

INDEX OF SERVICE PRODUCTION

Rail Transport

Variables:

Passenger Services: Passenger kilometer travelled under different classes, which are :AC First Class, AC two tier sleeper, AC three tier sleeper, AC Chair car, First class (Mail Or express), Sleeper class (Mail or express/ordinary), Second class (Mail or express/ordinary).

Freight: Tonne Kilometers of nine major categories of commodities transported (Coal, Raw Material, Pig-Iron and finished steel, Iron Ore, Cement, Food grains, Fertilizers, Minerals, Mineral Oils and Other Commodities). These nine categories together accounted for 95% of total originating tonnes during 2004-05.

Weighting Diagram:

The average of the total revenues earned during three years 2003-04 to 2005-06, has been taken as reference weight. Thus the base notionally corresponds to the year 2004-05. The details of the weighting diagram are given in Table-1.

Table 1: Weighing diagram for Passenger and Freight transport services by Rail

Sl.no	Passenger		Freight		Sl.no
	Class	Weight	Weight	Commodity	
1	A - 1	0.370	27.777	Co	1
2	A - 2	2.289	3.073	Rm	2
3	A - 3	2.242	3.392	Pf	3
4	A - C	0.616	3.787	Io	4
5	1 - M	0.660	5.337	Ce	5
6	S - M	7.880	6.606	Fg	6
7	S - O	0.082	2.842	Fe	7
8	2 - M	8.536	6.090	Mo	8
9	2 - O	8.659	9.762	Oc	9
	All Classes	31.334	68.666	All Commodities	

Abbreviations used:

A - 1	A.C First Class	Co	Coal
A - 2	A.C Sleeper	Rm	Raw material Pig Iron & Finished
A - 3	A.C 3-Tier	Pf	Steel
A - C	A.C Chair Car	Io	Iron Ore
1 - M	1st Class - Mail	Ce	Cement
S - M	Sleeper Class - Mail	Fg	Food Grains
S - O	Sleeper Class - Ordinary	Fe	Fertilizers
2 - M	2nd Class - Mail	Mo	Mineral Oils
2 - O	2nd Class - Ordinary	Oc	Other Commodities

Methodology:

All the classes of passenger services and the nine major commodity groups for freight services (see Table 1) form part of the item basket of ISP.

The monthly data is available on passenger kilometers by class of travel and freight tones by type of commodity. The index has been compiled using the following formula

$$Index = \frac{\sum W_{io} \frac{Q_{it}}{Q_{io}}}{\sum W_{io}} * 100$$

Where

Q_{it} = value of the variable for item i ($i=1,2,\dots,9$) in period t

Q_{io} = value of the variable for item i ($i=1,2,\dots,9$) in base period

W_{io} = weight of item i in the base period

Air Transport

Variables:

Passenger Services: Passenger kilometers travelled by National Carriers (Air India, Air India Express, Alliance, Indian Airlines) and private Scheduled Domestic Airlines (Jet Airways, Jetlite, Spicejet, Kingfisher, Paramount, Go Air, and Indigoetc.)

Freight Services: Tonne Kilometers of Cargo transported including freight, mail and excess baggage by National Carriers and Private Scheduled Domestic Airlines.

Weighting diagram:

The percentage shares in the revenue for the year 2006-07 of passenger and freight services constitute the respective weights as revised in year 2013. In the data on tonnes Km performed by Airlines, PAX is added, which is weight of the passengers carried. The internationally accepted value of PAX is 110 kg which includes 75 kg as average weight of passenger, average of 30 kg for accompanied luggage and 5 kg for excess baggage. Out of this only the portion of excess baggage has been included in tones of freight carried as there is separate account of revenue collected on account of excess baggage.

Table 2: Weighing diagram for Air Transport Services:

Type of Service	All Services
National Carriers	61.12
Private Scheduled Domestic Airlines	38.88
All scheduled Airlines	100

Methodology:

Air transport services are broadly divided into the following two categories;

- (a) Passenger traffic services(Scheduled)
- (b) Freight/cargo traffic services

The average monthly passenger-kilometers and tones-kilometers transported during the base year 2004-05 have been computed first as the value of the variable for the base year. The monthly indices for both types of services are computed based on the monthly passenger-kilometers transported and tones-kilometers transported with respect to their respective base period average figures. The overall ISP for air transport is computed as the weighted average of the two above indices, the weights being respective gross operating revenues (Laspeyre's fixed base index).

$$Index = \frac{\sum W_{i0} \frac{Q_{it}}{Q_{i0}}}{\sum W_{i0}} * 100$$

Where

Q_{it} = value of the variable for item i ($i=1,2,\dots,9$) in period t

Q_{i0} = value of the variable for item i ($i=1,2,\dots,9$) in base period

W_{i0} = weight of item i in the base period

Postal Services

Variables:

- Unregistered Postal Traffic
- Registered Postal Traffic
- Unregistered Foreign Traffic
- Registered Foreign Traffic
- Premium Product Services Traffic.

The services like Financial Services, Pension Payments, Sale of Forms, Collection of Water, Telephone Bills etc. under retail post office services are kept out of the purview of this Index as they are either covered in different industry divisions of OECD manual or they do not conform to CPC classification. However, though OECD manual suggests that courier activities other than national post activities should be covered for the index calculation, it is observed that data related to postal services provided by private operators /couriers are not collected and hence not available. These activities are also kept outside the purview till a system is developed for capturing the data for such services on regular basis and with desired quality.

Weighting Diagram

Total revenue earned by the DOP in 2004-05 (base year of postal services index) was Rs. 44318.47 million out of which 89.6% i.e Rs. 39700 million was earned by the traditional postal services.

The revenue of the following groups of services in the base year 2004-05 has been taken as the weight. The details of the weighting diagram are given in Table-3.

Table 3: Weighting diagram for Postal Services

Services	Weight
Unregistered Postal Services	72.29
Registered Postal services	8.94
Un registered foreign postal services	7.68
Registered foreign postal services	0.67
Premium product services	10.41

Methodology:

Laspeyers formula has been used to compile the index. Weighted average of Item wise price relatives have been computed to arrive at group level indices. Group level indices have been combined to compile a composite index standing for the all India postal service index. Due to non-availability of quarterly/monthly data index has been computed on Annual basis.

Group Index:

$$I_i = \frac{\sum_{k=0}^m {}_iW_k \frac{{}_iQ_k / {}_0Q_k}{{}_0Q_k}}{\sum_{k=1}^m {}_iW_k} \times 100$$

Composite Index:

$$I = \frac{\sum_{i=1}^n W_{i0} I_i}{\sum_{i=0}^n W_{i0}} \times 100$$

Where

I_i = Index of Group variable i ($i=1,2,\dots,m$)

${}_iQ_{kt}$ = value of item k on variable i ($k=1,2,\dots,n$) in period t

${}_iQ_{k0}$ = value of item k on variable i ($k=1,2,\dots,n$) in base period

${}_iW_{k0}$ = weight of the item k of the group variable I in the base year

W_{i0} = Weight of the group variable in the base year