Panel on Improving Cost-of-Living Indexes and Consumer Inflation Statistics in the Digital Age

Open Session: Innovative use of alternative data in price measurement (research beyond the statistical agencies)

Friday, October 30, 2020
3:00 - 5:30 pm (U.S. eastern time)

Session goals: The panel is charged with examining the potential to improve the CPI by supplementing (or in some cases replacing) traditional survey-based data collection with an approach that blends multiple (survey and non-survey, government and commercial) data sources. The focus of this session is on improving elementary indexes (greater timeliness, frequency, and detail of price and quantity information), but the study is also covering other stages of CPI methodology, such as construction and updating of upper level category weights. Presenters will update the study committee about their price measurement research applying methods that exploit new data opportunities.

3:00 **Dan Sichel**, Panel Chair (10 minutes)
- Welcome, charge to the panel, introductions
[Support document: Panel's Statement of Task]

Guest Presentations (15 minutes each, give or take)

3:10 **Alberto Cavallo**, Harvard University, and **Pilar Iglesias**, PriceStats
- Use of web-scraped data for constructing elementary indexes—academic and research issues related to web scraping
- Collecting and processing online data in a production environment
- Short questions and clarifications (5 minutes)
[Support materials: *Inflation with Covid Consumption Baskets*, by Alberto Cavallo]

3:30 **Matthew Shapiro**, University of Michigan, **John Haltiwanger**, University of Maryland, **David Johnson**, University of Michigan
- Reengineering key economic indicators
- Comparing alternative approaches to quality adjusted price indices using item-level price and quantity data and company-specific price data
- Short questions and clarifications (5 minutes)
[*Re-engineering Key National Economic Indicators*, by Gabriel Ehrlich, John Haltiwanger, Ron Jarmin, David Johnson, and Matthew D. Shapiro]

3:50 **Costa Lasiy**, Adobe
- As part of Adobe's Digital Economy Index, applying a method collaborated on with Klenow/Goolsbee to construct a high-frequency Fisher Price Index to track prices in the world of Ecommerce
- The nuts and bolts process whereby the data are assembled into price and real quantity estimates used for index construction
- Short questions and clarifications (5 minutes)

[Support materials: June 2020 FESAC presentation slides]

4:10 **Break**

4:20 **David Byrne**, Federal Reserve
- Measuring price change for consumer digital access services (internet, streaming, mobile, and cable) using direct measures of volume
- Evidence from high-frequency data about the effects of COVID on prices
- Short questions and clarifications (5 minutes)

[Support materials: *The Increasing Deflationary Influence of Consumer Digital Access Services*, by David Byrne and Carol A. Corrado]

4:40 **Brendan Williams**, BLS
- An overview of BLS's approach to quality assessment for alternative data, which consists of two components: (1) determining which data sources to pursue and approve for use in production (2) how to measure index data quality when the data inputs come from a variety of sources—for example, how do typical data quality tools (variance, response rates) change when non-survey data are included.
- Short questions and clarifications (5 minutes)

5:00 Questions from the panel. Open discussion.

5:30 Adjourn