Explanation of methods used and additional sources for industrial price indexes

Industrial Product Price Indexes (1997=100)

The Industrial Product Price Indexes (IPPI) measure price changes for major commodities sold by Canadian manufacturers. Elemental indexes are calculated for 980 Principal Commodity Group Aggregates (PCGA) outputs as defined in the 1997 Input/Output (I/O) table. Weights used to aggregate commodity indexes are taken from the output or "Make" matrix of the I/O system which provides an integrated set of commodity values for all manufacturing industries.

Directly surveyed commodities are supported by formal sampling procedures. Such indexes are derived from prices reported for the 15th of the month or the nearest prior business day for comparable transactions.

Selected indexes are published about four weeks after the reference month in Statistics Canada's *The Daily* (Catalogue 11-001-XIE) following a pre-announced schedule of release dates. Simultaneously, all the indexes become available on CANSIM in Tables 329-0038 to 329-0049 or by request.

Each release of numbers is subject to revision for six months, i.e., when a July index is released, the index for the preceding January becomes final. Exceptions to this rule are announced.

Price Surveys

About 9,000 prices are collected monthly from about 3,000 producers for goods sold, which are valued at the boundary of the establishment, wherein the cost of taxes collected at that point and transportation provided by public carriers beyond that point are excluded. Prices are reported for finely specified transactions wherein both the good and terms of sale are identified. Such collections are instituted for important commodities. Expansions are made to the samples where price movement has a regional dimension or where there are important flows of goods to export markets.

Sampling for any directly surveyed elemental index is usually done by a formal probability sampling procedure. Important producers are «must take» respondents. A random selection is taken from the smaller producers. These samples are redrawn on a regular cycle as dictated by changes in the market. A directly surveyed elemental index is usually supported by 12 to 15 price quotes. An index may be derived from as few as 8 quotes or as many as 30 quotes.

About 700 of the 980 PCGAs in the manufacturing sector are accommodated by direct survey and these account for about 90% of the value of manufacturing output in 1997.

The price movement for the other PCGAs is estimated indirectly from either directly priced PCGAs or through borrowing price movement from other price series.

Weight Base

Commodity and industry weights are taken from the «Make» matrix of the 1997 Input/Output table which, in turn, is derived from 1997 values reported for the Survey of Manufacturers and edited to conform to the 1997 North American Industry Classification System. However, each December, company/product weights within a commodity index can be changed in order to reflect important changes in production patterns.

Formula

Chained series of fixed weighted price indexes are calculated by a linking procedure whereby more recent varieties and changes to establishments are introduced systematically, as required, in December of each year. Weights from the commodity level through higher levels of aggregation are held constant.

The general formula used for the main aggregations describes the price movement of a specified group of commodities where w^i are the values of the output of each commodity:

$$P_{t/o}^{(\text{agg})} = \sum_i \frac{w^i}{\sum w^i} \cdot P_{t/o}^i$$

$P_{t/o}^{(\text{agg})}$ denotes the composite price index movement between the base period *o* and time *t* for the defined aggregate;

w^i is the transaction value of the element *i* in the base period;

$P_{t/o}^i$ is the price index for element *i*, meaning its price change from the base period to time *t*;

$\sum_i$ indicates summation over all elements *i* in the defined aggregate.

Historical Data

Historical series on the 1997 base for the Industry Price Indexes are available on CANSIM. The historical series are computed for the industry indexes classified under the 1997 North American Industry Classification System (NAICS) and for commodity indexes classified under the Principal Commodity Group Aggregates (PCGA) classification. The historical series were obtained by linking together movements from the 1997-based Industrial Product Price Indexes (IPPI) series and the corresponding 1992-based Industrial Product Price Indexes (IPPI) series, using 1997 as the linking period. A set of concordance tables between both sets of IPPI series are available to the public.

Reference Documents

62-558-XPB Industry Price Indexes, 1986=100: Users' Guide, $40.00.

This publication describes briefly the economic content of the series and presents a short description of different aggregations produced. In the tables the weighting patterns (1986) for both commodities and commodity groupings are shown. Descriptions of the characteristics of the elemental indexes are provided. Comments on index use are also provided.

62-556-XPB Industrial Product Price Indexes, 1981=100, Concepts and Methods, $25.00.

This publication describes the economic content of the series within the framework of the system of national accounts and describes how this affects price index methodology. Sampling and pricing methods are described, as are index calculation and aggregation procedures. A glossary of terms is also provided.

For further details, please contact Prices Division, Statistics Canada, Ottawa, Ontario K1A OT6, telephone (613) 951-9606, facsimile (613) 951-1539, Internet address infounit@statcan.ca.