Comparing Response Rates Across Surveys

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Presenting for the Public Access Response Rate Team (Benjamin Cover, John Dixon, Kirk Hagemeier, Nicholas Johnson, Andrew Kato, Randall Powers, Demetrio Scopelliti, Jason Tehonica)

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Introduction

BLS has published individual survey response rates in various locations.

A new report showing response rates for BLS surveys in a single place has been proposed.

Looking at response rate patterns across BLS surveys can give insights into issues or trends facing all surveys.

This is a work in progress, we hope to make it public “soon”.

Organization

- Overall Introduction
- With Each Chart:
  - Title
  - Table showing key features of each survey presented
    - Frequency, Collection Mode, Collection Period, Other
    - Link to each survey on BLS.gov
  - Chart notes
Office of Survey Methods Research

Household and establishment survey response rates

On This Page

» Introduction

» Household surveys

» Establishment surveys:
  » Overall unit response rates
  » Initiation
  » Repricing/collection at first closing
  » Repricing/collection at final closing

Introduction

Historically, survey response rates have been used as a measure of how representative a survey is of the sampled population\(^1\). Response rates differ among surveys in many ways, including the content of the survey, the amount of time available to collect data, the mode of data collection, and constraints on who can respond. Research has shown an inconsistent relationship between survey response rates and nonresponse bias, but changes in response patterns can be informative. For example, changes in patterns that are similar between surveys might indicate a common cause, while rate changes unique to a survey might point to a change in methods, a change in business procedures, or operational constraints. This summary groups similar surveys to allow for comparisons. Response rates from surveys collected from randomly sampled households are shown together on one graph while those collected from establishments are together on subsequent graphs. Date ranges will vary from chart to chart, depending on the most recent month for which data are available. Response rates are usually calculated as:

\[
\text{Response Rate} = \frac{\text{(# units responding)}}{\text{(# units eligible} + \text{ (# of units with eligibility undetermined))}}
\]

Different surveys have different definitions of what is and isn’t eligible. Refer to survey response rate calculations for more detail.

Note

Glossary

**Designated person (American Time Use Survey)**
One individual age 15 or older who is randomly selected from each sampled household to participate in the American Time Use Survey. The designated person is interviewed by telephone once about only his or her activities on the day before the interview. No other household member may respond for the designated person.

**Diary day (American Time Use Survey)**
The day about which the designated person reports his or her activities for the American Time Use Survey. The diary day of a designated person interviewed on Tuesday is Monday.

**Computer-assisted telephone interviewing (CATI)**
A structured system of microdata collection by telephone that speeds up the collection and editing of microdata; it also permits the interviewer to educate the respondents on the importance of timely and accurate data.

**EDI - The Electronic Data Interchange (EDI) Center**
Located in Chicago and collects data files from the nation's largest employers for the CES (Current Employment Statistics) and MWR (Multiple Worksite Report) programs.

**Eligible**
Potential respondents who match the target sample.

**Final closing**
Last chance for an establishment to report data. This additional data may affect revisions to the estimates.

**First closing**
The first deadline to report data. There are many reasons for not reporting. (Examples: payroll patterns, shortage of administrative staffing, reluctant respondents.)

**Initiation**
Survey response rate calculation

Introduction
ResponseRate = (# units responding)/((# units eligible) + (# of units with eligibility undetermined)), where different surveys have different definitions of what is and isn't eligible.

American Time Use Survey (ATUS)

- ResponseRate = (# responding)/((# eligible) + (# with eligibility undetermined))
- ATUS uses the American Association for Public Opinion Research’s (AAPOR’s) Response Rate 2 formula for determining the ATUS response rates: 
  \[
  \frac{C}{C + R + NC + O + UE}
  \]
  Where: 
  - \(C\) = Completes (complete or sufficient partial interview) 
  - \(R\) = Refusals 
  - \(NC\) = Noncontact (uncompleted callbacks; never contacted) 
  - \(O\) = Other (respondent absent, ill, or hospitalized; language barrier, etc.) 
  - \(UE\) = Unknown Eligibility (phone number incorrect for household, unconfirmed number, etc.).

- The ATUS sample is a stratified, three-stage sample. In the first stage of selection, the CPS (Current Population Survey) oversample in the less populous States is reduced. In the second stage of selection, households are stratified based on these characteristics: the race/ethnicity of the householder, the presence and age of children, and the number of adults in adults-only households. Sampling rates vary within each stratum. In the third stage of selection, an eligible person from each household selected in the second stage is randomly selected to be the designated person for ATUS. An eligible person is a civilian household member at least 15 years of age. All eligible persons within a sample household have the same probability of being selected as the ATUS designated person.

- Examples of those not eligible for the ATUS include a deceased person, designated person underage, designated person who is not a household member, and household that moved since last contact.

Annual Refiling Survey (ARS)

- ResponseRate=(Received Response + Response from a non-refile source)/( Nonresponses + Unusable Responses + Pending Response + Refusal + Received Responses + Response from a non-refile source)
Charts

1. Household Surveys
2. Establishment Surveys – Overall Response Rates
3. Establishment Surveys – Price Initiation
4. Establishment Repricing/Collection at 1st Release
5. Establishment Repricing/Collection at Final Closing
Household surveys

Chart 1 shows the overall response rates for BLS household surveys.

Household surveys

Household survey response rates, October 2007–October 2017


Note

Telephone Point of Purchase Survey (TPOPS)

The drop in TPOPS response rates in 2012 is the result of the conversion from a landline only sample frame to a dual frame sample design containing both landlines and cell phones.
Downloadable chart

Household survey response rates, October 2007 - October 2017

Click legend items to change data display. Hover over chart to view data.
Highlight a particular survey

Household survey response rates, October 2007 - October 2017

- ATUS
- CE-Diary
- CE-Interview
- CPI-Housing
- CPS
- TPOPS

Click legend items to change data display. Hover over chart to view data.
Household surveys

Chart 1 shows the overall response rates for BLS household surveys.

Note

Telephone Point of Purchase Survey (TPOPS)

The drop in TPOPS response rates in 2012 is the result of the conversion from a landline only sample frame to a dual frame sample design containing both landlines and cell phones.
### Table of response rates

#### Household survey response rates, October 2007–October 2017

<table>
<thead>
<tr>
<th>Date</th>
<th>ATUS</th>
<th>CE-Diary</th>
<th>CE-Interview</th>
<th>CPI-Housing</th>
<th>CPS</th>
<th>TPOPS</th>
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<tbody>
<tr>
<td>Oct 2007</td>
<td>52.0%</td>
<td></td>
<td></td>
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<tr>
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<td>53.3</td>
<td></td>
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<td>Dec 2007</td>
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<tr>
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<tr>
<td>Feb 2008</td>
<td>54.7</td>
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<tr>
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<td>53.9</td>
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<tr>
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<td>53.5</td>
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<tr>
<td>May 2008</td>
<td>53.6</td>
<td></td>
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<tr>
<td>Jun 2008</td>
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<td>74.2%</td>
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<tr>
<td>Sep 2008</td>
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<tr>
<td>Oct 2008</td>
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<td>56.6</td>
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<tr>
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<td>58.3</td>
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<tr>
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<td>Jan 2010</td>
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<tr>
<td>Feb 2010</td>
<td>58.8</td>
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<tr>
<td>Mar 2010</td>
<td>61.2</td>
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<td>Apr 2010</td>
<td>58.2</td>
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</table>
## Household Surveys Features Table

<table>
<thead>
<tr>
<th>Survey</th>
<th>Sample size</th>
<th>Mandatory/Voluntary</th>
<th>Frequency</th>
<th>Collection methods</th>
<th>Collection period</th>
<th>Approximate survey length</th>
<th>Nonresponse bias</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American Time Use Survey (ATUS)</strong></td>
<td>2,060 households</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Phone</td>
<td>8 weeks</td>
<td>18 min</td>
<td>Info</td>
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<tr>
<td><strong>Consumer Expenditure Surveys</strong></td>
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<td></td>
</tr>
<tr>
<td>(CED)—Diary</td>
<td>20,400 households</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Diary</td>
<td>2 weeks</td>
<td>250 min</td>
<td>Info</td>
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<tr>
<td>(CE)—Interview</td>
<td>40,375 households</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Personal visit; Phone</td>
<td>1 month</td>
<td>65 min</td>
<td>Info</td>
</tr>
<tr>
<td><strong>Consumer Price Index — Housing</strong></td>
<td>7,800 housing units</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Personal visit; Phone</td>
<td>1 month</td>
<td>5 min</td>
<td>Info</td>
</tr>
<tr>
<td><strong>Current Population Survey (CPS)</strong></td>
<td>60,000 households</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Personal visit; Phone</td>
<td>10 days</td>
<td>10 min (varies by month)</td>
<td>Info</td>
</tr>
<tr>
<td><strong>Telephone Point of Purchase Survey (TPOPS)</strong></td>
<td>33,000 households</td>
<td>Voluntary</td>
<td>Quarterly</td>
<td>RDD, Phone</td>
<td>7 weeks</td>
<td>13 min</td>
<td>Info</td>
</tr>
</tbody>
</table>

**Note**

Telephone Point of Purchase Survey (TPOPS)

The drop in TPOPS response rates in 2012 is the result of the conversion from a landline only sample frame to a dual frame sample design containing both landlines and cell phones.
Establishment surveys: overall unit response rates

Establishment surveys unit response rates, September 2007–September 2017

Click legend items to change data display. Hover over chart to view data.

Notes

Annual Refiling Survey (ARS)
In order to achieve the necessary savings for the funding level allocated to BLS in the Consolidated Appropriations Act, 2014, the BLS reduced the scope and frequency of collection for select units in the ARS. For more information, refer to 2014 Budget Enacted for Bureau of Labor Statistics.

Consumer Price Index — Commodities & Services (CPI C&S)
The drop in CPI C&S and JOLTS response rates in October 2013 was due to the Federal Government Shutdown.
Select surveys to compare (CES and JOLTS)

Establishment surveys unit response rates, September 2007 - September 2017

Click legend items to change data display. Hover over chart to view data.
## Establishment Survey Features

<table>
<thead>
<tr>
<th>Survey</th>
<th>Sample size</th>
<th>Mandatory/Voluntary</th>
<th>Frequency</th>
<th>Collection methods</th>
<th>Collection period</th>
<th>Nonresponse bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Refiling Survey (ARS)</td>
<td>1,200,000 establishments</td>
<td>Mandatory in 26 states</td>
<td>Annual</td>
<td>Mail, Web</td>
<td>12 months</td>
<td>Info</td>
</tr>
<tr>
<td>Consumer Price Index — Commodities &amp; Services (CPI C&amp;S)</td>
<td>138,000 price quotes</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>Personal visit, Web, Phone</td>
<td>20-22 business days</td>
<td>NA</td>
</tr>
<tr>
<td>Current Employment Statistics Survey (CES)</td>
<td>147,000 establishments</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>CATI, EDI, Web, Fax, TDE, Other</td>
<td>10-16 business days</td>
<td>Info</td>
</tr>
<tr>
<td>Employment Cost Index (ECI)</td>
<td>15,000 establishments</td>
<td>Voluntary</td>
<td>Quarterly</td>
<td>Personal visit, Web, Fax, Phone, Mail, E-mail</td>
<td>45 days</td>
<td>NA</td>
</tr>
<tr>
<td>International Price Program — Exports (IPP-Exports)</td>
<td>5,400 price quotes</td>
<td>Voluntary</td>
<td>Annual</td>
<td>Personal visit</td>
<td>1 year</td>
<td>Info</td>
</tr>
<tr>
<td>International Price Program — Imports (IPP-Imports)</td>
<td>9,175 price quotes</td>
<td>Voluntary</td>
<td>Annual</td>
<td>Personal visit</td>
<td>1 year</td>
<td>Info</td>
</tr>
<tr>
<td>Job Openings and Labor Turnover Survey (JOLTS)</td>
<td>16,000 establishments</td>
<td>Voluntary</td>
<td>Monthly</td>
<td>CATI, Web, E-mail, Fax</td>
<td>11-17 business days</td>
<td>Info</td>
</tr>
<tr>
<td>Occupational Employment Statistics Survey (OES)</td>
<td>1,200,000 establishments</td>
<td>Voluntary in most states</td>
<td>Annual</td>
<td>Mail, Fax, Phone, Web, E-mail</td>
<td>About 6 months</td>
<td>NA</td>
</tr>
<tr>
<td>Survey of Occupational Injuries and Illnesses (SOII)</td>
<td>240,000 establishments</td>
<td>Mandatory</td>
<td>Annual</td>
<td>Mail, Fax, Phone, Web, E-mail</td>
<td>7 months</td>
<td>Info</td>
</tr>
</tbody>
</table>
Establishment surveys unit initiation rates, January 2008 - January 2018

Click legend items to change data display. Hover over chart to view data.
The features change for the phases

<table>
<thead>
<tr>
<th>Establishment survey features</th>
<th>Number of initiations attempted annually</th>
<th>Mandatory/Voluntary</th>
<th>Collection methods</th>
<th>Collection period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer Price Index — Commodities &amp; Services (CPI C&amp;S)</strong></td>
<td>10,500 establishments</td>
<td>Voluntary</td>
<td>Personal visit, Web</td>
<td>February-July and August-January</td>
</tr>
<tr>
<td><strong>Current Employment Statistics Survey (CES)</strong></td>
<td>70,000 establishments</td>
<td>Voluntary</td>
<td>CATI</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Employment Cost Index (ECI)</strong></td>
<td>3,300 establishments</td>
<td>Voluntary</td>
<td>Personal visit, Web, Fax, Phone, Mail, E-mail</td>
<td>45 days</td>
</tr>
<tr>
<td><strong>International Price Program — Exports (IPP-Exports)</strong></td>
<td>950 establishments</td>
<td>Voluntary</td>
<td>Personal visit</td>
<td>1 year</td>
</tr>
<tr>
<td><strong>International Price Program — Imports (IPP-Imports)</strong></td>
<td>1,500 establishments</td>
<td>Voluntary</td>
<td>Personal visit</td>
<td>1 year</td>
</tr>
<tr>
<td><strong>Job Openings and Labor Turnover Survey (JOLTS)</strong></td>
<td>7,200 establishments</td>
<td>Voluntary</td>
<td>CATI</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Producer Price Index (PPI), Initiation</strong></td>
<td>4,500 establishments</td>
<td>Voluntary</td>
<td>Personal visit, phone</td>
<td>24-30 months</td>
</tr>
</tbody>
</table>
Establishment surveys repricing/collection unit response rates at first closing:
October 2007 - October 2017

- CES
- IPP-Exports
- IPP-Imports
- JOLTS
- PPI

Click legend items to change data display. Hover over chart to view data.
Establishment surveys repricing/collection unit response rates at final closing
September 2007 - September 2017

Click legend items to change data display. Hover over chart to view data.
Future plans

- Add nonresponse bias bibliography and links.
- Modernize graphical features (control of dates, choice of color schemes)
- Add new surveys (Occupational Requirements Survey?)
- More frequent updates?
Contact Information

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