

INDEX NUMBER

“Index number is the special type of ratio in terms of percentage”

Here two or more time periods are include. One of them is known as base period and others are called current period.

Base period is the period by which we make a comparison and current periods are the period for which we make a comparison.

Index number for base period is 100.NOTATION:

	BASE PERIOD	CURRENT PERIOD
PRICE	p_0	p_1
QUANTITY	q_0	q_1
VALUE	$v_0 = pq$	$v_1 = pq$

METHOD TO FIND THE INDEX NUMBER:

We have two methods to find the index number

- (i) Simple (unweighted) method
- (ii) Weighted method

SIMPLE METHOD

Aggregative	Average of price relative
$p_{01} = \frac{\sum p_1}{\sum p_0} \times 100$	$p_{01} = \frac{\sum I}{n}$

WEIGHTED METHOD

Aggregative	Average of price relative
$p_{01} = \frac{\sum p_1 w}{\sum p_0 w} \times 100$	
$p_{01}(L) = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$	C.L.I = $\frac{\sum I}{n}$
$p_{01}(P) = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$	
$p_{01}(D - B) = \frac{p_{01}(L) + p_{01}(P)}{2}$	C.L.I = $\frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$
$p_{01}(F) = \sqrt{p_{01}(L) \cdot p_{01}(P)}$	
$p_{01}(M - E) = \frac{\sum p_1 q_0 + \sum p_1 q_1}{\sum p_0 q_0 + \sum p_0 q_1} \times 100$	

EX – find the price index for year 2005 by

- (i) Simple aggregative method
 (ii) Simple average of price relative method, for

Commodity	Year 2000	Year 2005
A	10	12
B	15	20
C	7	10
D	5	12

EX – find all the weighted aggregative index no. for

Commodity	Price in 2010	Quantity in 2010	Price in 2015	Quantity in 2015
A	5	3	8	3
B	10	4	15	3
C	8	2	10	2
D	7	5	10	4

EX- find C.L.I for

Commodity	Price in 2000	Price in 2005	Weight
A	10	12	5
B	25	30	8
C	15	20	4
D	10	12	3

CHAIN INDEX NO.

$$\text{Chain index} = \frac{\text{link relative for current year} \times \text{chain index for previous year}}{100}$$

EX- Find the index no. for

Year	2000	2001	2002	2003	2004
Price	15	20	30	40	60

SPLICING OF INDEX NO. SERIES

In the splicing we combine two or more index no. series.

year	Index	index	index	Index
2000	100			
2001	110			
2002	125			
2003	140	100		
2004		120		
2005		130		

TEST OF ADEQUACY