

**SUPPORTING STATEMENT FOR
U.S. IMPORT AND EXPORT PRICE INDEXES**

OMB CONTROL NO. 1220-0025

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

The following paragraphs summarize the primary features of the sampling and statistical methods used to collect data and produce estimates for the IPP Export and Import series. Additional technical details are provided in the BLS Handbook of Methods (<https://www.bls.gov/opub/hom/ipp/>) and the Sampling and Index Construction Concepts papers, which are internal BLS reports and are available upon request.

- 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.**

The target universe of the import and export price indexes consists of all goods and services sold by U.S. residents to foreign buyers (exports) and purchased from abroad by U.S. residents (imports) with the following exceptions: works of art, used items, charity donations, railroad equipment, items leased for less than a year, rebuilt and repaired items, and custom-made capital equipment.

The IPP currently applies secondary source collection where possible, and with the implementation of the unit value indexes in the Import and Export Price Indexes (MXPI), approximately one third of the MXPI will be based on secondary source collection. However, the MXPI are currently calculated and will still be calculated primarily from prices submitted on a monthly basis by sampled establishments that agree to participate in the IPP's Import/Export Price Index survey at initiation. Thus, the IPP collects data from sampled establishments at initiation and during monthly repricing.

In the following, the unweighted quote response rates are presented for initiation and repricing.

The unweighted quote response rate and frame error rate are equal to:

$$\text{Unweighted Response Rate} = \frac{\text{COOP}}{\text{COOP} + \text{REF}}$$

$$\text{Frame Error Rate} = \frac{\text{OOB} + \text{OOS}}{\text{OOB} + \text{OOS} + \text{COOP} + \text{REF}}$$

where:

- COOP = the number of cooperative quotes;
- REF = the number of quotes coded as refusals;
- OOS = the number of out-of-scope quotes; and
- OOB = the number of out-of-business quotes

The unweighted establishment response rate and frame error rate are equal to:

$$\text{Unweighted Response Rate} = \frac{\text{COOP}}{\text{COOP} + \text{REF}}$$

$$\text{Frame Error Rate} = \frac{\text{OOB} + \text{OOS}}{\text{OOB} + \text{OOS} + \text{COOP} + \text{REF}}$$

where:

- COOP = the number of establishments with at least one cooperative quote;
- REF = the number of establishments with no cooperative quotes and at least one quote coded as a refusal;
- OOS = the number of establishments with no quotes coded as cooperative or as refusals and with at least one quote coded as out-of-scope; and
- OOB = the number of establishments with all quotes coded as out-of-business

EXPORTS

To meet the demanding requirements of the IPP in the environment of the constantly changing composition of international trade requires thoughtful statistical procedures. The universe consists of the total set of export prices. The number of establishments exporting products or services from the United States in the universe is approximately 500,000. In 2023, the overall sample for ongoing repricing of exports for the IPP is approximately 1250 exporters with 11,250 annual prices/responses. Approximately 9.0 quote prices are sampled within each exporter with a resultant average of 5.2 prices collected from each responding exporter. There are approximately 110 product category strata in the export sample design.

Export Response Rates at Initiation

This section summarizes IPP response rates at initiation for the last two export samples, at both the quote level and at the establishment level.

Table 1

Unweighted Response Rate at Quote Level			
Outcome	X44	X45	Overall
Cooperative	49.0%	49.4%	49.2%
Refusal	51.0%	50.6%	50.8%

Table 1 presents unweighted quote response rates at initiation during the last two IPP export samples. Using the unweighted quote response rate formula on page 1, the overall initiation response rate for both samples (combined) is approximately 49%. Approximately 23% of the sampled quotes were either out-of-scope or out-of-business (as indicated in the following table).

Table 2

Export Quote Counts				
Outcome	X44	X45	Overall	Percent
Cooperative	2742	2318	5060	38.1%
Refusal	2858	2376	5234	39.4%
OOB	86	99	185	1.4%
OOS	1198	1606	2804	21.1%
Grand Total	6884	6399	13283	100.0%

Table 2 displays the number of quotes from the last two IPP export samples by initiation outcome code. These numbers were used to calculate the unweighted response rates at the quote level.

Table 3

Unweighted Response Rate at Establishment Level			
Outcome	X44	X45	Overall
Cooperative	63.4%	68.2%	65.7%
Refusal	36.6%	31.8%	34.3%

Unweighted establishment response rates at initiation are presented for the last two IPP export samples in Table 3. Using the unweighted establishment response rate formula on page 2, the overall initiation response rate for both samples (combined) is approximately 66%. Approximately 18% of the sampled units were either out-of-scope or out-of-business (as indicated in the following table).

Table 4

Export Establishment Counts				
Outcome	X44	X45	Overall	Percent
Cooperative	604	577	1181	54.1%
Refusal	348	269	617	28.2%
OOB	16	14	30	1.4%
OOS	138	219	357	16.3%
Grand Total	1106	1079	2185	100.0%

Table 4 displays the number of establishments from the last two IPP export samples by initiation outcome code. These numbers were used to calculate the unweighted response rates at the establishment level.

Export Response Rates for Repricing

Once an establishment agrees to provide price data to the IPP at initiation, each unique item to be repriced for the establishment is loaded into the repricing and estimation portions of the database. In most cases an item represents a single quote from one sample, but in some cases an item represents multiple quotes from a single sample, or one or more quotes from more than one sample. IPP repricing rates are calculated based on the unique items being repriced.

The IPP continues data collection three months after data for the reference month was first published; therefore, the fourth publishing represents the final revision. Table 5 displays unweighted response rates at the time of final revision, for reference months January 2020 – December 2022.

Table 5

Export Response Rates for Repricing		
Reference Month	Response Rate	Usable Response Rate
202001	76%	74%
202002	75%	74%
202003	71%	69%
202004	73%	71%
202005	73%	70%
202006	73%	71%
202007	73%	70%
202008	74%	72%
202009	72%	70%
202010	70%	68%

202011	70%	68%
202012	70%	68%
202101	68%	65%
202102	69%	67%
202103	70%	68%
202104	69%	67%
202105	68%	66%
202106	69%	67%
202107	68%	66%
202108	68%	67%
202109	69%	68%
202110	68%	66%
202111	69%	66%
202112	71%	70%
202201	72%	70%
202202	74%	72%
202203	73%	70%
202204	73%	70%
202205	74%	72%
202206	74%	72%
202207	74%	71%
202208	75%	73%
202209	75%	73%
202210	74%	72%
202211	74%	71%
202212	76%	73%

IMPORTS

To meet the demanding requirements of the IPP in the environment of the constantly changing composition of international trade requires complex statistical procedures. The universe consists of the total set of import prices. The number of establishments importing products or services into the United States is approximately 500,000. In 2023, the overall sample for ongoing repricing of imports for the IPP is approximately 1800 importers with 15,840 prices/responses. Approximately 8.8 quote prices are sampled within each importer with a resultant average of 5.7 prices collected from each responding importer. There are approximately 140 product category strata in the import sample design.

Import Response Rates at Initiation

This section summarizes IPP response rates at initiation for the last two import samples, at both the quote level and at the establishment level.

Table 6

Unweighted Response Rate at Quote Level			
Outcome	M44	M45	Overall
Cooperative	60.7%	53.8%	57.3%
Refusal	39.3%	46.2%	42.7%

Table 6 presents unweighted quote response rates at initiation during the last two import samples. Using the unweighted quote response rate formula on page 1, the overall initiation response rate for both samples (combined) is approximately 57%. Approximately 20% of the sampled quotes were either out-of-scope or out-of-business (as indicated in the following table).

Table 7

Import Quote Counts				
Outcome	M44	M45	Overall	Percent
Cooperative	4980	4172	9152	45.7%
Refusal	3227	3584	6811	34.0%
OOB	238	124	362	1.8%
OOS	1837	1859	3696	18.5%
Grand Total	10282	9739	20021	100.0%

Table 7 displays the number of quotes from the last two IPP import samples by initiation outcome code. These numbers were used to calculate the unweighted response rates at the quote level.

Table 8

Unweighted Response Rate at Establishment Level			
Outcome	M44	M45	Overall
Cooperative	73.0%	66.9%	70.0%
Refusal	27.0%	33.1%	30.0%

Unweighted establishment response rates at initiation are presented for the last two IPP import samples in Table 8. Using the unweighted establishment response rate formula on page 2, the overall initiation response rate for both samples (combined) is approximately 70%. Approximately 16% of the units sampled are either out-of-scope or out-of-business (as indicated in the following table).

Table 9

Import Establishment Counts				
Outcome	M44	M45	Overall	Percent
Cooperative	905	824	1729	59.1%
Refusal	334	407	741	25.3%
OOB	41	23	64	2.2%
OOS	189	202	391	13.4%

Grand Total	1469	1456	2925	100.0%
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Table 9 displays the number of establishments from the last two IPP import samples by initiation outcome code. These numbers were used to calculate the unweighted response rates at the establishment level.

Import Response Rates for Repricing

Once an establishment agrees to provide price data to the IPP at initiation, each unique item to be repriced for the establishment is loaded into the repricing and estimation portions of the database. In most cases, an item represents a single quote from one sample, but in some cases, an item represents multiple quotes from a single sample, or one or more quotes from more than one sample. IPP repricing rates are calculated based on the unique items being repriced.

The IPP continues data collection three months after data for the reference month was first published; therefore, the fourth publishing represents the final revision. Table 10 displays unweighted response rates at the time of final revision, for reference months January 2020 – December 2022.

Table 10

Import Response Rates for Repricing		
Reference Month	Response Rate	Usable Response Rate
202001	73%	71%
202002	74%	72%
202003	69%	68%
202004	70%	68%
202005	71%	69%
202006	72%	70%
202007	71%	69%
202008	72%	69%
202009	71%	69%
202010	69%	67%
202011	71%	69%
202012	69%	67%
202101	67%	65%
202102	69%	67%
202103	69%	67%
202104	67%	65%
202105	68%	66%
202106	68%	66%

202107	67%	65%
202108	68%	66%
202109	68%	66%
202110	65%	64%
202111	66%	64%
202112	70%	68%
202201	71%	69%
202202	71%	70%
202203	72%	70%
202204	72%	70%
202205	74%	72%
202206	74%	72%
202207	74%	72%
202208	74%	73%
202209	75%	73%
202210	74%	72%
202211	74%	72%
202212	74%	72%

2. Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**
- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

a. Description of Sampling Methodology

The import and export merchandise sampling frame data are obtained from the U.S. Census Bureau for all import transactions and for all export transactions except those to Canada. The import transactions and non-Canadian export transactions are filed on an electronic computer system known as the Automated Commercial Environment (ACE), which is maintained by the U.S. Customs and Border Protection (USCBP). USCBP transmits these transactions on a monthly basis to the U.S. Census Bureau, which edits the data for use in calculating and publishing its monthly international trade measures (FT900). The U.S. Census Bureau transmits the import and non-Canadian export transaction data monthly to the IPP upon publishing these measures. Since exporters trading to Canada do not need to file export documentation, the IPP uses the Canadian import documents provided to the U.S. Census Bureau from the Canadian Customs Service.

The constructed import and export sampling frames contain information about all import and export transactions that were filed during the reference year. The frame information available for

each transaction includes a company identifier (usually the Employer Identification Number), the detailed product category (Harmonized Tariff number) of the goods that are being shipped, and the corresponding dollar value of the shipped goods.

Under the current sample design, the IPP divides both its import and export universes into two halves referred to as panels based on trade dollar value. The Program samples from one import panel and one export panel each year. Those samples are sent to the field offices for collection, so that both universes are fully re-sampled every two years. The sampled products are priced for approximately five years until the items are replaced by a newly drawn sample from the same panel. As a result, each published index is based upon the price changes of items from up to three different samples.

For exports, the two panels consist of the following major product groupings, as defined by the Harmonized Classification System:

Export Product Panel A: Food and beverages
 Minerals, chemicals, and rubber
 Crude materials; related goods
 Miscellaneous manufactures

Export Product Panel B: Machinery
 Vehicles and transportation equipment

For imports, the two panels consist of the following major product groupings, as defined by the Harmonized Classification System:

Import Product Panel A: Food and Beverages
 Crude materials; related goods
 Vehicles and transportation equipment
 Miscellaneous manufactures

Import Product Panel B: Minerals, chemicals, and rubber
 Machinery

Each panel is sampled using a three-stage sample design. The first stage selects establishments independently proportional to size (dollar value) within each broad product category (stratum) identified by the Harmonized Classification System (HS).

The second stage selects detailed product categories (classification groups) within each establishment using a systematic probability proportional to size (PPS) design. The measure of size is the relative dollar value adjusted to ensure adequate coverage across all classification systems and known nonresponse factors (total company burden and frequency of trade within each classification group). Each establishment-classification group (or sampling group) can be sampled

multiple times and the number of times each sampling group is selected is then referred to as the number of quotes requested.

In the third and final stage, the Field Economist, with the cooperation of the company respondent, performs the selection of the actual items for use in the IPP indexes. Using the entry level classification groups selected in the second stage, a list of items can be provided by the respondent to the Field Economist. Using a process called disaggregation, items are selected from this list with replacement to satisfy the number of quotes requested for each entry level classification group.

The replacement of directly collected price information with unit value indexes (for some homogenous product areas) will allow for a reduction in IPP's sampling universe as fewer companies will be needed to support the Import and Export Price Indexes; in fact, the Program expects to reduce the import and export universes (and therefore, sample sizes) by approximately 33% each. This cut eliminates the need to divide the import and export universes into panels, a design that was borne of necessity for workload management by both BLS' Field Economists and IPP's National Office staff.

Under the new sample design for merchandise goods, the IPP will sample from the entire (target) import universe and the entire (target) export universe in alternate years, continuing to apply the three stages of processing currently used to draw a sample. The sampled products will still be priced for approximately five years and each published index will still be based upon the price changes of items from up to three different samples.

b. Description of Estimation Methodology

The IPP currently applies secondary source collection where possible and with the implementation of the unit value indexes in the Import and Export Price Indexes (MXPI), approximately one third of the MXPI will be based on secondary source collection. For index calculation, the IPP relies primarily on items that are initiated and repriced every month and that will remain the case when the MXPI are partially calculated from unit value indexes. However, the implementation of the unit value indexes as an alternative data source will introduce new and improved estimation methodology for IPP.

Currently, the MXPI are calculated using (only) a modified Laspeyres index formula. The modification used by the IPP differs from the conventional Laspeyres index by using a chained index instead of a fixed-base index. Chaining involves multiplying an index (or long-term ratio) by a short term ratio (STR). This is useful since the product mix available for calculating price indexes can differ over time (Bobbitt et al., 2007).

The conventional Laspeyres index and the modified index are identical as long as the market basket of items does not change over time and each item provides a usable price in every period. However, due to nonresponse and other factors, the mix of items used in the index from one period to the next is often different. The benefits of chaining over a fixed base index include a better reflection of changing economic conditions, technological progress, and spending patterns, and a suitable means for handling items that are not traded every calculation month.

Below is the derivation of the modified fixed quantity Laspeyres formula used in the IPP.

$$\begin{aligned}
 LTR_t &= \left(\frac{\sum p_{i,t} q_{i,0}}{\sum p_{i,0} q_{i,0}} \right) (100) \\
 &\dot{=} \left(\frac{\sum p_{i,0} q_{i,0} \left(\frac{p_{i,t}}{p_{i,0}} \right)}{\sum p_{i,0} q_{i,0}} \right) (100) \\
 &\dot{=} \left(\frac{\sum w_{i,0} r_{i,t}}{\sum w_{i,0}} \right) (100) \\
 &\dot{=} \left(\frac{\sum w_{i,0} r_{i,t}}{\sum w_{i,0} r_{i,t-1}} \right) \left(\frac{\sum w_{i,0} r_{i,t-1}}{\sum w_{i,0}} \right) (100) \\
 &\dot{=} \left(\frac{\sum w_{i,0} r_{i,t}}{\sum w_{i,0} r_{i,t-1}} \right) (LTR_{t-1}) \\
 &\dot{=} (STR_t) (LTR_{t-1})
 \end{aligned}$$

where:

$p_{i,t}$ = price of item i at time t

$q_{i,0}$ = quantity of item i in base period 0

$w_{i,0} = p_{i,0} q_{i,0}$ the total revenue in base period 0

$r_{i,t} = \frac{p_{i,t}}{p_{i,0}}$, or the long term relative of item i at time t

LTR_t = long-term ratio of a collection of items at time t

$$STR_t = \left(\frac{\sum w_{i,0} r_{i,t}}{\sum w_{i,0} r_{i,t-1}} \right)$$

For each classification system, the IPP calculates its estimates of price change using an index aggregation structure (i.e., aggregation tree) with the following form (Powers et al., 2006):

Upper Level Strata

Lower Level Strata

Classification Groups (CGs)

Weight Groups (i.e., Company-Index Classification Group)

Items

A stratum may have several middle-level-strata or none, between itself and the classification group level. The number of middle-level-strata from the classification group to each stratum varies depending on which stratum the specific CG belongs. Similarly, the number of middle-

level-strata from a stratum lower to an overall index varies. The following general formula is used until the desired aggregation level index is obtained.

Let $Child[h]$ to be the set of all strata or classification groups in the aggregation level directly below Stratum h in an aggregation tree. Let $STR_{h,t}$ be a short-term ratio of stratum, h , at time t :

$$STR_{h,t} = \frac{\sum_c w_c LTR_{c,t}}{\sum_c w_c LTR_{c,t-1}}$$

where:

$c \in stratum[h]$;

w_c =weight of child c ;

LTR_c =long-term ratio of child c at time t .

As mentioned previously, at any given time, the IPP has up to three samples of items being used to calculate each stratum's index estimate. Currently the IPP combines the data from these samples by 'pooling' the individual estimates.

Pooling refers to combining items from multiple samples at the lowest level of the index aggregation tree. These combined sample groups are referred to as a weight group. Different sampling groups can be selected for the same weight group across different samples, so it is possible that multiple items from different sampling groups can be used to calculate a single weight group index. This weight group level aggregation is done primarily so the Industry Analysts within IPP can perform analyses on the index information across samples.

In addition to changes in sampling methodology (as described in Section a. above), the replacement of directly collected price data with unit value indexes requires significant methodological changes to IPP's repricing and estimation processes.

To incorporate unit value indexes into the MXPI, the Program will apply the new concepts of a unit price and average unit price to products and product varieties, respectively. Each trade transaction record (delivered to the IPP by the Census Bureau) reports the product quantity traded and total dollar value for a specific shipment by a specific company for a specific 10-digit Harmonized Classification System product category, for a point in time. The IPP will calculate the unit price for each individual shipment by dividing the product's total trade dollar value by the quantity and establish distinct product varieties by grouping trade transactions by similar characteristics. These product varieties are homogenous products whose specifications should remain constant, and which can therefore be repriced over time. The quantity-weighted average unit price will be calculated for each product variety for all products traded during the statistical month and then aggregated into a broader product category by HS classification to calculate a unit value index.

To calculate the unit value indexes, the IPP will introduce the Tornqvist formula. A Tornqvist price index first calculates the geometric average of the price relatives of the current to base period

prices. Current period prices are calculated for each of the 4 months of the revision period. Base period prices are the weighted arithmetic average of all prices of the previous year. The ratio of current-period price to previous-year price, also called a mid-term relative (MTR), is calculated for each month. The Tornqvist calculation then weights the MTR price relatives of the product varieties by the arithmetic average of the value shares for the two periods to calculate the unit value index for each 10-digit HS product classification group.

For the year-to-month changes, classification group c is calculated by aggregating the unit value indexes for the set of items K_c in classification group c that traded in month t and base year.

$$MTR_{c,t} = \prod_{k \in K_c} \left[\frac{P_{k,t}}{P_{k,base}} \right]^{\frac{W_{k,base} + W_{k,t}}{2}}$$

where:

$$W_{k,t} = \frac{V_{k,t}}{\sum_{j \in K_c} V_{j,t}},$$

$$W_{k,base} = \frac{V_{k,base}}{\sum_{j \in K_c} V_{j,base}},$$

K_c = the set of items that traded \in month $t \wedge$ traded \in the base year ,

$V_{k,t}$ = trade value of item $k \in$ month t ,

$V_{k,base}$ = average trade value of item $k \in$ base year ,

$P_{k,t}$ = unit price of item $k \in$ month t ,

$P_{k,base}$ = average unit price of item $k \in$ base year .

The month-to-month change for classification group c is calculated as follows:

$$R_{c,t} = \frac{MTR_{c,t}}{MTR_{c,t-1}} AR_{c,t-1,t}$$

where:

$MTR_{c,t}$ = midterm relative for classification group $c \in$ month t ,

$MTR_{c,t-1}$ = midterm relative for classification group $c \in$ month $t - 1$,

$AR_{c,t-1,t}$ = annual relative for classification group $c \in$ $t - 1$ base \rightarrow t base ,

note : $AR_{c,t-1,t}$ is 1 except when $t - 1$ is December \wedge t is January .

Therefore, the index level for a classification group in a month is

$$P_{c,t} = P_{c,t-1} R_{c,t}$$

with $P_{c,0} = 100$.

The index levels in each month are then linked to calculate month-to-month price changes for each classification group. Using an entire year for the base period implies that any product variety that was traded the previous year contributes to the index, even if they were not traded the previous month. This approach greatly increases the number of product variety prices used in the unit value index estimation.

For calculation purposes, unit value indexes are equivalent to directly collected item prices and once calculated, they are treated as unique item prices which are then aggregated to the publication-level industry (or product) import (or export) price index using the current modified Laspeyres index method. Note that the current method to estimate the MXPI uses the monthly prices of directly collected items to calculate each item's price change of the 10-digit classification group with annual trade weights from the calendar year ended 2 years prior to the current calendar year; the aggregation uses the concordance between the Harmonized Classification System and the other two classification systems of BEA End Use and NAICS. With the new data source, aggregation does not require sample or company weights.

The IPP's primary product classification is the BEA End Use classification, and the detailed 5-digit BEA End Use import and export price indexes will be based on either survey data or on unit values indexes calculated from the trade transaction records. However, at the higher levels of BEA End Use aggregation and for other classifications, most other published indexes will be composed of some (non-overlapping) combination of the two data sources.

The IPP will also revise its approach to calculating and publishing the locality of origin and locality of destination indexes. The current sampling approach does not account for locality but the locality price indexes are quality-reviewed for publication. With the new approach, the IPP will blend directly collected items with locality-specific unit value indexes. Product varieties will be grouped by country and locality before their prices are aggregated to unit value indexes. Locality-specific unit value indexes are weighted by the locality-specific dollar value of trade from the transaction to the unit value index level. Each locality-specific unit value index is mapped to a classification group and then aggregated to the locality-specific 6-digit NAICS industry category using the current modified Laspeyres index method. Some published indexes will be composed of the two (non-overlapping) data sources.

Additional methodological details are available in the Technical Federal Register Notice (<https://www.federalregister.gov/documents/2023/09/11/2023-19486/comment-request>) and research data sets are accessible from the MXP Research page (<https://www.bls.gov/mxp/data/research.htm>).

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

Adequate sample sizes for estimating IPP indexes are critical for mitigating non-response (which includes out-of-business, out-of-scope, and refusal outcomes); as such, IPP employs several

techniques to ensure that initial sample sizes are sufficiently larger than desired sample sizes. The methodology changes detailed below resulted from an analysis of initiation attempts for export and import samples. (For additional details, see the Out-of-Scope Export and Import Analysis reports which are internal BLS reports available upon request.)

- For exports, the IPP receives name and address information for each export shipment from a company and has revised its matching process for determining the correct name and address of each sampled unit.
- The Program has implemented linking the Employer Identification Number (EIN) to additional data sources and using the linked information for identifying the correct name, address, and other pertinent information of each sampled unit.
- Additionally, other variables on the sampling frame were examined for aid in identifying out-of-scope trade. As a result of this analysis, the IPP now screens (from its sampling frame) transactions that contain values for these variables that identify out-of-scope shipments.
- In 2011, the IPP began a pilot study to examine the productivity of allowing initiation of a sampled product area to occur at a broader (six-digit Harmonized Classification System) level when the original initiation at the more detailed ten-digit Harmonized Classification System level resulted in an out-of-scope situation. Following the implementation of these changes into production (in 2012), the IPP observed a decline in out-of-scope rates at both the quote level and at the establishment level.
- In 2023, the Program added an additional check of whether a company qualifies as a broker or logistics companies; these companies are mostly excluded from fielding as they are typically found to be out-of-scope during initiation.

To improve the response rate of respondents, the IPP has devised strategies to reduce respondent burden while increasing or at least maintaining their level of participation. The strategies which the IPP has implemented include the following:

- capping the burden for a respondent within a sample;
- enhancing the sampling refinement process so that Field Economists can prioritize items for collection if burden issues arise (with input from the National Office, if applicable); and
- repricing current items for a longer period of time rather than initiating new items.

IPP has implemented additional changes over the years to further reduce burden for companies which are major traders and account for a significant portion of international trade. These changes include enhancements to IPP's sampling and initiation processes that help to ensure that the Program adheres to companies' requests about the timing of (initiation) visits, attempts simultaneous collection of both IPP & PPI data (if applicable), and lowers the selection

probability of an infrequently traded Sampling Classification Group (SCG). (SCGs which are frequently traded are generally easier for respondents to identify during initiation.)

The Program has also implemented minor changes to the wording in the ‘notification to reprice’ and email reminder for web respondents. A section was added to the ‘notification to reprice’ that asks respondents to select ‘not traded’ or to replace items, as appropriate. This is an attempt to ensure that IPP continues to obtain response from respondents who may not be trading under current business conditions. In the email reminder, improved wording lets respondents know that they can change contact information directly in the web survey or by replying to the email reminder.

Most notably and as discussed extensively throughout Supporting Statement Parts A and B, the Program plans to replace some directly collected data with unit value indexes calculated from trade transaction records beginning in fiscal year 2025. This alternative data source will reduce the number of respondents needed for repricing and thus the number of establishments needed for initiation.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

The Program has implemented several changes over the years to reduce respondent burden (discussed under number 3 in parts A and B of the Supporting Statement) and the planned implementation of the trade transaction data as an alternative data source (in fiscal year 2025) will further reduce burden. However, the IPP has no testing related to reducing respondent burden scheduled for the foreseeable future.

5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

The responsibility for the statistical aspects of the International Price Program as well as collection and processing of price information, resides with Susan Fleck, Assistant Commissioner for International Prices, Office of Prices and Living Conditions, Bureau of Labor Statistics.

References

Bobbitt, P.A., Paben, S.P., Cho, M.J., Himelein, J.A., Chen, T-C., and Ernst, L.R. (2007). Application of the Bootstrap Method in the International Price Program. 2007 Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM], 2910-2917

Bobbitt, P. A, Cho, M. J. and Eddy, R. M. (2005). Comparing Weighting Methods in the International Price Program. 2005 Proceedings of the American Statistical Association, Government Statistics Section [CD-ROM], 1006-1014

Chen, T-C., Bobbitt, P.A., Himelein, J.A., Paben, S.P., Cho, M.J., and Ernst, L.R. (2007). Variance Estimation for International Price Program Indexes. 2007 Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM], 1427-1434

Cho, M.J. and Lang, L. (2016). Learning about Respondents' Characteristics Using Standard Exploratory Data Analysis (EDA) Tools, 2016 Proceedings of the American Statistical Association, Korean International Statistical Society [CD-ROM], 720-736

Cho, M. J. and Eltinge, J. L. (2008). Evaluation of Error Components in a Simulation Based Evaluation of a Survey Procedure. 2008 Proceedings of the American Statistical Association [CD-ROM], 352-359

Cho, M. J., Chen, T-C, Bobbitt, P.A., Himelein, J.A., Paben, S.P., Ernst, L.R., and Eltinge, J. L. (2007). Comparison of Simulation Methods Using Historical Data in the U.S. International Price Program. 2007 Proceedings of the American Statistical Association, Third International Conference on Establishment Surveys [CD-ROM], 248-255

Fast, Don A. and Fleck, Susan E. (2022). Measuring Export Price Movements with Administrative Trade Data. Working Paper 518. U.S. Bureau of Labor Statistics. June.

Fast, Don A. and Fleck, Susan E. "Unit Values for Import and Export Price Indexes." *Big Data for 21st Century Statistics*, edited by Katherine G. Abraham, Ron S. Jarmin, Brian C. Moyer, and Matthew D. Shapiro, 2022, pp. 275-295.

Fast, Don A., Fleck, Susan E., and Smith, Dominic A. Unit Value Indexes for Exports – New Developments Using Administrative Trade Data. *Journal of Official Statistics*, 38, 1, 2022.

Fitzgerald, Jenny (2009). Assessing Nonresponse Bias in the International Price Program's (IPP) Import and Export Price Index Surveys. 2009 Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM], 2070-2082

Kravis, Irving B. and Lipsey, Robert E. (1971). Price Competitiveness in World Trade.

Powers, R., Eltinge, J. L. and Cho, M. J. (2006). Evaluations of the Detectability and Inferential Impact of Nonresponse Bias in Establishment Surveys. 2006 Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM], 3577-3583