# Gemini Project Vision Document

Gemini Project Steering Team

Bureau of Labor Statistics

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The purpose of this document is to provide an overview of the Gemini Project.

### *Gemini Project Mission*

With the Gemini Project, the U.S. Bureau of Labor Statistics (BLS) aims to redesign the Consumer Expenditure (CE) surveys to improve data quality through a verifiable reduction in measurement error—particularly error caused by underreporting. The effort to reduce measurement error will combat further declines in response rates by balancing any expected benefits of survey design changes against any potential negative effects on response rates. Any improvements introduced as part of the Gemini Project should not increase budgetary burden, but instead, should remain budget neutral.

### *CE Survey Objectives and Uses*

By improving the quality of the CE estimates, the CE surveys (the CE quarterly interview, or "CEQ," and the CE diary, or "CED") satisfy their primary purpose: maintaining the integrity of the expenditure weights used in the Consumer Price Index (CPI). Improved data quality and stable or increasing response rates enhance the usefulness of the CE data for both public and private users. In the Federal sphere, for example, the Bureau of Economic Analysis (BEA) uses the data in estimating Personal Consumption Expenditures (PCE), while the Bureau of the Census employs Consumer Expenditure Survey-based thresholds to produce experimental poverty statistics. Congressional committees also request special tabulations of the data on issues such as the potential impact of increases in the minimum wage. The academic community and research organizations use CE public-use microdata extensively in their analytical work, investigating topics such as consumption over a person's lifecycle, trends in expenditure inequality, the impact of public policy proposals on spending by consumers, and the consumption behavior of consumer units given differences in socioeconomic and demographic characteristics. Private companies use both CE tabular data and CE microdata in marketing their products and services. They do this directly or through firms that purchase CE microdata to provide such analytical services. In addition, CE data are a recommended resource for prospective entrepreneurs developing their business plans.

***Motivation for Redesign***

The design of the CE surveys must be updated on an as-needed basis to address the effect of changes in society, technology, new consumer products, and spending methods on survey estimates. Without these updates, the CE surveys will not be able to continue producing high quality expenditure estimates for users.

Surveys today face well-known challenges that affect response rates, such as increasingly busy respondents, confidentiality and privacy concerns, competing surveys, controlled-access residences, and non-English-speaking households. The CE surveys face unique challenges that directly influence the quality of the data collected. Presented in order of importance, the three most challenging issues for the CE surveys are the evidence of measurement error in the survey data, environmental changes related to new technology and consumption behaviors, and the need for greater flexibility in the mode of data collection and ability to update data collection strategies.

1. <u>Measurement Error</u>. From 1984 until the present, the ratios of aggregate expenditure estimates from the CE compared with PCE data from the National Accounts show a declining trend for a large number of spending categories, serving as evidence of underreporting. Similar findings from internal methodological studies and the 2008 CE Program Review Report present further evidence of a growing concern about the quality of reported data. Underreporting in the CE may result from perceived (and real) respondent burden due to survey length and complexity, panel or questionnaire conditioning, increasing telephone administration of a survey originally designed for personal visit interviews, proxy reporting by a single household member, recall effects stemming from a 3-month reference period, and other sources of measurement error.

2. <u>Environmental Changes</u>. As new technologies evolve and are adopted, the CE survey must adapt to account for the environmental changes that accompany technological innovation. The two most important changes are the transformation of

respondent behavior and the emergence of new data collection options. For example, online purchases and automatic payments are two popular methods of payment, and questionnaire design and data collection methods may have to be adapted to better account for them. The availability of new technology for data collection, such as a web diary, a portable digital assistant (PDA) instrument, or financial-software-generated balance sheets, offers new opportunities by which to collect data. Additionally, respondents may expect to be able to respond to the survey online, a service which BLS does not currently offer. Furthermore, a different survey design may better capture certain types of expenditures, such as automatically-billed payments. Finally, the impact of shopping at large general merchandise stores, such as Costco and Walmart, on expenditure reporting is not known, but the topic-specific design of the survey may not correspond well to purchases of a large variety of goods at a single store. A different survey design may be better suited for capturing such expenditures.

3. Greater Flexibility. The CE needs greater flexibility for two main reasons: to enable CEQ interviewing in more than one mode and to allow for faster implementation of changes to the questionnaire or instrument. Regarding the first reason, a multimode design would allow data collection to be tailored to the needs of the respondent, and could help to address the environmental changes noted above. For example, respondents who have very little time, have difficulty keeping a CED diary, or do not want an interviewer in their home all have different ways of optimally reporting their data. Accordingly, they would be more likely to complete an interview using one mode over another. The second reason for greater flexibility is that, as currently designed, changing the computer-assisted personal interviewing (CAPI) instrument requires considerable lead time. Increased flexibility in the instrument would allow the program to be responsive to social and external changes without a major instrument restructuring.

Reducing measurement error is the primary mission of the Gemini Project, but environmental changes are an increasingly important mechanism through which measurement error may be introduced to the survey. And greater flexibility in the ability to update or revise data collection strategies better positions the survey to quickly respond to these environmental changes over the long term.

Furthermore, the consumer expenditures that the survey seeks to measure have changed considerably over the past 30 years, while the fundamental design of the survey has not. Although a number of smaller scale improvements have been incorporated into the survey design, including the transition to a CAPI instrument, these changes have not been made within a larger, more comprehensive framework of addressing identified survey weaknesses.

BLS is initiating survey redesign plans now to account for the length of time needed to develop, evaluate, pilot test, and implement a large-scale survey redesign. If the process goes according to schedule, the Gemini Project will have a redesign roadmap in place by 2013. The timeline should not exceed 5 years for development and pilot testing, with a new survey in the field within 10 years.

### *Gemini Project Objectives*

The primary and short-term objective of the Gemini Project is to develop a detailed research planning document for a redesign of the CE surveys, which will promote improved expenditure estimates through a reduction in measurement error. The planning document will describe the priorities, individual steps, timeframe, resource needs, and costs required for the development, pilot testing, evaluation, and implementation of a redesigned CE survey or surveys. The document will also guide the development and implementation of CE research studies throughout the Gemini Project lifecycle.

The long-term objectives of the redesign initiative are to reduce measurement error, improve overall data quality, enhance the analytic value of CE data to users, and implement a new design that supports a greater operational flexibility to respond to changes in the interviewing environment.

Finally, the costs of a redesigned survey cannot exceed current budget levels. Therefore, all proposed changes will be subject to budgetary constraints, and implementation decisions will be considered in terms of priorities and trade-offs. To allow for an unpredictable budgetary environment, the planning document will address both a complete redesign of the CE surveys as well as more limited modifications to the current design.

### *Approach*

The Gemini Project is managed by a project leader and steering team, with guidance from an executive management group. The Gemini Project includes three stages of work. (The timeframes for Stages 1 and 2 are outlined in Attachment 1.) Stage 1 focuses on research to reduce measurement error in the process of redesigning the CE surveys and consists of five major steps:

1. Establish a chartered steering team to oversee project activities.
2. Create a research project tracking system.
3. Define data quality for CE.
4. Coordinate a series of information gathering events.
5. Propose redesign models.

Multiple information-gathering meetings, conference sessions, forums, and workshops are included in Stage 1, including the following events:

- Survey Redesign Panel Discussion, co-sponsored by the Washington Chapter of the American Association for Public Opinion Research (DC-AAPOR) and the Washington Statistical Society (WSS) (January 2010)
- Data Capture Technology Forum (March 2010)
- AAPOR Panel on Respondent Record Use (May 2010)
- Data User Needs Forum (June 2010)
- CE Methods Workshop (December 2010)
- Consensus Expert Panel First Meeting (February 2011)
- Household Survey Producers Workshop and Consensus Expert Panel Second Meeting (June 2011)
- CE Redesign Options Workshop and Consensus Expert Panel Third Meeting (October 2011)
- Consensus Expert Panel Fourth Meeting (January 2012)
- Survey Methods Symposium (July 2012)
- CNSTAT Report Workshop (scheduled for October 2012)

Future events will focus on the proposed redesign, as well as issues identified during past events and other survey method topics of interest.

The following significant reports and contracts were also completed or awarded or are in-progress during Stage 1:

- Data Quality Definition Report (October 2009)
- CPI Requirements Paper (June 2010)

- Conference Team Report (August 2010)
- CNSTAT Consensus Expert Panel contract awarded (September 2010)
- CE Data Requirements Report (May 2011)
- Independent Redesign Proposals II contract awarded (June 2012)[1]
- Gemini Technology Team Report (June 2012)[2]
- Gemini Sampling Team I Report (September 2012)[3]
- Small-scale Redesign Project Report (September 2012)[4]
- OPLC Requirements Team Report (expected October 2012)[5]
- Independent Redesign Proposals II proof-of-concept presentation (expected November 2012)

The team that will write the CE Resign Proposal, the Gemini Design Team, is a joint BLS-Census team and kicked-off in July 2012. Their proposal will be given to BLS management in March 2013.

Stage 2 will integrate the research findings from Stage 1 into a coherent plan consisting of two major steps: 1) Assess user impacts and 2) Finalize roadmap for piloting, evaluating, and transitioning to new design.

Pilot testing the proposed redesigns, conducting additional research on alternative designs, and implementing the approved redesign can be considered a third stage of the redesign process. Stage 3 will include work to develop, test and implement the survey redesign using the transition roadmap approved by senior management.

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[1] A contract with a vendor was awarded for the development and proposal of a CE Redesign given updated CE design decisions, cost estimates, and preliminary reconciled expenditure categories. Their first proof-of-concept presentation will be in November 2012.

[2] This team comprised of BLS and Census members reviewed the research literature to-date and recommended the most promising technologies for the CE Redesign Proposal.

[3] This team estimated sample sizes required for the CED and CEQ based on a preliminary list of reconciled expenditure categories.

[4] The Gemini Steering Team met during Winter and Spring of 2012 to discuss small-scale changes that could be made to CE. The goals of these changes were to reduce respondent burden by streamlining the interview, reduce costs, and to improve data quality (e.g., measurement error) to the extent possible without increasing burden or cost. A memo of suggested changes for 2015 was delivered and a memo for suggested changes for 2017 will be generated.

[5] This team will reconcile CE-CPI data requirements into one set of reconciled expenditure categories.

### *Redesign Topics*

Many different elements of survey methodology affect a survey redesign. Table 1 includes a list of those topics that are most important to preliminary discussions for a redesigned CE, a description of those topics, and examples of the forums where the topic were discussed. Some topics, such as administrative records or other external data, have been researched and determined to be sufficiently infeasible that CE will not continue to investigate them. In the case of administrative records, this decision was made due to concerns about complexity from multiple data collection streams, resource constraints, quality of administrative data, respondent compliance, source compliance (e.g., store or third party aggregator), representativeness, and other risks due to loss of control over collection. Note that Table 1 is not meant to be a complete list of topics, nor is it a complete list of venues for discussion. Additionally, Attachment 2 lists the current and possible BLS research projects to support the survey redesign. Since these projects span a number of the survey methods topics, it made sense to list them separately rather than fitting them into this table.

***Table 1. Topics for Investigation and Further Research (listed alphabetically)***

| Topic | Description | Forum for discussion |
|---|---|---|
| Administrative records/external data | Some of the information that CE collects is collected in other sources. Using external data could reduce respondent burden and potentially improve data quality (depending on the quality of the external data). | - Household Survey Producers Workshop (June 2011)<br>- CE Redesign Options Workshop (October 2011) |
| Data user needs | It is important to get input from data users to understand their uses of the data and to get suggestions for changes to the surveys. | - On an ongoing basis, keep users informed of the status of the project through meetings and presentations, including the expert panel<br>- Data User Needs Forum (June 2010) |
| Mixed-mode designs | Offering more than one data collection mode (e.g., telephone or web) may increase response rates and reduce bias. BLS must determine how to design and implement a successful mixed-mode survey. | - Household Survey Producers Workshop (June 2011)<br>- CE Redesign Options Workshop (October 2011) |

| Topic | Description | Forum for discussion |
|---|---|---|
| New technology | BLS will examine technologies for data collection, such as PDAs, smart phones, or various types of scanning technologies, and determine their possible use and cost for CE. | - Data Capture Technology Forum (March 2010)<br>- Westat's "Data Capture Technology" presentation at FedCASIC (March 2011)<br>- Household Survey Producers Workshop (June 2011)<br>- CE Redesign Options Workshop (October 2011)<br>- Survey Methods Symposium (July 2012) |
| Proxy reporting | Collecting data from all consumer unit members may result in better reporting. BLS will determine how best to collect data from all consumer unit members without increasing unit nonresponse. | - Household Survey Producers Workshop (June 2011)<br>- CE Redesign Options Workshop (October 2011) |
| Questionnaire design | The use of alternative designs for the CE survey may allow for more efficient data collection or the collection of higher quality data. BLS will determine how CE can incorporate different types of interview structures or technology-driven approaches into the data collection process. | - Survey Redesign Panel Discussion, sponsored by DC-AAPOR and WSS (January 2010)<br>- CE Methods Workshop (December 2010) |
| Recall period | A shorter recall period may result in better recall and therefore higher quality reporting. On the other hand, contacting respondents more often (such as monthly) might lead respondents to stop reporting or to report fewer expenditures. | - CE Methods Workshop (December 2010) |
| Records and recall aids | Increased reliance or improved guidance on records, receipts, and recall aids, including electronic records, may result in better reporting. BLS will determine how these resources can be integrated effectively into the CE. | - AAPOR Panel on Respondent Record Use (May 2010) |

| Topic | Description | Forum for discussion |
|---|---|---|
| Required data elements and features in redesigned survey | A formal process to specify the data elements, both expenditure and nonexpenditure, and ancillary features, including timeliness and periodicity, necessary to satisfy the needs of the CPI, CE and DPINR programs. This will become a requirements document to guide design teams on the data the redesigned CE survey should obtain. | - OPLC Requirements for CE Team (October 2012) |
| Respondent burden | An interview that is shorter or less burdensome cognitively could result in better reporting, higher retention rates, and reduced bias in later interviews. Possible approaches might include increased use of screener questions or asking subsets of questions supplemented by global questions in place of the whole interview. | - CE Methods Workshop (December 2010) |

***Criteria for Success***

The success of the Gemini Project will be judged based on the accomplishment of the following three sets of criteria, listed in descending order of priority:

1. There is a measurable reduction in measurement error.
2. There is an overall increase in data quality, including a balanced evaluation of the mean squared error of the cost weights, and reduction of components of bias and variance attributable to specific sources of sampling or nonsampling error, such as unit nonresponse, wave nonresponse, or item nonresponse. Data quality criteria may also include other factors such as timeliness. Practical decisions on methodology and field operations will involve trade-offs among cost and error factors for different components of bias and variance. Realistically, it is not expected that there will be uniform improvement in all components of error: some will decrease, and some will increase.

3. The analytic value of CE data for researchers and policymakers is maintained or improved, both for microeconomic and macroeconomic data users.

To the extent possible, it is also important that the new design supports a greater operational flexibility to respond to changes in the interviewing environment, and that results from the success criteria are reasonably robust against future changes in societal and technological factors and variability in budgetary levels.

***Stakeholders***

The stakeholders for the Gemini Project include all groups involved in or concerned about the impact of survey design changes on the collection, processing, editing (including imputation and allocation), weighting, estimation, evaluation, quality, and use of CE data. These groups include

- BLS Associate Commissioner, Office of Prices and Living Conditions (OPLC)
- BLS Division of Consumer Expenditure Information Systems (CEIS)
- BLS Division of Consumer Expenditure Survey (DCE)
- BLS Division of Consumer Prices and Price Indexes (CPI)
- BLS Division of Price and Index Number Research (DPINR)
- BLS Division of Price Statistical Methods, Branch of Consumer Expenditures (SMD)
- Bureau of the Census (BoC)
- Other Federal Agencies including the Bureau of Economic Analysis (BEA), the Internal Revenue Service (IRS), and the Department of Defense (DoD)
- Other individual users of CE microdata and published estimates in the academic, Government, nonprofit, and commercial sectors.

**Attachment 1. Gemini Project Timeline**

***2009***

| | | | |
|---|---|---|---|
| February | Milestone* | - | Gemini Project kick-off |
| March | Milestone* | - | Research Project Tracking System Team, Redesign Conference Team and Data Quality Team chartered |
| July | Milestone* | - | Expert Panel chartered |
| August | Milestone* | - | Expert Panel kickoff meeting |
| October | Deliverable* | - | Data Quality Definition report completed |
| December | Deliverable* | - | CE Methods Workshop issue papers completed |

***2010***

| | | | |
|---|---|---|---|
| January | Event* | - | Survey Redesign Panel Discussion featuring representatives from five major Federal surveys |
| March | Event * | - | Data Capture Technology Forum |
| May | Event* | - | AAPOR (American Association for Public Opinion Research) Panel on Respondent Record Use |
| June | Event* | - | Data User Needs Forum |
| August | Deliverable* | - | Data User Needs Team report completed |
| August | Deliverable* | - | Conference Team report completed |
| November | Deliverable* | - | Statement on CE Data Priorities released |
| December | Event* | - | CE Methods Workshop |
| December | Deliverable* | - | Research Project Tracking System report completed |

***2011***

| | | | |
|---|---|---|---|
| June | Event* | - | Household Survey Producers Workshop |
| October | Event* | - | CE Redesign Options Workshop |

***2012***

| | | | |
|---|---|---|---|
| June | Deliverable* | - | Gemini Technology Team Report |
| July | Event* | - | CE Survey Methods Symposium |
| August | Deliverable* | - | CNSTAT Consensus Expert Panel pre-publication report |
| September | Deliverable* | - | Gemini Sampling Team I Final Report |
| October | Deliverable | - | Public release of the CNSTAT Consensus Expert Panel report |
| October | Deliverable | - | OPLC Requirements Team Report |
| October | Event | - | CNSTAT Consensus Expert Panel Report Workshop |
| Fall and Winter | Milestone | - | Develop models for redesign |
| December | Milestone | - | Presentation at Federal Economic Statistics Advisory Committee Meeting |

***2013***

| | | | |
|---|---|---|---|
| March | Deliverable | - | Gemini Design Team proposal completed |
| April and May | Milestone | - | Presentations of the Redesign Proposal to CE Management for review and approval |
| August | Deliverable | - | User Impact Team report completed |
| December to February 2014 | Deliverable | - | Detailed transition roadmap (planning document)/presentations for proposed redesign |

* Completed tasks

**Attachment 2. Research Projects Related to the Redesign (listed alphabetically)**

The following is a list of current or future BLS projects that could inform the survey redesign effort for FY09 - FY13, the length of the Gemini Project through Stage 2, all conditional on continued resources and funding.

| Project Title | Start Year | Description |
|---|---|---|
| CE Measurement Error Study Phase 1 | 2012 (in-progress) | This is Phase 1 of a multi-phased study (to span 2012 through 2014) to document the state of knowledge about measurement error for the current CE, and to develop methods and/ metrics for monitoring this error source over time. This will also serve as an input for evaluating the redesign. |
| Census Project on Combining Split Questionnaire Files | 2011 (in-progress) | The purpose of this project is to identify a method for combining split questionnaire data files that produces a complete microdata file at the variable level, provide a detailed specification and evaluation of the selected method, and produce a final comprehensive report. |
| Diary-to-Interview Imputation Methods | 2011 (in-progress) | The purpose of this project is to develop a statistical model that will enable the CE program to delete questions from the Interview Survey and impute for the missing data by using data from the Diary Survey for similar CUs. The results of this project will be used to improve data quality in the Interview Survey by using the items in the Diary Survey that have higher expenditures. |
| Evaluation of Financial Application Software | 2011 (in-progress) | The purpose of this project is to evaluate the capabilities and features of a variety of expense tracking applications (apps) available on handheld devices, as well as the experience of using the apps to report daily expenses using internal participants |
| Expenditure Application Prototype & Feasibility Study | 2013 | The purpose of this project is to develop an expenditure-oriented smart phone app, tailored to CE requirements, which diary respondents could use to record their daily expenditures. In conjunction with development, the app will be usability- and field-tested. |
| Individual Diaries Field Study | 2012 (in-progress) | The purpose of testing individual mobile app diary and web diary log-ins is to evaluate the operational issues associated with individual log-in placement with respondents and, once placed, to determine the data quality and response rate changes associated. |

| Project Title | Start Year | Description |
|---|---|---|
| Records Information and Feasibility of Use | 2011 (in-progress) | The purpose of this project is to evaluate what information, necessary for the completion of the CE instrument, is contained on respondents' financial records and whether that information can be used to answer the CE questionnaire without further input from respondents. The results of this project will provide an indication of how feasible it would be to shift the CE from a primary focus on respondents' reports from memory to a focus on financial records collection and processing. |
| Web Diary Feasibility Test | 2011 (in-progress) | The purpose of this project is to test the feasibility and impact of using a web diary to collect Diary Survey expenditures, relying on a prototype developed by the Census Bureau (from a previous project). The results of this project will allow CE to understand the operational issues regarding implementing a web mode for the CE, including respondent and interviewer reactions to the process. It will also allow CE to explore data quality and response rate issues with implementing a new mode. |

**Attachment 3. Completed Research Projects Related to the Redesign (listed chronologically)**

| Project Title | Start Year | Description |
|---|---|---|
| The Effects of Incentives on the Consumer Expenditure Interview Survey | 2009 | This study involved an experiment in which a randomly-selected subsample of the production survey's households was given an incentive (either $20 or $40) prior to their first (wave 1) interviews. CE then monitored the response rates and reporting patterns of those households throughout the year of their survey participation (interview waves 2 through 5) to measure the effect of the incentives on response rates and on data quality. For the $40 incentive treatment group, response rates and many indicators of data quality were higher than those of the no-incentive groups. Most of the effects for the $40 incentive lasted through wave 5 of the Interview Survey and the cost of the $40 debit cards could potentially be covered by lower field costs for the respondents who received them. On the other hand, the $20 incentive treatment group was not statistically different from the no-incentive groups on response rates and most other measures. |
| CE Data Quality Study | 2009 | The purpose of this project was to explore the relationship between post-hoc editing of responses (imputation, allocation, etc.) and a variety of demographic variables. The project found that several demographic characteristics are significantly likely to increase the odds of editing. This suggests that CE data quality may not be uniformly distributed throughout various groups in the sample. The findings were documented for internal reference. |
| Gemini Methods Workshop | 2010 | The goal of the Methods Workshop was to assess the state of knowledge in the survey methodology community on a variety of specific issues related to the collection of data in the CE survey, including but not limited to global questions, proxy reporting, recall period, split questionnaire and interview structure. The output of this workshop was a series of papers by experts on the topic summarizing the state of knowledge on these issues and potential areas of research that the CE should consider pursuing. A summary of the discussions and recommendations from the workshop was also produced. |

| Project Title | Start Year | Description |
|---|---|---|
| Measurement Issues Study | 2010 | The purpose of this project was to test the impact of a shorter CEQ survey and a 1-month reference period on data quality, nonresponse error, and respondent burden. The findings indicated that the shortened questionnaire treatment produced moderate gains in data quality (i.e., higher expenditure estimates and reports), reduced between-interview attrition rates, and significant improvements in respondent burden comparisons. The results of the project have been used to inform CE redesign decisions regarding the adoption of a shorter questionnaire and/or a monthly interview (1-month reference period) design. |
| Records Study | 2010 | The purpose of this project was to assess measurement error in the CEQ by comparing respondent recall for purchases with and without financial records (e.g., receipts, bills, bank statements). The research found that respondents were largely unable or unwilling to gather records for their expenditures over the prior three months (only 36 percent of reported expenditures were matched with a record). The results of this project served as a model and starting point for the Records Information and Feasibility of Use Project and will be used to inform the Gemini Redesign effort. |
| Balance Edit Study | 2011 | The purpose of this project was to assess the effects of a balance edit on data quality and respondent experience in the CEQ. The project resulted in a report showing that the balance edit was successful in generating additional expenditure and income reporting, but that it was largely unsuccessful in actually balancing households' reported cash flow. The results were used to determine that additional testing is not merited, due to concerns regarding the effectiveness and feasibility of the balance edit in CE. |
| CE Data Quality Profile | 2011 | The purpose of this project was to identify dimensions of quality and measurement metrics for assessing and interpreting the quality of CE data throughout the survey production process. In this first phase of the Data Quality Profile development project, we reviewed the current collection of Data Quality Monitoring reports, which highlighted the need and importance of having metric documentation that would promote transparency. The results of this multi-phase project will be used to further develop and implement a framework for a CE Quality Profile. |

| Project Title | Start Year | Description |
|---|---|---|
| Data Capture Technologies and Financial Software for Collecting Consumer Expenditure Data Report | 2011 | PDAs and other smart handheld communication devices offer a potential alternative approach for capturing expenditure data. These devices may give respondents a means of recording purchases at the time they are made. Westat was contracted by the CE program to explore available hardware (e.g., Smart Phones, Tablets and Laptops) and software (e.g., financial management software) to determine what data each captured and what strengths and weaknesses each had in terms of CE data needs. |
| Exploratory Burden Index | 2011 | The purpose of this project was to examine the feasibility of using the Partial Least Squares Path Modeling approach to construct a summary index for respondent burden. The finding of this exploratory study was that the PLS path modeling approach to constructing a burden index is a promising one. The results of this project will be used to determine if this methodology (or other alternative methods) proves feasible in constructing a summary index of respondent burden. If it is feasible, it is a tool that can be used to compare the effect on response burden on data quality. |
| International Expenditure Surveys Report | 2011 | CE researched the major design features of consumer expenditure surveys in other countries as well as other U.S. surveys that contain consumer expenditure questions. Alternative methods for asking questions and collecting information about consumer expenditures can serve as launching points for further research. This report summarized the findings from that research. |
| Questions for Telephone Interviews | 2011 | The purpose of this project was to identify questions of the CEQ that are not appropriate for telephone administration and determine how those questions can be modified to be either mode-neutral or tailored specifically to telephone interview. The project resulted in a structured assessment of the current CE questions and suggestions for alternative instruments and procedures. The results of the project will be used to recommend testing either in a cognitive (lab) study or in the field in order to maintain or improve CE data quality in a more mode neutral or telephone-friendly environment. |

| Project Title | Start Year | Description |
|---|---|---|
| Time-in-Sample and Bounding Effects on Reporting | 2011 | The purpose of this project was to examine the effect of the Interview 1 bounding interview on reporting levels in Interview 2, after controlling for time-in-sample. The project found that after accounting for time-in-sample, differences in reporting between the bounded and unbounded groups were not prevalent among the 12 expenditure categories examined. The findings were used as input to a decision regarding the retention or elimination of CE's bounding interview. |
| Reference Period Lab Study | 2012 | This was an exploratory lab and web study examining the impact of varying reference periods on expenditure reporting. There were trends found in the recommended reference periods for the selected expenditure categories, though there were no meaningful findings in the level of expenditure reporting.  Participants appeared to be able to switch reference period without issue. The recommended reference periods should be reviewed during the redesign process. |