Redesigning the Consumer Expenditure Survey: Usability and Data Quality

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The Consumer Expenditure Survey

Provides information about the spending patterns of different types of households

Provides the basis for revising the expenditure weights for the Consumer Price Index

History

1880-1891: First expenditure surveys

Done sporadically until early 1940s, then about every 10 years

1980: Continuous Consumer Expenditure Survey began

The Consumer Expenditure Survey

Designed to represent the US civilian non-institutionalized population

Collects data from Consumer Units – people living at one address who share living expenses

Data collection

Census Bureau collects data for the BLS using two different surveys with separate samples

   Interview survey: Five quarterly interviews

   Diary survey: Two weekly diaries

Respondents in both surveys are asked to report ALL of their spending

   Business expenses are excluded

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Potential measurement error

Data quality depends upon

      Accuracy of respondents' recall

      Any documentation respondents keep

Respondents report ALL expenditures

All expenses

Purchases by check, PayPal, credit or debit card

Automatic fund transfers

Cash purchases with or without receipts

Purchases by money order, cashier's check, food stamps, WIC vouchers, gift or rebate cards

Recurrent expenses or unusual expenses

Purchases of items labeled with barcodes

Online purchases

Returns and exchanges

Technology to minimize measurement error

Opportunity to improve data quality

Financial software packages

> Help users adhere to a budget

Smart phones

> Have thousands of apps

Receipt scanners

> Expense tracking

Email and texting

Financial software packages

Data downloads from financial institutions

> **Banks and other financial institutions**
>
> **PayPal, investment accounts**

Expense splitting

Categorization

Financial software packages and the Consumer Expenditure Survey

Data downloads from financial institutions

Amount, date, sometimes payee

Expense splitting

Divide overall purchase into individual items

Categorization

Categorize as required by survey

Smart phones

Microphone

Camera

Barcode scanning

On-screen questionnaire

Smart phones and the Consumer Expenditure Survey

Microphone

> Respondents can record messages about their purchases

Camera

> Respondents can photograph place of purchase, items purchased, as memory aid

Barcode scanner

> Respondents can record identity of certain items

On-screen questionnaire

> Data about purchases

Receipt scanners

OCR to turn receipt image into text

Current applications extract total of the receipt

Do not capture individual purchases constituting the total

Receipt scanners and the Consumer Expenditure Survey

May be possible to extract all purchases from receipt

Software would have to be developed

Email and texting

Respondent messages noting an expenditure, as memory aid

Confirmation web pages or emails for online purchases

Followup CASI

Central repository would receive

- Data files downloaded from financial institutions
- Barcodes
- Audio, photo files
- Receipt image files
- Purchase confirmation emails, web pages
- Email, texts

CASI

- Respondents provide needed data for each expenditure

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Usability issues

- **Is paper less burdensome?**

- **Will respondents remember to note purchases?**

- **Can respondents use technology reliably in actual conditions?**

- **How will respondents choose technology or paper?**

- **What instructions should respondents receive about choosing and using a technology?**

- **How can respondents best be helped if they encounter problems?**

Demographic issues

Potential demographic bias

Unbanked respondents

People uncomfortable with technology

Current developments

Gemini Project

National Academy of Sciences

    Expert panel

Planning and testing

    "Test early and often"

Thank you

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