

B.A. Part III (Economics Honours)  
 Ravi Shanker Singh  
 Assistant Professor (Economics)  
 Vaishali Mahila College, Hajipur

## Construction of Price Index Numbers (Formula and Examples)

### 1. Simple Aggregative Method:

In this method, the index number is equal to the sum of prices for the year for which index number is to be found divided by the sum of actual prices for the base year.

The formula for finding the index number through this method is as follows:

$$P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

Where:  $P_{01}$  Stands for the index number

$\sum P_1$  Stands for the sum of the prices for the year for which index number is to be found :

$\sum P_0$  Stands for the sum of prices for the base year.

Commodity	Prices in Base Year 1980 (in Rs.) $P_0$	Prices in current Year 1988 (in Rs.) $P_1$
A	10	20
B	15	25
C	40	60
D	25	40
Total	$\sum P_0 = 90$	$\sum P_1 = 145$

$$\text{Index Number } (P_{01}) = \frac{\sum P_1}{\sum P_0} \times 100 ; P_{01} = \frac{145}{90} \times 100 ; P_{01} = 161.11$$

### 2. Simple Average of Price Relatives Method:

In this method, the index number is equal to the sum of price relatives divided by the number of items and is calculated by using the following formula:

$$P_{01} = \frac{\Sigma R}{N}$$

Where  $\Sigma R$  stands for the sum of price relatives i. e.  $R = \frac{P_1}{P_0} \times 100$  and

$N$  stands for the number of items.

**Example**

Commodity $P_0$	Base Year Prices (in Rs.) $P_1$	Current year Prices (in Rs.)	Price Relatives $R = \frac{P_1}{P_0} \times 100$
A	10	20	$\frac{20}{10} \times 100 = 200.0$
B	15	25	$\frac{25}{15} \times 100 = 166.7$
C	40	60	$\frac{60}{40} \times 100 = 150.00$
D	25	40	$\frac{40}{25} \times 100 = 160.0$
$N = 4$			$\Sigma R = 676.7$