

The value of the Base Period $P = 100$ as the Standard point of comparison.

Index No. are often constructed from the sample.

Purchasing power is Reciprocal of Index No.



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Index No.

Weight plays a very important part in the construction of Index No.

CY value, when B.Y value is assumed to be 100. E.g. Sensex (1978-79) Index no. is a pure no.

Base Shifted Price Index No. = $\frac{\text{Original Price Index}}{\text{Price Index of the year on which it has to be shifted.}}$

Simple Method

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

Relative
 $I = \frac{\sum I_r}{n}$

$I_r = \frac{P_r}{P_0} \times 100$

P_{01} (Jan 0) = $\frac{\text{Real Wages / Deflating c.y B.y}}{\text{c.y B.y}} \times 100$

$N = \text{No. of commodities}$

| Index | Unit | Time Reversal | Factor Reversal | Circular |
|-----------|------|---------------|-----------------|----------|
| Laspeyres | ✓ | ✗ | ✗ | ✗ |
| Pasche | ✓ | ✗ | ✗ | ✗ |
| Fisher | ✓ | ✓ | ✓ | ✓ |
| Ideal | ✓ | ✓ | ✓ | ✓ |
| Marshall | ✓ | ✓ | ✗ | ✗ |
| Bowley | ✓ | ✗ | ✗ | ✗ |

Weighted Method

$\left[\frac{\sum P_1 W_1}{\sum P_0 W_1} \right]$

Laspeyres = $\frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$

Pasche = $\frac{\sum P_1 q_1}{\sum P_0 q_1} \times 100$

Fishers = $\sqrt{\text{Laspeyres} \times \text{Pasche}}$

Dorbish & Bowley = $\frac{\text{Laspeyres} + \text{Pasche}}{2}$

Marshall Edgeworth

$P_{01} = \frac{\sum P_1 \left(\frac{q_0 + q_1}{2} \right)}{\sum P_0 \left(\frac{q_0 + q_1}{2} \right)}$

Walsh $(\sqrt{P_{01}}) = \frac{\sum P_1 \sqrt{q_0 q_1}}{\sum P_0 \sqrt{q_0 q_1}}$

Weight = $\sqrt{q_0 q_1}$

(Kelly) = $\frac{\sum P_1 q_1}{\sum P_0 q_1}$

| | Base Year | c.y. |
|-------------------|-----------|----------------|
| Price | P_0 | P_1 or P_n |
| Quantity | Q_0 | Q_1 or Q_n |
| Value (TE) | V_0 | V_1 or V_n |
| Total expenditure | | |

Special Points

Test of Adequacy

Inflation Deflation

Base Shifting & CBI

Salary Q's

1) Unit test unit free satisfied by all.

2) Time - Reversal Test $P_{01} \times P_{10} = 1$

3) Circular Test

4) Factor Reversal Test $P_{01} \times Q_{01} = V_{01}$

Fisher's aggregate ✓

Kelly's aggregate ✓

Fisher's ✓

Fisher's ✓

(Index No - 100) = Inflation %

Deflated value mean B.Y. dh value

C.Y. Value = $\frac{\text{C.Y. Value}}{\text{C.Y. Index}} \times 100$

LR = $\frac{\text{C.Y. Price}}{\text{Prev. Price}} \times 100$

CBI = $\frac{\text{C.Y. Salary}}{\text{C.Y. Index}} \times 100$

B.Y. Salary = $\frac{\text{C.Y. Salary}}{\text{C.Y. Index}} \times 100$

Today's salary - should have been = Real gain.

Should have been - Today's salary = D.A.

If price are changing year by year than we used Chain Base Index No.

Chain Base Index = $\frac{\text{Link Relative of c.y} \times (\text{Chain Index of P.y})}{100}$