

The Impact of International Tourism on the Economy of Bermuda, 1994

BRIAN ARCHER

This article is concerned with the impact made by international tourism on the economy of Bermuda during 1994, as measured by an input-output model. It is one of a series of similar studies undertaken on behalf of the government of Bermuda to monitor the impact of tourism on incomes, employment, government revenue, and the balance of payments.

THE GROWTH AND DEVELOPMENT OF TOURISM IN BERMUDA

Bermuda, a British colony, is a cluster of approximately 100 small islands (of which only 20 are inhabited) situated in the Atlantic Ocean about 570 miles east of Cape Hatteras, North Carolina, and about 6½ hours' flying time from London. The six principal islands are joined by bridges and a causeway to make up a total land area of less than 21 square miles. The population in 1994 exceeded 60,000.

The growth of the mass tourism market in the postwar era saw Bermuda shift from a winter resort to a summer resort in accordance with the holiday habits of the North American and European markets. In the prewar years, Bermuda was a somewhat isolated destination reached by ocean liner or private yacht. The advent of air transport to Bermuda, initially by flying boat and later, with the opening of the airport, by regularly scheduled air flights from North America and Europe, opened up the country to a much wider market. The early hotels were constructed principally by shipping companies, with some smaller properties opened by local Bermudian entrepreneurs. The coming of the jet plane and the consequent larger aircraft led to a reduction in the costs of travel per seat. Starting in the 1960s, Bermuda began to cater to the mass tourism market, and by careful planning, marketing, and promotion Bermuda was able to position itself at the top end of the market.

Since the 1960s, the United States has been Bermuda's principal market, traditionally accounting for well over 80% of Bermuda's regular air visitors. Within the United States, the majority of these visitors come from the Middle Atlantic states and New England — 72% in 1992. This heavy reliance upon a single major market has two consequences for Bermuda. First, particularly throughout the 1980s, the performance of Bermuda's tourist industry was strongly related to changes in the effective exchange rate of the U.S. dollar against other currencies. Second, Bermuda's tourism industry is considerably affected by domestic economic conditions in the United States, particularly in the northeast region of the country (since the majority of visitors come from this area).

Brian Archer is in the Department of Management Studies at the University of Surrey, Guildford, England.

TOURIST NUMBERS AND EXPENDITURES

A breakdown of visitor arrivals and their expenditures from 1980 is shown in Table 1. Like many other destinations, Bermuda suffered from the effects of the worldwide recession in the early 1980s. Additionally, throughout the early 1980s the effective exchange rate of the U.S. dollar (which, in Bermuda, exchanges virtually at par with the Bermudian dollar) was high in relation to other international currencies, and many U.S. residents took the opportunity to visit some of the less expensive nondollar-denominated destinations. From a peak of 491,640 air visitors in 1980, the number of air visitors declined to only 406,687 in 1985. As the world recession began to ease in 1985 and 1986, the U.S. dollar's effective exchange rate weakened and nondollar-denominated destinations became relatively less attractive to U.S. residents.

TABLE 1
VISITOR ARRIVALS AND EXPENDITURE,
BERMUDA 1980-1993

	Visitor Arrivals (000s)			Visitor Expenditure (\$ million)		
	Air	Cruise	Total ^a	Air	Cruise	Total ^a
1980	491.6	117.9	609.6	\$277.6	\$12.4	\$290.0
1981	429.8	104.7	534.5	275.0	13.3	288.3
1982	420.3	124.2	544.5	286.2	15.4	301.6
1983	446.9	120.8	567.7	319.3	16.2	335.5
1984	417.5	111.4	528.9	324.1	14.9	339.0
1985	406.7	142.9	549.6	335.6	21.9	357.5
1986	459.7	132.2	591.9	402.2	20.1	422.3
1987	477.9	153.4	631.3	439.6	25.0	464.6
1988	426.9	158.4	585.2	414.1	26.4	440.5
1989	418.3	131.3	549.7	426.5	24.3	450.8
1990	434.9	112.6	547.5	467.9	22.2	490.1
1991	386.2	128.2	514.3	423.9	31.7	455.6
1992	375.2	131.0	506.2	410.7	30.8	441.5
1993	413.1	153.9	567.1	465.2	39.3	504.5
1994	417.0	172.9	589.9	483.3	41.9	525.3

Source: Processed from (1) Bermuda Government E/D cards and (2) Department of Tourism/Statistics Office Exit Survey data.

^a Not all of the row totals equal the sum of the figures included in the row because of rounding.

Note: Within Bermuda, the Bermudian dollar exchanges almost at par with the U.S. dollar.

Consequently, the total number of air visitors to Bermuda increased to 459,711 in 1986 and 477,877 in 1987.

In October 1987, however, the New York Stock Exchange experienced a "crash," the reverberations of which were felt in exchanges throughout the world. A period of economic uncertainty followed, with most international currencies experiencing severe weaknesses which, paradoxically, created a rise in the effective exchange rate of the U.S. dollar. Together, these factors adversely affected the Bermudian tourism industry. The number of air arrivals fell by almost 11% to 426,850 in 1988. In 1989 the weakening situation was further compounded by a reduction in the number of air passenger seats into Bermuda and by a decline in the number of hotel beds, including the closure of two major hotels. Air arrivals in 1989 declined another 2% to 418,352.

The fall in incoming air passenger seats, however, was rectified by late 1989 and the downward trend in arrivals was reversed, aided by a relatively weak U.S. dollar. This recovery continued into mid 1990 but was thwarted by two events. First, a deepening recession in the United States, with the northeastern region being particularly affected, reduced the propensity of U.S. citizens to travel abroad. Second, the situation was aggravated by the invasion of Kuwait by Iraq in August 1990, which increased the level of uncertainty in the world. The threat of war and of international terrorism caused many U.S. residents to opt for domestic holidays rather than risk traveling abroad. Almost all destinations, including Bermuda, suffered a fall in visitor arrivals during the second half of 1990.

Although the 1991 Gulf War lasted only a few weeks and the expected acts of international terrorism did not occur, the economic recession in the United States deepened and spread to many other countries. Tourist arrivals in Bermuda continued to decline: U.S. air arrivals fell by 12.2% in 1991, Canadian air arrivals by 7.4%, and overall air arrivals by 11.3%. The largest declines were in the principal markets of the Middle Atlantic states and New England, which fell 13% and 18.5%, respectively.

The downward movement continued into 1992. Despite several optimistic forecasts, the world recession continued to bite deeply. In the United States fear of unemployment and a further decline in the value of the dollar inhibited the desire of many residents to take overseas holidays. In 1992 U.S. arrivals in Bermuda fell another 3.6%, although the principal market areas of the Middle Atlantic states and New England

declined by only 1.56% and visitors from other countries increased by 1% (Canadians by almost 8%). Bermuda, however, saw the beginning of a revival in 1993, with an increase in visitor arrivals from most market areas. Total air arrivals to Bermuda rose by over 11% to 412,473. The recovery continued in 1994 with a further increase of 1%. A slight decline in arrivals from the United States that year was compensated by a rise of 8% in Canadian visitors, 17.2% in U.K. visitors, and 11.7% in visitors from other countries.

Cruise passenger arrivals to Bermuda from 1975 to 1990 followed a trend similar to that of air travel, but with the peak number of arrivals in each case occurring a year earlier (in 1979, 1985, and 1988). After 1988, however, the Bermuda government adopted a policy to reduce the number of cruise ship visitors (initially to about 120,000) creating a constraint on further expansion. The emphasis was placed upon quality rather than quantity (i.e., to increase the amount spent per cruise visitor by attracting "up-market" cruise ships). By 1992, however, the constraint on expansion was partially removed and several additional up-market cruise ships were attracted to Bermuda. In consequence, the number of cruise passengers again increased to 131,006 in 1992 and went as high as 153,944 in 1993 and 172,865 in 1994.

Tourist expenditure for the years 1980-94 is also shown in Table 1. In keeping with normal practice in tourism statistics, no attempt has been made to deflate these figures to a common base year, although it is interesting to note that on the basis of the Retail Price Index in Bermuda, the 1994 value of \$525.3 million would be equivalent to only about \$356.6 million in 1985 dollar values. In per capita terms, regular staying visitors (as opposed to cruise visitors) spent \$826.8 in 1985 and \$1,159.1 in 1994. In terms of 1985 dollar values, the equivalent figure for 1994 is only \$786.9 million.

The pattern of this expenditure in 1994 is shown by the type of visitor accommodation used in Table 2. Visitors using large hotels contributed over 58.8% of the total expenditure by air travelers. Although cruise passengers contributed about 8% of the total, their expenditure on shopping, meals, transport, etc., accounted for 24% of total visitor expenditure on these items.

It is perhaps not surprising that \$387.7 million (almost 80.2% of the total expenditure by regular air visitors) was spent by residents of the United States, which in 1994 provided 81.9% of these visitors. Canadians spent \$45.8 million and visitors from other countries spent \$49.8 million. In terms

TABLE 2
1994 EXPENDITURES BY TYPE OF VISITOR AND BY CATEGORY OF EXPENDITURE
(IN B\$ THOUSANDS)

Category of Visitor by Type of Accommodation	Expenditure							Total Expenditure
	Accommodation	Shopping	Meals	Bar	Transport	Sport	Other	
Hotels, large	\$187,581	\$27,894	\$29,246	\$7,745	\$13,332	\$9,003	\$9,585	\$284,386
Hotels, small	43,955	6,536	6,853	1,815	3,124	2,109	2,247	66,639
Guest houses	2,024	459	481	128	219	148	158	3,617
Cottage colonies	29,587	3,699	3,878	1,027	1,768	1,194	1,272	42,425
Private clubs	6,071	759	796	211	363	245	261	8,706
Housekeeping cottages	10,672	2,418	2,535	671	1,156	780	831	19,063
Other	29,088	8,478	8,890	2,354	4,052	2,736	2,942	58,511
Total staying visitors	308,978	50,243	52,679	13,951	24,014	16,215	17,267	483,347
Cruise passengers	0	16,303	4,707		6,080	2,158	12,696	41,944
All visitors	308,978	64,546	71,337		30,094	18,373	29,963	525,291

Source: Calculated from data obtained in the Exit Surveys.

of expenditure per visitor, however, Europeans ranked first, followed by Canadians, with U.S. residents third. The principal reason for this result is the greater length of stay, particularly of Europeans.

THE IMPACT ANALYSIS

The method used to assess the impact of tourism on incomes, employment, public sector revenue, and the balance of payments was an input-output analysis. Details of this approach have been given in a study by Archer and Fletcher (1990).

First, a table of the Bermudian economy in 33 sectors was compiled on the basis of 1992 data obtained from 277 domestic establishments, together covering over 90% of total economic activity in the country. These data were obtained from three field surveys undertaken in conjunction with the statistical department and two business associations. Separate rows and columns were included for seven categories of tourist accommodation and for tourist shops, restaurants, bars, tourist transportation, tourist sports activities, and so on, as well as the regular sectors used in other input-output studies. A list of the 33 sectors is given in Table 3. The reason for including some financial and military sectors was to facilitate separate analyses of the impact of (1) international business activity and (2) the closure of the NATO stations (Archer 1994). Thus, it proved possible to feed the tourist expenditure categories directly into the relevant rows of the model rather than trying to adjust either the model or the expenditure patterns to match each other.

TABLE 3

THE 33 SECTORS USED IN THE INPUT-OUTPUT TABLE

1. Food and beverage manufacturing	18. Transport — tourist
2. Manufacturing and "other"	19. Livery stations
3. Quarrying and construction	20. Tourist attractions
4. Utilities	21. Banks
5. Wholesale	22. Accounting
6. Retail — nontourist	23. Legal services
7. Retail — tourist	24. Management and insurance
8. Hotels — large	25. Other business and financial
9. Hotels — small	26. Other sectors
10. Guest houses	27. Sport
11. Cottage colonies	28. International companies I
12. Private clubs	29. International companies II
13. Housekeeping cottages	30. Canadian Forces Station
14. Other tourist accommodation	31. U.S. Naval Air Station
15. Restaurants, cafes, etc.	32. British Naval Base
16. Bars and nightclubs	33. Public sector
17. Transport — nontourist	

The method used was a standard Leontief inversion with income-earning rows included in one model run and excluded in a second one in order to assess the induced effects of households responding their income. In the third and fourth runs of the model, employment was substituted for the income rows in order to measure the secondary employment effects.

Thus, the first run of the model was designed to measure both the direct and indirect effects of tourism receipts, while the second run measured the direct, indirect, and induced effects. The direct effect is the initial impact of tourism spending on various business establishments — hotels, shops, restaurants, bars, transportation, sport, etc. The indirect

impact is the additional effect created by the trading that takes place between the various sectors of the economy as a consequence of tourist spending (e.g., wholesalers and retailers supplying goods to hotels). The induced effects are the further substantial impacts generated by the responding of household incomes created as a direct or secondary consequence of tourism expenditure.

RESULTS OF THE ANALYSIS

The expenditure pattern of tourists in 1994 by type of accommodation is shown in Table 2. The impact of tourism expenditure in 1994 on incomes, public sector revenue, and imports by visitors using each category of accommodation is shown in Table 4 and the impact on the balance of payments is shown in Table 5. From Table 5 it can be seen, for example, that the 1994 tourism expenditure of \$525.3 million occasioned the need for \$76.9 million in direct imports and \$101.2 million in indirect imports, giving a net impact on the balance of payments of \$347.2 million (\$525.3 million minus \$178.1 million). In addition, however, \$290.6 million of

TABLE 4

IMPACT OF TOURISM EXPENDITURE IN 1994 ON INCOMES, PUBLIC SECTOR REVENUE, AND IMPORTS BY TYPE OF VISITOR (IN B\$ THOUSANDS)

Category of Visitor	Tourism Expenditure	Incomes	Public Sector Revenue	Imports
Staying Visitors				
Hotels, large	\$284,386	\$358,457	\$ 88,052	\$267,518
Hotels, small	66,639	79,213	19,182	57,321
Guest houses	3,617	4,835	1,220	3,730
Cottage colonies	42,425	59,987	14,110	39,214
Private clubs	8,706	13,015	3,135	6,424
Housekeeping cottages	19,063	24,217	6,197	17,274
Others	58,511	57,343	17,273	42,061
Total staying	483,347	597,067	149,169	433,542
Cruise passengers	41,944	45,216	21,270	35,254
All visitors	525,291	642,283	170,439	468,796

TABLE 5

IMPACT OF TOURISM ON BALANCE OF PAYMENTS—1994 (IN US\$ MILLIONS)

Tourist expenditure (+)		\$525.3
Imports (–)		
direct ^a	\$ 76.9	
indirect ^b	\$101.2	178.1
Net effect on the balance of payments (+)		\$347.2
Imports: induced ^c (–)	\$290.3	

^a Direct imports are those goods and services imported directly by the establishments that receive tourist spending.

^b Indirect imports are the additional goods and services imported by other establishments as a result of the initial tourist spending.

^c Induced imports are the additional imports required to provide goods and services to Bermudian households as a result of their increased incomes from the direct and secondary effects of tourism.

Note: This is not the normal method of presenting balance of payment data, but it is formulated in this manner to illustrate more clearly the impact made by tourism.

induced imports were required to satisfy the demand from Bermudian households as a result of their earnings from the direct and secondary effects of tourism.

Overall, in 1994 tourism expenditure generated \$642.3 million of income, of which \$197.4 million was direct income, \$133.1 million was indirect income, and \$311.8 million was induced income. Consequently, the income multiplier (based on average rather than marginal propensities) was 1.223, with a variation ranging from 0.980 in the case of "other accommodation" (mainly small private houses) to 1.495 in the case of private clubs.

The same visitor expenditure in 1994 created \$170.5 million of public sector revenue in Bermuda (\$36.7 million direct, \$41.5 million indirect, and \$92.3 million induced). Perhaps most important, it generated and maintained 9,000 jobs (7,000 direct) and substantially affected another 5,700.

Employment levels in the accommodation sector are closely related to the number of air visitors — Table 6, for example, shows in index form changes in the level of employment in accommodation establishments in relation to the number of regular staying visitors over the period 1979–94. As the number of staying visitors fell during 1980–85, the number of employees in accommodation establishments also

declined. However, the employee count decreased at a slower rate because hoteliers were initially reluctant to dismiss their skilled workers in the hope that visitor arrivals would again increase. In some establishments job sharing was introduced to avoid redundancies. In 1986 and 1987 a temporary increase in visitor arrivals led to the addition of workers, but beginning in 1988 further decreases in visitor arrivals led to a decline in employment. Initially this affected primarily male Bermudian workers, who found alternative employment in other sectors, notably construction. In 1989, however, the number of foreign workers also began to decline as work permits became increasingly difficult to obtain.

CONCLUSIONS

The impact analysis described above reveals the magnitude of the contribution made by tourism to the economy of Bermuda. Although tourism is no longer the major source of foreign exchange and income in the country (that position now belongs to international business and finance), it is still the principal source of employment and forms the essential bedrock of the economy.

The tourism industry, however, has not prospered since 1980. Indeed, the number of air arrivals fell by over 15% from 1980 to 1994, although the 1993 and 1994 figures were up 10% and 11%, respectively, from 1992.

The Bermudian authorities and private sector are aware of the unsteady situation and are taking measures to remedy the problem. A Commission on Competitiveness (with members drawn from the private and public sectors) reported to the Premier in March 1994 and presented a series of strategic action recommendations covering all aspects of the tourism industry as well as the other major exporting sectors. It is hoped that the implementation of these recommendations will improve both the tourism product and marketing strategy, and so assist the country to attract a larger number of staying visitors.

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TABLE 6
TOURIST NUMBERS AND EMPLOYMENT IN HOTELS AND
OTHER PLACES OF ACCOMMODATION
1979–1994

Year	Number of Regular Staying Visitors ^a	Employment
1979	100	100
1980	107	100
1981	94	99
1982	92	97
1983	97	96
1984	91	93
1985	89	89
1986	100	97
1987	104	102
1988	93	99
1989	91	91
1990	95	90
1991	84	87
1992	82	84
1993	90	84
1994	91	82

Source: The number of staying visitors was derived from the Exit Survey and the employment figures from the Manpower Survey.

^a The number of tourists and employment are expressed as index values with 1979 = 100.