

of Measurement of

Services Index



INTRODUCTION

• India's GDP growth since the 90's has been led by services

sector

- Service sector growth has increased from 8.0% in 2012-13 to 9.1% in 2013-14 and further to 10.6% in 2014-15.
- Currently India estimates Wholesale Price Index which

covers only goods and not services
However the Consumer Price Index in India covers some services like housing, education, health etc. but at B to C and not B to B level.

- Decision to include service sector prices in WPI/ PPI in India taken in principle
- Currently development of business service sector price indices is at an experimental stage

• Efforts are on to include both B to B and B to C services



Growth rate of service sector in India



GDP at constant prices (base year: 2011-12)	9.1	6.7	4.9	6.6	7.2
Services	9.8	6.6	8	9.1	10.2





CURRENT STATUS OF DEVELOPMENT OF BUSINESS SERVICE PRICE INDEX IN INDIA FOR INCLUSION IN WPI/PPI

• So far five business service indices have been compiled on an experimental basis

- 1. Rail
- 2. Air transport
- 3. Banking
- 4. Postal
- 5. Telecom
- Fixed base Laspeyres' method has been used in all cases as is currently being done for Wholesale Price Index



OVERVIEW OF PROPOSED SERVICE PRICE INDEX

All indices are expected to be integrated as per the following framework:



Background

- MoSPI to prepare test indices for each sector
- Methodology to be handed over to the concerned

administrative ministry/office for future compilation

- Base year 2004-05 for the sectors for which test indices already prepared
- For others base year to be taken as 2011-12, the base year for GDP; BY to be changed whenever BY for GDP is changed.
- Periodicity: Quarterly but can be shifted to six-

monthly/annual if data is NA quarterly

- Methodology used : Laspeyre
 - सत्यमेव जायत

<u>**RAILWAY SERVICE PRICE INDEX</u></u></u>**



AdministrativeMinistry /ServicesOrganization /other possible datasources

Railway Board

Problem / Status

Variables used:

Challenges:

Rail Service, Monthly Index

Freight Data: Tonne Kms of major
commodities transported
Passenger data: Passenger kms travelled
under different classes.

Weights : Total revenue from passenger traffic by class of travel) and freight transport (by type of material)

1.Freight Data comes in batches of 3-4 months. Mechanism to get regular monthly data is to be established.

2.Passenger Data is not provided citing commercially sensitive nature of the data.

<u>AIR SERVICE PRICE INDEX</u>







AdministrativeMinistry /ServicesOrganization / otherpossible data sources

Problem / Status

Air	DGCA, M/o of Civil
Transport	Aviation
Monthly	
Index	

Variables used:

Freight Data: **Tonne** Kms of cargo transported by different airlines Passenger data: Passenger kms travelled by different airlines

Weights : Airlines wise gross operating

revenue

Challenges : NSOPs not included Data on passengers in different classes not available

POSTAL SERVICE PRICE INDEX



H-	H-	53 -	53 -	531-	531-	5310-	5310-	53100-
Transpor	Transpor	Postal						
t and	tation	and	and	activities	activities	Activities	activities	Activities
Storage	and	courier	courier			(National		
	Storage	activities	activities			Postal		
						Activities		





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Services

Ministry / Organization / other possible data sources

Administrative

Problem / Status

Variables used:Department of Posts1.Unregistered Mail – Inland,
Foreign2.Registered Mail - Inland,
Foreign5.Premium Products3.Premium ProductsWeights: Revenue from each
service item.

Postal Service, (excluding private courier services)

Services Excluded: Private.

Courier, Financial services, Pension

payments, sale of revenue stamp, money transfer, philately etc

Data Availability: Annual
Test Indices Prepared.
Challenges:
Services included for ISP accounts 14
for 47% of total revenue.

TELECOM (CELLULAR) SERVICE PRICE INDEX

Sect	tion	Divi	ision Group		Jup	Cla	Sub Class	
NIC	ISIC	NIC	ISIC	NIC	ISIC	NIC	ISIC	NIC (2008)
(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	
J -	J -	61-	61-	611-Wired	611-Wired	6110-	6110-	61101- Activities
Informat	Informa	Teleco	Teleco	telecomm	telecommu	Wired	Wired	of basic telecom
ion and	tion and	mmuni	mmuni	unications	nications	telecomm	telecommu	services:
Commun	Commu	cations	cations	activities	activities	unications	nications	telephone
ication	nication					activities	activities	

	61104- Activitie of providing internet access by the operator of the wired infrastructure



TELECOM (CELLULAR) SERVICE PRICE INDEX

Group			Class	Sub Class
NIC (2008)	ISIC (2008)	NIC (2008)	ISIC (2008)	NIC (2008)
				61202- Activities of maintaining and operating paging, cellular and other





Administrative



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services







Banking Service Index



Sec	tion	Divi	sion	Group		Cla	Sub Class	
NIC	ISIC	NIC	ISIC	NIC	ISIC	NIC	ISIC	
(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	NIC (2008)
K –	K –	64 -	64 -	641-	641 -	6419-	6419-	64191-
Financia	Financial	Financia	Financial	Monetary	Monetary	Other	Other	Monetary
land	and	l service	service	intermedi	intermedi	monetar	monetar	intermediat
Insuran	Insuranc	activities	activities,	ation	ation	у	y	ion of
ce	e	, except	except			intermed	intermed	commercial
Activitie	Activitie	insuranc	insuranc			iation	iation	banks,
S	S	e and	e and					saving
		pension	pension					banks,
		funding	funding					postal
								saving
								banks and
								discount
								houses
				649-	649-	6499-	6499-	64990-
				Other	Other	Other	Other	Other
				financial	financial	financial	financial	financial
				service	service	service	service	service



Administrative Ministry / Organization / other possible data sources

RBI

Problem / Status

Services

Banking Service, Quarterly Index Index constructed for all Scheduled
Commercial Banks including Regional Rural
Banks based on their balance sheet data.
Methodology:
Income Generated Method
a) Fee Income received for direct services
b) FISIM method for intermediary services

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Challenges: Data for Local Area Banks and Cooperative Banks not available. But SCBs and RRBs account for 93% in assets, advances and deposits of banking system

PORT INDEX

Section



Group



Sub

Class

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NIC (2008)	ISIC (2008)	NIC (2008)	ISIC (2008)		<section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header>		<section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>	
H :	H :	50 :	50 :	502:	502:	5022:	5022:	50220:
Transpor	Transpor	Water	Water	Inland	Inland	Inland	Inland	Inland
t and	t and	Transpor	Transpor	Water	Water	freight	freight	freight
Storage	Storage	t	t	Transpor	Transpor	water	water	water





Services

Administrative Ministry / Organization / other possible data sources

Problem / Status

Port

Transport Research WingVariables:(TRW), M/o RoadFreight and ContainerTransport & HighwayData of 12 Major Ports.

TRW is formulating data collection mechanism to

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Administrative Ministry / Organization / other possible data sources

Problem / Status

Services



Ministry of Human ResourceVariables used:Development1.Enrolment Rat

Enrolment Ratio
 Teacher-student Ratio

Weights: per capita expenditure (PCE), both private and public



Administrative Ministry / Organization / other possible data sources

Problem / Status

Services

Health

Ministry of Health & Family Welfare

Data suggested by OECD not available

HMIS: Data only on maternal and child health.

Infrastructure and facilities

data available to a great

extent

Indicators to be considered for index compilation not yet finalised

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ROAD SERVICE INDEX



Sec	tion	Divi	sion	Gro	Dup	C1:	ass	Sub
								Class
NIC	ISIC	NIC	ISIC	NIC	ISIC	NIC	ISIC	NIC
(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)	(2008)

492: **492**: 4923: **4923**: 49231: **49**: **49**: **H**: **H** : Other Freight Freight Motorise Other Transpo Transpo Land Land rt and transpor transpor land transpor transpor d road land Storage Storage t and t and transpor transpor t by freight t by transport transpor transpor t road road t via t via pipeline pipeline S S





Base Year



Frequency



Components

Freight service

Price of freight service

Average freight prices per ton/km of three kinds of trucks: 6 Wheels (9 MTons) 10 Wheels (16 MTons) 14 Wheels (24 MTon)

Weight for freight service

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carried on the routes.

Data availability so far

March 2016 to August, 2016

Data sources

Web sources

WEIGHTING DIAGRAM



Weight for route X= (Total Annual Tonnage carried on route X)/ (Sum of a Total Annual Tonnage carried on 456

routes)



ROAD INDEX











Standard Classification and Structure

NIC (2008)	ISIC (2008)	NIC (2008)	ISIC (2008)
K – Financial	K – Financial	65-	65- Insurance,
and	and Insurance	Insurance,	reinsurance
Insurance	Activities	reinsurance	and pension
Activities		and pension	funding
		funding	except
		except	compulsory
		compulsory	social security
		social security	
		66 + har	66 Activities

Section



UU ACTIVITIES auxiliary to financial service and insurance activities 31

Division

Group NIC (2008)ISIC (2008)651-Insurance 651-Insurance 652- Re-insurance 652- Reinsurance

653-Pension funding **653**-Pension funding

662- activities auxiliary662- activitiesto insurance andpension funding662- activitiesauxiliary to insuranceand pension funding

663-fund management 663- Fund

activities

management

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activities



NIC (2008)	ISIC (2008)
6511- Life Insurance (underwriting —	- 6511- Life Insurance (includes
— annuities and life insurance	underwriting annuities and life
policies, disability income insurance	insurance policies, disability income
	insurance policies,
and accidental death and	and accidental death and
dismemberment insurance policies	dismemberment insurance policies
(with or without a substantial	(with or without a substantial
savings element).	savings element).
6512- Non-Life Insurance (includes	6512- Non-Life Insurance (includes
accident and fire insurance, health	accident and fire insurance, health
insurance, travel insurance, property	insurance, travel insurance, property
insurance, motor, marine, aviation	insurance, motor, marine, aviation and
and transport insurance, pecuniary	transport insurance, pecuniary loss
loss and liability insurance	and liability insurance

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- 6520- Re-insurance (includes the
- activities of assuming all or part of
- the risk associated with existing
- insurance policies originally underwritten by other insurance

careers

6520- Re-insurance (includes the

activities of assuming all or part of the

risk associated with existing insurance

policies originally underwritten by other insurance careers

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NIC (2008) ISIC (2008)

6629- other activities**6629-** Other activities auxiliary to insuranceauxiliary to insuranceand pension fundingand pension fundingThis class includes:except claims—activities involved in or closely related toadjusting andinsurance and pension funding (except claims

activities of	adjusting and activities of insurance agents):
insurance agents	Salvage administration
	actuarial services
	This class excludes:
	-marine salvage activities
6630- fund	6630- Fund management activities
management	This class includes portfolio and fund
activities	management activities on a fee or contract

basis, for individuals, businesses and others.
This class includes:
—management of pension funds
—management of mutual funds
—management of other investment funds

Sub Class

NIC (2008)

65110- Life Insurance

65120- Non-Life Insurance

65200- Re- Insurance

65300- Pension funding

66210- Risk and damage evaluation

66220- activities insurance agents and brokers

66290- other activities auxiliary to insurance and

pension funding

66301- management of mutual funds

66302-management of pension funds

66309- management of other investment funds



Sub-items and computations





Interest received **R**2

Dividend received **R3**

Net profit on sale of **R4** investments

E1 | Adjusted Claims = Claims and Surrenders + Interest paid + net



accruing liability + bonus to policyholders +

changes in equalization provisions

(insurance R1 + R2 + R3 + R4 - E1FISIM 01 services) Business receipts + redemption receipts **O2** Misc. receipts

IC1

Expenses on management + commission to agents + bank charges + consumption of other

	goods and services + repair and maintenance +
	product tax
Output	O1 + O2
IC	IC1
GVA	Output - IC
Note: As per SNA 2008, insurance agents do not fall in either of the sub-	
classifications of insurance corporations and pension funds	
Item Source of Data Life Insurance i.Annual Reports and Accounts (LIC)



VALUE ADDED FOR FINANCIAL SERVICES AT CURRENT

PRICES (Rs. Crore)





corporation and pension funds	66354 (100 %)	83227 (100%)	86312 (100%)	95886 (100%)
Life Insurance	40478 (61.0 %)	48752 (58.6%)	46496 (53.5%)	51652 (53.9%)
Non-Life				
Insurance	24902	33388	38648	42956
	(37.5%)	(40.1%)	(45.0%)	(44.8%)
Pension	974	1087	1168	1277
Funds	(1.5%)	(1.3%)	(1.5 %)	(1.3%)
				38





Definition of service (Non Life

Insurance)

- Risk Assuming
 - The Insurance Provider assumes the risk. Policy holders do not retain risk.
 - The service being provided is the assumption of risk from the

policy holder.

- Insurer collects premiums and invests a portion of the premiums.
- Output is measured by gross premiums:
- Output = Premiums + Investment Income
- Pricing methodology
 - Risk protection plus financial intermediation
 - Premiums plus return on the invested portion of the premium



Definition of service(Non Life

Insurance)

- Risk Pooling
 - The policy holders retain the risk. Insurer assumes no risk.
 - Insurer is an intermediary between various policy holders and collects premium for disbursing them to claimants.
 - The Service being provided is the administrative duties associated with
 - managing the risk pool.
 - Output is measured by net premiums :
 - Output = (Premiums + Investment Income) Claims
 - Pricing methodology
 - Value added
 - Premium less claims

SNA recommends that risk pooling concept is followed





Definition of service (Life Insurance)

- Output of Insurance Industry
 - Assumption of risk (transfer of risks from policy holder)
 - Financial intermediation
- Concept of price for measuring this output
 - **Price** = Premium (1+r)
 - "r" is the annual return on the invested portion of the premium for the particular type of insurance that is priced.
- Concept of price when policy holders are also stockholders of the \bullet company and receive dividend on an annual basis.
 - **Price** = Premium (1+r) Dividend
- When premiums vary at the discretion of policy holder (like ulips), various fees charged to administer the policy and investment return serves as proxy for price.
 - **Price** = (MC + EXP + P + C) (1+r)
 - MC=mortality costs, EXP= expenses, P= profits, C= contingency allowances and r=

earned rate on investments

- Weights
 - Lower level indices are aggregated using industry turnover data (premium plus investment income) as weights



Production Index	Price Index
Weight	• Weight
-GVA computed	-Share in Total
by CSO for	Premium between

weights between Life and General

insurance

-Premium (First year or renewal, life and general insurance

- Share in aggregate First year premium within



Production Index

• Item basket(Lines of **Business**)

- Life Insurance
- General Insurance (Fire, marine Miscellaneous)

Price index

- Item basket(Lines of Business)
 - Life insurance
 - Non linked Life (individual single and non single premium with profit and without profit)
 - Group Gratuity
 - General Annuity
 - Pension
 - General Insurance
 - Fire
 - Marine Cargo and Marine
 - Hull • Engineering



Production Index

Price Index

• Deflator-

- WPI All Commodities

Deflator

- WPI All Commodities for Motor Third Party
- Since Premium and Sum
 Assured are both in monetary
 terms ratio is inflation neutral
 so no need of deflator

• Periodicity- Quarterly

- Premium per policy to be deflated by WPI and GDP per capita
- Periodicity- Quarterly
 - Data on premium figures and Sum Assured are available on a monthly basis whereas data on

• **Base Year** – 2011-12

rate of return for fund based products is available on quarterly basis

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• **Base year** -2011-12



Concepts of Price

- Producer's price
- Ratio of value (nominal) over volume/quantity/real value
- Suggestions for price

- For General Insurance- Ratio of Premium to deflated Sum Assured

- Deflator- WPI for Machinery & Equipment
- For 3rd Party motor vehicle insurance- Premium paid per motor vehicle
- For term Insurance- Ratio of first premium to deflated Sum Assured
 - Deflator-WPI for All Commodities

- For traditional plan (non linked)- Difference between gross and net return

- For ULIPS- Price for fund management and other

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services.

LIFE INSURANCE PRICE INDEX







2011-12 2012-13 2013-14 2014-15

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Methodology 1 (Premium per lakh sum assured and fund return)

Methodology 2 (Operating expenses+Profits+Commission)

GENERAL INSURANCE PRICE INDEX













Methodology 1 (Premium per lakh sum assured and fund return)

INSURANCE PRICE INDEX



















70,00



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Methodology 1 (Premium per lakh sum assured and fund return)

Issues emerging from above relating to

insurance sector SPI

- Insurance industry in India produces bundled (hybrid) financial products comprising of savings, investment, and pension element beneath a thin crust of insurance
 - Product complexities, short shelf life and dynamic product specification

necessitate choosing LoB over any particular product

• Product level index or industry level index "SPPIs should measure change in the prices of products, rather than industries"

-Eurostat-OECD SPPI Guide, 2nd edition

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- Objective

• Deflate service production for volume indicator (product based Index)

- Short term indicator (industry based index)
- Product based Index is recommended, especially, in the case of high share of industry turnover stemming from the production of secondary activities

• Appropriate definition of price

- Irdai's proposal

- Irdai's proposal modified

- International precedence

• Joseph M. Belth's method of calculating price of insurance for hybrid product.

• Premium- New business, Renewal, Gross or net



CHALLENGES

• Conceptual and methodological complexities relating to definition of price of service- What is the unit of measure to be priced?

• Dealing with a bundled product (groups of existing products)

- -Can lead to double counting
- -Different permutations are possible -Bundles change over time
- -- Difficulty in interpretation
- Product level index or industry level index

"SPPIs should measure change in the prices of products, rather than industries"

-Eurostat-OECD SPPI Guide, 2ndedition

• Double counting- overlap between BPO and telecom service

• Whether sector is well defined as per NIC and harmonized with international classification- Is classification detailed enough to constitute relatively homogenous group of services? • Classification should fit to the activities undertaken in service sector 52 Data flow is very restricted- mostly confined to public sector.- *Directive to administrative ministries to collect data as per NIC classification* Issues relating to data flow from private sector companies, for instance, private courier services:
 No data readily available for private sector

ii. No mechanism to collect the data as no statistical frame

for service sector industry exists
iii. Annual survey of service sector organizations to get directory of service providers
4. Consideration for use of statutory provision to make it compulsory for firms to respond with price statistics
5. Turnover statistics on services sector not readily available in a consistent manner leading to problems in fixing weighting

diagram.

6. Synchronized development of price and production

statistics for service sector.



7. New Topics o Business Process Outsourcing o Knowledge Process Outsourcing o Travel Agency services o Securities trading services 8. Guidance on identifying services which have wages as major cost component-use labour force survey of NSSO to get price index 9. Sale of investments and reinsurance components ignored. 10.Strengthening of proposed Collection of Services Trade Statistics Act to cover all services 11. Following precedence set by Voorburg Group on service statistics wherever possible.



Definition of Industry and Product Based SPPI

Industry based index Product based index

SampleBusiness enterprisesAll of the output of the

classified under specificsampled units can beindustryrepresented in the index, evensecondary activity output

OutputProducts classified underSecondary activity outputspecific industryexcluded, but all of the outputof certain types of servicesirrespective of the main





Choice between Industry and Product Based SPPI –Some Aspects

Primary objectives:

1. To deflate national accounts data (or data on service production for volume indicator \Rightarrow product based SPPI would be preferred

2. To serve primarily as a short-term indicator \rightarrow industry

based SPPI would be preferred

-This is, however, subject to the composition of data on production, i.e. value index, which is deflated by a price index. The structure of the value index and the price index should be comparable

3. Product based SPPI is recommended, especially, in the case of high share of industry turnover stemming from the production of secondary activities

Although, if the industry based survey should be rather extensive, this would not necessarily be the case 4. Product based SPPIs captures price effects of: *Changing product supply across industries*

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• Shifts in consumer demand across industries

Issues relating to insurance sector

1. Insurance industry in India produces bundled (hybrid) financial products comprising of savings, investment, and pension element beneath a thin crust of insurance.

2. Concept of insurance output

- Pooling of Risk
- Transfer or Assumption of risk
- 3. Pricing methodology
 - Pooling of Risk
 - Value added i.e., premium less claims
 - Transfer or Assumption of risk
 - Risk protection plus financial intermediation, i.e., premium plus return on the invested portion of the premium

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4. Concept of price- Ratio of value (nominal) over physical unit/

- quantity
- 5. Suggestions for price
 - For General Insurance- Ratio of Premium to deflated Sum



- For 3rd Party motor vehicle insurance- Premium paid per motor vehicle
- For term Insurance- Ratio of first premium to deflated Sum Assured
- For traditional plan-Difference between gross and net return
- For ULIPS- Price for fund management and other





Conclusion

• Index developed for Railways, Air Transport and Postal Services.

• Methodology for Education, and Insurance

approved by the TAC, Index to be developed.

- Methodology for Banking finalised by the Subcommittee revised; that is yet to be approved by the TAC.
- For Ports, concerned Ministry is developing a methodology

• Methodology yet to be devised for Health in consultation with the concerned Ministry.

- Work held up due to want of data for
 - Telecommunication.



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THANK YOU

