Tourism Impact Analysis - An Inter-Sectoral Analysis Of The Malaysian Economy

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ABSTRACT

Using nation-wide data on tourist expenditures collected by questionnaire method in 1991, the private consumption expenditure and export columns of the 1983 input-output table were broken down into tourist and non-tourist components. The tourist expenditures (local and foreign) were then used to evaluate their impact on each of the sectoral output, employment, commodity taxes and non-competitive imports. The results highlighted a number of tourism strategic sectors and at the same time focus on other sectors which benefit from tourist expenditure through indirect and induced income and employment generations.

ABSTRAK

Dengan menggunakan data perbelanjaan pelancong seluruh negara yang dipungut dengan menggunakan kaedah soal-selidik dalam tahun 1991, lajur-lajur perbelanjaan penggunaan persendirian dan eksport dalam jadual input-output 1983 dibahagikan kepada bahagian untuk pelancong dan bahagian untuk bukan pelancong. Perbelanjaan pelancong (tempatan dan asing) kemudian digunakan untuk menilai kesan perbelanjaan ini kepada setiap daripada output, gunatenaga, cukai komoditi dan import tidak bersaing sektoral. Hasil kajian ini mengenengahkan sektor-sektor strategik pelancongan dan sektor-sektor lain yang mendapat manfaat daripada perbelanjaan pelancong melalui penciptaan pendapatan dan gunatenaga secara tidak langsung dan induce.

INTRODUCTION

Tourism has now become one of the few economic activities, receiving special attention in Malaysia. A study by Japan International Cooperation Agency (1989) has shown that this sector has great potential in generating

income, employment and foreign exchange earnings to the economy. Comparing the economy's tourism performance with that of other South East Asian Nations (ASEAN), the study suggests that the Malaysian tourism sector still lagged behind and needs more serious and concerted efforts in promoting the development of the sector if its maximum potential gains are to be realised.

Within ASEAN, the rate of growth of the country's tourism sector is the second lowest after Indonesia. And despite an almost identical rate of increase in visitors coming into the country compared to those of neighbouring Singapore and Thailand over the past decade, Malaysia received the least in terms of foreign exchange earnings. The country experiences a high concentration of visitors from ASEAN, particularly from Singapore. Almost three quarters of its foreign visitors are ASEAN nationals and nearly nine-tenths of its ASEAN visitors are Singaporean.

The above problems reflect, in the past, a tremendous lack of understanding of the tourism sector particularly in terms of its potential impact to the whole economy. Past studies on the country's tourism sector focussed more on the demand side. Ahmad and Noor Aziz (1989) found that foreign tourist arrivals are significantly determined by tourists' income, price and exchange rates. Moving to the supply side, based on a sample survey, the present study, therefore, tries to measure empirically the economic impact of tourism by using an inter-industrial analysis and formulate certain general policy guidelines for the development of the sector.

A MODEL OF TOURISTS IMPACT ANALYSIS

Final demand for output of any sector comprises of private consumption and exports. For sector j, distinguishing it into tourist and non-tourist components, the private consumption expenditure, C_j and exports, E_j can be represented, respectively as:

$$(1) \quad C_j = C_j^T + C_j^{NT}$$

$$(2) \quad E_j = E_j^T + E_j^{NT}$$

where superscripts T and NT, respectively, represent tourist and non-tourist components. Total tourist expenditure of sector j, R_j, therefore, is defined as:

$$(3) \quad R_j = C_j^T + E_j^T$$

By using the standard open input-output analysis, the impact of any tourist expenditure on sectoral output can now be examined by the following expression:

$$(4) \quad X = (I - A)^{-1} R$$

Where X is the vector of sectoral output due to tourist expenditure, $(I - A)^{-1}$ is the Leontief inverse matrix of 1983 Malaysian input-output table, and R is the vector of sectoral tourist expenditure which is made-up of expenditure by domestic, Singaporean and other foreign tourists. It can easily be derived from equation (4), the impact of such expenditure on the value of primary inputs, p, of employment, of commodity taxes, of non-competing imports and of other value added; and can be obtained by the following expression:

$$(5) \quad P = p(I - A)^{-1} R$$

where p is the primary input coefficient.

Lastly, to examine the imapct of tourist expenditure on the country's foreign exchange earnings, the value of imports due to tourist expenditure are subtracted from the value of tourist expenditue on local items. The former is made-up of expenditure on final goods plus expenditure on non-competitive imports (NCM) which can be obtained from the following expression

$$NCM = pm \, (I - A)^{-1} R$$

where pm is the non-competitive imports coefficient.

DATA AND SAMPLING PRODUCEDURE

The study requires collection of statistical data nationwide on level of tourist expenditure. Information provided by existing enterprises that cater for tourist demand is less relevent because these enterprises do not separate domestic from international receipts. In order to capture the tourist expenditure patterns and distribution, mail survey and direct interview of a sample of domestic and foreign tourists in selected hotels (including chalets, rest-house and private boards) are employed.

For the purpose of comparative analysis the foreign tourists are further distinguished into two categories - Singaporeans and other foreign tourists - and the country is differentiated into five geographical regions. The Northern Region covers the states of Perlis, Kedah, Penang and Perak. The Central Region comprises Selangor and the Federal Territory of Kuala Lumpur. The Southern Region is made up of Negeri Sembilan, Melaka and Johor. The East Coast Region consists of Kelantan, Terengganu and Pahang. Finally, East Malaysia covers Sabah and Sarawak.

It may be noted that tourists are temporary visitors staying at least twenty-four hours in a country (or location) visited and whose purpose of journey can be classified under the following: (1) leisure and (2) business, family, mission or meeting. Accordingly, our sampling procedure focusses on visitors who are also hotel guests so that the probability of capturing *bona fide* domestic as well as foreign tourists is great.

The selection of hotels is based on the class of hotels and number of rooms in all of the geographical regions. The above sampling procedure is to account for any differences in the expenditure pattern of tourists that may exist in the various hotel grades. The sample size of tourists for various regions in the country is determined by using the statistical information provided by the Tourist Development Corporation[1]

TOURIST EXPENDITURE

Before the estimation of the impact of tourist expenditure on each of the value-added, employment, non-competitive imports and commodity taxes can be carried out; the expenditure data collected from the survey has to be adjusted so that they become compatible to those of the 1983 input-output table that is being used in this analysis. Since the structural matrix derived from the published input-output table is normarlly expressed in its basic value and the expenditure data collected is in its purchasers'

value, the latter has to be reduced to the basic value by subtracting the trade and transport margins and commodity taxes [2]. Furthermore, some of the respondents who are in group and packaged tours usually indicate their expenditure as the price paid for the tours. This information also has to be adjusted to account for their local components which include expenditure on hotel, local transportation, excursions and others. Similarly, for international tourists arriving by inbound Malaysian Airline (MAS) flights, their expenditure on domestic air transportation has to be estimated[3].

With additional information available on the number of tourists in 1983 (provided by theTourist Development Corporation) and their average length of stay (from our survey), the estimation of average tourist expenditure on individual goods and services can now be calculated. The expenditure is itemised according to the industries classified by the input-output table and then deflated to the 1983 base by using the sectoral Producer Price Indices[4]. Essentially, the estimates of the expenditure vector for the domestic tourists and for the international tourists are respectively part of the Private Consumption and Exports categories of the final demand of the 1983 input-output table. The above survey essentially breaks down the respective final demand categories into their tourist and non-tourist components of private consumption and exports.

RESULTS AND DISCUSSION

Based on the model that has been described in the previous section, this section elucidates the contribution of tourism to the Malaysian economy's output, employment, commodity taxes and non-competitive imports. The economic implication of tourism on foreign exchange earnings discounted for import leakage will also be discussed.

OUTPUT

Tourism generates widespread economic activity directly and indirectly in almost all sectors of the economy. Directly, tourism has no implication either on Plantation crops, Forestry and logging, Mining, Meat and dairy products as well as on several other sectors as shown in Table 1; but when full remifications of the tourism activity are realised these sectors will be seen to derive some benefits. Accordingly, each individual sector has a part from its production devoted to tourist expenditure. This production is generated directly as well as indirectly.

In terms of value, Table 2 which shows the direct and indirect contributions of tourist expenditure to sectoral output, sets out that the service sectors derive the largest benefit from tourism. Of the top six sectors, five, namely Hotels and restaurants, Air transportation, Business services, Wholesale and retail trades and Land transportation comprised the service sectors. This is followed by the manufcturing which has five sectors whose tourism-related output are more than $100 million. These sectors consist of Other food products, Products of petroleum and coal, Textile, Meat and dairy products and Other manufactured products. Within the primary sector, on the other hand, Agriculture and livestock and Fishing gain proportionately more from tourism in terms of sectoral output compared to Plantation crops and Forestry and logging.

Three sectors - Leather products, Hotels and resturants and Air transportation - have more than 50 percent of their output catered for tourism. Particularly, in the case of Leather products sector, approximately 70 percent of its output is directed to tourism. There are three other sectors whose output of about 10-25 percent are related to tourism activity; these sectors comparise Beverages, Other manufactured products and Personal services. Looking at the overall production structure, therefore, it may be inferred that activities of these sectors are predominantly oriented towards the tourist industry.

It is also apparent that there is still a large number of sectors whose production is not significantly geared towards tourism. Most of these comprise the manufacturing sectors. There are twenty-seven sectors with less than 5 percent of their output catered for the tourist industry. Further, there are ten sectors which have less than 1 percent of their output destined for tourism.

Comparatively, other foreign tourists play the greatest role in influencing the production activity of many sectors in the economy. In almost all sectors, the proportionate share of tourism-related output generated via the expenditure by other foreign tourists tend to be the largest. This is most glaring in the case of Agriculture and livestock, Fishing, Other food products, Products of petroleum and coal, Water, gas and electricity, Hotels and restaurants, Land transportation, Air transportation and Business services. The influence of Singaporean tourists on sectoral output is generally very much less when compared with that of other foreign tourists except in the case of Other manufactured products and Cultural services.

It is evident, therefore, that from the viewpoint of production, only a limited number of manufacturing and service sectors devote substantial

TABLE 1. Tourist Expenditure by Sector 1983

No Sector	Domestic		Singaporean		Other Foreign		Total Local	Total Imported	Total
	Local	Import	Local	Imported	Local	Imported			
1 Agriculture & Livestock	1.90	0.44	8.22	0.86	11.45	1.04	21.57	2.34	23.91
2 Plantation Crops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Forestry & Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 Fishing	0.40	0.00	2.44	0.03	0.79	0.00	3.63	0.03	3.66
5 Mining	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Meat & Dairy Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Food Canning	0.33	0.08	0.36	0.00	2.84	0.46	3.53	0.54	4.07
8 Bakeries & Confectionaries	0.96	0.16	2.27	0.13	5.91	1.43	9.14	1.72	10.86
9 Other Food Products	0.24	0.01	1.46	0.00	2.14	0.05	3.84	0.06	3.90
10 Baverages	1.33	0.18	6.14	3.04	12.28	9.49	19.75	12.71	32.46
11 Tobacco Products	0.72	0.38	1.42	0.27	2.82	1.59	4.96	2.24	7.20
12 Textiles	10.56	1.97	26.57	1.59	59.83	16.10	96.96	19.66	116.62
13 Wearing Apparel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 Leather products	1.77	1.12	7.14	0.30	13.37	6.47	22.28	7.89	30.17
15 Wood Products	0.76	0.04	2.57	0.00	2.47	0.00	5.80	0.04	5.84
16 Paper & Publishing	0.46	0.04	0.86	0.19	4.45	0.88	5.77	1.11	6.88

Table 1 (*Continued*)

17 Chemicals	1.02	1.10	5.09	1.51	8.17	5.34	14.28	7.95	22.23
18 Products of petroleum & coal	9.70	0.00	16.10	0.00	8.56	0.00	34.36	0.00	34.36
19 Rubber Products	0.86	0.21	1.06	0.06	3.59	2.10	5.51	2.37	7.88
20 Glass & Clay products	0.79	0.08	0.80	0.00	3.13	0.44	4.72	0.52	5.24
21 Other Non Metals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 Metal Products	1.01	0.00	8.66	0.00	32.66	1.19	42.33	1.19	43.52
23 Non Electric Machinery	0.31	0.28	0.78	0.00	2.39	1.26	3.48	1.54	5.02
24 Electric Machinery	1.14	0.79	12.10	1.84	14.65	7.37	27.89	10.00	37.89
25 Transport Equipments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26 Other Manufactured Products	4.40	2.88	48.28	0.03	55.90	18.06	108.58	20.97	129.55
27 Water, Gas & Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28 Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29 Wholesale and retail trade	8.20	0.00	26.66	0.00	51.64	0.00	86.50	0.00	86.50
30 Hotels and restaurant	109.14	0.00	453.62	0.00	1140.07	0.00	1702.83	0.00	1702.83
31 Land Transportations	15.24	0.00	53.88	0.00	139.65	0.00	208.77	0.00	208.77
32 Water Transportations	0.66	0.00	1.23	0.00	7.53	0.00	9.42	0.00	9.42
33 Air Transportations	16.69	0.00	76.94	0.00	860.50	0.00	954.13	0.00	954.13

Table 1 (*Continued*)

34 Communications	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Business Services	7.47	0.00	40.99	0.00	31.06	0.00	79.52	0.00	79.52
36 Private Services	2.30	0.00	1.75	0.00	8.55	0.00	12.60	0.00	12.60
37 Cultural Services	11.10	0.00	32.78	0.00	39.77	0.00	83.65	0.00	83.65
38 Motor Repair Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Personal Services	2.98	0.00	9.24	0.00	18.70	0.00	30.92	0.00	30.92
40 Government Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	212.44	9.76	849.41	9.85	2544.87	73.27	3606.72	92.88	3699.60

Source : own survey

TABLE 2. Contribution of Tourist Expenditure to Output

| No. | Sector | Gross Output ($ mn) | Output Due To Tourist Expenditure ($ mn) | Ratio (%) | Output By Tourist Category | | |
					Domestic	Singa-porean	Other Foreign
1	Agriculture & Livestock	4673.50	254.49	5.45	17.03	69.63	167.83
2	Plantations Crops	3434.50	35.54	1.03	2.51	9.38	23.65
3	Forestry & logging	3056.70	7.65	0.25	0.62	2.38	4.65
4	Fishing	1951.80	161.23	8.26	10.53	43.66	107.04
5	Mining	9058.00	102.69	1.13	8.68	25.79	63.23
6	Meat & Dairy Products	1538.10	129.83	8.44	8.31	34.10	87.42
7	Food Canning	427.50	10.91	2.55	0.79	2.26	7.85
8	Bakeries & Confectionaries	663.50	21.12	3.18	1.71	5.34	14.07
9	Other Food Products	11026.00	223.40	2.03	14.60	60.07	148.73
10	Baverages	571.60	59.68	10.44	3.88	16.57	39.24
11	Tobacco Products	878.10	5.59	0.64	0.75	1.50	3.35
12	Textiles	1314.30	134.90	10.26	14.29	37.05	83.56
13	Wearing Apparel	746.50	4.13	0.55	0.22	1.00	2.90
14	Leather products	32.20	22.69	70.48	1.80	7.27	13.62
15	Wood Products	2971.00	16.51	0.56	1.48	5.69	9.34
16	Paper & Publishing	1128.40	40.52	3.59	2.72	10.12	27.67
17	Chemicals	2656.90	64.60	2.43	4.30	17.97	42.34
18	Products of petroleum & coal	4254.30	186.01	4.37	17.82	47.41	120.77

Table 2 (*Continued*)

19	Rubber Products	3970.90	12.48	0.31	1.35	2.83	8.30
20	Glass & Clay products	· 497.00	10.54	2.12	1.16	2.32	7.05
21	Other Non Metals	1715.40	13.96	0.81	0.87	3.85	9.24
22	Metal Products	4013.90	74.15	1.85	2.78	17.25	54.12
23	Non Electric Machinery	1125.80	24.67	2.19	1.72	6.58	16.37
24	Electric Machinery	5779.60	37.50	0.65	2.10	5.54	19.86
25	Transport Equipments	3475.40	19.10	0.55	0.77	3.14	15.19
26	Other Manufactured Product	449.70	113.47	25.23	4.68	50.03	58.76
27	Water, Gas & Electricity	2611.90	198.49	7.60	12.89	51.55	134.05
28	Construction	· 13209.60	37.26	0.28	2.45	10.02	24.79
29	Wholesale and retail trade	11015.20	321.75	2.92	22.17	84.33	215.26
30	Hotels and restaurant	2852.30	1768.91	62.02	112.30	466.46	1190.16
31	Land Transportations	4969.30	267.94	5.39	19.09	69.30	179.55
32	Water Transportations	2102.50	25.84	1.23	1.84	5.39	18.61
33	Air Transportations	1935.90	1047.51	54.11	19.00	86.85	941.66
34	Communication	1132.00	54.23	4.79	3.32	13.54	37.37
35	Business Services	8828.90	343.25	3.89	23.23	104.07	215.95
36	Private Services	567.20	12.60	2.22	2.30	1.75	8.55
37	Cultural Services	1225.20	93.44	7.63	12.29	36.40	44.75
38	Motor Repair Services	406.20	16.88	4.16	1.05	4.20	11.63
39	Personal Services	308.20	45.40	14.73	3.84	12.79	28.77
40	Government Services	11295.60	10.86	0.10	0.70	2.79	7.37

Source: Malaysian Input-output Table, 1983 and variations of Equation (4)

portion of their activities to cater for tourist demand. In terms of value, the Hotels and restaurants and Air transportation sectors have more than $1 billion worth of output associated with tourism. Lastly, much of the tourist-related output in each of the productive sectors are generated by other foreign tourists.

VALUE-ADDED

In terms of value, Table 3 which shows the direct and indirect contributions of tourist expenditure to sectoral value-added, sets out that significantly large amount of value-added is generated in the four service sectors of Wholesale and retail trade, Hotels and restaurants, Air transportation and Business services. In each of these sectors, the value-added exceeds $200 million. This trend follows closely with that observed in the tourist expenditure impact in sectoral output as discussed earlier. Two other sectors, namely, the Agriculture and livestock, and Fishing have their amount of value-added exceeding $100 million. *Inter alia*, this implies that a relatively significant level of agricultural income has been generated indirectly via tourism, largely by way of food purchases in hotels or in restaurants and eateries outside   hotels.

Other sectors that show moderate levels of income generated by the tourist industry include the Mining, Water, gas and electricity as well as the Cultural services. In each of these sectors tourism-related value-added is more than $50 million. Looking at the sectoral share of the total value-added, it is apparent that only three sectors benefit the most. These are the Hotels and restaurants, the Air transportation and the Business services. Collectively, they account for one-half of the value-added generated in the economy through tourism. Almost invariably the proportionate share of the total income received by the manufacturing sector is small, being less than 2 percent. Thus, the capacity of tourism in generating income in the manufacturing activities is still too small compared to either the services or the agriculture sectors.

EMPLOYMENT

Table 3 also shows five sectors that stand out when viewed in terms of tourism-related employment generation. These sectors are Hotels and restaurants (66,690 workers), Agriculture and livestock (40,540 workers), Wholesale and retail trade (933,460 workers), Land transportation

TABLE 3. Contribution of Tourist Expenditure to Value-added, Employment,
Comodity Taxes and Non-Competitive Imports

| | | Expenditure Contributes to | | | | | | | |
| | | Value-added | | Employment | | Commodity-taxes | | Non-competitive Imports | |
No.	Sector	$ mn	%	'000	%	$ mn	%	$ mn	%
1	Agriculture & Livestock	52.13	5.97	40.54	20.28	1.15	1.04	15.96	1.68
2	Plantation Crops	29.24	1.15	11.12	5.56	0.17	0.15	2.00	0.21
3	Forestry & logging	5.52	0.22	0.08	0.04	0.12	0.11	0.58	0.06
4	Fishing	138.31	5.43	7.47	3.73	0.55	0.50	8.42	0.89
5	Mining	82.34	3.23	0.74	0.37	0.29	0.26	6.36	0.67
6	Meat & Dairy Products	13.20	0.52	0.92	0.46	0.60	0.54	14.32	1.51
7	Food Canning	2.18	0.09	0.38	0.19	0.09	0.09	0.78	0.08
8	Bakeries & Confectionaries	5.12	0.20	1.04	0.52	0.21	0.19	4.07	0.43
9	Other Food Products	46.31	1.82	6.88	3.44	0.92	0.83	26.87	2.84
10	Baverages	27.23	1.07	0.10	0.05	0.60	0.54	8.01	0.85
11	Tobacco Products	2.05	0.08	0.02	0.01	1.34	1.22	0.70	0.07
12	Textiles	32.13	1.26	1.86	0.93	2.39	2.17	35.10	3.71
13	Wearing Apparel	1.23	0.05	0.06	0.03	0.31	0.28	1.36	0.14
14	Leather products	6.20	0.24	0.76	0.38	0.14	0.13	3.24	0.34
15	Wood Products	4.62	0.18	0.48	0.24	2.00	1.82	0.86	0.09
16	Paper & Publishing	16.34	0.64	0.09	0.04	0.91	0.83	11.09	1.17
17	Chemicals	23.19	0.91	0.12	0.06	0.88	0.80	17.51	1.85

Table 3 (*Continued*)

18 Products of petroleum & coal	11.07	0.43	0.11	0.06	5.23	4.75	76.10	8.03
19 Rubber Products	5.26	0.21	0.19	0.09	0.07	0.06	0.74	0.08
20 Glass & Clay products	4.32	0.17	0.01	0.01	0.13	0.12	1.88	0.20
21 Other Non Metals	5.03	0.20	0.14	0.07	0.21	0.20	3.35	0.35
22 Metal Products	14.27	0.56	0.82	0.41	1.10	1.00	21.75	2.30
23 Non Electric Machinery	8.24	0.32	0.05	0.03	0.69	0.62	7.80	0.82
24 Electric Machinery	9.48	0.37	0.96	0.48	1.34	1.22	17.86	1.89
25 Transport Equipments	4.70	0.18	0.08	0.04	1.26	1.14	9.16	0.97
26 Other Manufactured Product	42.44	1.66	1.92	0.96	2.52	2.29	33.88	3.58
27 Water, Gas & Electricity	76.46	3.00	2.42	1.21	1.39	1.26	37.73	3.98
28 Construction	11.28	0.44	2.75	1.38	0.84	0.76	7.50	0.79
29 Wholesale and retail trade	205.86	8.08	33.46	16.74	1.99	1.81	29.31	3.09
30 Hotels and restaurant	632.39	24.81	66.69	33.36	60.85	55.24	110.91	11.71
31 Land Transportations	116.42	4.57	12.49	6.25	8.17	7.42	32.13	3.39
32 Water Transportations	12.42	0.49	0.03	0.02	0.04	0.03	6.07	0.64
33 Air Transportations	387.05	15.18	1.15	0.58	6.60	5.99	356.89	37.67
34 Communication	42.30	1.66	0.16	0.08	0.11	0.10	5.63	0.59
35 Business Services	266.39	10.45	0.07	0.03	0.96	0.87	17.81	1.88
36 Private Services	7.83	0.31	0.13	0.07	0.11	0.10	1.10	0.12
37 Cultural Services	57.86	2.27	0.07	0.03	1.95	1.77	0.89	0.09
38 Motor Repair Services	6.02	0.24	0.44	0.22	0.89	0.81	3.58	0.38
39 Personal Services	28.02	1.10	1.15	0.57	0.99	0.89	6.33	0.67
40 Government Services	6.84	0.27	1.95	0.97	0.06	0.05	1.72	0.18
Total	2549.28	100.00	199.90	100.00	110.15	100.00	947.36	100.00

Source: Malaysian Input-output Table, 1983 and variations of Equation (5)

(12,490 workers) and Plantation crops (11,120 workers). Almost invariably these sectors are fairly labour-intensive. Concomitantly, they have pervasive technological linkages with the other sectors so that any general expansion in the latter will induce a relatively high level of production activity and employment.

It is fairly clear that the impact on employment in the manufacturing sectors is less dependent on the tourist industry. In other words, employment in these sectors is much more dependent on other final expenditure categories like export and non-tourist domestic private consumption demand.

The comparatively high capacity of tourism to create agricultural employment is encouraging. This is in line with the moderate income share generated directly and indirectly in agriculture by the tourist industry. The same may be said with respect to the Fishing industry where its proportionate share to the total tourism-related Gross Domestic Product is about 5.43 percent and its capacity to generate employment directly and indirectly is about 7470 workers.

The table also shows that the sectors that generate largest amount of employment are also the ones that generate the most income. The top five sectors that generate the largest amount of employment - the Hotels and restaurants, Agriculture and livestock, Wholesale and retail trades, Land transportation and Plantation crops sectors - are also amongst those that generate the most income as shown by their relatively large proportion of value added created. The share of employment of other remaining industries to the total employment is extremely small, being in the order of less than 1 percent except for Fishing (with 3.7 percent), Other food products (3.4 percent), Water, gas and electricity (1.2 percent) and Construction (1.4 percent).

COMMODITY TAXES

Commodity taxes refer to sales and excise taxes, surtaxes, import duties and other indirect taxes. The table presents the amount of indirect taxes generated directly and indirectly in each of the sectors by tourism expenditure. Of the total $2,402 million of commodity taxes collected in the economy, $110 million, or 4.2 percent, consist of taxes stemming from tourism.

Treating the commodity taxes as government revenue, it may be observed from the table that around one-half of the taxes collected

($61 million) from the tourist industry, can be associated with one single sector, that is, the Hotels and restaurant sector. Evidently, the service and other indirect taxes imposed on hotels and restaurants contribute substantially to the government revenue. Other important sectors that generate government revenue in the range of $2 million to $8 million are Land transportation, Textiles, Wood products, Products of petroleum and coal, Other manufactured products and Air transportation.

Slightly more than two-thirds of the government revenue collected from the commodity taxes are derived from three service sectors of Hotels and restaurants, Land transportation and Air transportation. However, in terms of dispersion of taxes collected , commodity taxes tend to be slightly more pervasive in manufacturing compared to either agriculture or service sector.

NON COMPETITIVE IMPORTS

As shown in Table 3, the amount of non-competitive intermediate imports as a proportion to total imports is very small, being about 4 percent only. Accordingly, the tourist industry in general is not import intensive.

Of the total $947 million of non-competing imports generated by tourism, about $468 million, or 49 percent, is attributable to the Hotels and restaurants and Air transportation. Five sectors that have more than $30 million worth of non-competing intermediate imports each are the Textile, Products of petroleum and coal, Other manufactured products, Water, gas and electricity and Land transportation. The Agriculture and livestock sector imports about $16 million of non-competing intermediate products due to tourism.

FOREIGN EXCHANGE DISCOUNTED FOR IMPORT LEAKAGES

One pertinent aspect of tourism development concerns with the net benefits of tourist expenditure in terms of foreign exchange earnings. Table 4 sets out the inflow and outflow of foreign exchange associated with international tourism in Malaysia. The net benefits accruing to the economy from such expenditure is calculatted by estimating the foreign exchange earnings due to each individual sector net of import leakages. The first column of the table indicates the sectoral expenditure on locally produced goods and services by Singaporean and other foreign tourists as derived from Table 1 above; with its aggregate value of $3,394 million.

TABLE 4.   Contribution of Tourist Expenditure to Foreign
Exchange Discounted for Import Leakages

No. Sector		Tourist Expen- diture ($ Mn)	Sectoral Non-Com- petitive Imports ($ mn)	Expenditure on Im- ported Final Goods ($ mn)	Surplus (+) or Deficit (-) ($ mn)	
1	Agriculture & Livestock	19.67	15.96	2.34	+	1.37
2	Plantation Crops	0.00	2.00	0.00	-	2.00
3	Forestry & logging	0.00	0.58	0.00	-	0.58
4	Fishing	3.23	8.42	0.03	-	5.22
5	Mining	0.00	6.36	0.00	-	6.36
6	Meat & Dairy Products	0.00	14.32	0.00	-	14.32
7	Food Canning	3.20	0.78	0.54	+	1.88
8	Bakeries & Confectionaries	8.18	4.07	1.72	+	2.39
9	Other Food Products	3.60	26.87	0.06	-	23.33
10	Beverages	18.42	8.01	12.71	-	2.30
11	Tobacco Products	4.24	0.70	2.24	+	1.30
12	Textiles	86.40	35.10	19.66	+	31.64
13	Wearing Apparel	0.00	1.36	0.00	-	1.36
14	Leather products	20.51	3.24	7.89	+	9.38
15	Wood Products	5.04	0.86	0.04	+	4.14
16	Paper & Publishing	5.31	11.09	1.11	-	6.89
17	Chemicals	13.26	17.51	7.95	-	12.20
18	Products of petroleum & coal	24.66	76.10	0.00	-	51.44
19	Rubber Products	4.65	0.74	2.37	+	1.54
20	Glass & Clay products	3.93	1.88	0.52	+	1.53
21	Other Non Metals	0.00	3.35	0.00	-	3.35
22	Metal Products	41.32	21.75	1.19	+	18.38
23	Non Electric Machinery	3.17	7.80	1.54	-	6.17
24	Electric Machinery	26.75	17.86	10.00	-	1.11
25	Transport Equipments	0.00	9.16	0.00	-	9.16
26	Other Manufactured Products	104.18	33.88	20.97	+	49.33
27	Water, Gas & Electricity	0.00	37.73	0.00	-	37.73
28	Construction	0.00	7.50	0.00	-	7.50
29	Wholesale and retail trade	78.30	29.31	0.00	+	48.99

Table 4 (Continued)

30 Hotels and restaurant	1593.69	110.91	0.00	+1482.78
31 Land Transportations	193.53	32.13	0.00	+ 161.40
32 Water Transportations	8.76	6.07	0.00	+ 2.69
33 Air Transportations	937.44	356.89	0.00	+ 580.55
34 Communication	0.00	5.63	0.00	- 5.63
35 Business Services	72.05	17.81	0.00	+ 54.24
36 Private Services	10.30	1.10	0.00	+ 9.20
37 Cultural Services	72.55	0.89	0.00	+ 71.66
38 Motor Repair Services	0.00	3.58	0.00	- 3.58
39 Personal Services	27.94	6.33	0.00	+ 21.61
40 Government Services	0.00	1.72	0.00	- 1.72
Total	3394.28	947.36	92.88	+2354.04

Notes: 1. The sectoral tourist expenditure comprises spending by Singaporean and Other foreign tourist.

2. Expenditure on imported final goods comprise spending by Domestic, Singaporean and Other foreign tourists.

The sectoral expenditure on non-competing imports, shown in the second column, are derived from Table 3; with a total of $947 million. The total amount of non-competing imports comprise of raw materials and other intermediate inputs required by the individual sector in order to produce output required by the tourists. The third column of Table 4 shows the sectoral expenditure on imported final goods by the domestic, Singaporean and other foreign tourists which totals about $93 million. Together, both of these imports become a leakage in the foreign exchange earnings of the economy.

The fourth column of the table presents the net balance (surplus or deficit) of foreign exchange in each of the productive sectors. Overall, it seems that the tourism activity has resulted in expenditures on the locally produced goods and services are greater than the expenditures on imported goods and services (both as intermediate products and as imported final goods), consequently contributing to a surplus of $2,354 million. The sectors which show significant amount of surpluses are the Hotels and restaurants, ($1,483 million), Air transportation ($581 million), Land transportation ($161 million) and Cultural services ($72 million). The foreign exchange surpluses generated as a result of the tourist expenditures in the other agricultural, manufacturing and service sectors are quite modest.

Except in the Agriculture and livestock sector, the primary sector in general has recorded a deficit in its net foreign exchange position. Such a deficit in foreign exchange is also observed in other eleven manufacturing sectors and three service sectors. Evidently, the service sectors are the important sector as far as the tourism-related foreign exchange contribution to the economy is concerned.

CONCLUDING REMARKS

The contribution of tourism to the economy is still small. It contributes less than five percent to each of the total value-added, employment and commodity taxes, reflecting the state of the industry which is still in the take-off stage of the development. However, the industry is steadily gaining prominence. Industries or sectors that enjoy greater economic benefits from tourism (tourism strategic sectors) are the Wholesale and retail trade, Hotels and restaurants, Land transportation, Air transportation, and Business and personal services; reflected by a high concentration of tourism expenditures and a large proportionate share in each of the total value-added, employment, commodity taxes and net foreign exchange earnings.

While recognising the prominenance of these sectors, the development of other sectors (the non-strategic tourism sectors) such as Agriculture and livestock, Fishing, Other food products, Beverages, Textiles, Other manufactured products, Products of petroleum and coal and Cultural and personal services should not be ignored. These sectors appear to have strong capacity to generate indirect and induced income and employment and indeed provide extensive technological linkages with other domestic supply sectors which are generally labour intensive. The economy's tourism policy, therefore, should provide equal emphasis on the development of these strategic as well as the non-strategic tourism sectors.

NOTES

1   For this purpose the information given by Tourist Development
     Corporation, "Supply of Hotel Room in Malaysia" is used. Table below
     summarises our sampling frame:

Region	Class I	Class II	Class III	Total
Northen	7	8	17	32
Central	12	4	15	31
Southern	2	2	11	15
East Coast	1	2	10	13
East Malaysia	2	1	8	11
Total	24	17	61	102

     Class I: more than 100 rooms
     Class II: 50 - 99 roms
     Class III: less than 50 rooms

2   Sectoral trade margins, transport margin and commodity taxes are
     respectively derived from table 4.2, table 4.3 and table 4.1 of 1983 input-
     output tables, Department of Statistics.
3   Air fair schedule by point of embarkation provided by Malaysian Airline
     (MAS).
4   Extracted from Table 3.1, p.30 Zakariah (1990). The indices are compiled
     from the Producers Price Index for Peninsular Malaysia, 1983; Rubber
     Statistics Handbook 1983; and Oil Palm, Cocoa, Coconut and Tea Statistics
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