EFFECT OF REDUCING THE DATA COLLECTION PERIOD ON THE CONSUMER EXPENDITURE QUARTERLY SURVEY RESPONSE RATES

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INTRODUCTION

The Consumer Expenditure (CE) Quarterly Survey, one of the largest and most complex U.S. government surveys currently fielded, has been conducted by the Census Bureau for the Bureau of Labor Statistics each month since 1979. Together with its sister survey, the CE Diary Survey, it provides a current and continuous series of data on consumer expenditures and other related characteristics for use in determining the need to revise the Consumer Price Index (CPI), update the weights used to calculate the index, and for use in family expenditure studies and other analyses. To obtain the information necessary for these various activities, the CE Quarterly survey instrument includes several hundred questions, and the mean interview time is about 90 minutes. Response rates are about 80 percent, compared with 95 percent or more for the shorter Current Population Survey (CPS).

Because of its size and complexity, the CE Quarterly Survey is also one of the last major demographic surveys at the Census Bureau to use a paper instrument for data collection. We expect to convert the survey data collection mode to Computer Assisted Personal Interview (CAPI) in 2003.

Twelve Census Bureau regional offices have direct responsibility for the data collection effort, which includes monitoring costs and response rates, conducting a cursory clerical edit, and shipping completed forms to the Census Bureau's National Processing Center in Jeffersonville, Indiana. Each month, field staff attempt to contact and interview approximately 4800 households, and they have from the first day of the month until the last day of the month to do so. However, until 1999, procedures allowed the regional offices seven working days after the last day of the month to complete editing and ship their materials to the National Processing Center. The scheduled date for the last shipment for the month , which is generally the same for all regional offices, is called the *closeout date*. This date is the focus of this paper.

We received anecdotal reports that the interviewers knew about the seven "extra" days, and that interviewers commonly sent their completed forms to the regional offices well after the last day of the month. Most Census Bureau interviewers work on more than one survey, and the CPS is prominent among these. Data collection for the CPS is one week, instead of one month, and pressure exists to work exclusively on that survey during the week it is in the field. In addition, surveys conducted using CAPI have locked-in closeout dates: there are no "extra" days to ship materials to the regional offices. As a result, reports say, some interviewers delay the start of their CE Quarterly work. Some don't even begin their CE Quarterly assignments (average assignment: 10 - 15 cases per month) until after the week the CPS is fielded, that is, not until after the week of the 19th of the month. For a month when the 19th falls on a Sunday, that would mean that some interviewers wouldn't begin their CE Quarterly assignments until the 26th of the month.

Regardless of anecdote, it is certainly true that when the closeout date is as late as seven days after the end of the data collection month, the regional office staffs are working on the previous month's cases during the first week of the current month. Limited time and resources are available for field representative support and non-response follow-up for the current month's assignment until after the closeout date for the previous month.

We hypothesized that changing the closeout date to the 26th of the month would force the interviewers to begin work on their monthly assignments early in the month. Since this would alleviate the extra burden on the regional office staff early in the month, we also hypothesized that the response rate would increase over time.

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[1]This paper reports the results of research and analysis undertaken by Census Bureau staff. It has undergone a Census Bureau review more limited in scope than that given to official Census Bureau publications. This report is released to inform interested parties of ongoing research and to encourage discussion of work in progress.

TEST DESIGN

To test the hypotheses, we decided to use an earlier closeout date in four regional offices and set the test period for November 1999 through March 2000, a period of five months. We recruited four regional offices who were willing to participate in the test. Three (Charlotte, Los Angeles, and New York) volunteered to use a closeout date of the 26th day of the month; the fourth, Seattle, agreed to use the last working day of the month. This required field staff to complete interviews earlier than the last day of the month to meet the closeout date.

The other eight regional offices followed the usual procedures; they served as the control group.

The four regional offices provided good geographic representation of the United States, including very urban and very rural areas. However, the representativeness on response rates was not as good. We relied on regional office staff who were willing to volunteer for the test. Historically, the average response rate for the four selected regional offices tended to be lower than the national average (three of the four were significantly lower, $p < .10$). The refusal rates for Los Angeles and New York were significantly higher than the national average, using a difference of proportions test. See Table 1.

IMPLEMENTATION

Requests for extending the scheduled closeout dates were approved on a case-by-case basis, depending on the response rates and the reason for the request. Though the regional offices knew about the test, and its purpose, the production interview rate took priority over strict adherence to the test schedule, and in fact only Seattle, with the later closeout date of the last working day of the month, successfully met all five agreed-upon closeout dates. The other regional offices still attempted to meet the earlier closeout dates, for the most part. See Table 2 for a comparison of the scheduled closeout dates against the actual closeout dates.

For the four regional offices in the test group, the actual closeout dates are the dates that each regional office informed Census Bureau headquarters personnel that they had made their last shipment. The last column, the difference in days, is the difference in working days between the actual closeout date and the scheduled closeout date for the control group. It is an indicator of how well this group did in achieving an earlier closeout. A negative number indicates that the actual closeout date was earlier than the scheduled date for the control group; a positive number indicates that it was later.

Table 1
1998 Response Rates, Test Vs. Control Groups

Regional Office	Coverage	1998 Response Rate (%)	1998 Refusal Rate (%)
Charlotte	NC, SC, VA, KY, TN	79.3*	15.5
Los Angeles	Southern CA, HI	77.9*	19.7 **
New York	New York City, some counties in NJ and NY State	73.2*	20.5 **
Seattle	WA, AK, ID, OR, Northern CA (includes San Francisco)	79.8	17.0
National Average	50 states plus the District of Columbia	80.7	16.4

* significantly lower response rate, $p < .10$
** significantly higher refusal rate, $p < .10$

For comparison purposes, the control group is included in Table 2. The actual closeout date for this group is the date that the last shipment from all regional offices was received in the National Processing Center. Because this includes transit time, this date would be expected to be about 2 days after the scheduled closeout dates. As the table shows, the control group did not meet its scheduled dates for three of the five months of the test (December, January, and March).

RESULTS AND CONCLUSIONS

The response rates and refusal rates for the four test regional offices, the control group, and all twelve regional offices are provided in Charts 1and 2.

Although the regional offices in the test group did not do as well as the control group, it is difficult to draw any conclusions, since, as Table 1 shows, their response rates are historically lower than the regional offices in the control group.

We next plotted response rates for the four regional offices against November 1997 - March 1998, and against November 1998 - March 1999. This would allow us to remove the effect of seasonal variations (for example, any differences in response rates around the end of the year because of holiday activities) and underlying response rate differences among regional offices.

Table 2
Test Period Closeout Dates, Test Vs. Control Groups

Regional Office	Month	Scheduled Closeout Date	Actual Closeout Date	Difference in Days from Scheduled Closeout of Control Group
Charlotte	November	11/26/99	12/10/99	+1
	December	12/26/99	1/10/00	-1
	January	1/26/00	2/8/00	0
	February	2/26/00	3/10/00	+3
	March	3/26/00	4/11/00	+2
Los Angeles	November	11/26/99	11/26/99	-9
	December	12/26/99	12/26/99	-10
	January	1/26/00	1/31/00	-6
	February	2/26/00	2/29/00	-5
	March	3/26/00	3/31/00	-5
New York	November	11/26/99	11/30/99	-7
	December	12/26/99	12/31/99	-7
	January	1/26/00	1/31/00	-6
	February	2/26/00	3/10/00	+3
	March	3/26/00	4/7/00	0
Seattle	November	11/30/99	11/30/99	-7
	December	12/31/99	12/31/99	-7
	January	1/31/00	1/31/00	-6
	February	2/29/00	2/29/00	-5
	March	3/31/00	3/31/00	-5
Control Group	November	12/9/99	12/13/99	+2
	December	1/11/00	1/19/00	+5
	January	2/8/00	2/14/00	+4
	February	3/7/00	3/9/00	+2
	March	4/7/00	4/13/00	+4

Chart 1: Response Rate by Group

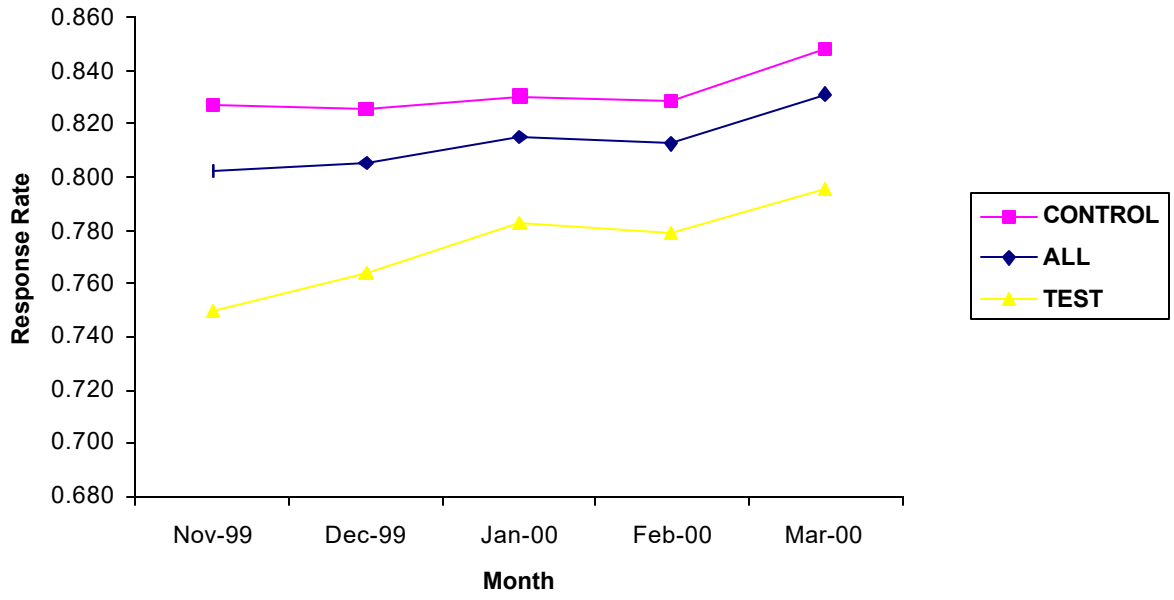
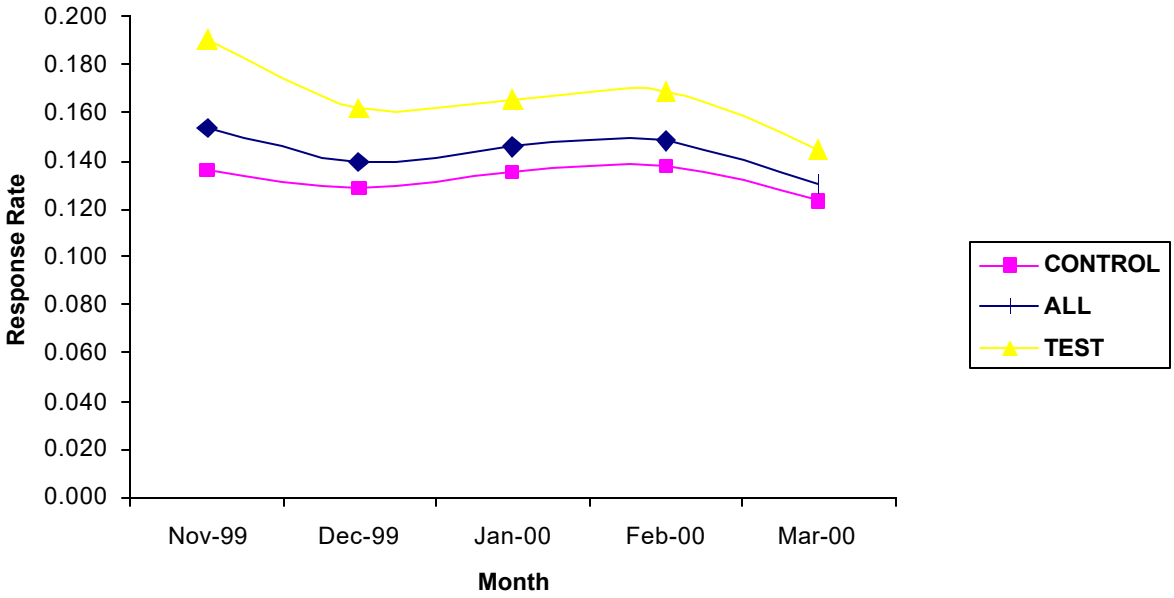


Chart 2: Refusal Rate by Group



The overall response rates for the three periods are as follows:

Table 3
Comparison of Historical
Response Rates for Test Groups

Regional Office	Nov. 97 - Mar. 98	Nov. 98 - Mar. 99	Nov. 99 - Mar. 00
Charlotte	77.7	78.1	77.3
Los Angeles	79.2	75.2	72.9
New York	76.9	73.3	74.6
Seattle	80.2	80.2	82.8
All Test Regional Offices	78.7 (n=3666; N=4656)	77.2 (n=5059; N=6555)	77.4 (n=5111; N=6601)

Response rates were calculated by dividing the number of interviews (n) by the number of eligible cases (N) for each of the four test regional offices considered separately and also for the four considered as a group.

Note that there was an increase in the sample size at the beginning of 1998. A difference in proportions test showed that the overall response rates for the four regional offices were not significantly different ($p > .10$), and thus, that the earlier closeout date did not significantly affect response rates..

The refusal rates for the four regional offices for the three periods are as follows:

Table 4
Comparison of Historical
Refusal Rates for Test Groups

Regional Office	Nov. 97 - Mar. 98	Nov. 98 - Mar. 99	Nov. 99 - Mar. 00
Charlotte	18.1	13.3	14.0
Los Angeles	18.9	22.0	22.2
New York	18.1	20.0	15.5
Seattle	16.6	15.9	14.2
All Test Regional Offices	17.8 (n=831)	17.8 (n=1165)	16.6 (n=1097)

The overall refusal rates for the test groups were lower during the test period ($p < .10$). This *may* be due to the greater support available from the regional office early in the month.

There was some concern that a shorter data collection period would lead to higher noncontact rates, since there would be less time available to find respondents at home. The noncontact rates for the four test regional offices were as follows:

Table 5
Comparison of Historical
Noncontact Rates for Test Groups

Noncontact Type	Nov. 1997 - Mar. 1998	Nov. 1998 - Mar. 1999	Nov. 99 - Mar. 00
No One Home	2.1 (n=98)	2.7 (n=180)	3.9 (n=259)
Temp. Absent	1.2 (n=80)	0.09 (n=43)	1.2 (n=79)

The No One Home rate was significantly higher during the test period, compared with the November 1997 - March 1998 and November 1998 - March 1999 data collection periods. But because the refusal rates tended to be lower, the overall response rates were not significantly different for the test regions as a group during the test period.

Based on the preliminary test results, the closeout date was moved to the first working day of the month following data collection in all twelve regional offices, beginning in July 2000. We still hope, based on the test results and field experience, to improve our response rates over time. Under CAPI, it is essential to close out on the last day of the month, and the regional offices have acknowledged the changes that will be necessary. We will be monitoring the effect of the earlier closeout dates on response rates. We also expect to look at the new closeout date's effect on data quality.

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