

Communicating the accuracy and relevance of statistical data during a pandemic

Emily Liddel and Michael Levi

U.S. Bureau of Labor Statistics

UNECE Dissemination and Communications

7-9 September 2020

March 13, 2020: U.S. Declares National Emergency

- BLS and Census cease all in-person data collection
- Data collection centers close
- Staff are moved to maximum telework status



If we can't collect, are they still reliable data?

- “Everything’s shut down”
- “Nothing’s in stock”

BLS says, “YES! Data are reliable”

But how do we show it?



Early efforts

- We didn't know much
- We weren't sure how long it would last



Five questions and answers

- Started with 5 questions for each program
 - ▶ How are data normally collected?
 - ▶ Do we expect changes in data collection because of the coronavirus?
 - ▶ Will there be changes to scheduled releases?
 - ▶ Will the coronavirus affect our ability to make estimates?
 - ▶ What impact (and is it quantifiable) will the pandemic have on the estimates?



Mid-April 2020

■ Latest data show:

- ▶ 701,000 drop in employment; unemployment rises
- ▶ Jobless claims skyrocket
- ▶ CPI falls 0.4 percent, sharp decline in gasoline

■ Calls pour in wanting information on

- ▶ Data collection
- ▶ Methods
- ▶ Concepts and definitions



We had the info! (if you like treasure hunts)

- For methods, go to the Handbook of Methods
- For changes to methods, see the announcement box in our release
- Response rates, go to a response rate page (oh wait, it's 9 months out of date)
- Modes of data collection, see this link buried at the bottom of a web page



Mid-April: Program-specific questions and answers

Impact of the COVID-19 pandemic on BLS programs

Effects of COVID-19 Pandemic on Employment and Unemployment Statistics

- [The Employment Situation for March 2020](#)
- [Job Openings and Labor Turnover Survey](#)
- [Quarterly Census of Employment and Wages](#)
- [Local Area Unemployment Statistics](#)
- [American Time Use Survey](#)

Effects of COVID-19 Pandemic on BLS Price Indexes

- [Consumer Price Index](#)
- [U.S. Import and Export Price Indexes](#)
- [Producer Price Index](#)

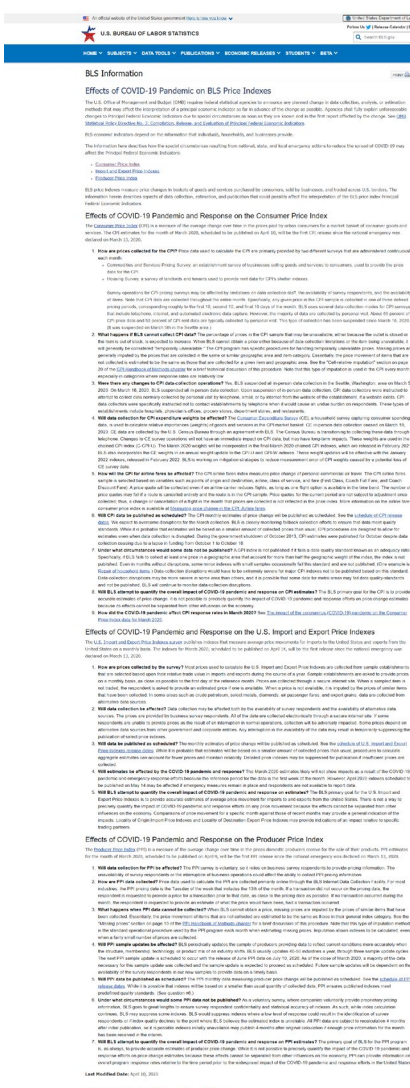
Effects of COVID-19 Pandemic on Productivity and Costs Statistics

- [Quarterly Productivity and Costs](#)
- [Productivity and Costs for Industries and States](#)
- [Multifactor Productivity Trends](#)

U.S. BUREAU OF LABOR STATISTICS • [bls.gov](#)



These got pretty long, though



- How are prices collected for the CPI?** Price data used to calculate the CPI are primarily provided by two different surveys that are administered continuously each month:
 - Commodities and Services Pricing Survey, an establishment survey of businesses selling goods and services to consumers, used to provide the price data for the CPI.
 - Housing Survey, a survey of landlords and tenants used to provide rent data for CPI's shelter indexes.
- What happens if BLS cannot collect CPI data?** The percentage of prices in the CPI sample that may be unavailable, either because the outlet is closed or the item is out of stock, is expected to increase. When BLS cannot obtain a price either because of data-collection limitations or the item being unavailable, it will generally be considered "temporarily unavailable." The CPI program has specific procedures for handling temporarily unavailable prices. Missing prices are generally imputed by the prices that are collected in the same or similar geographic area and item category. Essentially, the price movement of items that are not collected is estimated to be the same as those that are collected for a given item and geographic area. See the "Cell-relative imputation" section on page 20 of the [CPI Handbook of Methods chapter](#) for a brief technical discussion of this procedure. Note that this type of imputation is used in the CPI every month, especially in categories where response rates are relatively low.
- Were there any changes to CPI data-collection operations?** Yes. BLS suspended all in-person data collection in the Seattle, Washington, area on March 5, 2020. On March 16, 2020, BLS suspended all in-person data collection. Upon suspension of in-person data collection, CPI data collectors were instructed to attempt to collect data normally collected by personal visit by telephone, email, or by internet from the website of the establishment, if a website exists. CPI data collectors were specifically instructed not to contact establishments by telephone when it would cause an undue burden on respondents. These types of



Feedback from our first attempts to centralize the content

<https://www.bls.gov/bls/bls-covid-19-questions-and-answers.htm>

🗨️ I come back regularly, I have no idea what has been updated.

<https://www.bls.gov/bls/bls-covid-19-questions-and-answers.htm>

🗨️ There is way too much information on each page of this site and the design makes it's really difficult to navigate. Suggest a major overhaul.

Our assessment

- Centralization was an improvement
- The initial Q&As weren't sufficient, we needed more concrete information
- The by-program approach was operationally easy for us, but was not very helpful for our users
- Maintaining the pages was difficult
- We needed to be able to document how things evolved over time (not simply update the same pages with new rates)



Early efforts for by-release information

U.S. Bureau of Labor Statistics
April 3, 2020

10 pages long! in PDF!

The impact of the coronavirus (COVID-19) pandemic on The Employment Situation for March 2020

The labor market data from the establishment and household surveys for March broadly reflect the impact of the coronavirus (COVID-19) pandemic. The material below addresses some questions about the impact of the pandemic on [The Employment Situation](#) for March 2020, which presents national-level estimates from the establishment (Current Employment Statistics, or CES) and household (Current Population Survey, or CPS) surveys. Additional detail at the state and local area level will be available in forthcoming releases with data from the [CES State and Metro Area](#) and the [Local Area Unemployment Statistics](#) (LAUS) programs.

We cannot precisely quantify the effects of the pandemic on the job market in March. However, it is clear that the decrease in employment and hours and the increase in unemployment can be ascribed to the effects of the illness and efforts to contain the virus. It is important to keep in mind that the March survey reference periods for both surveys predated many coronavirus-related business and school closures in the second half of the month.

1. Household and establishment surveys: What is the reference period for the two surveys?

The household survey reference period is generally the calendar week that contains the 12th day of the month, in this case March 8th through March 14th. In the household survey, individuals are classified as employed, unemployed, or not in the labor force based on their answers to a series of questions about their activities during the survey reference week (March 8–14).

Consumer Price Index

Search Consumer Price [Go](#)

CPI Home	CPI Publications ▾	CPI Data ▾	CPI Methods ▾	About CPI ▾	Contact CPI
--------------------------	------------------------------------	----------------------------	-------------------------------	-----------------------------	-----------------------------

[Bureau of Labor Statistics](#) > [Consumer Price Index](#) > [Methods](#) > [Additional Resources](#)

The impact of the coronavirus (COVID-19) pandemic on the Consumer Price Index data for March 2020

The impact of the current pandemic on Consumer Price Index (CPI) data was relatively minor for March 2020 data published on April 10, 2020. The response rates for March 2020 data and March 2019 data for both the Commodities and Services Price (C&S) Survey and the Housing Survey are shown in tables 1 and 2 below.

Table 1. Response outcomes for the commodities and services price survey.

	March 2019	March 2020
Collected prices	87%	75%
Uncollected prices	13%	25%
Collection mode:		
Personal visit	67%	37%
Telephone	9%	12%
Online	14%	35%
Other (1)	9%	16%

Footnotes:

(1) Includes prices used in index collection not designed to be obtained via field collection, such as corporately provided data and sample collected by the national office.

While a decrease in personal visit collection for the C&S survey in March 2020 was realized, an increase in other collection modes, namely online data collection resulted. An example of this is full-service restaurants; if a restaurant was closed for dine-in service, but open for take-out or delivery, the data collector attempted to obtain the price from the restaurant's website or by telephone call with the respondent, rather than a personal visit.

The March 2019 and March 2020 data in the housing table were revised to reflect the use of on-panel quotes only. The revised table is below.

Table 2. Response outcomes for the housing survey.

	March 2019	March 2020
Collected rents	67%	63%



Building a framework

- One measure is not enough
- What is meaningful for one program may not be so for another
- Need to be consistent
- Need to be easy to update



Framework

- Collection mode(s) and collection rates
- Imputation rates
- Cell or series suppression
- Statistical measures of error
- Changes to methods
- Q&As



Reworking our web presence

- Organize by release, not program
- Implement consistent layout
- Deployed in late May



Reworking our web presence

- Page for each release
- Including a “last updated” date to save a click

Impact of the COVID-19 pandemic on BLS programs

Employment and Unemployment Statistics

- [The Employment Situation news release](#) (Last updated August 7, 2020)
- [Current Employment Statistics Survey](#)
- [Current Population Survey](#) (Last updated July 31, 2020)
- [Job Openings and Labor Turnover Survey](#) (Last updated August 10, 2020)
- [County Employment and Wages](#) (Last updated August 19, 2020)
- [Business Employment Dynamics](#) (Last updated July 29, 2020)
- [Local Area Unemployment Statistics](#)
- [American Time Use Survey](#) (Last updated July 8, 2020)
- [Employment Projections](#)
- [Business Response Survey to the Coronavirus Pandemic](#) (Last updated August 10, 2020)

Price Indexes

- [Consumer Price Index](#) (Last updated August 12, 2020)
- [U.S. Import and Export Price Indexes](#) (Last updated August 13, 2020)
- [Producer Price Index](#) (Last updated August 11, 2020)



Release page

Effects of COVID-19 Pandemic and Response on the Producer Price Index

The [Producer Price Index](#) (PPI) is a measure of the average change over time in the prices domestic producers

- [Impact of the coronavirus \(COVID-19\) pandemic on the Producer Price Index data for July 2020](#)
- [Impact of the coronavirus \(COVID-19\) pandemic on the Producer Price Index data for June 2020](#)
- [Impact of the coronavirus \(COVID-19\) pandemic on the Producer Price Index data for May 2020](#)
- [Impact of the coronavirus \(COVID-19\) pandemic on the Producer Price Index data for April 2020](#)

Impact statements
for each issuance at
the top

1. **Will data collection for PPI be affected?** The PPI survey is voluntary, so it relies on business survey respondents to provide pricing information. The unavailability of survey respondents or the interruption of business operations could affect the ability to collect PPI pricing information.
2. **How are PPI data collected?** Price data used to calculate the PPI are collected primarily online through the BLS Internet Data Collection Facility. For most industries, the PPI pricing date is the Tuesday of the week that includes the 13th of the month. If a transaction did not occur on the pricing date, the respondent is requested to provide a price for a transaction prior to that date, as close to the pricing date as possible. If no transaction occurred during the month, the respondent is requested to provide an estimate of what the price would have been, had a transaction occurred.
3. **What happens when PPI data cannot be collected?** When BLS cannot obtain a price, missing prices are imputed by the prices of similar items that have been collected. Essentially, the price movement of items that are not collected are estimated to be the same as those in their general index category. See the "Missing prices" section on page 10 of the [PPI Handbook of Methods chapter](#) for a brief discussion of this procedure. Note that this type of imputation method is the standard operational procedure used by the PPI program each month when estimating missing prices. Imputation allows indexes to be calculated, even when a fairly small number of prices are collected.
4. **Will PPI industry sample updates be affected?** BLS periodically updates the sample of producers providing data to reflect current conditions more accurately when the structure, membership, technology, or product mix of an industry shifts. BLS typically updates the sample once a year, through three sample update cycles. The next PPI sample update is scheduled to occur with the release of June PPI data on July 1, 2020. In April 2020, a majority of the data necessary for this sample update were collected and the sample update is expected to proceed as scheduled. However, reflecting challenges related to initiating establishments into the survey, including person data collection and began conducting initiation interviews by telephone. BLS is instructed temporarily not to contact establishments such as physicians' offices and manufacturers of surgical and medical instruments to avoid cause an undue burden on respondents. As a result, BLS will need to extend sample update cycles to collect enough data for some industries.
5. **Will PPI data be published as scheduled?** The PPI monthly data measuring producer price change will be published as scheduled. See the [schedule of PPI release dates](#). While it is possible that indexes will be based on a smaller than usual quantity of collected data, PPI ensures published indexes meet predefined quality standards. (See question #6.)
6. **Under what circumstances would some PPI data not be published?** Companies voluntarily provide proprietary pricing information for the survey, so BLS goes to great

Evergreen Q&A

- “Evergreen” Q&A
- Links to statements for each issuance of the release



Impact statements

Impact of the coronavirus (COVID-19) pandemic on the Producer Price Index data for July 2020

The [Producer Price Index](#) (PPI) is a measure of the average change over time in the prices domestic producers receive for the sale of their products. PPI estimates for July 2020 were published on August 11, 2020. The pricing date was Tuesday, July 14, 2020, which means that most producers, but not all, provided prices they received on that date. The summary statistics in tables 1, 2, 3 and 4 indicate the impact of the COVID-19 pandemic on the PPI data collection, index estimation, and the BLS ability to publish indexes was minor for the release of preliminary July data. No changes in estimation procedures were necessary.

This page provides further information on the effects of the COVID-19 pandemic for the [July 2020 Producer Price Indexes news release](#).

Collection mode

The PPI collects nearly all of its repricing data by web collection. There were no changes to collection mode in response to the pandemic.

Response rates

Table 1 provides the July 2020 response rate by industry sector, along with comparison periods of June 2020, July 2019, and a 12-month average for March 2019 to February 2020. The July 2020 response rate for items requested shows a similar level of response for the vast majority of industry sectors. While the response rate for entertainment, accommodation, and food services sector remains down when compared to historical comparison periods, both the July and June 2020 response rates reflect an uptick in response as businesses begin to reopen.

It is important to note that typically, the PPI survey's monthly price collection response rate averages 76 percent by the end of its 4-month index revision period. All PPI indexes are recalculated 4 months after publication of preliminary data. Thus, July indexes may be revised when BLS publishes the PPI for November on December 11, 2020. All summary statistics in the tables below reflect comparisons to PPI preliminary data.

Table 1. Comparative response rate percentages for the release of PPI preliminary industry indexes

Industry sectors	12-month average, March 2019 to February 2020	July 2019	June 2020	July 2020	Percentage point change from June 2020 to July 2020
All industrial sectors	69	71	72	73	+1
Agriculture, forestry, fishing and hunting	47	50	48	47	-1
Mining, utilities, and construction	66	63	66	70	+4

Keeping the look-and-feel similar

Impact of coronavirus (COVID-19) pandemic on JOLTS News Release for June 2020

The [Job Openings and Labor Turnover Survey](#) (JOLTS) national estimates of job openings, hires, and separations have been affected by the coronavirus (COVID-19) pandemic. This page provides further information on the effects of the COVID-19 pandemic for the [June 2020 JOLTS news release](#).

Although the impact cannot be precisely quantified for the month of June, it is clear that increasing job openings and quits, as well as decreasing levels of hires, reflect a limited resumption of economic activity that had been curtailed in March and April due to the COVID-19 pandemic and efforts to contain it. More information on the JOLTS methodology can be found in the [JOLTS Handbook of Methods chapter](#).

Collection mode

Data collection for the JOLTS survey was affected by the COVID-19 pandemic. Prior to the pandemic, JOLTS collected 42 percent of data by phone at the JOLTS data collection center on average. Most phone respondents were asked to report electronically. However, data collection was adversely impacted by the inability to reach some respondents that normally respond by phone.

Table 1. Percent of establishments responding by collection mode for Job Openings and Labor Turnover Survey

Collection mode	12-month average through February 2020	March 2020	April 2020	May 2020	June 2020
Phone	42%	19%	27%	28%	32%
Web	52%	75%	68%	67%	62%
Other	6%	6%	5%	5%	6%

Response rates

The preliminary JOLTS response rate for June 2020 was 47 percent. In May, the final response rate was 51 percent. In the year prior to the pandemic, the preliminary response rate averaged 54 percent and the final response rate averaged 58 percent.

In June, JOLTS response rates declined in all industries and size classes. The industries most impacted were state and local government education and accommodation and food services. The industry least affected was mining and logging.

Some positive reactions from website feedback

<https://www.bls.gov/bls/bls-covid-19-questions-and-answers.htm>



I sense you're on the bleeding edge of the data that's going to point us out of the COVID mess.

<https://www.bls.gov/bls/effects-of-covid-19-pandemic-on-productivity-and-costs-statistics.htm>



very helpful, thank you

<https://www.bls.gov/bls/effects-of-covid-19-pandemic-on-bls-price-indexes.htm>



Extremely helpful. Thanks for keeping this marvelous data update..Great Job!!

<https://www.bls.gov/bls/measuring-the-effects-of-the-coronavirus-covid-19-pandemic-using-the-current-population-survey.htm>



So happy to see the BLS moving so quickly to incorporate COVID questions to the CPS, and for making the information available as quickly as possible.

Critical reactions from website feedback

<https://www.bls.gov/covid19/effects-of-covid-19-pandemic-on-consumer-price-index.htm>



The title of this page is "Effects of COVID-19 Pandemic and Response on the CPI". I was expecting a simple answer such as "The CPI change was 50% lower than had been predicted in January". Instead there are details on the methodology. Frustrating

<https://www.bls.gov/covid19/consumer-price-index-covid19-impacts-june-2020.htm>



This says it all. Data inadequate

Final thoughts

- Having a framework and a template helped
- Being nimble to change and adjust as the situation evolves
- Looking to the future for how we may expand or enhance--
dashboard



Contact Information

Emily Liddel

U.S. Bureau of Labor Statistics

202-691-6468

liddel.emily@bls.gov

