

## Brief Explanation of Producer Price Indexes

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. These data were previously presented as the Wholesale Price Index. The name "Producer Price Indexes" is now being used to reflect more accurately the coverage of the data. The sample used for calculating these indexes continues to contain nearly 2,800 commodities and about 10,000 quotations selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

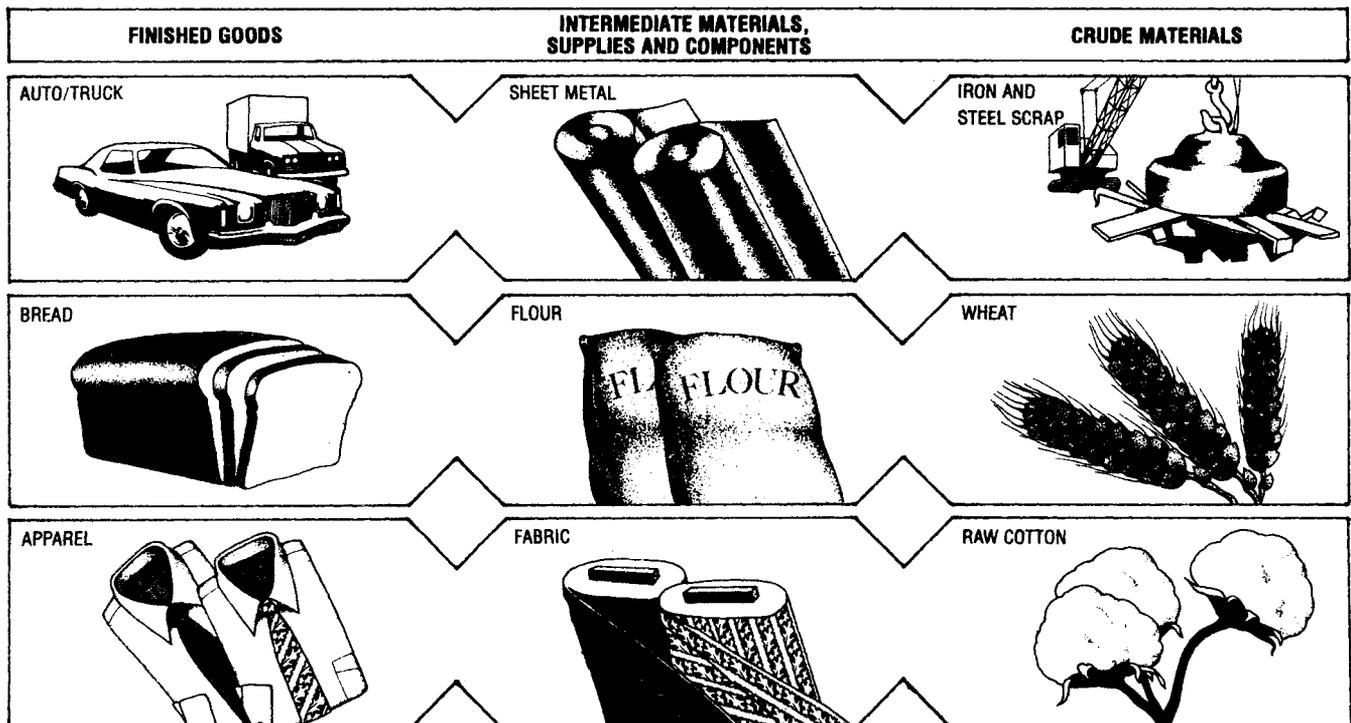
Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (i.e., finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

*Finished goods* are commodities that will not undergo further processing and are ready for sale to the ultimate user, either an individual consumer or a business firm. Capital equipment (formerly called producer finished

goods) includes commodities such as motor trucks, farm equipment, and machine tools. Finished consumer goods include foods and other types of goods eventually purchased by retailers and used by consumers. Consumer foods include unprocessed foods such as eggs and fresh vegetables, as well as processed foods such as bakery products and meats. Other finished consumer goods include durables such as automobiles, household furniture, and jewelry, and nondurables such as apparel and gasoline.

*Intermediate materials, supplies, and components* are commodities that have been processed but require further processing before they become finished goods. Examples of such semifinished goods include flour, cotton yarns, steel mill products, belts and belting, lumber, liquefied petroleum gas, paper boxes, and motor vehicle parts.

*Crude materials for further processing* include products entering the market for the first time which have not been manufactured or fabricated but will be processed before becoming finished goods. Scrap materials are also included. Crude foodstuffs and feedstuffs include items such as grains and livestock. Examples of crude nonfood materials include raw cotton, crude petroleum, natural gas, hides and skins, and iron and steel scrap.



For analysis of general price trends, stage of processing indexes are more useful than commodity grouping indexes. This is because commodity grouping indexes sometimes produce exaggerated or misleading signals of price changes by reflecting the same price movement through various stages of processing. For example, suppose that a price rise for steel scrap results in an increase in the price of steel sheet and then an advance in prices of automobiles produced from that steel. The All Commodities Price Index and the Industrial Commodities Price Index would reflect the same price movement three times—once for the steel scrap, once for the steel sheet, and once for the automobiles. This multiple counting occurs because the weighting structure for the All Commodities Index uses the total shipment values for all commodities at all stages of processing. On the other hand, the Finished Goods Price Index would reflect the change in automobile prices, the Intermediate Materials Price Index would reflect the steel sheet price change, and the Crude Materials Price Index would reflect the rise in the price of steel scrap. (See illustration on p. 108).

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Re-

spondents are asked to provide net prices or to provide all applicable discounts. BLS attempts to base Producer Price Indexes on actual transaction prices; however, list or book prices are used if transaction prices are not available. Most prices are obtained directly from producing companies on a voluntary and confidential basis, but some prices are taken from trade publications or from other Government agencies. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings. Each index measures price changes from a reference period which equals 100.0 (usually 1967, as designated by the Office of Management and Budget). An increase of 85 percent from the reference period in the Finished Goods Price Index, for example, is shown as 185.0. This change can also be expressed in dollars, as follows: "The price of a representative sample of finished goods sold in primary markets in the United States has risen from \$100 in 1967 to \$185."

## A Note about Calculating Index Changes

Movements of price indexes from one month to another are usually expressed as percent changes rather than changes in index points because index point changes are affected by the level of the index in relation to its base period, while percent changes are not. The following example illustrates the computation of index point and percent changes. (See box.)

Percent changes for 3-month and 6-month periods are expressed as annual rates that are computed according to the standard formula for compound growth rates. These data indicate what the percent change would be if the current rate were maintained for a 12-month period.

<i>Index Point Change</i>	
Finished Goods Price Index	185.5
less previous index	<u>184.5</u>
equals index point change	1.0
<i>Index Percent Change</i>	
Index point change	<u>1.0</u>
divided by the previous index	184.5
equals	0.005
result multiplied by 100	0.005 x 100
equals index percent change	0.5

## A Note on Seasonally Adjusted Data

Because price data are used for different purposes by different groups, the Bureau of Labor Statistics publishes seasonally adjusted as well as unadjusted changes each month.

For analyzing general price trends in the economy, seasonally adjusted data usually are preferred because they eliminate the effect of changes that normally occur at about the same time and in about the same magnitude every year—such as price movements resulting from normal weather patterns, regular production and marketing cycles, model changeovers, seasonal discounts, and holidays. For this reason, seasonally adjusted data more clearly reveal the underlying cyclical trends. Seasonally adjusted data are subject to revision when seasonal factors are revised each year.

The unadjusted data are of primary interest to users who need information which can be related to the actual dollar values of transactions. Individuals requiring this information include marketing specialists, purchasing agents, budget and cost analysts, contract specialists, and commodity traders. Unadjusted data generally are used in escalating contracts such as purchase agreements or real estate leases.