

The Consumer Expenditure Survey (CE) Microdata Users' Workshop

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Outline

- Mission and History of the CE
- Data Uses
- Survey Design
- Variance Factors
- CE Projects

Mission

- The mission of the CE is to collect, produce, and disseminate information that presents a statistical picture of consumer spending for the Consumer Price Index, government agencies, and private data users.
- The mission encompasses analyzing CE data to produce socio-economic studies of consumer spending, and providing CE data users with assistance, education, and tools for working with the data.

History

- **1888-1891:** First BLS expenditure survey
- **1972-1973:** Census Bureau begins survey collection for BLS. First use of weekly Diary and 3-month recall Interview
- **1979:** The CE starts annual data collection
- **2003:** Computer Assisted Personal Interview (CAPI) starts
- **2004:** Introduction of Imputed Income to fill in missing values

History

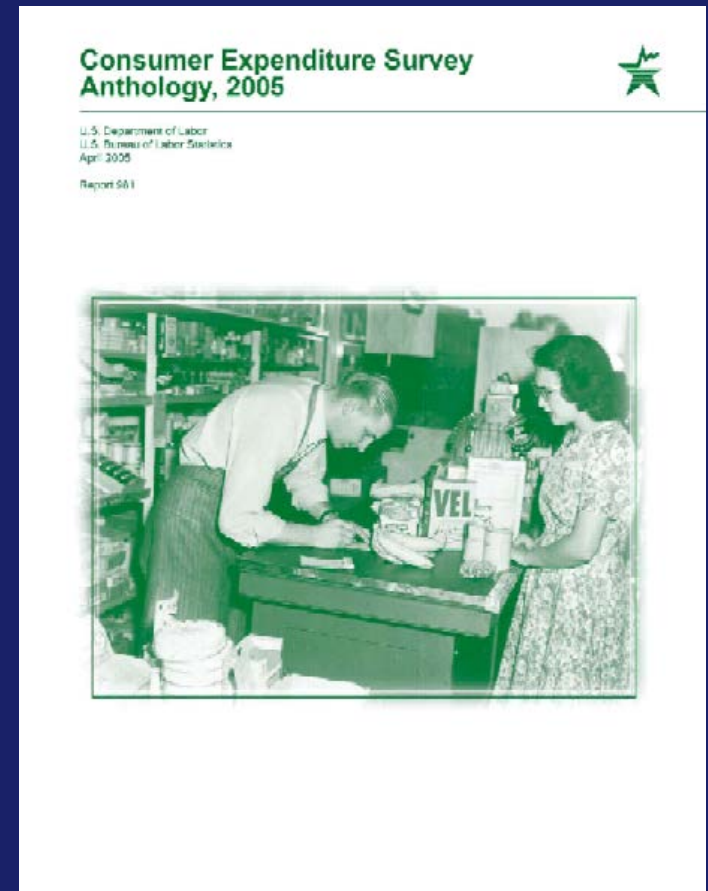
- **2013:** Introduction of Estimated Income Taxes to replace collected and missing values

Data Tables

- Tables are broken out by 15 standard demographic characteristics
 - Before-tax income class
 - Higher income
 - Quintiles of income
 - Composition of CU
 - Size of CU
 - Age
 - Selected Age of the reference person
 - Highest-Education level
 - Race
 - Hispanic Origin
 - Housing tenure and Urban/Rural
 - Number of earners
 - Occupation
 - Population size of area
 - Census Region

Publications

- Comparison Articles
- Beyond the Numbers
- MLR Articles
- Spotlight on Statistics
- The Editor's Desk



CE Customers

- Expenditure Weights used in the CPI
- Government
 - ▶ Defense Department
 - ▶ IRS
- Media
- Market Research
- Academic Research
- *YOU!!!*



Department of Defense

- The Department of Defense uses CE data in calculating cost-of-living allowances for military personnel not living on military bases
- The CE annually provides 3-year compilations of expenditures by these personnel



IRS

- The CE produces special data tabulations on the purchase of taxable items for use in calculating sales tax deductions



CE Terms

- **Consumer Unit (CU):**
 - ▶ all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements;
 - ▶ a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent;
 - ▶ or two or more persons living together who use their income to make joint expenditure decisions.
- **Reference Person:**
 - ▶ The first person listed by the respondent when asked who own or rents the home.

Sample Design

- National probability sample of households designed to represent the total U.S. civilian non-institutional population.
 - ▶ Includes: persons living in houses, condominiums, apartments, and group quarters such as college dormitories.
 - ▶ Excludes: military personnel living on base and nursing home residents, as well as people in prisons or other institutions.

Survey Design

- Interview Survey

- ▶ designed to collect data on the types of expenditures that respondents can be expected to recall for a period of 3 months or longer (e.g. vehicles, appliances, rent).

- Diary Survey

- ▶ designed to collect detailed expenditure data on small, frequently purchased items (e.g. food, personal care items).

Interview Survey Design

- Quarterly interviews with 22 sections
- Sample: 7,000 Consumer Units
 - ▶ About 28,000 interviews annually

Interview

Demographics
Inventory
Expenditures
Income

Interview

Expenditures

Interview

Expenditures

Interview

Expenditures
Income

Diary Survey Design

- 2 consecutive one-week diaries
- Respondent records every item purchased in a diary.
- Sample: 7,000 Consumer Units
 - ▶ about 14,000 Diaries annually

Survey Integration

- Published Tables:
 - ▶ Neither survey collects the entire universe of expenditures.
 - ▶ Some data are only collected in one instrument.
 - ▶ Some data are collected in both instruments - for these areas we determine which is the best source and use that in our publications.

Data Availability

- Published Tables Online
 - ▶ Annual tables
 - ▶ Mid-year tables
- Prepublication Tables
 - ▶ Greater detail (currently by request only)
- Microdata
 - ▶ Greatest detail

Things to keep in mind while using CE data

- Spending based on CU
 - ▶ Not per capita
- Income and expenditures
 - ▶ Different time periods
- Out-of-Pocket expenditures
- Very limited spatial data is public
 - ▶ Not all states are sampled
 - ▶ Most geographic data is suppressed

Variance Factors

- Sampling Error
 - ▶ Standard Errors measured by BRR (Balanced Repeated Replication)
- Non-Sampling Error
 - ▶ Proxy reporting
 - ▶ Lack of proper cues
 - ▶ Unwillingness to disclose information

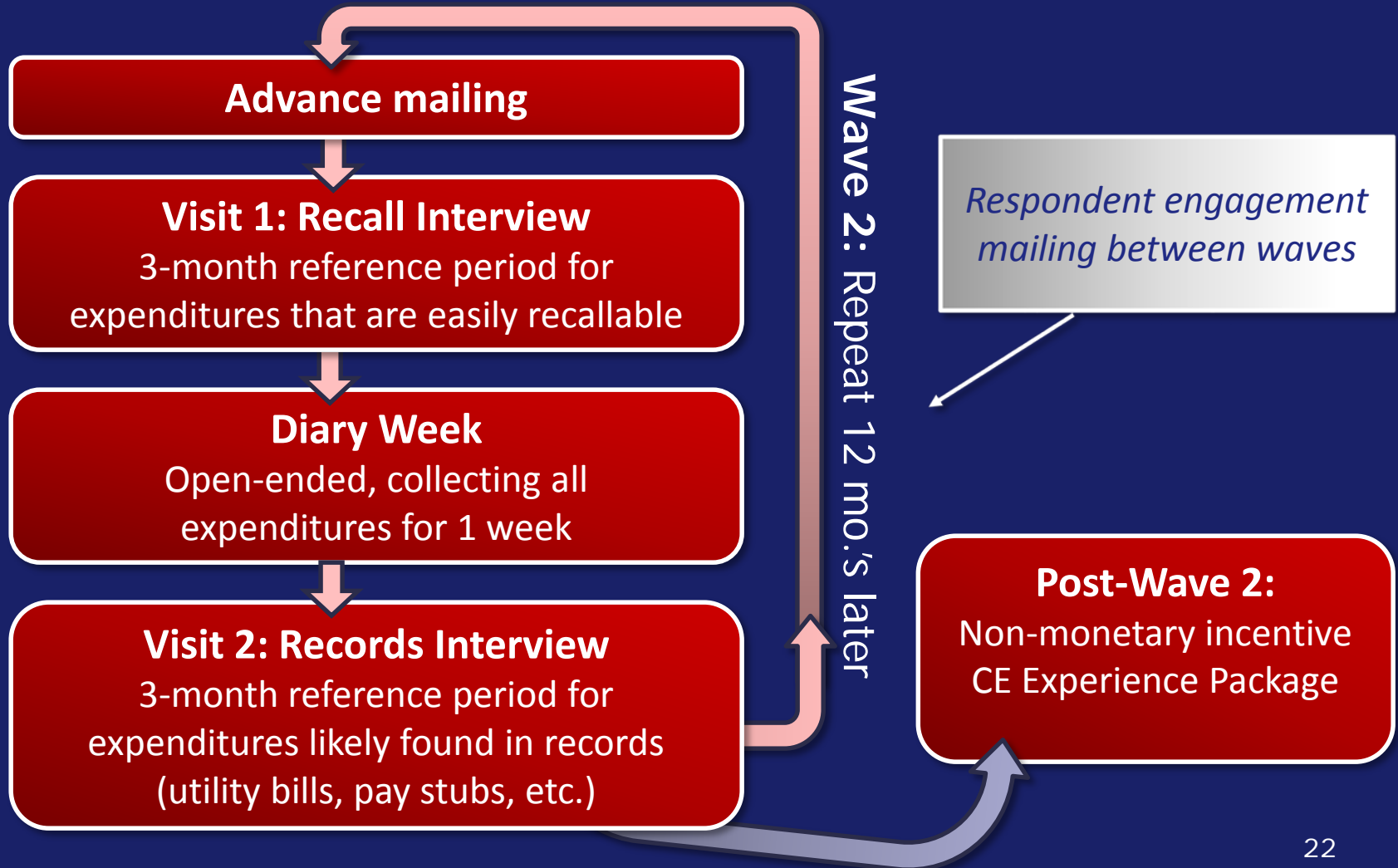
Gemini Project

- Mission: Improve Data Quality
- Motivation:
 - ▶ Same basic design for past 30 years
 - ▶ Evidence of measurement error
 - ▶ Technological advances
- Events and Activities:
 - ▶ March 2014 Redesign project high-level timeline
 - ▶ April 2014 Data Users' Impact Team Report
- <http://www.bls.gov/cex/geminimaterials.htm>

Gemini Proposal

- Single sample of CUs, participating in two waves of data collection, 12 months apart.
- Monetary incentives for survey participation.
- Each wave comprised of two visits with one CU respondent, plus weekly electronic diary for each CU member age 15 and older.

Gemini Proposal



Other CE Projects

- Tax Estimation using NBER model (2013)
- Individual Diary field test (2014)
- Sample Redesign (2015)
- Biennial Questionnaire Revision (2015)

CE Website

- Beyond the Numbers
- Data Comparisons
- Microdata Documentation
- Microdata
- CAPI
- Glossary
- Data Tables
- Respondent Website

Contact Information

Division of Consumer Expenditure Survey

[*www.bls.gov/cex*](http://www.bls.gov/cex)

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