

ECONOMICS AND TOURISM

William R. Eadington
University of Nevada, USA

Milton Redman
Florida Atlantic University, USA



Abstract: This paper surveys applications of economic analysis to tourism. Application of economic logic and tools, such as consumer and production theory, market structure, deductive modeling, cost-benefit analysis, econometric analysis, and multiplier analysis, are all discussed as they relate to tourism. The economic perspective on tourism provides insights into the types of choices and decisions which consumers, private sector suppliers, government agencies, and policymakers make. It also provides a structure for identifying which types of data should be gathered, organized, and interpreted for purposes of better understanding tourism markets, constructing forecasts, and aiding in policy choices involving resource allocation. **Keywords:** economics, tourism, consumer behavior, market structure, externalities, cost-benefit analysis.

Résumé: L'économie et le tourisme. Cet article étudie les applications de l'analyse économique au tourisme. L'application d'une logique économique et de plusieurs outils économiques tels que les théories de la consommation et de la production, la structure du marché, les modèles déductifs et l'analyse coûts-avantages sont tous présentés en relation au tourisme. La perspective économique du tourisme permet de comprendre les choix possibles et les décisions qui sont prises par les consommateurs, les fournisseurs du secteur privé, les départements gouvernementaux et les décideurs. Cette perspective fournit aussi une structure pour identifier le genre d'information qu'on doit recueillir, organiser et interpréter afin de mieux comprendre les marchés du tourisme, faire des prévisions et contribuer aux décisions de politique qui entraînent l'allocation des ressources. **Mots-clés:** économie, tourisme, comportement des consommateurs, structure du marché, facteurs externes, analyse coûts-avantages.

INTRODUCTION

During the second half of the twentieth century, tourism has become one of the largest and most rapidly growing sectors in the world economy. Perhaps more than any other single activity, tourism characterizes aspects of the "post-industrial society" and presents insights into major trends for the future. The recognition of tourism as an "industry," and as a topic worthy of study by economists, has been slowed by the fact

William Eadington is Professor of Economics and Director of the Institute for the Study of Gambling and Commercial Gaming (University of Nevada, Reno NV 89507, USA). He has published extensively on regulation and legalization of commercial gambling, and cost/benefit topics relating to gaming and tourism. **Milton Redman** is Associate Professor and Chair of the Department of Economics at Florida Atlantic University. He is Director of the Center for Economic Education. His research interests are in international tourism, survey methods, and measures of economic impacts.

that the tourism sector is primarily a collection of service-based activities spread across a variety of industrial classifications and consumer expenditure categories that generally are not otherwise grouped together. Tourism does not have a unique base as an industry, but encompasses widely disparate firms and organizations from many industries which serve customers with a variety of incomes, tastes, and objectives. It also deals with urban and rural landscapes of tremendous diversity, and government agencies with a wide range of motivations and interests. The consumers, the suppliers, and the government agencies are the major actors and elements that shape the tourism industry.

However, many regions and countries have realized that tourism has become a dominant sector, sometimes *the* dominant sector, often replacing extractive, manufacturing, agricultural, or distribution based activities as a major source of job creation and revenue generation. In many cities with aging or obsolete industrial centers, sites originally created for such industries have been transformed into tourist facilities, with appropriate hotels, shops, restaurants, exhibits, and other tourism amenities. In such settings, the job categories of stevedores, iron mongers, colliers, and teamsters have been replaced by desk clerks, tour guides, travel agents, and coach drivers.

The purpose of this article is to delineate major aspects of modern economic thinking as they are applied to the study of tourism. Economics provides a structure and framework for analyzing important public policy issues relating to tourism. For example, application of economic analysis can yield interesting and often substantive insights into resource allocation problems, as well as improved forecasts of changing trends and potential bottlenecks that can aid private and public sector decision-makers in planning a tourism strategy, and add to a better understanding of the general phenomenon of tourism. Still, it is worthwhile to note that economics looks at only one dimension of tourism and, as such, does not deal with much of the motivational, historic, and sociocultural flavor that has characterized much of the tourism literature in recent years.

Therefore, this article examines the underlying logical structures for choice and optimizing behavior, as applied to both households and organizations. It also reviews some literature dealing with empirical applications of economic methods to tourism demand estimation. Further, it addresses public policy concerns of tourism, such as the extent of economic benefits that accrue to regions or countries because of changes in tourism activity, and the appropriate role of government in influencing tourism development.

BASIC ECONOMIC PARADIGM

The field of economics has become one of the more prominent social sciences in the last half of the twentieth century because of the relevance of its subject matter to organizations and to governments attempting to fulfill short-term and long-term objectives. Economics as a discipline is characterized by problem solving, examining and evaluating alternatives, and developing mathematical and statistical models that simulate the workings of specific markets or entire economies. One purpose of

economic modeling is to aid in discovering the implications of alternative international, national, or regional policies; another is to estimate the effects of changes in various internal or external forces on the performance of the economy or certain segments within it.

Economics is usually divided into two related dimensions. One provides a methodology of approaching problems that concern so-called "micro-oriented" issues of resource allocation in consumption and production activities, explaining how markets determine prices and quantities, and suggesting how consumers, firms, or other actors will react to changing circumstances. The other dimension of the discipline examines a variety of "macro-oriented" issues such as resource utilization for society, price and output stability, foreign exchange and trade relationships among nations, and long-term economic growth. Both micro- and macro-economic methodologies heavily use the concepts of costs and benefits in guiding economic actors to "optimal decisionmaking"; the actors include individuals, private sector firms, not-for-profit organizations, and governmental agencies.

Part of the economist's logic is that, in any choice situation, the action chosen should direct resources toward a use where the additional benefits anticipated are greater than the "opportunity cost" of the resources expended. Opportunity cost, as distinct from accounting cost, reflects the value foregone by using resources in the chosen activity, rather than in the next best activity. In this manner, the decisionmaker should always compare choices to arrive at the best one.

In the market, the interaction of demand and supply is the culmination of many individual cost-benefit decisions undertaken by potential buyers and sellers, each pursuing their own self-interest. For example, a person's choices in structuring a vacation, such as where to go, how long to take, what mode of transportation to use, where to stay, etc., can be analyzed economically in terms of trying to solve a two part problem. First, the person determines how much time and money should be allotted to the holiday, and then determines the best allocation of the scarce resources of time and money to the various alternatives. Similarly, the supplier of tourism goods and services, such as a hotel, will have to make various short-term resource allocation decisions (how many people to hire, how much to spend on raw materials, and what types of services to provide) as well as long-term capital outlay decisions (how much should be invested in the hotel facility and grounds, what amenities should be built into guest rooms and public areas). Both short-term and long-term decisions are typically based on a marketing plan, which would estimate how many clientele can be attracted to the selected quality and quantity of facilities, and what kind of prices can be charged, for example. Though each decision can be analyzed in isolation of the others, the overall goal of all the decisions taken together by the firm is to fulfill its profit maximizing objectives.

For a government agency, resources available for allocation to tourism objectives include fixed assets (property, buildings, or rolling stock owned or controlled by the government); income from tax revenues, license fees, royalties, or other sources; and existing labor resources (such as civil servants and in-place bureaucracies). The decisionmak-

ing process in government is presumed to embody a rational goal orientation for maximizing the public welfare, maximizing the likelihood of politicians' re-election and staying in power, or maximizing wealth of certain classes in society. But economists disagree on whether the motivation of policymakers is better judged in terms of maximizing public welfare by providing the optimal mix of public goods, infrastructure, and administrative services, or whether the predominant motives are self-interested and are manifested in maximizing personal power, wealth, or job security.

Economics can analyze a broad array of situations dealing with public sector support of tourism activity. For example, economic analysis can be used to examine commitment of public sector resources to the building of airports or highways, government support of hotel administration training programs in colleges and universities, provision of police services in tourism areas, tax credits for new tourism investments, or the directing of government agencies to marketing a region's or a country's tourism amenities. Policymakers must answer the questions of how much of government's available resources should be allocated for tourism purposes versus all other competing uses, and then decide among which specific alternatives the allocated resources should be committed.

Economics generally judges market-determined choices to be desirable when optimal individual choices result in socially optimal outcomes; this will occur if certain conditions or underlying assumptions are more or less correct. Those conditions require that market places are competitive (i.e., many buyers and sellers); that market prices fully cover all costs of resources needed to produce the activity, from the perspective of the producer as well as society; and that prices reflect the worth of the activity to the buyers. Under these circumstances, prices will gravitate toward the costs of production, including a normal return on invested capital for producers.

The market process, however, does not always provide a complete accounting of all costs and benefits. In instances where resources are held in common, or where property rights are poorly defined, externalities can arise. Externalities are defined as costs or benefits resulting from transactions undertaken by buyers and sellers, but falling on otherwise uninvolved third parties. Oceans and rivers, for example, are often perceived as owned (or accessible) by everyone; using them as dumping sites for pollutants diminishes production costs for producers, and therefore the prices of the commodities whose production generates the polluting by-products. By lowering price, such processes benefit both buyers and sellers of the commodity. However, consumers who obtain such a product at market prices are shifting some production costs to other members of society. Thus, others must bear those costs through diminished aesthetic or use value of the resource, by paying for clean-up through private efforts or increased taxes, or with lower wealth through foregone opportunities or depressed property values. Furthermore, such externalities tend to be inefficient as the shifted costs are greater than the incremental gain that accrues to the buyers and sellers of the commodity.

For example, when it became widely known in the 1960s and 1970s

that Mediterranean beaches had become polluted (due to disposal of untreated sewage into the Sea by municipal governments from the various countries along the Mediterranean coastline), some sewage disposal costs were shifted to tourists and potential tourism suppliers in the form of reduced use value of the coast, through diminished aesthetic amenities, and lessened tourism opportunities. In effect, users of sewage disposal services were being subsidized by those whose utilization of the Mediterranean was degraded or foreclosed by polluted waters.

Correct decisionmaking procedures should take all such externalities and their costs fully into account and apply them to the commodities that create the costs. If market forces cannot rectify such cost shifting, then economists would recommend government regulation to simulate an outcome that a fully accountable market would bring about.

Consumer Behavior and Tourism Applications

The deductive logic of micro-economic aspects of consumer behavior begins with several simplifying assumptions as applied to the appropriate economic actor. These assumptions can be summarized as follows: (a) each actor has an initial endowment of resources that can be used for its own purposes or can be sold in the marketplace for compensation (income) and used to buy goods and services with greater "utility" (profit, satisfaction, public good, etc.) than the resources foregone; (b) each actor makes resource allocation decisions that are presumed to maximize its own perceived self-interest; (c) property ownership and property rights are well-defined, with no ambiguity as to which resources are controlled by which actors; and (d) freedom of choice over some resources is constrained by institutional conditions such the standardized work-week, local content rules, price ceilings, or price floors.

For the consumer, the basic decision problem is formalized in several related decisions. One resource that most individuals or households control is time. Thus, an initial problem to the household is to find an "optimal" allocation of time between work, leisure, and consumption activities. Work, though inherently less desirable than leisure, will be chosen over leisure in return for an income in the form of a wage or salary. Income is the key that allows acquisition of other commodities that also yield utility. Optimizing behavior leads individuals to give up leisure for "work time," and implies that the commodities that can be purchased with the earnings generated from work generate greater utility than does the free use of the foregone time. Simply put, the cost of working is made up for by the rewards of income earned.

Once a consumer's income is determined, the next decision to be confronted is the optimal allocation of income among the available commodities. Utility maximization implies consumers will choose an "optimal" mix of commodities based on their tastes and preferences, the constraints imposed by their incomes and other resource availability, and by the prices of the various commodities available. Economists view the consumer as a rational goal-oriented actor whose every decision is undertaken with the intent of fulfilling internally defined goals and objectives, and whose preferences are manifested in acquisition

patterns. Finally, it is assumed that markets for particular goods or services are created by aggregating over all possible consumers the individual demands for those commodities.

The above framework is typically used in empirical studies as the starting point for estimating demand, and provides a road map for how demand for tourism services or tourist destination areas should be analyzed (Silberman 1985; Witt and Martin 1987). The conceptual framework is useful in classifying available data into appropriate typologies such as price, income, and exchange rate effects, and predicting the direction of change induced by movements in important variables.

A SAMPLING OF DEMAND STUDIES

The framework of consumer demand theory has been used in econometric studies to examine how demand for tourism services or tourist destination areas will react to changes in the main determinants of demand, such as income levels, relative prices, or other important influences on tourist behavior. The most common model used in tourism demand studies specifies a single equation model whose main dependent variable is inflation-adjusted tourist expenditures as a measure of quantity of tourist services demanded. Expenditures are assumed to be influenced by income levels at one or more tourist origins, and relative prices which potential tourists would confront at the tourist destinations. For example, a study of domestic tourism demand for Florida might examine income levels in various regions in the Northeastern, Southern, and Midwestern United States, and price levels for tourist services in Florida, in comparison to similar price levels in the said regions. Additionally, empirical analysis of tourism demand might attempt to capture other factors, such as travel costs, currency exchange rates (in case of international tourism), crime rates, and other special or unique events (Olympics, oil crises, or outbreaks of terrorism). This process of model-building by postulating cause-effect relationships is referred to as "specification." Such models are then estimated by using historic data and econometric analysis, which rely primarily on regression techniques to find consistent patterns in the interaction of variables (Artus 1972; Askari 1973; Gray 1966; Judd and Joseph 1974; Kwack 1972; Little 1980; Loeb 1982; Martin and Witt 1987; Stronge 1982; Stronge and Redman 1982; Tremblay 1989; Truett and Truett 1987; Witt and Martin 1987).

A common result of such studies, and a by-product of a variant of the linear regression technique, log-linear or exponential regression, is the estimation of elasticities of the dependent variable on changes in an independent or causal variable. In general, elasticity measures the ratio of percentage change in the dependent variable induced by a percentage change in the causal variable, *ceteris paribus*. Elasticity provides an easily understandable summary of the relationship between an independent variable (such as price or income) and the dependent variable of interest by estimating this ratio of percentage changes.

Most published studies of tourism expenditures have concentrated on the travel market in Canada, the United States, Western Europe, and Mexico. In nearly all instances, travel expenditures are income

elastic (and thus sensitive to income changes). This result seems to hold whether expenditures are measured in the aggregate or in per capita terms, and using several different specifications of the model estimated over a range of time periods. Travel expenditures have been demonstrated to be price sensitive for the most part, though the empirical magnitude of the price elasticity is inherently sensitive to the set of buyers involved and the model specification. In general, the closer the proximity of the origin-destination countries, the more price-inelastic are tourist expenditures, where price considers the tourist living costs in the destination country. With one exception (Little 1980), most estimates of travel expenditures reflecting US to Mexico (and vice versa) or US to Canada (and vice versa) travel produce low elasticity estimates, and on occasion have even shown price-inelastic results. On the other hand, tourist expenditures for travel between the US and Western European countries or Japan have generally produced price-elastic estimates greater in magnitude than 2.0.

The response of travel expenditures to the exchange rate has depended on the countries of origin, the time period covered in the study, and the precise way the exchange rate variable is defined. Some studies have reported statistical significance (Gray 1966; Little 1980; Rosenweig 1986) and others have not established significant relationships (Loeb 1982; Truett and Truett 1987). Air fares have been significant and generally inelastic with elasticity increasing with distance traveled (Stronge 1982).

A recent study by Witt and Martin (1987) finds tourist visits to be highly income elastic in nearly all cases. The elasticity of tourist visits with respect to destination and substitute living and transportation costs is dependent on the origin-destination pairs and, in the case of disaggregated travel modes in the United Kingdom, on the type of transport mode.

While demand studies using single equation models have provided some useful insights into the key determinants of tourism demand, the degree of detail that can be included into a single equation estimation technique is limited. Because the decisions that tourists make with respect to travel demand and travel expenditures are part of an expenditure allocation choice over all such tourist-related commodities, some researchers have sifted the economic literature for representative general expenditure allocation models to apply to tourist demand choices. An expenditure allocation model is a system of demand equations that shows how a consumer will distribute a certain level of expenditure among various goods, given the prices of those goods (Deaton and Muellbauer 1980).

As applied to the study of tourism demand, such models begin with the assumption that consumers have made the initial choice of how much income will be allocated to travel demand. The models examine the influence of relative prices at different tourist destinations on the suballocation problem of which tourist destination will be visited. (Fujii, Khaled and Mak 1985; Gardini 1985; O'Hagan and Harrison 1984; White 1985). The general approach of these studies has been to try to capture the interaction of demand relationships among several tourist destinations simultaneously, and to generate a better under-

standing of the competitive relationships that often exist among destinations vying for the same tourist markets. Cross-price elasticity estimates from such models provide evidence that some tourist destinations serve as substitutes for each other, where others are seen as complementary destinations by tourists. The income elasticities provide information on tourist perceptions of destination sites as "luxury," "normal," or "inferior" destinations (depending on whether income elasticities exceed unity) are positive but inelastic, or have negative elasticity. Price elasticities for tourist destinations in these studies are almost evenly split between those less than unity in absolute value and those greater.

The use of expenditure allocation models embodying systems of demand equations can be expected to become more widespread in future work because of their consistency with economic theory and their relative ease of estimation. Single equation systems cannot be so sensitive to interactions among expenditure allocations, and often suffer from what econometricians term identification problems and "feedback" processes where independent variables influence (but are also influenced by) the values of the dependent variable. However, multiple equation models increase the complexity of the modeling, and make it more difficult for nonstatisticians to evaluate critically the technique or the results of such studies.

TOURISM AND INDUSTRIAL ORGANIZATION

Economic theory suggests that a private sector enterprise will select that particular organizational structure and production processes that minimize costs. As in a Darwinian process, least cost methods of producing a commodity will, in the presence of competitive forces, ultimately prevail over more costly techniques. Prices will be pushed toward the minimum average cost of production, including a normal rate of return on invested capital. The study of market structures, the competitive arrangement of firms within an industry, represents another dimension that economics provides to tourism research.

Market structures of industries, including those which cater to tourists, can be described by comparing the size and character of individual firms within the industry to the dimensions of the entire industry. An industry with many firms, all relatively small compared to the industry in aggregate, and offering essentially the same commodity, is referred to by economists as possessing a highly competitive market structure. In such a setting, perceived product differentiation is minimal and firms are considered as "price takers" with little incentive to promote themselves through marketing efforts. In a tourism context, street vendors, down-market hotels and motels, tour guides and generic restaurants often have characteristics close to the competitive norm. In contrast, firms in less competitive market structures are often "price makers," which use pricing, promotion, and product differentiation to create customer loyalty in marketing their commodities.

At the other extreme from competition, an industry with only one firm supplying a commodity, with substantial barriers to entry of new firms, and with few, if any, close substitutes, would be classified as

monopolistic. The monopoly could be located in the private sector or the public sector. Thus, for example, Disney World approaches a monopoly over its market in the Orlando, Florida area, especially as it internalizes additional tourism services and activities within its property boundaries. On the other hand, Intourist, the Soviet foreign tourist agency, provides an example of government monopoly in the delivery of tourism services within that country, as visitors are required to use Intourist as their local travel agent.

Between competition and monopoly are a spectrum of possible market structures, usually grouped as either monopolistic competition or oligopoly. An industry of many smaller firms, each able to create some consumer loyalty by offering a differentiable product, and with relatively few barriers to entry of new firms, is monopolistically competitive. In other words, it has some elements of both monopoly and competition. For example, nonfranchised hotels or restaurants of varying quality in a destination resort would typically fall into this category.

However, an industry with significant barriers to entry, and made up of so few firms that each must consider the actions of the others in pricing, output, or product quality decisions, is best described as oligopolistic. The airline industry in the United States, casinos in Atlantic City, major rental car agencies, and major hotel chains would all be examples of oligopolistic industries.

In any market structure, firms which seek to expand existing facilities to a more efficient size, or to expand their operations into new locations, will use retained earnings, sell equity, or borrow against future expected profits to raise financial capital. If economies of scale exist, expanding firms can achieve a cost advantage over smaller firms, would be inherently more profitable than smaller firms, and would be better able to raise financial capital for further expansion. In such circumstances, depending on the initial market structure and industry pricing policies, larger firms will prevail over time. Small firms will tend to disappear or be absorbed by larger firms.

An interesting application of this dynamic is reflected in changes that have occurred in the United States airline industry since deregulation in 1978. Before deregulation, markets of individual airlines were protected by the Civil Aeronautics Board (CAB) that prevented competitive entry, controlled prices, and required cross-subsidization (i.e., using profits from high margin routes to subsidize routes that could not break even, as a condition for the privilege of servicing routes with excess profit potential). Since deregulation, the barriers to entry on routes diminished, and prices, which were now set competitively, fell significantly on heavily contested routes. As the airline industry expanded to take advantage of the perceived profitable opportunities, volume in the industry grew rapidly. The heavy "cutthroat competition" that accompanied this growth led to tremendous profit volatility and a subsequent shake-down marked by a rash of bankruptcies, mergers, and take-overs among new and pre-existing airlines. By the 1990s, the industry had become highly oligopolistic in structure, though not necessarily more profitable. Pricing policies, though highly competitive on some routes, were sufficiently noncompetitive on others to enable substantial price discrimination, charging different prices for the same

service. Nonetheless, the airline industry in the United States became more efficient in a cost sense. Many inefficient practices that prevailed during the regulated years ceased as airline firms by necessity became far more cost conscious.

If the firm is characterized by public sector ownership, as are, for example, railroads, airlines, and telecommunications in many European countries, then the goal of profitability is diminished and the process of growth and expansion is considerably more politicized. In effect, the market forces are still present, but policymakers can choose to ignore or override them by subsidizing the operations to fulfill broader social or political objectives (i.e., preserving economically unviable tourist markets, or preventing wage cuts that economic losses would otherwise dictate in the organization's labor force). This also allows other groups, such as labor unions, regional tourism interests, or environmentalists, to redirect resources through political efforts that supercede economic considerations.

TOURISM AND REGIONAL ECONOMIC IMPACTS

In recent years, a common theme of economic analysis applied to tourism has been the tracing of economic benefits that filter through a local, regional, or national economy as the result of the existence of the tourism sector (Archer 1976, 1977; Ghali 1976; Gray 1970; Kottke 1988). When the tourism sector increases the size or scale of tourist operations, new revenues are injected into the economy. Some new revenues may occur initially because of the capital construction process, but the major continuing impact is usually a result of increased expenditures by tourists, and through the sale of raw materials and other inputs to the suppliers of tourism services. The job and income creation that results is typically viewed as a benefit, often a substantial one, to the host region. These benefits are typically classified as "primary" or "direct," insofar as they are directly linked to the tourism activity.

Tourism often is a major "export" of a region or nation, though no commodities are being physically exported. Instead, tourists travel to a destination to consume tourism services and the resulting payment flow into the destination in much the same manner as for other export sectors. This injection of income becomes a source of income and jobs for people involved directly in providing tourism services, and also indirectly supports other sectors of the economy as the newly created income is spent in the purchase of other goods and services produced in the region. These additional economic benefits are known as "secondary" or "indirect" economic impacts. The process of describing and estimating the extent of these primary and secondary income flows is commonly called "multiplier analysis" (Archer 1973; Liu and Var 1982; Milne 1987).

The magnitude of economic benefit that accrues to a region from a change in the level of tourism activity depends on several factors. In the most general sense, the economic impact will be greater, *ceteris paribus*, the greater the value added to the tourism product from regional resource utilization; the greater the supply of inputs for the tourism

product from regional producers; and the lower the proportion of imported goods that enter into resident consumption and production in the region. The "multiplier" is typically defined as the ratio of total income or expenditure changes (including the initial tourism induced changes) in a region to the changes in income or expenditures directly attributable to tourism. In general, income multipliers for an area tend to be positively correlated to the size of the tourist area. Income multipliers usually are greater than two for larger developed countries and diminish in size below 1.50 for cities or small regions.

Techniques for estimating income and employment multipliers for the tourist sector have included input-output analysis (Fletcher 1985, 1987, 1990; Summary 1987) and economic base models (Milon, Mulkey and Ellerbrock 1982). Multiple equation regional econometric models also often incorporate a tourist sector and can generate multiplier estimates (Glickman 1977). Other estimates of income and employment multipliers have been derived using a modified version of an input-output model (Milne 1987; Var and Quayson 1985).

Each of these approaches has advantages and disadvantages. Full scale input-output models provide the greatest amount of detail on how each part of the economy is linked together. However, the use of input-output models is often constrained by the unavailability of data below the national level and the cost associated with generating the requisite data. These conditions have resulted in use of the modified version. Similar data limitations create statistical estimation problems when regional econometric modeling techniques are employed. The economic base model, which is the simplest and least costly approach, suffers severe limitations on sectoral detail and sectoral interaction in an economy because of the high level of aggregation involved.

The "multiplier" effects resulting from an initial tourist expenditure injection will be dependent on the amount of "recycling" of incomes for regionally produced goods and services within the regional economy by those whose incomes are generated directly in the tourism business. This will depend on how much domestic consumption is regionally produced as compared to being imported. Economic base models suggest this can be approximated by classifying production and employment activity in the region between "basic" (for export purposes) and "non-basic" (for regional consumption). The ratio of total (basic plus non-basic) employment to basic employment provides a first approximation to the value of the multiplier.

If the ratio of total to basic sector employment in a region is somewhat stable, then non-basic sector employment will be increased by a predictable amount as the higher levels of tourism activity in the region increase basic sector employment. If the region imports a relatively small portion of the commodities it consumes, the extent of the multiplier impacts will be magnified. Over a longer period with an expanding tourism (or other basic) sector, the non-basic sector often grows relative to the basic sector as more locally consumed goods and services are produced by local firms. Consequently, the ratio of non-basic to basic employment in the region is altered along with the actual magnitude of the multiplier effect.

PUBLIC POLICY AND TOURISM DEVELOPMENT

A most important contribution that economic analysis can make to the formulation of touristic policies is to provide a reasonably accurate assessment of the implications of different types of tourism development, and to suggest areas where it is appropriate for the public sector to allocate resources for its development. The underlying principle for public sector intervention is that the aggregate of benefits from the intervention should exceed the costs.

Public sector activities linked to the tourism sector include the direct provision of or direct subsidies to private sector providers of tourism services; provision of information or marketing of destinations to enhance tourism demand; development of infrastructure to enhance the quality of or to lower the cost to firms which supply the tourism product; mitigation of social and environmental externalities (such as the threat of crime, or the presence of air, water, or aesthetic pollution); and preservation of the asset resources that are frequently the major appeal of the tourism product (Gray 1982).

A major implicit use of economic analysis of tourism, including input from formal cost-benefit models, multiplier analysis, and demand studies, is to provide a conceptual justification for public sector intervention. That conceptual justification rests heavily on the nature of the costs and benefits that are perceived to flow from any specific intervention case. Some actions that foster tourist development generate costs and benefits whose value cannot be readily discerned from market prices. Ultimately, voters or the political process must decide how important are the preservation of existing social values, or the preservation of a pristine beach. The use of formal cost-benefit models, multiplier analysis, and demand analysis are not substitutes for this process. However, the information derived from application of a combination of these techniques provides an invaluable component to the decision process (Bryden 1983; Lea 1988; Mathieson and Wall 1982).

Economic analysis also attempts to distinguish between production effects and distribution effects. In general, any public sector undertaking will result in both types of effects, but decisions should place greater emphasis on the "outputs" (production effects) than on "inputs" (distribution effects). On the one hand, a government's decision to build new roads and airports in a region to stimulate tourism growth will have certain distribution effects (such as increasing labor earnings within that region, enhancing property values near the developments, or lowering the costs to tourism firms which do business in that region). On the other hand, such infrastructure investment could indeed improve the general social well-being of that country through increased volumes of tourism that would trigger higher income levels, greater foreign exchange, more and higher paying jobs, multiplier effects, and other benefits accruing to citizens in that country. These would all come under the category of production effects.

Regions have pursued domestic tourism, and many countries have been attracted to international tourism development, in hopes of experiencing these very production effects. Tourism was initially characterized as an economic activity that employed relatively simple technolo-

gies and could draw on an abundant domestic labor supply and natural resources (sun, scenery and exotic lure). Tourism itself would require limited capital investment, earn substantial net foreign exchange, constrain industrial expansion that led to growing urbanization with all its attendant problems, and provide a price and income elastic substitute for unstable commodity exports (Bryden 1973; de Kadt 1979; Diamond 1976; Lea 1988; Williams and Shaw 1988).

Many of these alleged advantages of tourism as a panacea for economic development have not represented reality, however. The intensity of competition for domestic or international tourist business, particularly in terms of user-oriented sites, has constrained demand below expectations for any particular destination site. Additionally, tourist demand can be highly unstable in response to perceived risks and uncertainties in travel associated with political turmoil, terrorism, epidemics, and natural disasters; it also can be highly seasonal in nature. On the supply side, tourism has not always been an effective employment generator and can be a capital intensive industry with a significant import content (Cater 1988; Summary 1987).

A most valuable and challenging task of the economist is to separate between distribution and production effects, and by so doing, clarify the decisionmaking process for public policymakers. The real costs and benefits that should come under consideration are the production effects; public sector actions should be evaluated based on their contributions to the long-term production and income generation objectives of the society, rather than on the issues about division of the immediate rewards. Regrettably, however, even with good economic analysis, that objective is often difficult to achieve in reality.

CONCLUSIONS

As tourism continues to grow throughout the world, economic analysis of tourism will continue at both the micro-economic and macro-economic levels. Numerous topics will likely receive increasing attention in the years ahead, such as analyses of the rise and fall of particular resort areas (Stansfield 1978); the optimal mix of public sector stimulation for private sector investment in the tourism industry; the growing role of created "artificial" activities as tourist attractions at major destination resorts (such as Orlando's theme parks or Las Vegas' megacasinos); and the contributions of tourism to major world cities. Optimal tourism development, in the sense of allowing tourism to grow only to the level that it does not seriously undermine either the tourism assets or other economic activities or regions, will also receive attention from those interested in tourism and public policy.

In addition to research on types of tourist development and on ways to improve intersectoral linkages, the future is likely to see an integration of economic models and statistical techniques that will increase the information obtainable from tourist data and provide insight into international as well as domestic tourist flows. For example, a prototype model might link estimates of tourist volumes via Box-Jenkins time series analysis and estimates of tourist expenditure allocations via a

system of demand equations, with a national or regional econometric or input-output model.

Generally speaking, economics can bring clear and organized thinking into areas of substantial importance and controversy, and in this manner put into proper perspective the implications of choosing alternative courses of action. When applied to tourism, economics provides a way of thinking about issues that compels its users to confront the necessity of making choices and to assess the implications of those choices in terms of the costs and benefits that will arise from particular choices. The economic perspective provides useful insights for finding efficient choices in terms of production effects, assists in distinguishing between production and distribution effects, and can organize information about the nature of the distribution effects stemming from alternative choices. The economic perspective cannot replace many normative judgments of voters or policymakers in deciding the "best choice" with respect to distribution effects or noneconomic impacts, but it can better define the arena in which such conflicting alternatives should be examined. □□

REFERENCES

- Archer, Brian
 1973 *The Impact of Domestic Tourism*. Bangor Occasional Papers in Economics 2. Cardiff: University of Wales Press.
 1976 *The Anatomy of a Multiplier*. Regional Studies 10(1):71-77.
 1977 *Tourism Multipliers: The State of the Art*. Bangor Occasional Papers in Economics 11. Cardiff: University of Wales Press.
- Artus, J. R.
 1972 *An Econometric Analysis of International Travel*. IMF Staff Papers 19:579-614.
- Askari, H.
 1973 *Demand for Travel to Europe by American Citizens*. *Economia Internazionale* 26:305-317.
- Bryden, J. M.
 1973 *Tourism and Development*. Cambridge: Cambridge University Press.
- Cater, E.
 1988 *The Development of Tourism in the Least Developed Countries*. In *Marketing in the Tourism Industry*, Goodall, B. and G. Ashworth, eds., pp. 39-66. New York: Croom Helm.
- Deaton, A. S., and J. Muellbauer
 1980 *An Almost Ideal Demand System*. *American Economic Review* 70:319-326.
- deKadt, E. J.
 1979 *Tourism: Passport to Development*. New York: Oxford University Press.
- Diamond, J.
 1976 *Tourism's Role in Economic Development: The Case Reexamined*. *Economic Development and Cultural Change*. 25(1):539-553.
- Fletcher, J. E.
 1985 *The Economic Impact of International Tourism on the National Economy of Jamaica*. Report to the Government of Jamaica. WTO/UNDP JAM/84/007.
 1987 *The Economic Impact of International Tourism on the National Economy of the Solomon Islands*. Report to the Government of The Solomon Islands. WTO/UNDP RAS/83/002.
 1990 *Input-Output Analysis and Tourism Impact Studies*. *Annals of Tourism Research* 17(2):514-529.
- Fujii, E., M. Khaled, and J. Mak
 1985 *The Exportability of Hotel Occupancy and Other Tourist Taxes*. *National Tax Journal* 38(2):169-177.

- Gardini, A.
1985 An Analysis of Demand for Tourist Services in Italy: Statistical Estimate and Test of the Rotterdam Differential Model. *Statistica* 45:319-337.
- Ghali, M. A.
1976 Tourism and Economic Growth: An Empirical Study. *Economic Development and Cultural Change* 24(3):527-538.
- Glickman, N. J.
1977 *Econometric Analysis of Regional Systems*. New York: Academic Press.
- Gray, H. P.
1966 The Demand for International Travel by the United States and Canada. *International Economic Review* 7(1):83-92.
1970 *International Travel-International Trade*. Lexington: D. C. Heath.
1982 The Contributions of Economics to Tourism. *Annals of Tourism Research* 9(1): 105-125.
- Judd, G. D., and H. Joseph
1974 International Demand for Latin American Tourism. *Growth and Change* 5(January):25-31.
- Kottke, Marvin
1988 Estimating Economic Impacts of Tourism. *Annals of Tourism Research* 15(1): 122-133.
- Kwack, Sung Y.
1972 Effects of Income and Prices on Travel Spending Abroad, 1960 III-1967 IV. *International Economic Review* 13(2):245-256.
- Lea, J.
1988 *Tourism and Development in the Third World*. New York: Methuen.
- Liu, J., and T. Var
1982 Differential Multipliers for the Accommodation Sector. *International Journal of Tourism Management* 3(3):177-187.
- Little, J. S.
1980 International Travel in the U.S. Balance of Payments. *New England Economic Review* (May/June):42-55.
- Loeb, D. P.
1982 International Travel to the United States: An Economic Evaluation. *Annals of Tourism Research* 9(1):7-20.
- Martin, C., and S. F. Witt
1988 Substitute Prices in Models of Tourism Demand. *Annals of Tourism Research* 15(2):255-268.
- Mathieson, A., and G. Wall
1982 *Tourism: Economic, Physical and Social Impacts*. London: Longman.
- Milne, S. S.
1987 Differential Multipliers. *Annals of Tourism Research* 14(4):499-515.
- Milon, J. W., W. D. Mulkey, and M. J. Ellerbrock
1982 Regional Impact Analysis and Recreation Multipliers. *The Review of Regional Studies* 12(3):11-21.
- O'Hagan, S., and M. J. Harrison
1984 Market Shares of U.S. Tourist Expenditure in Europe: An Econometric Analysis. *Applied Economics* 16:919-931.
- Rosenweig, J. A.
1986 Exchange Rates and Competition for Tourists. *New England Economic Review* (July/August):57-67.
- Silberman, J.
1985 A Demand Function for Length of Stay. *Journal of Travel Research* 23:16-23.
- Stansfield, Charles
1978 Atlantic City and the Resort Cycle: Background to the Legalization of Gambling. *Annals of Tourism Research* 5(2):238-251.
- Sternleib, G., and J. W. Hughes
1983 *The Atlantic City Gamble*. Cambridge: Harvard University Press.
- Stronge, W. B.
1982 The Overseas Demand For Tourism in the United States. *The Review of Regional Studies* 12(3):40-53.

Stronge, W. B., and M. B. Redman

1982 U.S. Tourism in Mexico: An Empirical Analysis. *Annals of Tourism Research* 9:21-25.

Summary, R.

1987 Tourism's Contribution to the Economy of Kenya. *Annals of Tourism Research* 14(4):531-540.

Tremblay, Pascal

1989 Pooling International Tourism in Western Europe. *Annals of Tourism Research* 16(4):477-491.

Truett, D. B., and L. J. Truett

1987 The Response of Tourism to International Economic Conditions: Greece, Mexico, and Spain. *The Journal of Developing Areas* 21:177-190.

Var, T., and J. Quayson

1985 The Multiplier Impact of Tourism in the Okanagan. *Annals of Tourism Research* 12(4):497-514.

Williams, A. M., and G. Shaw, eds.

1988 *Tourism and Economic Development*. New York: Belhaven Press.

White, K. J.

1985 An International Travel Demand Model: U.S. Travel to Western Europe. *Annals of Tourism Research* 13(3):349-365.

Witt, S., and C. Martin

1987 Econometric Models for Forecasting International Tourism Demand. *Journal of Travel Research* 25:23-30.

Submitted 9 November 1989

Revised version submitted 15 March 1990

Accepted 30 August 1990

Refereed anonymously