



INDEX NUMBERS



सूचकांक

INTRODUCTION & TYPES





INTRODUCTION

You have learnt in the previous chapters how summary measures can be obtained from a mass of data. Now you will learn how to obtain summary measures of change in a group of related variables.

इस लेख में

हम विभिन्न प्रकार के सूचकांकों की व्याख्या करेंगे। सूचकांक एक संख्या है जो किसी वस्तु की कीमत या मात्रा में परिवर्तन को दर्शाता है। यह आमतौर पर एक निश्चित वर्ष को आधार वर्ष माना जाता है। सूचकांक का उपयोग आर्थिक विश्लेषण में किया जाता है।

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WHAT IS AN INDEX NUMBER

An index number is a statistical device for measuring changes in the magnitude of a group of related variables.

Index Number

Index number is a statistical device for measuring changes in the magnitude of a group of related variables. It is used to compare the value of a variable in a given year with its value in a base year.

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- It represents the general trend of diverging ratios, from which it is calculated.
- It is a measure of the average change in a group of related variables over two different situations.
- ;g vilkfjr (fHkUu&fHkUu fn'kkvksa esa) gksus okys vuqikrksa dh lkekU; izo`fUk dk izfrfuf/Ro djrk gS] ftuls bldks ifjdfyr fd;k tkrk gSA
- ;g nks fHkUu fLFkfr;ksa esa lacaf/r pjksa osQ fdlh lewg esa vkSlr ifjorZu dk ,d eki gSA

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➤ index numbers are expressed in terms of percentage. Of the two periods, the period with which the comparison is to be made, is known as the base period.

➤ Iwpdkadksa dks izfr'kr osQ :i esa O;Dr fd;k tkrk gSA nks vof/;ksa esa ls] ftl vof/ osQ lFk rkyuk dh tkrh gS] mls vkèkkj& vof/ osQ :i esa tkuk tkrk gSA

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- Price index numbers measure and permit comparison of the prices of certain goods.
- Quantity index numbers measure the changes in the physical volume of production, construction or employment.
- दूरस्थ सूचकांक एक ही वस्तु के अलग-अलग स्थानों पर की गई कीमतों का औसत होता है।
- वस्तु सूचकांक एक ही स्थान पर अलग-अलग वस्तुओं की कीमतों का औसत होता है।



You



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- Simple Aggregative Price Index
- Weighted Aggregative Price
- Weighted Price Relative Index
- Consumer Price Index



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Calculating of simple aggregative price index

Commodity	Base period price (Rs)	Current Period price (Rs)	% Change
A	2	4	100
B	5	6	20
C	4	5	25
D	2	3	50

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

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Calculating of weight aggregative price index

Commodity	Base period	Current Period		
	Price P_0	Quantity q_0	Price p_1	Quantity q_1
A	2	10	4	5
B	5	12	6	10
C	4	20	5	15
D	2	15	3	10

$$P_{01} = \frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$$

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Calculation of weighted price relatives index

Commodity	Weight in %	Base year price price (in Rs.)	Current year (in Rs)	Price relative
A	40	2	4	200
B	30	5	6	120
C	20	4	5	125
D	10	2	3	150

$$P_{01} = \frac{\sum_{i=1}^n W_i \left(\frac{P_{li}}{P_{oi}} \times 100 \right)}{\sum_{i=1}^n W_i}$$

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Calculation of weighted price relatives index

Item	Weight in % W	Base period price (Rs)	Current Period price (Rs)	$R = P_1 / P_0$ × 100 (in %)	WR
Food	35	150	145	96.67	3883.45
Fuel	10	25	23	92.00	920.00
Cloth	20	75	65	86.67	1733.40
Rent	15	30	30	100.00	1500.00
Misc.	20	40	45	112.50	2250.00
					9786.85



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- Human Development Index
- SENSEX
- Issues in Index Number



Human Development Index

Another useful index widely used to know the development of a country is Human Development Index (HDI) about which you might have studied in Class X.

ekuo fodkl lwpdkad

ekuo fodkl lwpdkad ,d vkSj
ykHknk;d lwpdkad gS] ftldks ,d
ns'k osQ fodkl osQ vè;;u osQ fy,
mi;ksx fd;k tkrk gSA blosQ fo"k;
esa vkus d{kk 10 esa lk<+k
gksxkA



SENSEX

Sensex is the short form of Bombay Stock Exchange Sensitive Index with 1978 – 79 as base. The value of the senssex is with reference to this period.

laosnh lwpdkad

IsalsDI eqacbZ LVkWd ,Dlpsat
laosnh lwpdkad dk laf{klr :i gS]
ftldk vk/kj o"kZ 1978µ79 gSA

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It is the benchmark index for the Indian stock market. It consists of 30 stocks which represent 13 sectors of the economy and the companies listed are leaders in their respective industries.

laosnh lwpdkad dk eku bl vof/ osQ
lanHkZ esa gksrk gSA Hkkjrh;
LVkWd ekosZQV osQ fy, ;g eq[;
funZs'k fpÉ lwpdkad gSA blosQ
varxZr 30 LVkWd gaS]
vFkZO;oLFkk osQ 13 {ks=kdksa dk
izfrfuf/Ro djrs gSa rFkk lwphÑr
daifu;kj vius&vius m|ksxksa esa
vxz.kh gSaA



If the sensex rises, it indicates that the market is doing well and investors expect better earnings from companies. It also indicates a growing confidence of investors in the basic health of the economy.

;fn laosnh lwpdkad Åij p<+rk gS
rks ;g laosQr nsrk gS fd cktkj Bhd
py jgk gS vkSj fuos'kd bu daifu;ksa
ls csgrj vkenuh dh vk'kk djrs gSaA
;g vFkZO;oLFkk dh ewy n'kk osQ
izfr fuos'kdksa osQ c<+rs fo'okl
dks Hkh n'kkZrk gSA

ISSUES IN THE CONSTRUCTION OF AN INDEX NUMBER

You should keep certain important issues in mind, while constructing an index number.

lwpdkad dh jpuk esa eqís

**lwpdkad dh jpuk djrs le; oqQN
egRoiw.kZ eqíksa dks è;ku esa
j[kuk pkfg,%**

- To be clear about the purpose of the index. Calculation of a volume index will be inappropriate, when one needs a value index.
- Besides this, the items are not equally important for different groups of consumers when a consumer price index is constructed.
- lwpdkad osQ mís'; osQ ckjs esa Li"V gksus dh vko';drk gSA tc fdlh dks ewY; lwpdkad dh vko';drk gks rks] ifjek.k lwpdkad dk ifjdyu vuqi;qDr gksxkA
- blosQ vfrfjDr] tc vki miHkksDrk dher lwpdkad dh jpuk dj jgs gksa rc fofHkUu miHkksDrk lewgksa osQ en leku egRo okys ugha gksrs gSaA

- Every index should have a base year. This base year should be as normal as possible.
- The period should also not belong to too far in the past.
- $\frac{I_{R;sd}}{I_{wpdkad}} \cdot \frac{I_{dk}}{I_{d}} \cdot \frac{I_{vk/kj}}{I_{gksuk}} \cdot \frac{I_{pkfg,A}}{I_{tgki}} \cdot \frac{I_{rd}}{I_{laHko}} \cdot \frac{I_{gks}}{I_{losQ}} \cdot \frac{I_{;g}}{I_{vk/kj}} \cdot \frac{I_{IkekU}}{I_{gksuk}} \cdot \frac{I_{pkfg,A}}{I_{;g}}$
- $\frac{I_{;g}}{I_{vof}} \cdot \frac{I_{Hkh}}{I_{vrhr}} \cdot \frac{I_{esa}}{I_{vf/d}} \cdot \frac{I_{nwj}}{I_{ugha}} \cdot \frac{I_{gksuh}}{I_{pkfg,A}}$

- Another issue is the choice of the formula, which depends on the nature of question to be studied.
- $lw = k \cdot osQ \cdot pquko \cdot dk \cdot fo''k; Hkh$
 $gS] \cdot tks \cdot v\grave{e};;u \cdot fd, tkus \cdot okys$
 $iz'u \cdot dh \cdot iz\tilde{N}fr \cdot ij \cdot fuHkZj \cdot djrk$
 gSA

➤ There are many sources of data with different degrees of reliability. Data of poor reliability will give misleading results. Hence, due care should be taken in the collection of data.

➤ vkjdM+ksa osQ vusd İksr
gSa ftudh fo'oluh;rk
fHkUu&fHkUu gSA de
fo'oluh;rk osQ vkjdM+s
Hkzked ifj.kke nsaxsA vr%
vkjdM+ksa osQ laxzg esa
mfpr lko/kuh cjrh tkuh pkfg,A

THANK



YOU

