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Electronic Reporting: United States Producer Price Index Program’s Experience – Use of “Web Repricing”

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Introduction

The purpose of this paper is to present the experience of the Producer Price Index Program (PPI) at the U.S. Bureau of Labor Statistics in making reporting via the Internet available to survey respondents for the first time in 2011. The introduction of this capability is a significant milestone for PPI as it represents the program’s first effort to have respondents provide periodic data directly into a BLS database without the need for initial data processing on the part of PPI program staff. The paper puts this experience into the overall context of the use of internet collection at BLS, first offered in 1996 by the Current Employment Statistics program.

Prior to presenting information about the new PPI data collection instrument itself, the new reporting tool is put in the context of a description of the PPI program followed by a brief description of the reporting units that participate in this voluntary survey. The paper will review the reporting options available prior to the introduction of the new instrument, the goals that PPI expects to accomplish with repricing via the Internet, the challenges the program has faced during the transition, and a review of the results so far with a focus on the operational efficiencies already gained and those expected in the future.

1. Description of the US Producer Price Index Survey

The Producer Price Index is a family of indexes that measure the average change over time in the selling prices received by domestic producers of goods and services. PPIs measure price change from the perspective of the seller. This contrasts with other measures, such as the Consumer Price Index (CPI), that measure price change from the purchaser’s perspective. Sellers' and purchasers' prices may differ due to government subsidies, sales and excise taxes, and distribution costs. Each month, BLS releases over 9,500 PPIs for individual products and groups of products. PPIs are available for the output of almost all industries in the goods-producing sectors of the U.S. economy—including mining, manufacturing, agriculture, fishing, and forestry—as well as goods competitive with those made in the producing sectors, such as waste and scrap materials. The PPI program also covers 34% of the construction sector and 72% of the services sector, including utilities such as natural gas and electricity, based on 2007 Value of Shipments as measured by the U.S. Economic Census. BLS currently publishes indexes for over 150 selected service industries included in the following sectors: wholesale and retail trade; transportation and warehousing; information; finance and insurance; real estate brokering, rental and leasing; professional, scientific, and technical services; administrative, support, and waste management services; health care and social assistance; and accommodation. The PPI program continues to look for opportunities to expand coverage of services and nonresidential building construction as funding allows.

More than 100,000 price quotations per month are organized to support the publication of three sets of PPIs:

- **Stage-of-Processing Indexes (SOP)** which organize products by class of buyer and degree of fabrication
• Commodity Indexes, which organize products (goods and services) by similarity of end use or material composition, disregarding their industry of origin; uses PPI’s own commodity classification structure
• Industry Net-Output Price Indexes – PPI samples the entire output of NAICS industries to derive price indexes for the net output of the industries and their products.

PPI’s samples for Industry Net-Output Price Indexes are used to support all three primary outputs of the program. The Stage-of-Processing Indexes currently cover goods only and are organized into three major groupings – Finished Goods (including commodities that will not undergo further processing and are ready for sale to the final-demand user, i.e. consumer foods, other durable and nondurable goods, capital equipment); Intermediate Materials, Supplies, and Components; and Crude Materials for Further Processing. BLS publishes both seasonally-adjusted and unadjusted indexes for all SOP series and selected commodity classification series.¹ The program has developed a new aggregation structure that produces SOP-like products that covers goods, services, and construction. This new system is a model that greatly expands PPI coverage of the US economy as a whole. The results are currently available on an experimental basis at http://www.bls.gov/ppi/experimentalaggregation.htm.²

US Producer Price Index data are widely used by the business community and the government. Three major uses are:

• As an economic indicator – The PPIs capture price movements prior to the retail level and thus may foreshadow subsequent prices for business and consumers. In fact, the PPI is one of seven BLS outputs designated as a Principal Federal Economic Indicator. The President, US Congress, and the Federal Reserve of the United States employ these data in formulating fiscal and monetary policies.

• As a deflator of other economic series – As in most countries, the US PPIs are used to adjust other economic time series for price changes and to translate those series into inflation-free dollars. Accordingly, the U.S Bureau of Economic Analysis (BEA) is a major user of PPIs for deflation of selected areas of gross domestic product data.

• As a basis for contract escalation – PPIs are frequently cited in price escalation clauses of long-term sales or purchase contracts as a means of protecting both the buyer and seller from unanticipated surges or drops in prices. Businesses commonly include an escalation clause that accounts for increases in input prices. (See PPI Escalation Guide for Contracting Parties.)

¹ Because PPI data are used for different purposes, BLS publishes seasonally-adjusted as well as unadjusted changes each month. All stage-of-processing indexes are seasonally-adjusted. In addition, certain 3-digit, 4-digit, and 6-digit commodity classification series are selected for seasonal adjustment if statistical tests indicate seasonality and if there is an economic rationale for the observed seasonality. Index for most 2-digit commodity groupings and 8-digit individual commodities, as well as all industry classification indexes, are published only as unadjusted data. Currently, none of the services commodity classification index series are seasonally-adjusted, but BLS has begun exploring which are potential candidates for seasonal adjustment as part of its work on SOP-like aggregation structures that include goods, services, and construction.

² In addition to the three primary sets of PPI outputs listed above and the experimental aggregation system indexes, BLS also publishes a few specialized indexes including PPIs by durability of product, special commodity groupings indexes, and material inputs to construction industry indexes. As a reminder, the Program uses one set of microdata it collects to support all of its outputs.
US PPIs are also used by labor, academia, and other kinds of organizations as well as members of the general public. This includes uses in economic analysis, econometric models, in forecasting, in market analysis, and academic research.

2. Data Collection Units in PPI

The PPI universe consists of all marketed outputs in both the goods-producing and non-goods producing sectors (services, construction, utilities) of the U.S. economy. Thus, imports are not included within the PPI. The PPI program employs an industry-based sampling strategy. Once the program has sampled an industry’s producers and output for the first time, the sample must be periodically refreshed to account for changing market conditions. Currently, intervals between samples for a given industry range from 5-10 years depending on the nature of the industry. Resampling takes place relatively often for industries marked by dynamic changes in production technology or industry structure, while more stable industries undergo resampling less frequently. Although PPI selects samples for each industry, the Program groups them into three “samples” per year for fielding purposes, using a probability-proportionate-to-size sampling approach for each of the included industries.

The PPI survey is based on probability-proportional-to-size sampling. Every survey unit listed in the frame, regardless of size, has a chance of being selected. The chance of any single survey unit being “selected” in the survey is commensurate with its importance to the industry as a whole. Comprehensive coverage is necessary to insure that the price data collected is a representative sample of the universe of pricing activity within an industry. The steps involved in the program’s application of probability-proportional-to-size sampling include: constructing a frame (a list of establishments from which a sample is to be selected – PPI’s primary frame source is the universe of establishments in the Unemployment Insurance System though alternate frame sources are used in some industries, particularly in services); identifying any specific stratification variables that represent unique price-forming groups (strata); calculating the number of survey units and price quotations required within each stratum; sorting each group by a measure of size (usually employment because it is more readily available to BLS than total unit revenues); and using a calculated sample interval to select a representative subset of entities from the list. Probability-proportional-to-size sampling improves efficiency, reduces bias, and allows for calculating statistical estimates of reliability, precision, and error. The number of establishments and price quotations varies in each industry sample, depending on the size of the industry and the homogeneity of the produced outputs. The sample must be large enough to represent the full range of producers and products. Since participation in the survey is voluntary, not every entity selected for inclusion cooperates. Furthermore, sample frames typically contain a certain degree of error. Frame error includes entities defined as out

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3 The BLS International Price Program publishes price indices for U.S. imports and exports, though its publication of services price indices is limited to selected transportation areas only in part due to funding reductions sustained several years ago. See http://www.bls.gov/mxp/ for more information about the BLS U.S. Import and Export Price Indexes.

4 PPI uses a different quota sampling approach for nonresidential new building construction and thus fields one new replenishment sample for a different building type each year in addition to the three sample groups for all other industries.

5 The current average productive response rate for PPI samples is close to 80%.
of business and those incorrectly classified. Anticipated respondent attrition over the life of the sample also influences sample allocation.

Once samples are selected, the establishments to be collected are fielded in groups to one of the six BLS regional offices along with detailed operations instructions and all supporting materials. When an establishment is selected to participate in the PPI survey, a regional field economist visits the establishment (i.e. sample unit) to solicit cooperation. The field economist assures the potential respondent that assistance is voluntary but important to the accurate measurement of the U.S. economy, that any information the establishment agrees to provide to BLS will be used for statistical purposes only, and that BLS will hold that information in confidence to the full extent permitted by the law. The latter is one of the foundations on which voluntary cooperation is built, i.e. that responses to a BLS survey (in this case PPI) will not be disclosed in identifiable form without informed consent. The process of scheduling and making visits to establishments included in PPI samples is called initiation. If the establishment agrees to participate in the PPI survey, the field economist uses a disaggregation technique to select the specific goods or services for which prices will be reported. Disaggregation is a process in which iterative steps are taken to select items based on their proportionate value to the producer’s overall revenue. First a reporter breaks down the type of items transacted into product categories based on the proposed publication structure for the industry, which typically closely matches categories used to collect turnover statistics. Next, these categories are broken down further by price determining characteristics, for example, options, color, size. Further break downs may be necessary to differentiate between types of buyers or discounts. Disaggregation continues until a specific product sold to a specific buyer is selected. Information collected during initiation is entered by field economists into the PPI Collection System and transmitted to the National Office.

Once the data are reviewed by PPI National Office industry analysts and their supervisors, the establishment is ready for periodic updating of its item information received at initiation, a process that the Program calls repricing. It is in the repricing process where Internet collection has been introduced.

3. A Brief Overview of Internet Data Collection at BLS

It is useful to first place the PPI experience with Internet collection within the larger BLS context. BLS programs recognized the potential of data collection over the Internet as early as the late 1990s, but needed to develop mechanisms that would provide the best chances for success without adverse impacts on response rates. Among the reasons for developing

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6 The Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA) safeguards the confidentiality of individually identifiable information acquired under a pledge of confidentiality for exclusively statistical purposes by controlling access to, and uses made of, such information. CIPSEA includes fines and penalties for any knowing and willful disclosure of individually identifiable information by an officer, employee, or agent of the BLS.
internet-based data collection are the availability of reporting choices for survey respondents, the potential to reduce BLS costs associated with mailing or data entry, the potential to improve response rates, and the potential to reduce respondent burden or the perception of burden. In 1999, BLS decided to develop a single, manageable, secure architecture that all programs interested in using the Internet for data collection would utilize. This architecture is known as the Internet Data Collection Facility (IDCF). It has the following characteristics:

- A single point of entry for all BLS surveys using the internet
- A common look and feel across surveys that still allows for customization to meet the specific requirements of each survey
- Support of multi-survey respondents
- Multiple levels of security
- A unique firewall, separate from the main BLS firewall that protects internal BLS data
- Access controlled by BLS-issued accounts/passwords
- A single infrastructure, which helps to control monitoring and risk assessment activities

The IDCF first became available for use in 2000, and the Current Employment Statistics (CES) program moved its standalone instrument that had been in use since 1996 to the IDCF. This monthly survey was followed with the first annual establishment survey to use the IDCF in 2003, the Survey of Occupational Injuries and Illnesses (SOII). In 2004, the BLS International Price Program (IPP), PPI’s “sister” industrial price program, started offering repricing via the web, when its new instrument was first added to the IDCF. Seven more surveys joined from 2007 through 2012 including the PPI in 2011. Currently, the IDCF handles over 2.7 million item data collection transactions a year with the percent of total item transactions for each program that are provided over the Internet ranging from a low of 10% to a high of 100%. For IPP, currently about 72% of its item transactions during repricing in FY2012, representing about 80% of its respondents, report over the IDCF. As discussed in more detail in the next section of this paper, PPI has used IPP’s experience as a guide for establishing expectations regarding the PPI survey’s move into Internet collection during repricing and for putting together its transition strategy.

While Internet data reporting has a number of potential advantages, such as lower survey cost and improved data quality, BLS must continuously evaluate various operational issues and make adjustments to assure that Internet repricing will achieve these advantages. For annual or one-time only surveys like SOII, the prospects of reduced cost and improved data quality may be easier to realize because even if only 10 or 20 percent of responses come in via the Internet, costs are reduced. For ongoing surveys that rely on relatively quick turnaround like PPI, the operational issues of initial registration, timely response, nonresponse follow-up, and maintenance of contact information (such as email addresses) may complicate the objective of achieving the cost and quality benefits. Thus, BLS programs that use the IDCF are vigilant about measuring the impacts of moving to Internet repricing and working with the IDCF staff to make adjustments as needed.
4. Data Collection in PPI

As stated in section 2 of this paper, the PPI program collects data in two stages – initiation and repricing. This section of the paper focuses on data collection practices for repricing, in which Internet collection from survey respondents has been introduced.

a. Practices Prior to Introduction of Internet Collection

After BLS field economists secure the cooperation of each reporting establishment during initiation, the product descriptions, terms of transactions, prices, and company contact information are entered into the data collection system; collectively, PPI calls this item/reporter information. The BLS regional and national office staffs are then able to review these data electronically to ensure consistency and completeness and prepare the data for repricing. During repricing, establishments report prices for their items on a form provided by BLS – a copy of a sample form, BLS-473P, is included in the Appendix. Establishments usually report monthly, though some report less frequently either due to seasonality or in response to concerns about reporting burden. Establishments are asked to report changes in specifications and prices as of Tuesday of the week containing the 13th of the month. Each month the program sends out requests for updated price information for up to 105,000 items from about 25,000 reporters.7 Survey forms are designed to take industry-specific factors into account, allowing some adaptation to the individual survey unit accounting and data structures. If the establishment fails to report or reports incomplete information, a BLS industry analyst contacts the respondent to request the needed information.8

Historically, for repricing, the PPI has been a traditional mail survey. However, PPI has paid increasing attention over the past 15 years to newer electronic data collection methods that make reporting more convenient and increase overall survey efficiency. For some time, the survey had already been using optical character readers (OCR) to process forms sent by respondents and to capture essential data elements. Based on a pilot done in the mid-1990s, PPI began offering respondents the option of having images of their monthly forms faxed to them and then they can fax back their responses (called “Efax” reporters), allowing PPI to perform scanning functions from the images. Prior to the introduction of the Internet collection option, Efax respondents accounted for approximately 65% of all PPI monthly survey respondents, while mail out respondents accounted for the other 35%. In order to use the Efax capability, certain technical requirements need to be met with the respondent’s equipment. A certain percentage of mail out respondents are those who cannot successfully receive fax images from a BLS fax server; they can, however, still fax back their completed mail forms using a traditional fax machine. Faxing is more convenient and allowed PPI to process survey forms more quickly for use in its monthly outputs. Once data are captured in the database, staff verify the data capture and check for changes that may have been missed by the OCR. Edits are run

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7 There are actually a total of close to 28,000 reporters, but due to off-cycle repricing the average number from which we actually request updated data each month is closer to 25,000 reporters.
8 Due to timing and workload considerations, not all delinquent respondents can be called in the same month. Accordingly, priorities are established for when non-response follow-up should be done for individual delinquent establishments.
which flag data that may require further attention by industry analysts who work on the PPI survey.

Despite the benefits of fax technology and OCRs, data that cannot be captured by OCRs still requires processing by clerical and potentially more data entry by PPI industry analysts. Mail survey forms still require printing and pre-mailout processing with a detailed series of quality control measure to ensure there are no breaches of confidentiality. As early as 2002, PPI recognized that providing respondents with the option of repricing over the internet would eliminate the need to send out fax images and/or survey forms and allow the program to capture data entered by respondents directly into BLS databases. It would also allow more electronic means of following up with delinquent respondents. For a variety of reasons though, including that systems development resources needed to be devoted to higher priority needs, the Program was unable to begin full development of this new capability until the fall of 2009. Moreover, as stated earlier, BLS was still learning about how best to deal with various operational issues with the use of internet data collection, though by 2007 it was clear from the experience of the International Price Program that there is ultimately an improvement in overall response rates that results from using Internet collection for the majority of survey respondents. Although PPI had no choice in delaying further exploration of this option until 2009, it did lead to the benefit of learning lessons from the growing pains experienced by other BLS programs using the IDCF.

b. **New Practices – Introduction of Internet Collection in 2011 and Transition to new collection paradigm**

This section of the paper describes the design of the new PPI Internet repricing option as well as the plan for transition from the mix of repricing methods prior to 2011 to one in which ultimately Internet collection is targeted as PPI’s primary mode of survey respondents providing data during repricing. Internet collection, called “PPI web repricing”, involves the following components:

- The PPI instrument, which respondents access through the IDCF website and use to enter their updated repricing data on the schedule on which they have agreed to reprice, usually monthly
- Programs that transfer data between the PPI database and the IDCF database; note this includes information for creation of respondent credentials, as all IDCF users need to have accounts and passwords for the secure login to IDCF and access to the PPI instrument housed on IDCF (and any other BLS survey instruments for which the respondents may also be providing data)

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9 The development model used by BLS is one in which all programs work with the IDCF staff to develop customized instruments for each survey that follow common graphical user interface standards. These instruments are then housed within the IDCF, which provides a Gatekeeper for logging into the facility used by all surveys, common infrastructure, and central production staff that maintain the facility. Systems staff for individual programs are responsible for all other supporting components such as emails, data transfer programs, etc.
• A set of email templates that are used to communicate with PPI survey respondents who have agreed to use the PPI instrument on the IDCF for reporting their repricing updates
• Respondent Management Screens in the PPI data processing systems that facilitate the conversion of current respondents to use of Internet collection and the ongoing management of all request methods for respondents.

The Appendix to this paper contains a PDF file version of a demo of the PPI web repricing instrument. It gives a detailed picture of how the instrument operates including the following:

1. An example of the email respondents who are new to the IDCF receive from the PPI program with the information needed to register the first time they use the IDCF for PPI repricing
2. Screens that depict the initial login process including verification of the respondent’s email address and other contact information, establishment of the user’s permanent password and designation of permanent account number, confirmation of the registration process, and the Respondent Info screen that survey participants receive on subsequent logins to IDCF/PPI
3. A screen that allows respondents to navigate to their items to provide updated data
4. A set of images that show how updated item information can be provided for each item each period. In the IDCF system, these images appear as a single screen view in which the respondent can scroll up and down. Usability testing found that respondents preferred that all information for an item appear on one screen as opposed to product descriptions, terms of transactions, and price information appearing on separate windows. In the demo, there is one set of such images for items that do not use actual entry of inputs to calculate prices and another that demonstrates the use of inputs (PPI calls this information “columnar spec” because it appears in a spreadsheet-like format). For example, the latter is used for calculating margin prices for retail trade as shown in the demo.
5. The demo also shows how respondents can review data until they are ready to submit, how they can submit items when they are done with entry for each item, how the system keeps track of data entry so that the respondent knows when all entry is complete, and the Thank You screen that the respondent receives before exiting the system. The Thank You screen also has hyperlinks to BLS resources on the BLS public internet site including quick access to PPI outputs.

Note that data entry is accomplished by respondents themselves. A program is run periodically during the day that identifies all data submitted since the last time the program was run and automatically transfers it back to the PPI database for further review as needed. There are a limited number of validity checks that are run in the IDCF/PPI as respondents enter item data to prevent inadvertent data entry errors. In addition, when a change in price exceeds a certain threshold, the respondent gets a prompt to provide information about the reasons for the change, which the industry analyst will review when the data are transferred back to the PPI database. Depending on the information provided, this can save the analyst time during review.
because no follow-up call may be needed. In contrast, follow-up calls for price changes that exceed thresholds are common for mail and Efax respondents. (See Appendix for images that depict how “price tolerance” process works within the IDCF/PPI instrument.)

As with mail and Efax options for repricing, Internet respondents are provided with their last reported data as the program needs to ensure that the respondent prices the same item over time and/or indicates changes in specifications so that an industry analyst can follow up to see if any quality adjustment is necessary. You will also notice that the instrument has a Help Request process that respondents can use at any point in time if they experience any problems using the IDCF and/or have questions regarding what data to report. For the latter purpose, the name and phone number of the PPI analyst assigned to the industry to which the item is mapped is also provided on the item information screens.

PPI also has an alternative method for repricing items via IDCF that allows respondents to see summary information for all items they reprice on one screen and indicate whether any information has changed. Industry analysts have exercise considerable discretion in providing respondents with the “summary view” option, and it is only provided to respondents a) who report data for a significant number of items; b) whose items rarely experience changes to price-determining characteristics; and c) who do not report data using columnar specifications. Because many service-providing establishments report data using columnar specifications, this last criterion precludes them from being offered the use of the “summary view” option. (See the Appendix for example of the Summary View.)

A major benefit of the Internet collection process is that it provides more flexibility in communications with respondents regarding their monthly reports through the use of email. Nevertheless, BLS must be judicious in how this is used so as not to confuse or annoy respondents and to take care to prevent any breaches of confidentiality. Thus, PPI limits the use of email to a series of standardized notifications to reporters for use in the following situations, which are impacted by the nature of the PPI sampling strategy and the transition plan for converting current respondents to web repricing:

- Email templates that provide new web reporters their temporary account and passwords and direct them to how they can login and provide prices. There are similar templates with somewhat different language directed at respondents who currently provide data but are now switching over to Internet collection, as well as templates for current respondents who were recently initiated in a new sample and have agreed to switch to Internet collection.
- A reminder to new/converted web reporters who have failed to register within a set period of time
- Email template to registered web reporters that requests data for the current pricing period; the email includes the respondent’s account number and a link to login into IDCF using the password they set at registration.
- A reminder for registered web reporters who have failed to provide data within a set period of time (i.e. an automated form of non-response follow-up)
• A reminder for registered web reporters who have submitted data for some of their items but not all of them within a set period of time (i.e. “partials”)
• An email that is sent to respondents whose participation in the PPI survey has ended as they were not selected in the most recent sample update; this email notifies respondents of their status and thanks them for their participation.
• Some PPI reporters also provide data on IDCF for other BLS surveys. The most common case is respondents who provide data for the BLS International Price Program as well as data for the PPI program. There is a separate set of email templates for getting these multi-program reporters set up for use of the PPI instrument on the IDCF. Note that once they are set up, these respondents get the same “time to provide data” emails that all other respondents get on the PPI pricing date for that month.

One of the biggest challenges facing PPI when it decided to add Internet collection to its methods of repricing was designing plans and procedures for transitioning current respondents from mail or Efax collection to web repricing as well as how/when to introduce web repricing as an option during field economists initiation visits. Accordingly, along with development of the new instrument, PPI created a detailed transition plan for use by production and development staff in 2011 and beyond. Initially, the Program viewed web repricing as another option available to survey respondents and thus the plan focused primarily on how and when to offer this option to both current and new survey participants. While we hoped that this would become our most popular option over time, PPI’s initial transition plan focused more on increasing the “offer rate” over time. This was based on IPP’s experience, where they successfully found that over time almost 80% of respondents chose to use web repricing. Although we did not know it at that time, this focus primarily on the “offer rate” would change significantly once we were a few months into the transition itself, as the following detailed discussion of the transition will show. Given the design of PPI’s sampling strategy as well as the workload associated with conversion of current respondents, we established target rates for offering web repricing to survey participants over several years as follows:

<table>
<thead>
<tr>
<th>Fiscal Year*</th>
<th>Target Offer Rate by end of FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1%</td>
</tr>
<tr>
<td>2012</td>
<td>10%</td>
</tr>
<tr>
<td>2013</td>
<td>50%</td>
</tr>
<tr>
<td>2014</td>
<td>75%</td>
</tr>
<tr>
<td>2015</td>
<td>95%</td>
</tr>
<tr>
<td>2016</td>
<td>98%</td>
</tr>
</tbody>
</table>

*Fiscal Year runs from October through September; for example, FY2011 runs from October 1, 2010 through September 30, 2011

The plan is comprised of two main parts: one that focuses on offering the opportunity for current PPI mail and Efax respondents to report using the IDCF, managed and implemented by the National Office; and one that focuses on offering web repricing as an option during the personal visits done by field economists during initiation. Both parts focus on successive stages of ramping up the efforts after gaining experience with the new instrument in a small production pilot. For both pilots, extensive training was developed and provided to staff involved in the pilots. For the regional pilot, materials that explain the repricing process, used
by field economists during initiation, were also updated. The National Office pilot began with repricing for the July 2011 reference period. For this pilot, industry analysts identified approximately 100 current respondents who they called and successfully offered the option to switch to internet repricing. The analysts took all necessary steps to convert them in the PPI data processing systems, and these respondents were the first to participate in PPI using the IDCF/PPI instrument. PPI continued this pilot for several months, adding new web reporters contacted by PPI analysts each month, until we were able to validate the stability of the new instrument and supporting programs, making a few, relatively minor, adjustments along the way. Once this National Office pilot was declared a success and it was clear that the instrument itself had no issues, the regional offices began their own pilot in October 2011, having one field economist in each of the six regional offices offer web repricing to all new respondents that they collected.

At the same time, the National Office moved to the next stage of the transition plan in which approximately 1000 Efax reporters each month were faxed a special notice offering the option of switching to web repricing along with their survey forms. If they desired to switch, they could fax back the notice with their email address or call their assigned analyst. Analysts would then take all necessary subsequent steps to covert them before the next pricing period. This approach, called “auto(mated) solicit”, was necessary because the program does not have the capacity to call all current respondents and also carry out its normal monthly production activities. Within the first month of using this approach, we were disappointed with the results as less than 10% of those reporters who received the notice took us up on the offer. On the other hand, as expected, the rate at which new respondents obtained during initiation were choosing the web repricing method was over 80%. IPP experienced similar initial results when it first offered web repricing in 2004, but it had a smaller overall sample size and also a panel resampling strategy in which all of its product areas turnover within 5 years at most. Since our ultimate goal is to actually have at least 70% of survey respondents using web repricing, we quickly realized that it would take many years to get there at the rates experienced during our initial transition stages, as our average sample turnover is a little over 7 years for goods industries and about 8.3 years for services industries. This made it clear that PPI had to do better with the pace of conversion of its current survey respondents for the Program to achieve the benefits of web repricing expeditiously, something that is critical to the ongoing health and strategic plans of the PPI program at BLS.

Thus, a subtle change in focus was made in the transition plan. PPI management decided to focus more on the goal of making web repricing its primary mode of data collection during repricing. Accordingly, rather than treat web repricing as one of several available modes of collection, the program shifted to a strategy of asking respondents to provide information for setting them up for web repricing, using the mailout/faxback option as the fallback for those respondents who would refuse to participate if the only available method were web repricing. This meant changing the text of the “auto solicit” form so that web repricing was no longer presented as an option, but as the default method of repricing going forward. Respondents were still asked to provide their email address on the revised “auto solicit” form. Similarly, the approach during initiation was changed as well to tell respondents that PPI uses Internet
collection for repricing and only offer mailout/faxback as a fallback. At the same time, PPI management decided to accelerate the pace of the originally planned transition stages. In the National Office, a decision was made to supplement “auto solicit” with approximately 600 calls made to selected respondents by industry analysts each month through the end of calendar year 2012, a process called “mass solicit”. It was expected that by that time most of the current Efax respondents would have been contacted at least once, either via “auto solicit” or “mass solicit”. In the Regional Offices, the original plan projected increasing the number of field economists offering web repricing from the six designated during the field pilot to at least three field economists in each regional office, followed in early FY2013 with an expansion to all field economists. Instead, the decision was made to move forward with the new approach for all field economists in the spring of 2012, on a flow basis with all staff fully utilizing the new approach by the beginning of September at the latest.

With these changes in the transition plan, PPI has seen significant growth not only in the number of respondents who have been offered web repricing but also in the number that have enrolled and the number that are actively using this new method to report their updated pricing information. As of September 19, 2012, over 39% of the 28,290 respondents currently in the PPI database have been offered web repricing, almost four times the original target for FY2012. Of all PPI respondents, over 23% have provided information that allows us to set them up for web repricing, and about 15% are actively using the IDCF/PPI instrument to provide their updated information each pricing period. While these results are impressive for an effort that is only a little over a year old, the Program still has significant follow-up efforts for those respondents who have received their temporary accounts and passwords but have failed to register in IDCF yet (about 25% of those that have been set up so far) as well those that have received a notification about web repricing but have failed to provide the necessary email address that would allow conversion (about 37% of those offered web repricing so far).\(^\text{10}\) The highest rates for using web result from personal contacts either by field economists at initiation or by analysts who call respondents during repricing. While it is clear that the change in strategy to emphasize web as PPI’s primary mode of repricing has paid dividends in faster offer rates and higher enrollment and active use rates, it is also clear that there will be significant follow-up efforts for the stragglers, if the program hopes to achieve its ultimate goal of having at least 70% of respondents repricing via the IDCF/PPI instrument by the beginning of calendar year 2014.

5. **Operational Efficiencies and Next Steps**

On the whole, offering Internet collection for PPI survey respondents has been a success so far with the following operational efficiencies already emerging:

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\(^\text{10}\)The Program has already taken steps to stay on top of the respondents who fail to register in IDCF by hiring a contractor in May 2012, who makes follow-up calls to these respondents each month. This effort has kept the number of these respondents from growing as the Program continues its efforts to solicit more respondents to convert to web repricing. Once the latter slows down, we should be able to actually see reductions in the number of delinquents due to failure to register between the use of this contractor and the normal non-response follow-up efforts of PPI’s Industry analysts.
15% of respondents are providing data directly into BLS databases, saving resources on data entry and related processing; we expect this rate to increase at a faster pace in the upcoming year and reach our goal of at least 70% by 2014. This allows industry analysts to devote much less of their time to data entry and maintenance tasks, using their time more effectively on analysis and other related activities.

PPI will eventually be able to retire its aging “Efax” system, freeing up the funds and resources currently devoted to it for other high priority program needs.

Most respondents find the new method more aligned with the way they do their jobs in the 21st century, and accordingly process PPI’s requests in a more timely fashion.

There are already indications that web repricing will provide an increase in our response rates within the reference period itself (known as period “n”). With Efax and mail, the number of respondents who send their data back one or more months after they are first requested to do so is quite high. With web repricing, the Program is already seeing faster reporting of monthly updates for those respondents who have successfully registered for IDCF/PPI. Such improvements should decrease the size of revisions when the final value for the reference period is published four months after it was first published for period “n”.

The option provides more flexibility in follow-up with delinquent respondents in a less time-intensive fashion. We have already seen significantly quicker increases in response rates on the days we send email reminders.

As mentioned earlier, full realization of these gains is still dependent on continued vigilance in measuring our progress toward meeting our current conversion goals and taking timely steps to keep the effort on track. This is particularly true of the need for follow-up with respondents who do not respond to the web repricing notifications or who do respond but then fail to register in IDCF/PPI. It should be pointed out that these respondents are still either faxed or mailed their current survey forms until they do respond using web repricing and many of them still ultimately return their updated paper forms, but PPI would prefer that the majority of them eventually convert to web repricing in order to realize the full benefits of this modern method of data collection.

In addition, PPI plans the following additional steps in the future:

1. At the end of September 2012, PPI will deploy a new webpage on the public BLS website that is directed at PPI survey respondents. In addition to providing information of interest to current and potential respondents, there will be a hyperlink to the new Web Repricing demo mentioned earlier in this paper. Initially, the demo will consist of a PDF file of IDCF/PPI screen shots with information explaining how to complete each screen. In future months, this will be replaced by a video file with audio description of the components of the IDCF/PPI instrument.

2. PPI and IPP are participating in a joint systems development project in which the current mailout/faxback systems are being replaced with new more modern capabilities. This will handle all reporters who will not use web repricing. The new system will be deployed in production for PPI at the end of next summer, with IPP to follow a year...
Later. As part of this development, PPI is redesigning its paper form to be clearer and more customizable like instruments on the IDCF. In future years, this will include the ability to spread the collection of repricing updates throughout the month in alignment with a planned change in the Program’s methodology concerning the pricing date. While the latter is being done to align PPI’s outputs more closely with the concept of a monthly index, the move to web repricing as PPI’s primary mode of collection makes the spreading out of pricing dates over the month possible without the need to change the current index release because of the faster turnaround time associated with web repricing.

3. Currently, the use of email for data collection is circumscribed by BLS policies concerning the avoidance of the risk of breaching respondent confidentiality. Nevertheless, it is acceptable to use it to avoid a refusal of a critical company. However, in all of these cases, the data received still must then be entered “manually” by an industry analyst. PPI will explore options for expanding the use of email if it can both deal with the confidentiality risks and have the data collected automatically loaded into the PPI database for further processing. One option might be to send the respondent fillable forms via email that the respondent can complete electronically and email back to BLS through an encrypted mechanism on the IDCF. The fillable forms in turn would be read by a program that would automatically load the data into the PPI database.

4. Related to the use of email is finding ways to accept data reported with the use of large datasets sent to BLS. Ideally, respondents will be given file formats that they can use in submitting these large data sets via the IDCF and the data would be automatically loaded into the PPI database.

5. In the longer term, PPI might eventually explore the possibility of providing a mobile application for repricing using a Smartphone or similar device.

In short, BLS and PPI recognize that providing modern, convenient electronic means of reporting for respondents is crucial to continued success of our surveys, especially given their voluntary nature. We will continue our efforts to realize our targets for web repricing and explore new means for maintaining cooperation of our respondents.
APPENDIX

1. Current form used for repricing (BLS 473P)
2. Form 473P with “dummy” item data for illustrative purposes
3. IDCF/PPI web repricing instrument demonstration
4. Summary view and price tolerance alerts in IDCF
Appendix 1

Bureau of Labor Statistics
Information for the Producer Price Indexes

The Bureau of Labor Statistics, its employees, agents, and partner statistical agencies, will use the information you provide for statistical purposes only and will hold the information in confidence to the full extent of the law. In accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 (Title 5 of Public Law 107-347) and other applicable Federal laws, your responses will not be disclosed in identifiable form without your informed consent.

Public reporting burden for this collection of information is estimated to vary from 1 to 30 minutes per response with an average of 18 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding this estimate or any other aspect of this information collection, including suggestions for reducing this burden, please send them to the Bureau of Labor Statistics, Producer Price Index Program, 1220-0008, Room 3840, 2 Massachusetts Avenue N.E., Washington, DC 20212. You are not required to respond to this collection of information unless it displays a currently valid OMB control number.

DO NOT SEND THE COMPLETED FORM TO THE OFFICE SHOWN ABOVE.

Dear Respondent,

Thank you for your continuing participation in the Producer Price Index (PPI) program. The data that you provide are used in computing the Producer Price Indexes and constitute the basis for analyzing industrial price changes.

Your continued cooperation is greatly appreciated.

Commissioner of Labor Statistics

Instructions for completing a PPI pricing form:

Item/Service and Transaction Descriptions:

If the Item/Service Description or the Terms of Transaction, or both, no longer apply, please select a substitute item/service or transaction terms. Item/service substitution should only occur when the item/service previously reported is no longer available because it is being or has been permanently discontinued. The substitute item/service should be as similar as possible to the current item/service and should be expected to remain available for some time. The substitute transaction terms should likewise be as similar as possible to the discontinued transaction terms.

Report these changes in the closest open area and provide current price information.

Adjustments to Price:

Following is a list of the more common adjustments to price. The specific Adjustments to Price on the pricing form were selected originally and should be changed only when either the level of an existing adjustment changes or a new adjustment becomes applicable to the item/service and transaction described.

Deductions from price include:
1. Standard discounts (Cash, Seasonal, Cumulative Volume, and Trade)
2. Rebates
3. Other recurring discounts
4. Other nonrecurring discounts (Competitive and Negotiated)

Additions to price include:
1. Surcharges
2. Other charges added to price

Taxes should always be excluded from the price. If this exclusion is not possible, note this in REMARKS.

Freight charges should be excluded from the price unless delivery was selected originally as part of the product. Make changes if the currently described freight terms no longer exist.

QUESTIONS:

Answer whether changes have (YES) or have not (NO) been made to the Item/Service Description, Terms of Transaction, Adjustments to Price, or Previously Reported Prices.

Answer YES or NO depending on whether the shipment/transaction price of the item/service described changed (YES) between the two dates listed or whether the shipment/transaction price did not change (NO) during the time period. If the answer is NO, the form has been completed and is ready for faxing/mailing.

DO NOT ENTER A PRICE IF THE PRICE HAS NOT CHANGED!

If the answer is YES, please also enter the new price.

Write in any corrections to the terms or the address to whom this form should be sent in the future. Name and address changes need to be made on only one form.
INSTRUCTIONS

THIS FORM IS MACHINE PROCESSED. Please use BLACK pen/pencil only.

This item/service has been selected for use in the Producer Price Index. You are asked to provide a price each month for the item/service described under the terms and adjustments shown.

Please review each section of this form. If your firm no longer sells this specific item/service under the terms and adjustments, revise the description, terms, and/or adjustments indicating when the changes were made.

If the change made to the description resulted in a change to your production costs, please provide an estimated value of the change for Bureau staff to use in making appropriate adjustments. This value is the production cost difference including your standard mark-up.

If you have any questions concerning completion of this form, please call collect:

Please fax to 1-800-553-6024 or, if you are unable to fax, use the postage-free envelope to send to:

U.S. Department of Labor
Bureau of Labor Statistics
Producer Price Index, Mail Code 47
61 Forsyth St. S.W., Suite 7T50
Atlanta, GA 30303-9856

REMARKS

PRICE INFORMATION

Please review the Previously Reported Prices. Enter missing prices if available or correct any incorrect prices that are shown.

Please enter the current price in the boxes provided ONLY if there has been a change from the price you previously reported.

THE LATEST TYPE OF PRICE REPORTED WAS (Prices for actual shipments/transactions are desired):

Did the price change between

If "YES," please report the price of the last shipment since

If there was no shipment in

price you would have charged on

USE BLACK PEN/PENCIL ONLY.
DO NOT USE BLUE.
INFORMATION FOR THE PRODUCER PRICE INDEXES

INSTRUCTIONS
THIS FORM IS MACHINE PROCESSED.
Limitations imposed by Bureau processing equipment restrict recognition of blue entries. Please use BLACK pen/pencil only.

This item/service has been selected for use in the Producer Price Index. You are asked to provide a price each month for the item/service described under the terms and adjustments shown.

Please review each section of this form. If your firm no longer sells this specific item/service under the terms and adjustments revise the description, terms, and/or adjustments indicating when the changes were made.

If the change made to the description resulted in a change to your production costs, please provide an estimated value of the change for Bureau staff to use in making appropriate adjustments. This value is the production cost difference including your standard markup.

Further instructions are shown on the reverse side of this form. If you have any questions concerning completion of this form, please call collect:
JOHN MARSHALL
202-691-7838

Please use the enclosed postage-free envelope or send to: U.S. Department of Labor
Commissioner of Labor Statistics
2 Massachusetts Avenue N.E., Code 47
Washington D.C. 20212-0001

ITEM DESCRIPTION
BOTTLED VODKA. BRAND NAME: DIPPI. MANUFACTURER’S NAME OF PRODUCT: DIPPI APPLE VODKA. PRODUCT NUMBER: 12345. APPLE FLavored. CASE OF 12/750 MILLILITER BOTTLES (.75L). 80 PROOF. FET NOT INCLUDED IN REPORTED PRICE. STATE EXCISE TAX NOT INCLUDED IN REPORTED PRICE.

TERMS OF TRANSACTION
MARKET/INTRA-COMPANY TRANSACTION MARKET SALE
DOMESTIC/FOREIGN BUYER DOMESTIC BUYER
TYPE OF BUYER RETAILER
TYPE OF SHIPMENT NOT PRICE DETERMINING
UNIT OF MEASURE CASE

ADJUSTMENTS TO PRICE
TYPE OF DISCOUNT: NONE OFFERED
TYPE OF SURCHARGE: NONE OFFERED
FREIGHT TYPE NOT APPLICABLE

THE LATEST TYPE OF PRICE REPORTED WAS (Price for actual shipments are desired):
NET TRANSACTION (ACTUAL SHIPMENT)

PREVIOUSLY REPORTED PRICES
ON November 9, 2010 THE PRICE WAS $0.0000
ON December 14, 2010 THE PRICE WAS $0.0000

CORRECTIONS

Did the price change between December 14, 2010 and January 11, 2011?
If ‘YES’, please report the price of the last shipment since January 1
If there was no shipment in January, please estimate the
Price you would have charged on January 11, 2010.

USE BLACK PEN/PENCIL ONLY. $ DO NOT USE BLUE.
DOLLARS CENTS

PER CASE
SE/OC MMMMMMMMMMM

NAICS 312140

SAMPLE 99

P/C 31214048810
We will prompt you to set up your account by sending two separate emails containing a temporary account number and password. The emails will arrive within one to three months of the BLS representative’s contact with you. Here is an example of an email containing your temporary account number and a link to the website where you will provide updates. To proceed, click “Login.”

Account Number Email

From: PPI.Web@bls.gov
Sent: July 12, 2011
To: bradford_z@zbc.com
Subject: Producer Price Index Account Setup – Account Number

Zachariah Bradford,

During a recent contact with a representative from the U.S. Bureau of Labor Statistics (BLS), your company agreed to supply periodic updates for selected products or services to the Producer Price Index.

To report prices for the first time, you will need to use the temporary account number below, as well as the temporary password sent to you in a separate email. The account number and password are sent separately for security purposes. Please log in and submit prices for July as soon as possible.

Your temporary account number is 204123456789.

To access your Producer Price Index account and submit prices, use the following link: Login

If you have any questions, you may reply to this email. Thank you for your valued participation in the Producer Price Index program.
Here on the log in page, the temporary account number and password from the notification emails have been entered for you for illustrative purposes. To proceed, click “I Accept.”
On this screen you will enter your email address and confirm it in the text boxes. Again, this has been pre-filled for illustrative purposes. To proceed, click “Continue.”
Next, you will be asked to confirm and/or update your contact information. To proceed, click “Continue.”
You will create a permanent password. For security reasons, the password must adhere to the criteria listed.

For purposes of retrieving your password if you have forgotten it in the future, you will choose a security question and provide an answer. The Forgot Password link is on the Login screen. To proceed, click “Continue.”
At this point, your account will have been set up. To proceed, click “Continue” for a demonstration of the steps you will take to update your prices.
After your account has been set up, this will be the first screen you see upon subsequent log ins. If you notice any corrections that need to be made to your contact information, click the Update button and make the changes. To proceed with entering your price information, select “Producer Price Index” from the drop-down menu and click “Continue.”
This page will showcase a list of all the items selected during the visit with a BLS representative. In this case, there are two items. To begin providing updates, you will select one of the items. To proceed, click “Select” next to the first item.

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Item Specification</th>
<th>Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234567890A01</td>
<td>Fluid cream, bulk sale. Butterfat content: 35%. Bulk tanker. Plant location:</td>
<td></td>
</tr>
<tr>
<td>1234567890A02</td>
<td>Supermarket. Soda. Edible grocery department. Product category:</td>
<td></td>
</tr>
</tbody>
</table>

- Having technical problems? Click [Help Request Form](#).
- Need other help? Contact Bud Travino at 202-555-5555.

The Bureau of Labor Statistics, its employees, agents, and partner statistical agencies, will use the information you provide for statistical purposes only and will hold the information in confidence to the full extent of the law. In accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 (Title 3 of Public Law 107-347) and other applicable Federal laws, your responses will not be disclosed in identifiable form without your informed consent.

Paperwork Reduction Act Statement. Public reporting burden for this collection of information is estimated to vary from 1 to 30 minutes per response, with an average of 18 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding this estimate or any other aspect of this information collection, including suggestions for reducing this burden, please send them to the Bureau of Labor Statistics, Producer Price Index Program, 1220-0006, Room 1646, 2 Massachusetts Avenue N.E., Washington, DC 20212. The OMB control number for this voluntary survey is 1220-0006. Without a currently valid OMB number BLS would not be able to conduct this survey.

If you have questions or comments please complete and submit the [Help Request Form](#).

Version: 1.1

URL: https://idcfdppi.psb.bls.gov/PP1/index.jsp
This screen will contain all of the relevant item information for an item. The item description, terms of transaction, any applicable discounts or surcharges, and price will be listed. The top right of the screen will list each of your items and its status of completion. A green checkmark will appear next to an item code once you have entered information for that item and clicked “Submit and Go to Next Item” at the bottom of the screen.

A description of the item will appear at the top of the page. Below the item description is a list of the item’s transaction terms. If any of the pre-filled information for the item has changed, please make the appropriate edits in the text boxes. Click here to see the rest of this page.
Scrolling down the page for each item, you will see any discounts or surcharges, if applicable, prices for previous months, and a text box for the current month’s price. If any changes need to be made to the price for a previous month, you would simply enter the correct price in the text boxes. Otherwise, enter the current month’s price for this item, which has been pre-filled here for illustrative purposes.

Once you have entered the price for your item or confirmed that the price has not changed using the “Report no price change” button, click “Submit and Go to Next Item.” To proceed, click “Submit and Go to Next Item.”
The total price for some products or services may be calculated using various inputs. In these cases, you will update the prices for the inputs to arrive at the calculated total price. As an example, for this item the total price is the gross margin price. You would enter the retail price and replacement cost to calculate the gross margin price. Click here to proceed.
In the Reported Price area for these types of items, the total price calculated above may populate in the Reported Price field, as illustrated here. To proceed, click “Submit and Go to Next Item.”
Summary View: This is a depiction of the “Summary View” described in section 4.b, page 10 of the main body of this paper.
Price tolerance alert: Three screens that show how prompting for information on edit for exceeding price changes works.

1 of 3: Respondent enters price for current period that exceed thresholds for review.
Price tolerance alert:

2 of 3: System recognizes that threshold exceeded and provides prompt for respondent to provide explanation, if possible.
Price tolerance alert:

3 of 3: Respondent scrolls down to Reporter Remarks box, enters reason for price change, and then Submits.
Once you have submitted data for all of your items, you will come to this exit page. From this page you may access PPI published data or information from other BLS programs. If you’d like to return to edit your submitted data, you would click on the item codes on the right side of the screen. If you experience problems at any time while providing data, please click the Help Request Form link on the page. This concludes the web demonstration.