The Bahamas
Total Tourism Economic Impact

Preliminary Results

Prepared for:

The Bahamas Ministry of Tourism

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THE POWER OF PERSPECTIVE

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I. Total Tourism Impact (Direct, Indirect, Induced)

A. Total Tourism GDP, Employment and Wages

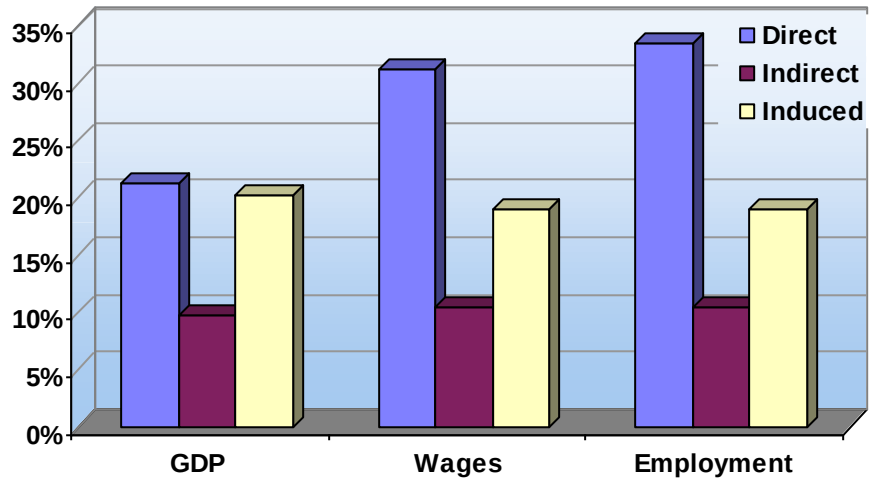
The full economic value of tourism activity is substantially greater than just the Direct measurements explained above. Suppliers such as wholesalers, agriculture, maintenance services, storage, utilities, and virtually every other sector also benefit indirectly from tourism activity. Although not explicitly part of the TSA framework, the TSA does provide the necessary output to then extend the analysis to these indirect impacts. In addition, a tertiary layer of tourism impact is realized through what is called the multiplier or induced effect. This is simply the additional economic activity generated as direct and indirect tourism wages are spent in the local economy, thus generating additional sales, value added, wages and employment. This is a standard part of traditional economic impact analysis.

The sum of these three tiers of impact equals tourism's total economic contribution. Included in this concept is the direct, indirect, and induced economic impact of all tourism final demand. This includes capital investment as well as collective government expenditure on behalf of the tourism industry.

- Tourism's ***total economic contribution*** tallied $2.8 billion in 2003, comprising 51% of Bahamas Gross Domestic Product (GDP).
- This economic activity generated $1.6 billion in local wages or 61% of all wages.
- In terms of employment, tourism is the catalyst for 97,383 jobs, or 63% of the employment base.

Chart 1: Tourism Share of Economy:

As a labor-intensive activity, tourism generates a higher percentage of wages and employment than of GDP



This analysis provides perspective on the flow of a tourist dollar when spent in The Bahamas. For every dollar spent, 60 cents goes toward the direct production of the service (or good). The 60 cents is the direct tourism value added as a share of total domestic demand. An additional 26 cents goes toward upstream local suppliers (utilities or agriculture, for example). This captures the indirect value added share of domestic demand. The remaining 14 cents goes to off-shore suppliers, and captures import leakages.

An analysis of direct tourism sales and total tourism employment reveals that one job is created for every $23,061 in direct tourism-related spending. This is the ratio of total tourism domestic demand to total tourism employees.

Various industries not directly involved in tourism benefit substantially on an indirect basis. For example:

- Over one-third of utilities sales, or $58 million, is generated by tourism activity;
- Nearly 25% of business services sales, or $343 million, is generated by tourism activity; and,
- Fully 21% of construction sales, or $84 million, is generated by tourism activity.

Methodology Notes – Total Impacts

Concept	*Data Sources*	*Notes*
Indirect Impact	Input-output coefficients on the distribution of intermediate consumption by industry (Hawaii I-O table). Government Receipts and Expenditures Detail (Ministry of Finance)	Industries have broadly similar supply chain breakdowns, allowing for Hawaii distribution to be applied to intermediate consumption by industry for the Bahamas. On this basis, linkages to local suppliers and import leakages to foreign suppliers are calculated. For example, utilities are locally generated while supply linkages to manufacturing sectors are assumed to be imports. The sum of all local suppliers provides indirect GDP. In addition, import duties are added to the indirect impact as these intermediate expenditures are retained in the local economy. The calculations of indirect wages and employment are based on the relationships of total economy Bahamas GDP to wages to employment.
Induced Impact	National Income Accounts (Department of Statistics)	Measures the additional economic activity generated as direct and indirect tourism wages are spent in the local economy. Calculation takes the tourism-generated share of personal consumption and subtracts spending abroad. This gives us total local consumption generated by tourism wages. We then estimate the GDP contribution of this consumption using the ratio of value added to gross sales. This cycle is run twice and yields a multiplier of 1.56, meaning that for every dollar of direct and indirect impact, an addition 56 cents of impact is generated. This compares similarly to multipliers for Puerto Rico and other destinations with high leakages.

B. Total Tourism Taxes

- On the basis of this economic activity, tourism generated government revenues of $468 million in 2003. Import duties, departure taxes, stamp taxes, and immigration fees are the largest sources of tourism taxes.
- The estimation of tourism-generated taxes is based upon the shares of economic activity calculated in the TSA. For example, since 51% of all GDP is generated by tourism, the same share is assumed for import duties. Other categories, such as departure, casino, and hotel occupancy taxes are taken at 100%.

Tourism Generated Taxes		
Category	***Tourism $***	***% of Total***
Import Duties	$ 223,274,957	48%
Departure Tax	$ 70,279,661	15%
Import Stamp Tax	$ 52,538,701	11%
Immigration Fees	$ 23,121,440	5%
Hotel Occupancy	$ 22,266,964	5%
Realty Transactions	$ 16,463,208	4%
Business License	$ 15,240,845	3%
Casino	$ 13,522,586	3%
Property Tax	$ 10,132,333	2%
All Other	$ 20,888,968	4%
Total	$ 467,729,665	100%

II. Technical Appendix

This technical appendix continues the process of the TSA to calculate the indirect and induced impacts of tourism. Implement these two sections *after* the steps to create the TSA are complete to calculate the total economic impact of tourism.

A. Calculating Indirect Impacts

Indirect impacts are calculated for both the total tourism and core tourism concepts. However, they are most relevant to the total tourism calculation as the core tourism measurement must remain direct only for the sake of comparison with other sectors.

Table 6 is expanded from the standard TSA to assess the indirect impacts of tourism.

The goal is to calculate the local suppliers to tourism sectors (those touching the visitor). The crux of this analysis is in estimating import leakages among the intermediate purchases generated by tourism sales.

In order to accomplish this, I-O coefficients were taken from the Hawaii I-O table. Hawaii was chosen for a number of reasons. It has small agriculture and manufacturing sectors and substantial business services (finance, insurance, real estate), similar to the Bahamas. More importantly, most of tourism industry inputs are imported, similar to the Bahamas.

For each industry in Table 6, the I-O coefficients for intermediate demand (by sector) are used to distribute intermediate demand generated by tourism. The distribution is based on Hawaii sectoral breakdown, which allows for an identification of both direct and indirect imports. The sectors and their treatment vis-à-vis import assessment are listed below.

- Direct Imports – 100% imports
- Manufacturing – Local share is calculated as value added share of sales plus 10% as the assumed local portion of manufacturing sector's purchases.
- Construction – Local share is calculated as value added share of sales plus 10% as the assumed local portion of construction sector's purchases.
- Community, Social and Personal Services – 0% imports

Additional indirect imports are then added based on import duties. The reason for this is that if a hotel spends $1 million on imports, 30% or more of that may remain in the local economy as taxes. This is calculated by taking the sector's tourism imports as a share of total imports and multiplying this ratio by total import duties.

Further, indirect taxes are added to account for room taxes for hotels.

Finally, for the sake of the total indirect impact calculation, the indirect impacts are calculated for collective government and capital investment using the same methodology in the sheet "Indirect Impacts".

This approach of using Bahamas data in conjunction with Hawaii I-O coefficients can be considered accurate for the following reasons. First, each industry is treated separately and the purchase patterns of a given industry are relatively constant across locations. Second, coefficients are applied to Bahamas intermediate consumption (versus total sales) by industry which accounts for the majority of differences that may exist between the two destinations. Third, both the Bahamas and Hawaii import the majority of manufactured goods (with the exception of certain agricultural and fishing products) so the import value is similar. These

factors allow us use the intermediate consumption distribution and the related imports with relative confidence in estimating the indirect impacts of tourism.

B. Calculating Induced Impacts

Similar to the indirect impacts, induced impacts fall outside the realm of the TSA. However, in order to answer the question, "What share of total economic activity is generated by tourism?", this analysis must be performed.

Ordinarily, an I-O tables can be used to estimate induced impacts. In its absence for the Bahamas, a multiplier was calculated for the Bahamas using a combination of wage, value added, sales, consumption, and other data. The results are then compared to a host of other destinations which have standard I-O tables to ensure reasonableness.

The calculation is as follows:

Tourism share of wages * Personal Consumption expenditures

=

Tourism-generated consumption

-

Spending Abroad

= Additional Local Consumption Generated by Tourism Wages

+

Non-import suppliers

= Induced Sales Impact (round 1)

This calculation is then performed a second time, using the wages generated by the sales generated in the first round as a starting point instead of total direct and indirect tourism wages. This calculates the next cycle of consumption and local production as wages are spent in the local economy.

The resultant multiplier is then applied to total tourism value added to calculate induced impacts. Wages and employment are calculated using NIA national average shares (wage/value added and wage/employee).