77.3	13.9	8.7
<b>Priority Mail</b>	1,759	78.2	13.7	8.0
<b>\$20 Debit Card</b>	1,838	79.1	12.9	7.8
<b>\$40 Debit Card</b>	1,805	81.3 <sup>a</sup>	12.9	5.8 <sup>b</sup>

<sup>a</sup> Significantly different from control ( $p < .01$ ), priority group ( $p < .05$ ), and \$20 incentive ( $p < .1$ )<sup>9</sup>

<sup>b</sup> Significantly different from control ( $p < .01$ ), priority group ( $p < .05$ ), and \$20 incentive ( $p < .05$ )

Note: Wave 1 cases are from November, 2005 – July, 2006.

Another unexpected finding is that the difference between the \$20 and \$40 incentive (2.2 percentage points) is larger than the difference between the control group and the \$20 incentive (1.8 points). The literature generally shows that providing a small incentive creates most of the incentive effect (Trussell and Lavrakas, 2004; Brick et al, 2005), and while larger incentives are better, the rate of improvement diminishes as the incentive increases. A possible reason for our result may be that small debit card incentives behave differently than small cash incentives. If a person could receive a \$1 debit card, reading the instructions, remembering the PIN, and making a trip to an ATM machine might not be worth the value of the gift. Although \$20 is not considered a small

incentive, some households could consider this gift to be more trouble than it's worth.

While the effect of the incentives on Wave 1 response is positive, Wave 1 of the CEQ is used primarily for recall bounding. Only data from Waves 2-5 contribute to published CEQ estimates. Therefore, the success of the incentive is contingent on improving response rates in Waves 2-5. Table 3 shows that although we provided the incentives only in Wave 1, the \$40 incentive continued to improve Wave 2 and Wave 3 response rates.

Table 3. Effect of the Incentive on Wave 2 and Wave 3 Response Rates

Treatment Group	Rate			
	Wave 2		Wave 3	
	(n)	Response Rate	(n)	Response Rate
<b>Control Group</b>	1,229	75.7	591	73.8
<b>Priority Mail</b>	1,155	75.7	553	73.2
<b>\$20 Debit Card</b>	1,196	75.6	562	75.4
<b>\$40 Debit Card</b>	1,160	81.5 <sup>a</sup>	574	78.9 <sup>b</sup>

<sup>a</sup> Significantly different from all other groups ( $p < .01$ )

<sup>b</sup> Significantly different from control and priority mail groups ( $p < .05$ )

Note: Wave 2 cases from February, 2006 – July, 2006 and Wave 3 cases from May, 2006 – July, 2006 were available for this analysis.

### 3.4 Nonresponse Bias

Although the incentive increased the CEQ response rate, the effect of the incentives on nonresponse bias is less clear. Nonresponse bias is a function of both the response rate and the differences on survey variables between respondents and nonrespondents (Groves, 1989). Mean spending and response rates vary by demographic subgroup in the CEQ (McGrath, 2005). To reduce nonresponse bias, the incentives need to increase response rates by inducing response from the types of households often missed by the CEQ. To investigate this question, Table 4 compares some demographic distributions of CEQ households for the control group, incentive group, and population estimates from the Census Bureau.<sup>10</sup>

<sup>10</sup> Although Census estimates have known coverage issues, they are considered to have better coverage than other sample surveys. For Table 4, we consider estimates of geographic and demographic distributions by the Census Bureau's Population Division to be a 'gold standard'.

<sup>9</sup> At this time, we have not adjusted the statistical tests shown in Tables 2-4 to account for the complex sample design nor the multiple comparisons.

Table 4. Effect of the Incentive on Wave 1 Respondent Sample Composition

Geographic / Demographic Groups	No Incentive <sup>11</sup> (percent)	Incentive <sup>12</sup> (percent)	T Test <sup>13</sup> (p)	Census Estimates <sup>14</sup> (percent)
Gender (male)	48.0	47.9	p=.94	49.3
Race <sup>15</sup>				
White alone	79.2	77.1	p<.05	80.2
Black	11.1	13.1	p<.05	13.4
Asian	4.3	3.9	p=.45	4.9
Other races	5.4	5.8	p=.51	1.5
Hispanic	14.6	14.9	p=.75	14.4
Age				
0-19	29.5	29.3	p=.88	27.6
20 – 34	18.6	19.2	p=.56	20.6
35 – 49	22.4	21.0	p=.20	22.4
50 - 64	17.7	18.2	p=.72	17.0
65 Plus	11.8	12.3	p=.56	12.4
Household Size <sup>16</sup>				
1	24.9	26.7	p=.13	26.8
2	33.1	33.9	p=.54	32.7
3	17.3	15.2	p<.05	15.9
4	15.0	13.6	p=.14	14.5
5 +	9.8	10.7	p<.28	10.1

Notes: Counts of people are weighted by baseweights. Percentages shown in this table may not add to 100 percent due to rounding.

As Table 4 shows, the incentives only slightly change the demographic makeup of the CEQ respondents. The incentives appear to bring more blacks into the respondent sample (p<.05). Table 4 shows that because blacks are underrepresented in the CEQ, the incentive is making the respondent sample look more like the population that the original sample represents for this characteristic, which will tend to decrease nonresponse bias. Examining the comparisons in Table 4, the sample composition of the incentive group more closely matches the target population (census estimates) in two of the three comparisons that reach statistical significance (p<.05). Table 4 shows mixed results for the effects of the incentives on nonresponse bias, although the increase in black and single person households is

<sup>11</sup> The no incentive group includes the control groups where advance letters were delivered by 1<sup>st</sup> class or priority mail.

<sup>12</sup> The incentive group includes the \$20 and \$40 incentive groups.

<sup>13</sup> These T Test s compare the no incentive group (collapsing the control and priority mail \$0 groups) with the collapsed incentive groups.

<sup>14</sup> The July, 2005 Census estimates of Population and Housing come from the Census Bureau web page ([www.census.gov](http://www.census.gov)). Source is Population Division, Release Date: May, 2006. (Tables NC-EST2005-0\*)

<sup>15</sup> For this table, respondents are classified as ‘Black’ if they checked ‘Black or African American’ alone or in combination with other races. (We treated Asian the same way.) This is consistent with the Census classification. ‘Other races’ includes people that select ‘Other race’ (72 percent of these people), ‘Native American’, ‘Pacific Islander’, or ‘Don’t Know’ when answering the CEQ race question.

<sup>16</sup> Census Estimates come from Table 2-9 (pp 68). Household Composition – Occupied Units. American Housing Survey for the United States: 2005.

considered important because household surveys frequently under-represent urban households containing these groups.

### 3.5 Debit Cards

#### 3.5.1 Debit Card Assessment Questions

1) Did anyone living at this address receive the debit card?

Because we thought priority mail would increase the percentage of respondents that read the CEQ advance letter, we were surprised by responses to this question. Of the 2,875 respondents that answered, 36 percent indicated that they never received a debit card (answered ‘No’). Reasons for this could be that we mailed the card to an incorrect address, a household member mistakenly (or intentionally) threw the debit card away (e.g., thought it was junk mail), or another household member received and kept the card and the respondent was unaware of the card’s existence. We can determine from the debit card tracking system that 21 percent of households claiming to have never received the debit card cashed the original debit card that we sent, but we do not have information regarding who cashed the card.

It is impossible to determine from the assessment questions why such a high proportion of households reported not receiving their debit cards. As we discussed earlier, pre-paid incentives are the literature-recommended method for distributing cash incentives, but does this apply to debit cards?

Prior versions of the CEQ asked respondents whether or not they received our advance letter, and about 86 percent of Wave 1 respondents answered ‘Yes’. We would have expected a larger number of respondents to recall receiving a debit card than recall a traditional advance letter. Did the advance letter sent by priority mail fare worse than our usual advance letter? Respondents may casually say ‘yes’ they recall seeing an advance letter, even when maybe they don’t recall, but when they realize they may have missed a gift they might make sure to answer that they haven’t received a debit card. Either way, our incentive cannot induce the desired effect if the respondent does not receive the gift.

When households said they didn’t receive the debit card, the interviewer read the following,

*“I’m sorry that you did not receive the debit card. My regional office will send you another card as soon as possible. If you also receive the original card we sent, please destroy it.”*

The RO then mailed an additional card by Federal Express to households indicating that they did not receive the debit card. However, this protocol changes an important design element of the study, because the incentive effectively becomes a promised incentive. It is impossible to compare response rates between households that receive pre-paid versus promised incentives because no experimental treatment was used in our data. We did learn that 98 percent of the households that were offered the promised incentive as a result of their response to question 1 completed the CEQ interview, but these households are not a random sample of households. By answering the incentive assessment questions, these households have effectively begun the interview, and are thus cooperative

households. The uncooperative households, such as households that prove impossible to contact or immediately refuse, never receive the assessment questions, and also never received a debit card by the promised distribution method. An interesting, but unanswered, question is whether response rates would be still higher if we could get the pre-paid incentives to a higher proportion of households.

2) The debit card was a gift for you to use. Has anyone tried to use the debit card?

About 30 percent of debit card recipients reported attempting to cash the debit card prior to the arrival of the Census interviewer. Data from these households provided early feedback into whether respondents had problems with the debit cards, and the results vary by population subgroup. Households where the reference person was aged 35 or younger were twice as likely to report trying to use the card prior to the Wave 1 interview as households with reference persons 56 or older. Also, Black and Hispanic households were 50 percent more likely than White households to use the debit card prior to the interview.

3) Is there any reason you haven't tried to use the debit card?

To speed the interviewing process, we provided interviewers with 9 closed-end answer choices<sup>17</sup> to this question (plus 'Don't Know' or 'Other, specify').

Table 5 shows that almost half of the households (49 percent) had not had a chance to use the debit cards for time-related reasons. After time-related reasons, the next most commonly selected reason (11 percent) was 'Other, specify'. We coded these write-in reasons, most of which could have been placed into the closed ended response alternatives (e.g., time related reasons were also the most common write-in, and should have fallen into row 1 of Table 5). Of the approximately 150 write-in answers, we coded 38 as related to the respondent thinking the debit cards were illegitimate and another 10 related to the respondent throwing the card away as junk mail. Another common reason respondents didn't cash the debit cards is that they were waiting to talk with the interviewer (9 percent), perhaps to gain additional information to determine the legitimacy of the gift, or to determine whether the gift obligates the respondent to complete the survey.

Some of these same issues could have arisen with true cash incentives, while others likely would not. For instance, recipients of a true cash incentive may still be concerned about spending the cash prior to the interview, and wait until they can discuss the gift with the interviewer to make sure 'no strings are attached'. However, it seems likely that no respondents would wonder how to use the cash and almost no

<sup>17</sup> Closed-end response options included 1) Haven't had time, 2) Not clear how to use the debit card, 3) Not clear where to use the debit card 4) Thought using the debit card was a commitment to doing the survey, 5) Debit card is a waste of Government money, 6. Didn't know card could already be used, 7) Another person has the card, 8) Wanted to talk to interviewer about the survey first, 9) Lost, misplaced, or threw away debit card, 10) Other – specify, and 11) Don't Know. We removed response choices that were rarely selected from Table 5.

households would lose the cash. Most of these skeptical debit card recipients ended up responding to Wave 1 of the CEQ, so it remains unclear whether the debit card incentives impact CEQ response differently than true cash incentives would have.

Table 5. Reasons why Respondents Didn't Use the Debit Card Prior to Interview (n = 1,262)

Reason Debit Card not Used	Percent
Haven't had time	49
Not clear how to use the debit card	10
Commitment to doing the survey	5
Didn't know card could already be used	5
Wanted to talk with interviewer about survey	9
Lost or threw away debit card	5
Other, specify	11

4) Were there any problems using the debit card?

Only 32 respondents (< 1 percent) reported having trouble cashing the debit cards.

5) What problems did you have using the debit card?

Most of these 32 respondents reported problems with the ATM machines or the debit card PIN.

### 3.5.2 Debit Card Cash Rates

As discussed in Section 2.2, we were concerned that cash is a more effective incentive than any cash substitute, such as a debit card. The Census Bureau tracks whether the CEQ debit cards were cashed, allowing comparison with other surveys. Beckler and Ott (2006) reported that 39 percent of farmers cashed their \$20 debit cards, and Mitchell (2003) reported a 36 percent debit card cash rate. Table 6 shows the cash rates for the CEQ incentives by incentive amount, by whether the household responded to the survey, and by selected demographic characteristics for respondent households.

Table 6. Percentage of CEQ Households that Cash the Debit Cards (by selected characteristics)

All Households		Respondents Only	
Characteristic	Debit Card Cash Rate (percent)	Characteristic	Debit Card Cash Rate (percent)
<i>OVERALL</i>	63	Black	79
Respondent	75	White	75
Nonrespondent	16	Asian	66
\$20	59	Hispanic	66
\$40	68	Not Hispanic	76
		Aged 66 or Older	69
		All Other Ages	76

As Table 6 shows, about 63 percent of eligible households<sup>18</sup> cashed the debit cards. These cash rates are higher than many surveys using POS or debit cards, most likely because the CEQ incentive program reminds the respondent about the debit card and provides a replacement card when necessary. This protocol increases costs through higher cash rates but should maximize the effect of the incentive on response.

Table 6 also shows that very few nonrespondent households cash the cards. Although this saves the survey organization money (funds are recoverable), it is unclear whether this is a positive outcome. One scenario is that these households weren't going to respond to the survey anyway, they don't cash the cards because it doesn't seem right, and therefore BLS saves money from their low cash rate without adversely affecting response rates (a win/win scenario). A competing scenario is that a subset of these households could have been survey respondents if the incentives (debit cards) had the intended effect. Perhaps some of these households questioned the cards legitimacy, or they didn't understand how to use the cards. In this scenario, the debit cards were not cashed and they did not have the intended effect on response. It is impossible to say from our experiment which of these scenarios more closely represents the truth.

Recipients of \$40 debit cards cashed their incentives at much higher rates than the \$20 group ( $p < .01$ ). This may support the argument that the debit card is a cash substitute that requires effort by the respondent to convert to cash. As the dollar value increases, it becomes more worthwhile for respondents to make this effort. This finding may indicate that \$20 and \$40 debit card incentives may not work similarly to their cash equivalents.

The 'Respondents Only' column of Table 6 shows that 79 percent of Black households cashed the debit card, compared with 75 percent for White households and 66 percent for Asian households. Hispanic households cashed the card at a 66 percent rate, lower than non-Hispanic households at 76 percent. Recall from Section 3.5.1 that more Hispanics than Non-Hispanics had attempted to use the debit card prior to the Wave 1 interview. Combining these two measures, it appears that Hispanic households either cash the debit cards quickly or do not cash them at all. One possibility that may explain this is a language problem. Although interviewers distribute Spanish advance letters when encountering language problems, the original (mailed) advance letter and debit card instructions are currently only printed in English, which may have reduced the utility of the debit card for Hispanic households that only speak Spanish.

Prior to the experiment, we also hypothesized that older CEQ respondents could have trouble with a relatively new technology like debit cards. Table 6 shows that households where the reference person was aged 66 or older cash the debit card at lower rates (69 percent) than households in other age groups (76 percent). Also, these older households reported

more than double the rates of "Not clear how to use the debit card" and triple the rates of "lost card" when responding to debit card assessment question 3.

#### 4. Contact History Data

Prior to the experiment, we hypothesized that the incentives might influence respondents to cooperate with the survey more quickly, thus reducing the number of contacts required to complete a case. If true, this would lead to a reduction in field costs that could partially offset the cost of the incentives. Table 7 shows the average number of contacts per case recorded via the Census Bureau's Contact History Instrument (CHI). Although the \$40 group is statistically different from the other groups, we didn't expect cases assigned the \$20 incentive to require more contacts than the control group. Given this, the effect of the incentives on CEQ field costs seems inconclusive.

Table 7. Average Number of Personal Visit Contacts per CEQ Case (Wave 1)

	Control	Priority Mail	\$20	\$40
Number of Contacts	3.17	3.33	3.29	3.06

CEQ interviewers' record detailed data about each attempted contact with CEQ Households. Interviewers report whether the respondent showed any concerns related to the survey (e.g., Too Busy, Privacy Concerns, etc.). We hypothesized that due to the goodwill of the incentive, interviewers would receive fewer reports of concerns from incentive households. However, the data do not support our expectation. Although the incentive had a positive impact on response rates, it does not appear that the incentive lessened respondent concerns regarding the survey (data not shown).

#### 5. Discussion

Incentives significantly improved Wave 1 CEQ response rates. Average Wave 1 response rates were 81.3 percent for the \$40 incentive, compared with 79.1 percent for the \$20 incentive, 78.2 percent for \$0 by priority mail, and 77.3 percent for the control group. Results for all incentive treatment groups were in the expected directions. For the \$40 incentive, preliminary results look encouraging that the response rate gains will continue for several waves of the survey.

Few respondents had difficulty using the debit cards; however, about 1/3 of all debit card recipients reported not receiving the card. It is unclear why this occurred, but some data captured during the debit card assessment questions lends support to the theory that many respondents did not perceive the debit card as a legitimate, unconditional gift.

<sup>18</sup> The data in Table 6 exclude vacant and demolished housing units (Type B and C in Census Bureau terms). If we include these types of households, the debit card cash rate is slightly over 50 percent. Also, because respondents have six months to cash the debit cards, the debit card cash rates shown in Table 6 are not final, but will be very similar to final rates.

## 6. Future Research

The incentives data shown in this paper are preliminary. Although we don't expect the substantive findings relating to response rates to change, only complete Wave 1 data were available for the paper. We will continue to track the effects of the incentives on CEQ response rates through Wave 5. We will also analyze the effect of the incentives on expenditures data, imputation rates, and the quality of income data as edited and weighted files become available.

In February, 2006, we implemented a similar incentives experiment in the Consumer Expenditures Diary (CED) survey. We will assess whether the incentive impacts response rates and data quality to the self-administered diary survey similarly to the CEQ.

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