Investigating Signs of Interview Fatigue: Decreased Reporting of Category Expenditures

Brett McBride,
U.S. Bureau of Labor Statistics

68th Annual AAPOR Conference
May 19, 2013

BLS

BUREAU OF LABOR STATISTICS
U.S. DEPARTMENT OF LABOR

www.bls.gov

Outline

- Background: Consumer Expenditure Survey
- Research Questions
  - ▶ Response Pattern to Filter Questions (FQ) in survey
- Data and Methods
- Findings
  - ▶ Response Patterns
  - ▶ Associated Correlates of Reporting Changes
- Summary

Background
Consumer Expenditure (CE) Survey

- National household panel survey that collects information about buying habits of consumers

- Used to calculate the weights of items tracked by the Consumer Price Index (CPI), also used by economists, academics, and market researchers

- Study focus: Quarterly Interview Survey (CEQ) – survey of larger, easier-to-recall purchases

- CEQ: 1-hour interviews conducted 5 times over 15 months

Example:
CEQ "Interleafed format"

"Since April 1, have you purchased any of the following items …

[FQ#1]:   **-coats, jackets or furs**?

[if 'yes']:

What did you buy?

Was this purchased for someone inside or outside of your household? …

How much did it cost?

[FQ#2]:   **-sport coats or tailored jackets**? …

Research Questions

1. Is there decreased endorsement of FQs ('FQ trend') over the course of the interview?

2. Is decreasing FQ trend due to low motivation?

3. Is decreasing FQ trend due to fatigue from cognitive burden?

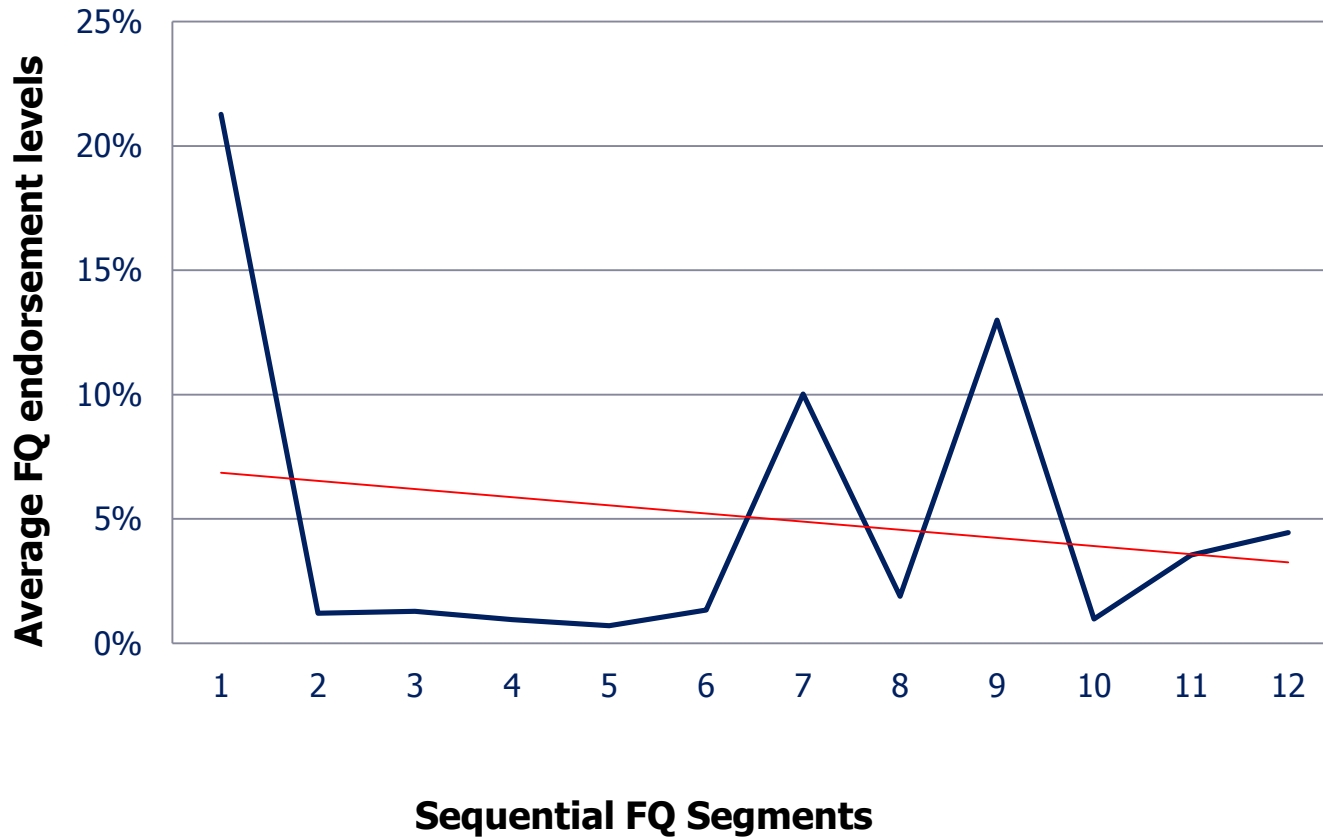➢ Decreased FQ trend may suggest need to revise CEQ's interleafed format to grouped format

Data and Methods

- Data from May 2011 interviews (n=539)
- 303 FQs with collected data, asked of all respondents

- Calculate proportion of respondents endorsing each FQ
- Divide interview into 3 segments to calculate average endorsement rate in first third and last third (FQ trend)
- OLS Regression to examine association of motivation, burden, controls on FQ trend
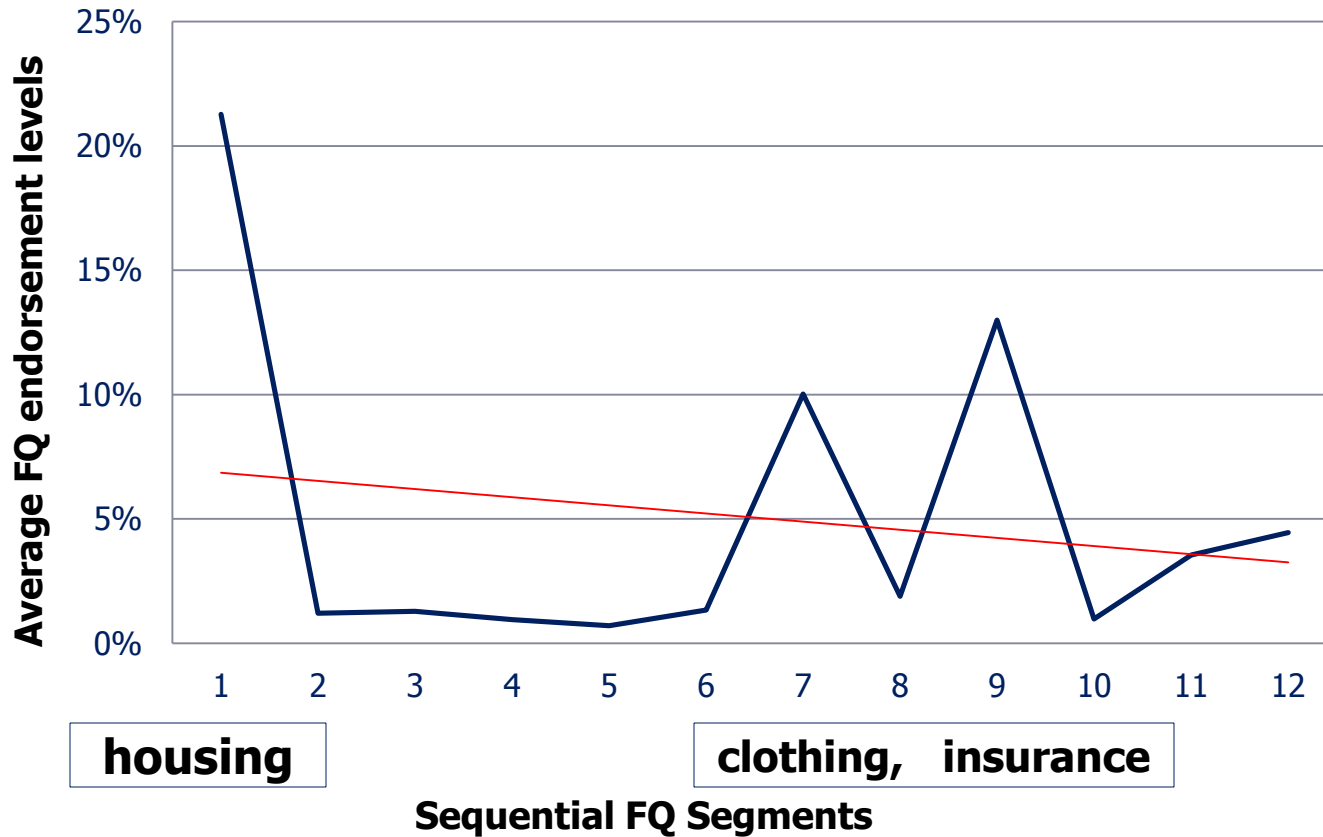
Findings: FQ Trend (1)

Linear 11% decline - first third to last third

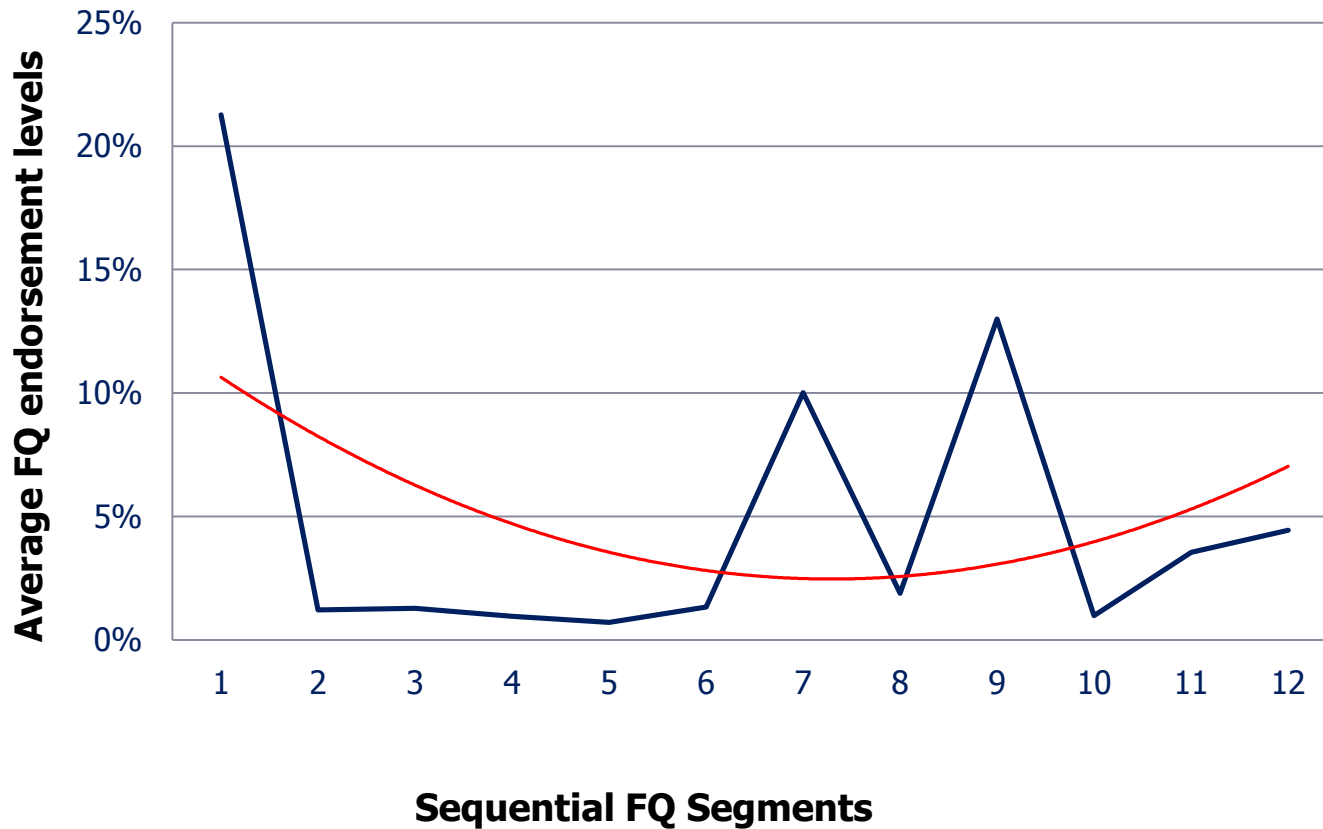Average FQ endorsement levels vs. Sequential FQ Segments

Findings: FQ Trend (1)

Linear 11% decline - first third to last third

Average FQ endorsement levels (y-axis: 0% to 25%)

Sequential FQ Segments (x-axis: 1 to 12)

housing | clothing, insurance

Findings: FQ Trend (2)

Polynomial 'U-shaped' pattern

Sequential FQ Segments

Findings: Regression Model

Dependent Variable: FQ trend (last third – first third)

Variable	Coefficient	P-value
Intercept	-5.089	<0.001
Years of education	0.165	<0.001
Years of age	0.029	<0.001
Number in household	-0.157	0.070
Own home	-1.719	<.001
Proportion spent necessities	-0.012	0.025
In-person interview	0.003	0.994
Expressed 'doorstep' concern	-0.245	0.316
Number of expenditures	0.177	<.001
Number of 'don't know's	0.146	0.050
Survey duration (minutes)	-0.009	0.348

Findings: Regression Model

Dependent Variable: FQ trend (last third – first third)

Variable	Coefficient	P-value
Intercept	-5.089	<0.001
Years of education	0.165	<0.001
Years of age	0.029	<0.001
Number in household	-0.157	0.070
Own home	-1.719	<.001
Proportion spent necessities	-0.012	0.025
In-person interview	0.003	0.994
Expressed 'doorstep' concern	-0.245	0.316
Number of expenditures	0.177	<.001
Number of 'don't know's	0.146	0.050
Survey duration (min)	-0.009	0.348

Findings: Regression Model

Dependent Variable: FQ trend (last third − first third)

Variable	Coefficient	P-value
Intercept	-5.089	<0.001
Years of education	0.165	<0.001
Years of age	0.029	<0.001
Number in household	-0.157	0.070
Own home	-1.719	<.001
Proportion spent necessities	-0.012	0.025
In-person interview	0.003	0.994
Expressed 'doorstep' concern	-0.245	0.316
Number of expenditures	0.177	<.001
Number of 'don't know's	0.146	0.050
Survey duration (min)	-0.009	0.348

Findings: Regression Model

Dependent Variable: FQ trend (last third – first third)

Variable	Coefficient	P-value
Intercept	-5.089	<0.001
Years of education	0.165	<0.001
Years of age	0.029	<0.001
Number in household	-0.157	0.070
Own home	-1.719	<.001
Proportion spent necessities	-0.012	0.025
In-person interview	0.003	0.994
Expressed 'doorstep' concern	-0.245	0.316
Number of expenditures	0.177	<.001
Number of 'don't know's	0.146	0.050
Survey duration (min)	-0.009	0.348

Summary: Findings

- Limited decline in FQ trend in survey
- Motivation ('doorstep' concern) association with declining FQ trend not significant
- Burden (survey duration) association not significant but in expected direction
- Burden (number of expenditures, 'don't know' responses) association significant but not in expected direction
- Burden (number in household) borderline significant association

Summary:
Caveats and Applications

➢ Difficult to disentangle FQ trend (i.e., impact of respondent conditioning/underreporting) from content of specific FQ questions

■ Insufficient evidence of declining responses to FQs to warrant revising interleafed format

■ Need for interviewers to provide encouragement to low-motivation households in later stages of interview

BLS

Contact Information

mcbride.brett@bls.gov

BLS
BUREAU OF LABOR STATISTICS
U.S. DEPARTMENT OF LABOR

FQ Trend Comparisons

Change in FQ trend	-0.70

	No doorstep concern (n=293)	Doorstep concern (n=252)
Change in FQ trend	-0.55	-0.87

	CAPI (n=460)	CATI (n=85)
Change in FQ trend	-0.67	-0.86

	Do not own home (n=200)	Own home (n=345)
Change in FQ trend	-0.55	-0.79

Subgroup Analysis

- Examined FQ trend among older respondents (≥65 years old, n=109)
- Group expected to have health expenditures
- Those not reporting health expenditures hypothesized to be satisficing/fatigued
- Of interest: Was group's FQ trend showing reduced reporting at other FQs as well? (indicative of satisficing/fatigue)

	Reported health expend. (n=87)	Did not report expend. (n=22)	Δ Diff.
FQ trend	0.4	-3.4	3.8[***]
FQ trend (excluding health FQs)	-1.7	-3.4	1.7[**]

**p<0.01, *** p<0.001