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Due to Tourism in India

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Tourism is one of the largest industries in the world today. It generates employment at all skill levels. Although growing steadily, there is a huge unexploited potential for further growth in India. As tourism is a composite sector, estimating employment or output is a complicated process. This paper attempts to estimate the total direct employment generated in India by foreign and domestic tourism using a simple and innovative method of employment coefficients.

Introduction

Tourism has emerged as one of the largest industries both in terms of gross domestic product (GDP) and employment in the world today. It generates exports, boosting taxes and stimulating capital investment. Currently, it *employs more than 260 million people (100 million of whom work directly in the industry) or 8.7% of total employment and generates over 9.1% of global GDP in 2011.* India has a large unexploited potential for foreign and domestic tourism that has been steadily increasing for the past couple of decades. The foreign and domestic tourist arrivals have increased from about 1.68 million and 66.67 million in 1991 to about 5.78 million and 740.2 million in 2010 respectively. Thus the average annual growth rate of foreign tourist arrivals (FTA) and domestic tourist arrivals (DTA) were about 6.63% and 12.83% during this period respectively. The rank in foreign tourist arrivals and percentage share are steadily changing in respect of World for India.

The total foreign exchange earnings (FEE) from tourism increased from about Rs 4,318 cr in 1991 (World rank = 37 in 2002) to about Rs 64,889 cr in 2010 (World rank = 17 in 2010). Thus the average annual growth rate of FEE was about 15.06% during this period. The domestic tourism earning was about 31999.47 cr in 2002 and 96864.23 cr in 2008. Tourism is a composite sector, generating income in a large number of activities as sectors and sub sectors like, h*otel and other accommodation units, travel agents and tour operators, transport services, tourist resorts and complexes, shopping facilities including sales outlets for curious, handicrafts, souvenirs, etc.* These activities provide goods and services to both the local population and the tourists. Therefore, there is a problem of apportionment of output between non tourism components and further, within tourism components (domestic and foreign tourism).

Objectives and Hypotheses

The major objectives of this are: to compare expenditure pattern between foreign and domestic tourism, to estimate employment in tourism sector in India for 1999-2000 and 2004-2005 after the value addition by foreign tourists, to estimate employment for 2002-2003 and 2008-2009 using employment coefficients for 1999-2000 and 2004-2005 and the changes between these two years after the value addition by foreign and domestic tourist both, and to compare of the employment by foreign tourism and domestic tourism.

It is assumed that all goods and services provided to foreign tourists and domestic tourists in India are produced within the country and not imported. The labour productivity (employment coefficient) of all firms within a sector associated with tourism is equal, i.e. the labour productivity in restaurants that cater to tourists and non tourists is equal. The expenditure pattern of foreign tourists and domestic tourists remains constant over the period of our estimation, due to lack of data.

Sources of Data

Data on value added (GDP) at the 2-digit levels for the years 1999-2000 and 2004-2005 has been taken from National Accounts Statistics of the Central Statistical Organization (CSO 2009). Data on employment at the 2 and 3-digit levels for 1999-

2000 and 2004-2005 has been taken from the 55th and 61st rounds of National Sample Surveys on Employment and Unemployment conducted by the National Sample Survey (NSSO 2001 and 2007). Data on the pattern of foreign tourists' expenditure and domestic tourists' expenditure are computed from survey of foreign tourists conducted by the Ministry of Tourism (MOT 2006) and NSSO 65th round, 2008.

Methodology

In the estimation of employment due to foreign tourists and domestic tourists in India, employment coefficient approach method has been used. The employment coefficients are computed for such sectors and sub sectors that provide goods and services to foreign tourist. Employment coefficient measures the ratio between employment and value added in a sector (tourism)/economy. The aggregate employment coefficient is weighted employment coefficient i.e. employment coefficient in tourism sector. The estimate of total employment in the composite sector is equal to product of the total expenditure in the composite sector and aggregate employment coefficient for the composite sector. Thus, if n_i is the number of workers employed in sector i and v_i is value added in that sector, then employment coefficient for the sector i is

$$ec_i = n_i / v_i \qquad \qquad ...1$$

The aggregate employment coefficient is then

$$EC = \sum w_i\, ec_i \quad ...2$$

$$or$$

$$EC = \sum w_i\, n_i / v_i$$

where $i = 1 \ldots m$ (total number of sub sectors), and w_i = weight for sector i

Note: in case of tourism, weight w of each of the sub sectors is derived from the expenditure pattern of tourists (Table 1).

The employment in the economy/composite sector is given by

$$\text{Employment} = EC \times GDP_c \qquad ...3$$

Where, GDP_c is the domestic product of the economy or the composite sector. In case of a composite sector (tourism), the tourism GDP can be estimated from the sum total of all expenditures by tourists.

Table 1: Pattern of Expenditure by Foreign and Domestic Tourists
Share of Expenditure (%)

Item of Expenditure (Basic Sectors)	NRI Tourists	Other Foreign Tourists	All Tourists	Domestic Tourists
Accommodation (A)	05.5	18.2	13.7	04.30
Food and Beverages (B)	06.0	15.3	11.9	09.41
Internal Transport (C)	11.1	16.5	14.6	26.73
Travel Services (D)	04.4	09.6	07.7	04.34
Cultural & Recreational Services (E)	07.5	06.6	06.9	23.67
Other connected Services (F)	19.9	03.3	09.2	04.03
Shopping (G)	45.5	30.6	36.0	27.52
Textiles (including carpets) (G1)	10.1	09.1	09.5	NA
Gems & Jewellery and Handicrafts (G2)	15.0	13.0	13.7	NA
Books and Reading Material (G3)	01.9	00.7	01.1	NA
Personal Goods (G4)	09.2	06.9	07.7	NA
Others (G5)	09.2	00.9	03.9	NA
Total	100	100	100	100

Source: Computed from results of the International Passenger Survey, 2003 (MOT 2006) & NSSO 65th round, 2008.

Estimation of Employment Coefficient (1999-2000 and 2004-2005)

All foreign tourists spend too much from domestic tourists in all sectors except *internal transport* and *cultural and recreational services*. In both sectors domestic tourists spend more than foreign tourists (Table 1). A survey to determine the pattern of expenditure of foreign tourists and domestic tourists in India was conducted in 2003 and 2008 by Ministry of Tourism (MOT 2006) and NSSO (65th round, 2008) respectively. The share of each sub sectors in the expenditure of tourists has been used as weight for that sub sector in the estimation of aggregate employment coefficient. Data on sector wise employment are available from NSSO for 1999-2000 and 2004-2005 both are in National Industrial Classification 1998 (NIC 1998), while data on value added (GDP) provided by the CSO are based on NIC 1998. Data on value added (GDP) has been used in constant Rs at 1999-2000 prices. Employment coefficient has been calculated in Table 2. No. of workers has decreased except in *cultural & recreational services and textiles,* that may be due to development of new technology and structural changes. Aggregate employment coefficient has been calculated for foreign tourism as *products of employment coefficient and weights.* Weights are simply shares of expenditure in different sectors and sub sectors by foreign and domestic tourists (Table 1).

Aggregate Employment Coefficient among Foreign Tourists

It shows a decline from 158 in 1999-2000 to 129 in 2004-2005 per crore of rupees, but tourist arrivals increased. It may be attributed to technological and structural changes (salary for services are increasing, purchasing cost is increasing due to inflation, etc.). The employment coefficient for 2008-2009 has been estimated thereafter. Since data on sector wise employment for the year is not available, an indirect method has been applied using the compound annual growth rate (CAGR) for the sector wise employment coefficient between 1999-2000 and 2004-2005, from which corresponding sector wise employment coefficient for 2005-2006 to 2008-2009 have been estimated (Table 4). Product of employment coefficient and weights gives aggregate

Table 2: Workers / Crore of Value Added in Tourism related Sectors in India

Broad Sectors	Employment (lac)		Value Added (Const. Rs. Cr)		No. of Workers / Cr of Value added	
	1999 - 00	2004 - 05	1999 - 00	2004 - 05	1999 - 00	2004 - 05
(A)	40.0	53.0	22265	32016	180	166
(B)	93.8	93.9	40865	51989	230	180
(C)	110.0	134.7	103498	156494	106	86
(D)	3.2	4.0	8039	10677	40	37
(E)	6.8	8.1	5703	6615	119	122
(F)	85.0	89.8	25270	35375	336	254
(G)	318.2	363.3	231878	342297	137	106
(G1)	70.8	85.7	28422	33653	249	255
(G2)	22.0	24.5	15326	21480	144	114
(G3)	10.7	12.2	9531	12178	112	100
(G4)	15.9	16.3	46367	67180	34	24
(G5)	198.8	224.6	132232	207806	150	108
Total	657.0	746.8	437518	635463	150	118

Source: Computed by the Author

Table 3: Aggregate Employment Coefficient for Foreign Tourism in India

Broad Sectors	Workers / Cr. of Value Added (Const. Rs)		Weights	Weighted Employment Coefficient	
	1999-00	2004-05		1999-00	2004-05
(A)	180	166	0.13	23.40	21.58
(B)	230	180	0.12	27.60	21.60
(C)	106	86	0.15	15.90	12.90
(D)	40	37	0.08	3.20	2.96
(E)	119	122	0.07	8.33	8.54
(F)	336	254	0.09	30.24	22.86
(G)	137	106	0.36	49.32	38.16
(G1)	249	255	0.09	22.41	22.95
(G2)	144	114	0.14	20.16	15.96
(G3)	112	100	0.01	1.12	1.00
(G4)	34	24	0.08	2.72	1.92
(G5)	150	108	0.04	6.00	4.32
Aggregate employment coefficient for the tourism sector as a whole (except sub sector of seven)				158	129

Source: Computed by the Author

employment coefficient for 2008-2009 (Table 5). It decreased from 129 in 2004-2005 to 110 in 2008-2009.

Aggregate Employment Coefficient among Domestic Tourists

Data on domestic tourism expenditure available only for 2002 and 2008, but sector wise data on employment is not available. So, first employment coefficient has been estimated for 2002 and 2008 (Table 4) by CAGR for sector wise between the period 1999-2000 and 2004-2005. After that, aggregate employment coefficient has been computed as products of employment coefficient and weights for these periods (Table 6). It decreased from 140 in 2002 to 113 in 2008.

Estimation of Employment Generated by Foreign and Domestic Tourism

The total estimated employment due to foreign and domestic tourist is the product of the aggregate employment coefficient for the tourism sector and the foreign exchange earnings and domestic earning from foreign and domestic tourists respectively. Estimates of total employment in tourism sector may vary depending on whether the components used in its estimation are in current prices or constant prices. The difference is mainly due to different rates of inflation. The available data of value added is from CSO at 1999-2000 prices, but earnings from tourists are available at the current prices. For normalizing the earnings, there has been calculated tourism GDP deflator at the constant prices (Base = 1999-2000, Table 7).

Results

The direct employments due to foreign tourists in India for 2002 and 2008 are 17.44 and 28.79 lacs. During the same period of times employments by domestic tourists are about double respectively 37.33 and 57.00 lacs.

Percentage of foreign tourism's share in employment of tourism related sector,

for 1999-2000 = 20.46 × 100/657 = 3.11   ... (a)
for 2004-2005 = 24.52 × 100/747 = 3.28   ... (b)

Percentage of foreign tourism's share in whole employment,

for 1999-2000 = 20.46 × 100/3653.73 = 0.56 ... (c)
for 2004-2005 = 24.52× 100/4082.46 = 0.60 ... (d)

Equation (a) and (b) show foreign tourism's share in employment of tourism related sectors is 3.11% and 3.28 %, but in whole employment 0.56% and 0.60% for 1999-2000 and 2004-2005 (Eq. c & d). Hence, there has been no significant improvement in direct employment by foreign tourism sector. Although, employment during 1999-2008 period increased by 8.33 lac, it has not been regular. But in case of domestic tourism, employment has increased significantly (about 20lac) during the period 2002-2008.

Conclusion

In this paper, the employment coefficient method has been used to estimate employment in the tourism sector. Employment coefficients for the tourism sector in India are estimated 158 & 110

Table 4: Estimation of Employment Coefficient for Foreign Tourism

Basic Sectors	Workers / Cr. Value Added		Comp. Ann. Growth Rate (%)	Estimated Workers / Cr. Value Added (Const. Rs)		Weights	Employment Coefficient	
	1999-00	2004-05		2002-03	2008-09		2002	2008
(A)	180	166	-1.8	170.50	154.30	0.13	22.17	20.05
(B)	230	180	-4.6	99.70	149.20	0.12	24.00	17.90
(C)	106	86	-4.6	92.06	72.91	0.15	13.80	10.94
(D)	40	37	-1.3	38.50	35.06	0.08	3.00	2.80
(E)	119	122	+0.5	21.00	124.40	0.07	8.47	8.70
(F)	336	254	-5.5	83.50	202.50	0.09	25.51	18.23
(G)	137	106	-5.0	17.00	86.35	0.36	42.12	31.10
(G1)	249	255	+0.5	252.80	260.20	0.09	22.75	23.42
(G2)	144	114	-4.5	125.42	94.85	0.14	17.56	13.28
(G3)	112	100	-2.3	104.44	91.10	0.01	1.04	0.91
(G4)	34	24	-6.5	27.79	18.35	0.08	2.22	1.47
(G5)	150	108	-6.5	122.60	82.56	0.04	4.90	3.30
Aggregate Employment Coefficient							139.07	109.72

Source: Computed by the Author

Table 5: Aggregate Employment Coefficient for Foreign Tourism, 2005 - 08

Basic Sectors	*Estimate Workers/ Cr. of Value Added (const. Rs)*				Weights	*Weighted Employment Coefficient*			
	2005	*2006*	*2007*	*2008*		*2005*	*2006*	*2007*	*2008*
(A)	163.00	160.0	157.1	154.3	0.13	21.19	20.80	20.42	20.05
(B)	171.70	163.8	156.3	149.2	0.12	20.60	19.66	18.76	17.90
(C)	82.00	78.23	76.43	72.91	0.15	12.30	11.74	11.46	10.94
(D)	36.52	36.00	35.53	35.06	0.08	2.92	2.88	2.84	2.80
(E)	122.60	123.2	123.8	124.4	0.07	8.58	8.63	8.67	8.70
(F)	240.00	226.8	214.3	202.5	0.09	21.60	20.42	19.29	18.23
(G)	100.70	95.67	90.89	86.35	0.36	36.25	34.44	32.72	31.10
(G1)	256.30	257.6	258.9	260.2	0.09	23.07	23.18	23.30	23.42
(G2)	108.90	104.0	99.32	94.85	0.14	15.25	14.56	13.90	13.28
(G3)	97.70	95.45	93.25	91.10	0.01	0.98	0.95	0.93	0.91
(G4)	22.44	20.98	19.62	18.35	0.08	1.80	1.68	1.57	1.47
(G5)	101.00	94.44	88.30	82.56	0.04	4.04	3.78	3.53	3.30
Aggregate Employment Coefficient						123.44	118.57	114.16	109.72

Source: Computed by the Author

Table 6: Aggregate Employment Coefficient for Domestic Tourism in India

Basic Sectors	Weights	Estimate Workers/ Cr. of Value Added (const. Rs)		Weighted Employment Ccoefficient	
		2002	2008	2002-2003	2008-2009
(A)	0.04	170.50	154.30	6.82	6.17
(B)	0.04	199.70	149.20	8.00	6.00
(C)	0.09	92.06	72.91	8.29	6.56
(D)	0.27	38.50	35.06	10.40	7.46
(E)	0.28	121.0	124.40	33.88	34.83
(F)	0.24	283.5	202.50	68.04	48.60
(G)	0.04	117.5	86.35	4.70	3.45
Aggregate Employment Coefficient				140.13	113.07

Source: Computed by the Author

Table 7: Tourism GDP deflator (Base year 1999-2000 =100)

Year	Deflator Index	Year	Deflator Index	Year	Deflator Index
1999-2000	100	2005-2006	159	2007-2008	192
2002-2003	120	2006-2007	175	2008-2009	192*
2004-2005	147	Note: Deflator index = present value/base year value × 100			

Source: Computed by the Author

Table 8: Estimated Employment for Tourism Sector

Year	Due to Foreign Tourists in India (lac)	Due to Domestic Tourists in India (lac)	
1999-2000	20.46	_	
2002-2003	17.44	37.33	Employment = EC × GDP_c × base year index / tourism deflator index.
2004-2005	24.52	_	
2005-2006	25.83	_	Where
2006-2007	26.54	_	EC = weighted employment coefficient GDP_c = earnings by tourism sector.
2007-2008	26.34	_	
2008-2009	28.79	57.00	

Source: Computed by the Author

(for foreign tourism) for 1999 & 2008 respectively and 140 & 113 (for domestic tourism) for 2002 & 2008 respectively. Employment coefficient is the number of jobs created for one crore rupees of expenditure at constant 1999-2000 prices. The employment coefficient has declined from 1999 to 2008 (for foreign tourism) and 2002 to 2008 (for domestic tourism), but tourists' arrivals and earnings by tourists have increased in total employment generation. Number of workers has declined probably as a result of improvement in technology and structural changes (salary for services are increasing, purchasing cost is increasing due to inflation, etc.).

The estimates show that direct employment in the Indian economy in 1999-2000 due to foreign tourists was at about 20.46 lacs and in 2002-2003 due to foreign and domestic tourists were 17.44 lacs and 37.33 lacs respectively, i.e. employment has doubled in the domestic sector compared to the foreign sector. Thereafter, employment increased and these are estimated at about 28.79 lacs and 57.00 lacs respectively in 2008-2009. Thus in 2002-2003 every foreign and seven domestic tourists generate about one job per year and in 2008-2009 it grew by two and ten respectively, i.e. two foreign tourists and ten domestic tourists generates one job per year. Investment in tourism sector has increased by domestic rather than foreign tourists.

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