

PPI Introduces Wherever-Provided Services and Construction Indexes

Effective with the release of July 2009 data on August 18, 2009, the Producer Price Index (PPI) of the Bureau of Labor Statistics (BLS) introduced a new set of wherever-provided (WEP) services and construction price indexes.

Wherever-provided price indexes measure price change for services regardless of the producers' industries of origin. For example, the WEP index for air transportation of freight measures price change for air transportation of freight from all industries that provide air transportation of freight.

Wherever-provided price indexes add analytical value to the PPI by allowing data users to examine price movements for a specific service or construction product within a single price index that combines prices from all industries producing that product. Also, detailed price indexes are aggregated into many higher-level indexes not found in the PPI's industry based aggregation structure. These wherever-provided aggregations give data users a large number of additional aggregate indexes, further increasing PPI's analytical usefulness.

Publication and Index Aggregation Structure

The publication structure for the WEP indexes includes detailed product-level indexes, as well as, aggregate indexes that combine detailed price indexes for related services into additional higher-level indexes. Indexes are grouped using a coding methodology similar to the current PPI commodity structure for mining, manufacturing, agriculture, utility, and forestry indexes. Major groupings are coded at the 2-digit level, and within these 2-digit groupings are more detailed commodity groupings that descend in order of aggregation to the detailed product level (typically the 8-digit level). For example, 2-digit WEP index code 30 contains all transportation services, and WEP code 40 is comprised of all investment services. PPI chose to group commodities by similarity of product, as data users often find this type of grouping useful, and the methodology is consistent with PPI's current organizational structure for goods-based commodity indexes that also groups commodities according to similarity of product. Although the current mining, manufacturing, agriculture, utility, and forestry commodity indexes encompass the 2-digit groupings 01 through 15, the WEP groupings are numbered beginning with code 30. This choice permits flexibility that otherwise would be unavailable if the program began the structures with group code 16, directly following the last mining, manufacturing, agriculture, utility, and forestry commodity grouping. There may, for example, come a time when the numbering system for traditional commodities needs to be expanded or reorganized. The final services code in the structure is WEP code 60. Following the same line of reasoning, the construction groupings are numbered beginning with 2-digit group code 80.

Unlike the sectors for mining and manufacturing, PPI does not cover all industries in either the services or

construction sectors. For this reason, higher level aggregate indexes within the WEP structure may be missing products that would be included under the aggregate if PPI had complete coverage of all services and construction industries. Within the transportation grouping, for example, PPI currently maintains only about 75 percent coverage for passenger transportation services. PPI covers passenger transportation from air and rail, but currently does not cover boat, bus, taxi cab, and several other forms of passenger transportation. In cases where coverage of a service area exists but PPI does not meet a threshold of roughly 80 percent coverage, PPI still publishes the index, with the term "partial" added to the end of the index title. For a list of all partial coverage indexes and explanations of missing coverage go to www.bls.gov/ppi/partialcoverage.pdf.

In a small number of cases, the traditional PPI commodity structure included indexes for services. In these cases, the services indexes were removed from the commodity structure and added to the WEP structure. The areas that were affected by this change include publishing, metal treatment services, and mining services.

Weights

An important step in developing the WEP services and construction indexes was to construct a set of weights for the indexes. The primary data source for these index weights was Census revenue data; specifically, the Census data for "Product Lines by Kind of Business." These data are organized according to the North American Industry Classification System and indicate specific products provided by industries and the revenue value for these products. The products are organized according to Census Product Codes (CPC). A concordance between PPI WEP indexes and the CPC structure can be found at www.bls.gov/ppi/wep_cpc_concord.pdf. It should be noted that with results from its 2007 survey, Census will have completed its classification of service product-line data according to the North American Product Classification System (NAPCS), and PPI commodity weights will then correspond to NAPCS. The transition to NAPCS based weights may result in some structural changes to the WEP indexes. The NAPCS structure was reviewed while developing both the individual WEP indexes, as well as the higher-level publication structure for these indexes, in order to minimize future structural changes. The NAPCS structure, however, was not in final form during development of the WEP indexes.

Wherever-provided weights were created by aggregating Census revenue data for individual products, regardless of the providers' industry of origin. For example, the wherever-provided weight for auditing services was constructed by summing the revenue from every industry providing auditing services into a single value representing the total revenue of auditing services.

Index Construction

Wherever-provided indexes are calculated using the same methodology that is used for calculating traditional PPI commodity indexes for mining, manufacturing, agriculture, forestry, and utilities.

As with other PPI commodity indexes, the WEP indexes are typically published at the 8-digit product level. For index calculation purposes, however, additional detailed indexes are calculated below the 8-digit level, and these indexes are aggregated to create the published 8-digit indexes. Detailed indexes are created to increase index accuracy by allowing for a more precise weighting structure than would exist if only the 8-digit indexes were calculated.

For every detailed WEP index, PPI constructs sub-indexes measuring each industry's average change in selling price for the commodity for every industry that is a primary producer of the commodity. In addition, a single sub-index is constructed to track price change from industries where the commodity does not represent their primary production. These sub-indexes are then weighted and aggregated to create the detailed (typically 8-digit) wherever-provided index.

Weights are developed from Census product-level revenue data.

As stated earlier, PPI does not cover all industries in either the services or construction sectors. In cases where PPI covers some industries producing a specific product, but is missing more than 20 percent of the production of the service or construction product, PPI removes the uncovered weight from the WEP index. Data users are informed that the index includes only a portion of the wherever-provided output by labeling the index title with the suffix "partial". Conversely, PPI includes the weight of the missing industry (or industries) within the WEP index in cases where coverage of a specific commodity is at least 80 percent. These indexes are published without the "partial" designation, and the weight is imputed using standard PPI imputation methodology. For the product index, either removing the weight or imputing the weight yields the same index calculation result. For higher level aggregate indexes, however, removing or imputing a commodity index's weight yields different calculation results.

Further information is available from the PPI Section of Index Analysis and Public Information, at ppi-info@bls.gov or (202) 691-7705.