

ASSESSING THE ECONOMIC IMPACTS OF TRAVEL AND TOURISM  
- INTRODUCTION TO TRAVEL ECONOMIC IMPACT ESTIMATION

Chapter 31 in J.R. Brent Ritchie and Charles R. Goeldner, editors,  
*Travel, Tourism and Hospitality Research: A Handbook for Managers and Researchers*, 2<sup>nd</sup>  
edition, John Wiley & Sons, New York, 1994.

Douglas C. Frechtling, Ph.D.  
Associate Professor of Tourism Studies  
The George Washington University  
Washington, D.C.

Economic impact, the direct and secondary costs and benefits of travel, and the travel industry are defined. General methods of approaching travel and tourism impact estimation are presented, along with criteria for evaluating alternative approaches. Uses of tourism economic impact studies are also discussed.

Economic impact studies in travel and tourism<sup>1</sup> are undertaken to determine the effects of specific activities in a given geographic area on the income, wealth and employment of that area's residents. They are conducted for cities, counties, towns, states, provinces, nations, and for individual facilities (*e.g.*, museums) and events (*e.g.*, Olympic games). They often relate to an annual period, although seasonal and event impact studies are not unknown. The results indicate the contribution or cost of tourism activity to the economic well-being of residents of an area, usually in monetary terms.

In the broadest sense, economic impact studies can indicate the gross increase in resident wealth resulting from the activity, the reduction in wealth resulting as well, and the net of the two influences. The wealth effects are traced through household or personal activity, such as employment and income, and through the business and government sectors serving the area.

While implicit in economic impact studies, explicit consideration of the wealth effects of tourism is seldom found. Rather, measurement is limited to the impact on income. Since wealth is created primarily through income, it is clear that concentrating on the latter is consistent with the objectives of economic science.

As discussed here, economic impact studies are understood to include objective analyses of travel activity's impact on resident wealth or income in a defined area. On

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<sup>1</sup>The terms, "travel" and "tourism" are used as equivalents in this paper. Both refer to activities associated with traveling away from home.

the benefit side, this normally means the study provides estimates of travel spending and the impact of this spending on employment, personal income, business receipts and profits, and government revenue. On the cost side, this means estimating the costs, sometimes non-monetary, to government and residents of travel activity in the area.

A great number of studies have been limited to estimating travel spending in an area, often through direct surveys of travelers. No attempt is made in these studies to track the effects of this spending on area employment, income or other economic variables.

Such travel expenditure studies are specifically excluded from this discussion. However, the broader impact studies which are considered here include the essential elements of the limited expenditure studies, so the reader will gain an understanding of them in what follows here.

The reason for this exclusion is that travel expenditures tend to obscure the impact on resident wealth and income. Although such expenditures may be substantial in an area, they often have little to do with resident earnings and employment. The extreme case is represented by a hotel in an underdeveloped economy, owned by non-residents, staffed with non-resident employees who send their earnings home, and serviced by imported goods and services. Travelers may spend millions of dollars in the hotel each year, but the contribution to the wealth or income of the residents is virtually non-existent.

A similar case can be found in the developed economy. Consider a popular self-service gasoline service station in a resort area. Visitors purchase gasoline and oil provided by non-resident suppliers. The station itself is owned by an oil company headquartered elsewhere. The employees may be residents, but it takes only one to oversee the sale of several hundred thousand dollars of petroleum products a year. The dollars spent are a poor guide to the impact on resident wealth or income.

The point is that travel expenditures can be quite misleading in evaluating the economic benefits or the economic costs of travel and tourism in an area. They are best viewed as merely the initial monetary activity that stimulates the production process and initiates realistic measurement of economic impact.

## DIRECT AND OTHER IMPACTS

Economic impact should be understood to include both direct or primary costs and benefits, and secondary costs and benefits. The former occur as a *direct* consequence of travel activity in the area. Travel expenditures become business receipts which in turn are used to pay wages and salaries and taxes, the direct benefits of tourism. Visitor use of recreation areas requires expenditures on services for the visitors

as well as on redressing any environmental damage: these are direct costs. These benefits and costs are directly related to the travel activity.

In addition to these primary impacts, there are secondary effects of travel activity. On the benefit side, entrepreneurs spend part of their receipts on goods and services they require to serve customers, including investment in new equipment and structures. In turn, their suppliers must purchase certain items from others. As this chain continues in an area, income and employment are produced *indirectly*.

The other type of secondary benefit is *induced*. Here we track the consumption spending of the wage and salary income directly generated by the travel expenditures in the area.

We can also speak of secondary costs of travel. These are related to the public goods and services required to serve those businesses and employees that are impacted at the secondary level. Very little work has been done in this area, probably due to its complex nature.

## ECONOMIC MODELS

The world of tourism is quite complex. Economists develop theories that abstract the most powerful relationships in order to deal with such complexities. An economic model is a "representation of a theory or a part of a theory, often for the purpose of illuminating cause-and-effect relationships." (Baumol and Blinder 1988, p. 14) Economic models come in all shapes and sizes, each reflecting a particular theory to be tested or applied. Chapter ?? (Rovelstad chapter) describes the modeling process in detail.

Models are used widely in tourism economic impact analysis. The following two chapters discuss a number of these.

## DEFINITIONS AND DATA

At first glance, travel economic impact estimation appears quite arcane. This is due to the heterogeneous nature of what we call "travel demand" and the "travel industry." The travel industry cannot be defined the way industries normally are. For example, U.S. industries are generally understood as collections of business firms or establishments with the same "primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered" (Office of Management and Budget 1987, p. 15).

This "type of product" classification system is not consistent with the definition of travel and tourism as "end-use" activities, that is, defined by the purpose of the

purchase. We view travel expenditures as those made by people traveling away from home. They cut across many type-of-product industries, and only occasionally account for the bulk of such an industry's output. More often, travelers purchase a minority portion of a type-of-product industry's output.

It is difficult to square the end-use definition of travel with the type-of-product statistics available from government. Government data indicate total restaurant sales, for example, but not those attributable to travelers. Consequently, travel economic impact studies are confronted by an unusual challenge at the outset: to determine the impact of an end-use activity in a world of product-type data. That this is not easy is readily indicated by the number and complexity of current approaches to measuring the economic impact of travel.

This and the two following chapters are designed to cover all major aspects of travel's economic impact, including measures of both costs and benefits. The discussion reflects a broad range of studies and other literature on the economic impact of travel. The following pages discuss the major approaches to economic impact measurement, criteria for judging them, purposes of economic impact measurement in tourism studies, appropriate impact measures, estimation methods, and secondary measures of travel's impact.

As the discussion notes, there is a great deal more basic and applied research required in travel economic impact estimation to resolve significant issues. It is hoped these chapters will provide both a guide to what we have learned and a stimulus to others to teach us more.

## TRAVELERS AND VISITORS

It is important to clarify whether the study objective is to measure the economic impact of travelers or of visitors. At the national level, the comprehensive measurement of tourism's economic impact is based on *travelers*, that is, all people traveling away from home and the industry that serves them. Sometimes, a study will concentrate on visitors to a country from other countries, to highlight foreign exchange or balance of payments consequences of tourism.

However, studies conducted on smaller geographic areas usually concentrate solely on visitors: that is, non-residents entering the area on a trip away from home. Because researchers are interested solely in the economic contribution of outsiders to the community, they are not concerned with travel expenditures by residents, such as purchase of common carrier tickets and other items preparatory to taking a trip.

This distinction is vital because it determines the expenditure categories and travel industry components to be included in an impact model. If we are concerned

with the impact of visitors to an area, we should exclude air tickets purchased by that area's residents traveling to outside destinations. The employment and payroll of travel agencies in the area are generally not included in a *visitor* impact study, for example, since they primarily service *resident* consumers and businesses.

In developing an economic impact model or reviewing someone else's it is important to keep this distinction in mind. Two impact models may produce different estimates of "tourism impact" for a given area solely because of the way they treat resident travel spending.

## IMPACT ESTIMATION APPROACHES

There are four major techniques we can apply in attempting to measure tourism's economic impact. (Samuelson and Nordhaus 1989, p. 5-6):

- observation;
- experiments, where the researcher controls the conditions under which two or more groups of people make economic decisions;
- analysis, based on prior assumptions about how individuals and firms act and relate to one another;
- statistical analyses, through sample surveys and secondary data.

*Observation* has major drawbacks as a method of economic impact analysis in tourism. It is difficult to determine whether an individual spending money is a tourist or not by watching him. Moreover, the logistics of observing the behavior of a tourist over time are formidable.

Direct observation approaches are apt to be partial in scope. That is, they virtually always focus on one measure of impact, usually travel expenditures, rather than consistently following the impact of this activity on income and employment down through the primary and secondary links in the impact chain.

It is conceivable that someone could observe employees in travel-related establishments, account for how much work time they spend serving travelers, and then apportion their compensation accordingly. It is also possible to observe how much of retail sales taxes collected are generated by travelers for an indicator of total retail sales tax revenue attributable to this activity. However, it is obvious that this is a cumbersome and costly approach. Moreover, it tends to break down in estimating secondary impact on suppliers and the effects of travel-related employees spending their income in the area under study.

Attempts have been made to survey business operators to obtain their estimates of travel-generated receipts as a proportion of total receipts (West Virginia University 1981; Division of Tourism 1974). However, this has not proved a viable method in examples available to date. The businesses and agencies involved cannot distinguish between activity attributable to travelers, and that produced by local residents unless they conduct valid sample surveys of their customers. This appears to seldom be done, or is done without releasing the results for public analysis.

*Controlled experiments* appear not to have been attempted for estimation of tourism's economic impact. The difficulty comes in isolating two or more groups or geographic areas so that they are not affected by any force except those under the researcher's control. There is, however, a growing literature in laboratory experiments in other areas of economic study (*e.g.*, Plott 1986).

*Analysis* has been employed in economic impact studies through the construction of economic models. The usual approach is to build a model incorporating the major relationships at work among consumers and businesses and governments. The model is necessarily a simplification embodying only the most important relationships. What is deemed most important varies among those building the models, depending upon their perceptions of the world and their analyses of existing data available to them describing travel activity and impact.

These models vary between being simple and complex, explicit and implicit, partial and integrated. Explicit models are comprised of clearly-stated relationships, usually in the form of equations. Implicit models lack comprehensive statements of relationships and are often judgmental, that is, reflect the views and experiences of the researcher regarding travel magnitudes rather than mathematical relationships among objective variables. Partial models estimate only one element of economic impact, usually traveler expenditures. Integrated models, on the other hand, use expenditures to drive estimates of employment, income, tax revenue and other economic variables. This approach is elaborated on in the following chapter.

By far, the most popular method of estimating traveler spending has been through *statistical analysis*. The favored method is to draw a sample of travelers and administer a survey to it asking for expenditure data. Then means are computed for the various expenditure items and these are multiplied by estimates of the traveler population. The strengths and weaknesses of this approach are detailed in the following chapter.

## CRITERIA FOR EVALUATING ECONOMIC IMPACT METHODS

Methods of estimating travel's economic impact are numerous and vary widely in their approaches and output. It is important to judge the approaches by some formal

criteria that permit us to objectively evaluate the quality of a model, because there are so few independent measures of travel's impact we can use to assess an estimation effort.

It is vital to judge an approach used for travel economic impact estimates as objectively as possible. We should be especially interested in the relevance, coverage, efficiency, accuracy, and transferability of the approach suggested for use.

## RELEVANCE

The approach should measure tourism's economic impact and not that of some other activity. For example, a study of the economic effects of restaurants in a community would not accurately represent travel's impact because most of the business could be derived from local residents. Or an approach that uses data on recreation activity as input would include purely local-origin effects as well as those of travelers.

Specific attention should be directed to ensuring an impact estimation method and the data used in it represent the community, city, state, region, or other area under study. Estimated economic benefits should truly accrue to the residents of the area, and these residents should truly bear any costs estimated from travel. We should be particularly interested in three aspects of the approach in terms of relevancy: does it relate to travel alone?, does it fairly represent the area under study and only that area?, and does it cover the time period under study?

## COVERAGE

The approach should also cover *all* of travel away from home and related activities. On the economic benefit side, the impact of purchases in anticipation of a trip as well as those during the trip should be included in a tourism impact study. Anticipatory purchases include major consumer durables such as recreational vehicles and vacation homes, and minor items, such as tennis rackets and camping equipment. Expenditures during the trip should cover all types of transportation, accommodation, food consumption, entertainment and recreation, and incidental purchases such as souvenirs. But again, the distinction between visitors and travelers should be observed, and the expenditures measured should truly occur in the area under study.

## EFFICIENCY

Since funds available for economic impact estimation are generally limited, the approach should make maximum use of existing data commensurate with satisfying the other criteria. Primary data collection is costly and difficult to do well. It should be avoided whenever possible in favor of relevant, comprehensive and accurate secondary data.

## ACCURACY

We should also judge the approach on the basis of its accuracy. Are the input or survey data accurate measures of travel activity? Does the approach accurately reflect real relationships? Are the results reasonable? This involves investigating the techniques used to generate primary or secondary data. It also includes comparing the results with other, independent measures of travel impact wherever possible. Since these other measures generally do not pass these five evaluation criteria themselves, a good deal of judgment is often required to assess the accuracy of an approach and its output.

## TRANSFERABILITY

The approach should be applicable to different geographic areas and different time periods, rather than requiring data unique to one particular case. It should also be sensitive to differences in travel patterns, industry structure and prices in different places and times. The main objective here is an approach that is feasible in different areas for different time periods and produces consistent results in varying contexts. This permits valid comparisons across time and space and provides a broader track record on which to assess the model.

These five criteria should be applied to the structure of the estimation procedure, the input data, and the results. They should also be applied to sample design, questionnaires, interview models, expansion factors and weighting in surveys. The user can weight the criteria based on his own requirements as to relative importance if he chooses.

## ECONOMIC BENEFITS OF TRAVEL AND TOURISM

An "economic benefit" is best understood as a gross increase in the wealth or income, measured in monetary terms, of people located in an area over and above the levels that would prevail in the absence of the activity under study, *ceteris paribus*.

We are interested in "gross" increases because we will estimate the costs of the activity separately. Subtracting the gross costs from the gross benefits produces a measure of net economic benefit, either positive or negative.

We concentrate here on the economic benefits (or costs) for the sake of convenience, not because other, non-monetary, benefits are insignificant. Most economic benefits are measured in terms of money (employment is the major exception), and are amply documented in data available. It is far more difficult to measure the psychic benefits of travel, such as a relaxed feeling, lower blood pressure,

or enjoyment of beautiful surroundings. Techniques to measure these non-monetary benefits are beyond the scope of these chapters. Indeed, little work has been done in this area. This does not mean these non-monetary benefits are insignificant, only that we have few objective means of measuring them at the current time.

It is important to understand that economic benefits should actually accrue to the people located in the area under study. If we want to estimate the economic benefits of tourism to the people who live or work in Missouri, we should be sure the economic benefits actually redound to these people.

Our analysis assumes the absence of these benefits if travel did not occur in the area, *ceteris paribus*. One could argue that with the cessation of tourism in an area, other industries would spring up to provide the same amounts of employment and income. However, this is by no means assured. Employees and proprietors skilled in tourism services could not necessarily find immediate employment in a manufacturing plant, for example. We want to know what travel is contributing to the economy of an area under certain conditions. Analysis of alternative industries that could replace tourism should tourism disappear is beyond the scope of the study of travel's economic benefits.

Finally, a word about terms used to represent economic benefits. The one most often found in economic discussions of travel is "travel expenditures". However, a little thought reveals expenditures imply little in themselves to the income and wealth of a community.

If travelers purchase all their goods and services from residents who employ labor and supplies originating solely in the area, then travel expenditures represent income to the community. However, it is far more common for travel-related businesses to purchase most of the supplies they need, and often labor as well, from sources outside the community. The gasoline station operator must buy gasoline from a supplier usually refining oil many miles away. Expenditures on an airline ticket do not remain in the community for long, but rather are remitted to some central office to pay for salaries, depreciation, fuel and other items not found in the community where the ticket was bought.

Many of the goods purchased by travelers are likely to have high import content, that is, consist primarily of intermediate goods produced outside the community. Even services, especially common carrier transportation, may have few linkages with the local economy. Consequently, to focus on travel expenditures as the measure of economic benefits to an area's residents is to grossly misstate the actual benefits generated in the area in many cases.

For a more accurate view, we must calculate the labor income, corporate profits, and rents generated by travel spending. We can also look at employment as an important economic policy objective. Government revenue generated by travel

expenditures is a valuable measure as well, for it helps convince governments to include tourism in public economic development strategies, and to treat tourism fairly in energy, regulatory and other public policies.

Travel expenditures are an initial cause of economic benefits, but should not be confused with these effects.

Table 1 provides a comprehensive outline of the major types of economic benefits derived from travel and tourism.

TABLE 1: ECONOMIC BENEFITS OF TRAVEL AND TOURISM

#### A. PRIMARY OR DIRECT BENEFITS

1. Business Receipts
2. Income
  - a. Labor and proprietor's income
  - b. Dividends, interest and rent
  - c. Corporate profits
3. Employment
  - a. Private employment
  - b. Public employment
4. Government Receipts
  - a. National
  - b. State or province
  - c. Local

#### B. SECONDARY BENEFITS

1. Indirect Benefits generated by primary business outlays, including investment
  - a. Business receipts
  - b. Income
    1. Labor and proprietor's income
    2. Dividends, interest and rent
    3. Corporate profits
  - c. Employment

- d. Government receipts
2. Induced Benefits generated by spending of primary income
    - a. Business receipts
    - b. Income
      1. Labor and proprietor's income
      2. Dividends, interest and rent
      3. Corporate profits
    - c. Employment
    - d. Government receipts

### ECONOMIC COSTS OF TRAVEL AND TOURISM

We normally think of the "costs of travel" as the explicit prices the traveler pays for his trip, his "private costs". He purchases transportation, lodging, food, entertainment, and numerous other goods and services, all at explicit prices in the marketplace.

However, it is important to recognize that all of the costs associated with a trip are not paid explicitly by the traveler or the traveler's employer in the case of a business-related trip. Some are paid explicitly and implicitly by others. These costs borne by others but related to the traveler's activities fall in the general class economists call "spillover costs" or "detrimental externalities" (Baumol and Blinder 1988, p. 251). The distinction is between the "private costs" of the trip, those paid explicitly by the traveler for goods and services in the marketplace, and "incidental costs," which represent other resources that are sacrificed in the process: all the disutility generated by the production process that is not recompensed by traveler purchases (*ibid.*; Samuelson and Nordhaus 1989, p. 770)

To the extent that we can make all incidental costs explicit and include them in the costs the traveler pays, we will maximize welfare. The traveler then faces higher costs which reflect all of the costs of his trip, and on this basis chooses whether to purchase travel or not. The higher costs are also a signal to industry that competitive advantage can be gained by producing at lower than the prevailing costs, through greater efficiency either in directly serving the traveler or mitigating the detrimental externalities generated by the traveler. However, in practice, there will always be uncompensated incidental costs resulting from tourism.

As Table 2 indicates, we can make a useful distinction between the private costs of visiting a community and the incidental costs depending upon whether the visitor explicitly pays the market prices for travel goods and service, or the costs are borne by the residents of the community as a result of the visit.

TABLE 2: OUTLINE OF THE COSTS OF TRAVEL AND TOURISM

- I. Private costs
- II. Incidental costs
  - A. Direct incidental costs
    - 1. Life quality costs
      - a. Congestion
      - b. Pollution
      - c. Danger to life, health and property
    - 2. Fiscal costs
      - a. Public services
      - b. Public investment
  - B. Indirect incidental costs
    - 1. Life quality costs
    - 2. Fiscal costs

Frequently, other distinctions are made in discussing the overall costs of tourism: economic costs, social costs, environmental costs, fiscal costs, and life quality costs. These distinctions are valid if we are interested in who initially bears the burden, or what is initially sacrificed. They are also useful for actually measuring the costs associated with tourism. However, it should be recognized that these distinctions are not very useful for determining who *finally* bears the burden of visitation to a community. Instead, they reflect how a given community has decided to allocate the social costs of visitors at a given point in time.

The term "economic costs" covers all costs, both private and incidental, explicit and implicit, and refers to the value that must be sacrificed (called the "opportunity cost" by economists) in order to provide the visitor experience. It is important to remember that we are interested in the sacrifice of *scarce* goods and services to provide the experience. The fact that a visitor breathes air or absorbs the sun is not a cost to the community, because the residents are not giving up anything scarce that they own and value.

Like economic costs, the term "social costs" is used to cover all costs of the visitor experience. It is the sum of private costs and incidental costs, emphasizing the total cost to the society. (Baumol and Blinder 1988, p. 251; Samuelson and Nordhaus 1989, p. 745). "Environmental costs" are reductions in the quality of air, water, land, flora and fauna in our area. These are initially imposed upon residents of the host area. "Fiscal costs" are those imposed by government on residents or visitors through taxes, user fees, license fees, fines and admission charges. "Life quality costs" are those that reduce our standard of living in some non-monetary way. For example, highway congestion increases the time I must spend commuting to and from work. Since I do not enjoy my time spent commuting, this is a reduction in the quality of my life. Virtually all environmental costs are life quality costs, but not all life quality costs are environmental costs.

Environmental costs, fiscal costs and reduction in resident standards of living or quality of life are all incidental costs, and denote which group or entity is initially bearing the cost at the current time. They do not designate who finally sacrifices value.

An example will make this clear. Tourists crowd a park that I enjoy visiting in my town. If nothing is done, then I bear the burden as a reduction in the quality of my life. I do not enjoy visiting the park as much as I would in the absence of the visitors. The visitors may also pollute the stream running through the park, again reducing the quality of life for us residents. If nothing is done about this, we residents directly bear these costs and the visitors do not.

However, as residents we have several options. For one, we can persuade the government to impose admission fees for the park. This will not only limit visitor demand somewhat and reduce crowding, but will also provide funds for cleaning up the stream and hiring park attendants to prevent pollution. If the admission fees now reduce crowding to its pre-visitor level and provide funds for returning the environment to its pre-visitor state, then the environmental life quality costs have become private costs and have been shifted to the visitors and residents who use the park. (In actual practice, it is unlikely that admission fees will both reduce visitor demand significantly and provide enough funds for cleaning up the park, since these are conflicting objectives: we achieve fewer visitors at the expense of revenue.)

There is another option. The residents can vote to spend public funds on enlarging the park and fencing in the stream. If successful in returning the park to its pre-visitor level of congestion and environmental quality, this tactic has turned one type of incidental cost (quality of life) into another (fiscal). However, in the absence of higher admission fees, the citizens run the danger of attracting even more visitors than before, and there is no guarantee that the taxes required to pay for the park enlargement will be generated by the visitors or local users. The fact that the costs are now fiscal instead of life quality does not tell us who finally pays them. It may be that the

residents have just transformed these costs into higher property taxes and still bear them on behalf of the visitors.

Residents can also attempt to reduce congestion and other ill effects of tourism by treating visitors in a repellent manner. In this way, travelers may be dissuaded from returning. It is not clear that negative resident attitudes are effective in reducing visitation, but the resident may not approach this issue in a rational manner (Pizam 1977, pp. 7-11).

Measuring the economic costs of tourism, and comparing them to the economic benefits, are discussed in Chapter ???.

### USES OF ECONOMIC IMPACT STUDIES

Measurement of the economic benefits and costs of travel and tourism can help meet a variety of objectives for both marketers and planners.

These studies can inform public officials and business managers of the net benefits of investing in travel promotion or tourism and recreation facilities. The studies can also show how the costs and benefits are distributed geographically and among residents.

Economic impact studies can help tourism marketers evaluate the effectiveness of marketing efforts and the effects of additional facilities on demand for current ones.

Estimates of tourism's economic impact can educate travel-related employees about their role in economic and business development, and how their services contribute to the economic health of their communities.

By displaying the net returns to promotional and facility investment, these studies can encourage both business and government to seek out cooperative ventures with other organizations for mutual benefit.

By demonstrating the effects of travel development to the general public, economic impact studies can help citizens rationally choose whether to encourage or resist additional tourism marketing or development efforts.

Economic impact studies also aid public officials in developing laws and policies that best promote the economic, social and cultural health of their citizens, and avoid decisions that would threaten this health.

In short, the estimation of the economic benefits and costs of travel and tourism activities permit consumers, business and government to make efficient and effective marketing and development decisions.

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