

A Guide for Undertaking Economic Impact Studies: The Springfest Example

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This study's intent is to offer a generalizable model for undertaking economic impact studies that tourism professionals can use to conduct similar studies in their own communities. A conceptual rationale for undertaking economic impact studies is described. The four principles central to the integrity of economic impact analyses are reviewed: exclusion of local residents, exclusion of "time-switchers" and "casuals," use of income rather than sales output measures of economic impact, and correct interpretation of employment multipliers. The economic impact of a festival on Ocean City, Maryland, is offered as an exemplar.

Ocean City is a traditional resort community stretching for 10 miles along a barrier island on the coast of Maryland. Tourism is the basis of the town's economy and the reason for the community's existence. It is estimated that more than 8 million people visit the resort each year. The full-time resident population of the town is approximately 7,000. However, visitors and part-time residents swell this number to 35,000 on winter weekends and 300,000 in the height of the summer season.

One of the resort's annual early season attractions is Springfest, which is a 4-day festival held in May. The grounds are open from 10 a.m. to 10 p.m. on Thursday through Saturday and from 10 a.m. to 6 p.m. on Sunday. Big-top tents are erected on the site and are filled with arts and crafts, ethnic and regional foods, children's activities, music, and other ongoing entertainment. The festival's organization requires a substantial investment of resources by the town, especially the parks and recreation department. Consequently, administrators and elected officials wanted to identify the economic income that the town's residents received from their investment.

This article reports the principles and procedures that were adopted for estimating Springfest's economic impact on Ocean City and the study's results. The intent is to offer a generalizable model for undertaking economic impact studies that tourism professionals can use to implement similar studies in their own communities.

THE RATIONALE FOR ECONOMIC IMPACT STUDIES

The conceptual rationale for undertaking economic impact studies is illustrated in Figure 1. It shows that residents of a community pay funds to their city council in the

form of taxes. The city council uses a proportion of these funds to subsidize production of an event or development of a facility. The event or facility attracts nonresident visitors who spend money in the local community both inside and outside of the event or facility that they visit. This new money from outside of the community creates income and jobs in the community for residents. This completes the cycle; community residents invest the tax funds, and they receive the return on their investment in the form of new jobs and more household income.

Economic impact studies supplement the traditional financial balance sheets that agencies provide to city councils. The financial balance sheet demonstrates fiscal accountability, documents expenditures and income made and received by the city council, and offers evidence of good stewardship of public funds, but it does not address the broader issue of what community residents receive in return for their investment of tax funds.

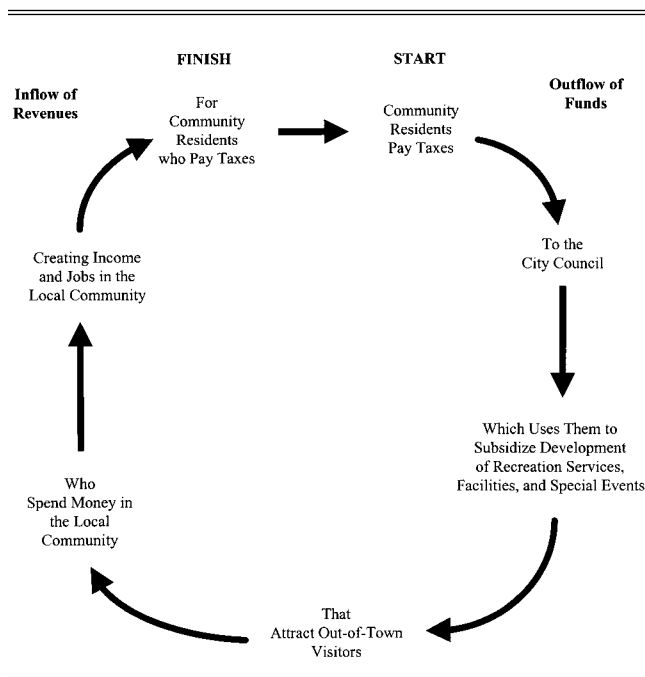
Financial balance sheets start and end with the city council, rather than with a community's residents (see Figure 1). This is misleading because it suggests that concern should be narrowly focused on income that accrues to the council from events. This approach is flawed conceptually because the money invested does not belong to the council; rather, it belongs to the city's residents. Although it is efficient for the residents' investment to be funneled through the council, the return that *residents* receive is what is important, not merely the proportion of the total return that filters back to the council. A key purpose of economic impact studies is to measure the economic return to residents.

In the case of the Springfest festival, it is possible that the town of Ocean City may have invested as much as \$50,000 on such things as labor, in-kind resources, purchase of supplies, and police patrols and trash clearance and may have received no direct income in return. However, to report that the town "lost \$50,000" from organizing the festival would be misleading and inappropriate. The appropriate, relevant question to ask is, "What did the town's taxpayers receive in return for their investment?" It is clear that the return to residents is likely to be substantial. The task of an economic impact study is to estimate the magnitude of that return to the community.

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Journal of Travel Research, Vol. 40, August 2001, 79-87
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FIGURE 1
THE CONCEPTUAL RATIONALE FOR
UNDERTAKING ECONOMIC IMPACT STUDIES



Essentially, the town of Ocean City provides seed money and in-kind resources to leverage substantial economic gains for the community's residents. If public-sector resources are not used to financially underwrite the cost of staging events of this nature, then the consequent economic benefits to the local community will not accrue. Private enterprises are unlikely to commit funds to organizing such events because as individual business entities, they are unable to capture a large enough proportion of the income spent by participants to obtain a satisfactory return on their investment.

THE BASIC PRINCIPLES OF ECONOMIC IMPACT STUDIES

Because economic impact studies use complex procedures and produce quantifiable outcomes, often there is a presumption in the minds of "bottom-line" oriented audiences who are unfamiliar with the technique that the analyses are "scientific" and, hence, the outputs are objective and unequivocal. This is fallacious. Economic impact analysis is an inexact process, and output numbers should be regarded as a "best guess" rather than as being inviolably accurate. Indeed, if a study were undertaken by five different experts, it is probable that there would be five different results.

There are several points in an analysis at which different procedures and underlying assumptions can be made that will substantially affect the final result. Sometimes a genuine lack of understanding of economic impact analyses and the procedures used in them leads to inadvertent errors, but in other instances, they are used mischievously or strategically to deliberately mislead and generate large numbers. While many economic impact analyses are done with integrity, there are also, unfortunately, numerous examples of authors

who have yielded to the temptation to adopt inappropriate procedures and assumptions to generate high economic impact numbers that will position an agency more favorably in the minds of taxpayers and elected officials.

Most research projects are predicated on a search for truth, but the goal in economic impact studies is less auspicious; often, it is to legitimize a position. Frequently, studies are undertaken to justify an event in quantitative dollar terms, with the expectation that the results will reinforce the case for sustaining or increasing resources allocated to it. In these circumstances, there is a temptation to manipulate the procedures to strengthen the case.

In this vein, one commentator suggested that while the people hired to conduct studies appear to be both expert and neutral, in some cases, "they are in truth the exact equivalent of an expert witness in a lawsuit who comes to testify in support of the side that is paying the expert's bill. An expert whose testimony harms his employer's case doesn't get much repeat business" (Curtis 1993, p. 7). Obviously, there are many authors of economic studies who do not fit this stereotypical caricature, but it is also clear that there are multiple examples of such shenanigans. To avoid the useful tool of economic impact analysis falling into disrepute, it is important that tourism professionals be better equipped to recognize and expose such charlatan studies when they are produced.

The mischievous use of these studies was exemplified a few years ago by the contrasting values placed on the San Francisco Giants baseball franchise when it seemed probable that the team would leave Candlestick Park for a new stadium in San Jose. San Francisco and San Jose are similarly sized cities located only 50 miles apart. In San Francisco, which anticipated losing the franchise if voters in San Jose agreed to fund the stadium, the city's budget director reported that she could document only a \$3.1 million net gain to the city from the Giants. In contrast, the mayor of San Jose, who was trying to persuade that city's residents to approve a referendum that would authorize \$265 million of public funds to build a new stadium in which the Giants would play, announced the results of a study showing that the same franchise would deliver to San Jose somewhere between \$50 million and \$150 million a year in economic benefits (Howard and Crompton 1995).

One of the authors experienced a similar mischievous strategy when he estimated the economic impact of a festival held over two weekends in a community to be \$5.1 million. Two months after the report was submitted to the sponsoring organization, a front-page headline in the local newspaper read "Festival is impressive cash cow. Generates over \$85 million." It appears the sponsor considered the author's numbers to be too low and so commissioned a second study from another source. It used secondary data replete with untenable assumptions and clear abuses of the principles of economic impact analysis. Nevertheless, it appeared to be uncritically accepted by those who read it.

The media, general public, city council, and other relevant publics are unlikely to be aware of the underlying assumptions, subtleties, and potential error sources associated with economic impact studies. This lack of sophistication and the apparent objectivity conveyed by the numbers make it tempting for advocates to act unethically.

In this section, four principles central to the integrity of economic impact analyses are briefly reviewed. They are

exclusion of local residents, exclusion of “time-switchers” and “casuals,” use of income rather than sales output measures of economic impact, and correct interpretation of employment multipliers. Mischievous manipulation of analyses invariably involves abusing one or more of these four principles.

Exclusion of Local Residents

Economic impact attributable to Springfest relates only to new money injected into the Ocean City economy by visitors, media, external government entities, or banks and investors from outside the community. Only spending by visitors who reside outside the town and whose primary motivation for visiting is to attend the event, or who stay longer in the town and spend more because of it, should be included.

Expenditures by those who reside in Ocean City represent only a recycling of money that already exists there. It is probable that if local residents did not spend their money at the festival, then they would dispose of it either now or later by purchasing other goods and services in the town. Twenty dollars spent by a local family at Springfest is likely to be \$20 less spent on movie tickets elsewhere in Ocean City. Thus, expenditures associated with the event by local residents are likely merely to be switched spending, which offers no net economic stimulus to the town. Hence, this money should not be included when estimating economic impact.

Exclusion of “Time-Switchers” and “Casuals”

Expenditures from out-of-town visitors should be net of “time-switchers” and “casuals.” Some nonlocal spectators at Springfest may have been planning a visit to Ocean City for some time but changed the timing of their visit to coincide with the event. The spending of these *time-switchers* cannot be attributed to the event since it would have occurred in the town without the event, albeit at a different time of the year.

Casuals are visitors who were already in Ocean City attracted by other features and who elected to go to Springfest instead of doing something else. These casuals may have been in Ocean City visiting friends or relatives or have come to enjoy the general ambiance of the resort and attended Springfest as a pleasant way to spend the day. Their expenditures in Ocean City could not be attributed to Springfest because they were already in the town, and it is likely they would have spent that money in the resort on something else if there had been no festival.

Expenditures by time-switchers and casuals would have occurred without the festival, so income generated by their expenditures should not be attributed to it. However, if visitors who qualify as members of these two groups stay in Ocean City for more days than they would have done if the event had not been held, then their expenditures on those extra days should be included in the economic impact analysis.

Use of Income Rather than Sales (output) Measures

Economic impact can be expressed by a variety of different indicators, but almost all of them involve use of the multiplier concept. This concept recognizes that when visitors to

Springfest spend money in Ocean City, their initial direct expenditures stimulate economic activity and create additional business turnover, personal income, employment, and government revenue in the town. An explanation of the multiplier concept is beyond the scope of this study, but it can be likened to the ripples set up in a pool if more water is poured into the system. The pool represents the Ocean City economy, and the additional water symbolizes extra spending by the outside visitors. The ripples show the spread of money through the town’s economy.

In this study, the IMPLAN input-output modeling system was used to calculate the multiplier effect at each event (Minnesota IMPLAN Group 1997). IMPLAN produces the three different types of economic impact measures that are commonly reported. They are sales, personal income, and employment. Because the first two of these are both measured in dollars, they are often confused. The *sales (output)* measure reports the effect of an extra unit of visitor spending on economic activity within Ocean City. It relates visitor expenditure to the increase in business turnover that it creates. It is a rather esoteric measure with very limited practical value. It may be of some interest to economists interested in researching industry interdependencies, business proprietors interested in sales impacts, or officials in governmental entities who are interested in approximating sales revenues that may accrue from injections of funds into particular sectors, but it does not offer insights that are useful for guiding the policy decisions of local elected officials.

The *personal income* measure of economic impact reports the effect of an extra unit of visitor spending on the changes that result in level of residents’ personal incomes in Ocean City. In contrast to the sales (output) indicator, the income measure has substantial practical implications because it enables the economic benefits received by residents to be related to the costs they invested (see Figure 1).

In the analysis of Springfest, sales (output) measures of economic impact are unlikely to be of interest to Ocean City. The point of interest is likely to be the impact of those sales on residents’ incomes. Most government officials and taxpayers are likely to be interested only in knowing how much extra income Ocean City residents will receive from the injection of funds from visitors. Their interest in value of sales per se is likely to be limited since it does not directly affect residents’ standard of living.

The conceptual model shown in Figure 1, illustrating the rationale for undertaking an economic impact study, specifies that its purpose is to compare how much money Ocean City residents invest in Springfest with how much income they receive from it. The notion of sales transactions does not appear anywhere in the model, and from the perspective of Ocean City residents and elected officials, it is irrelevant to the analysis.

Careful Interpretation of Employment Measures

An *employment* multiplier measures the effect of an extra unit of visitor spending on employment in Ocean City. There are three important caveats regarding the estimates of employment provided by the IMPLAN model that should be noted. First, estimates include both full-time and part-time jobs and do not distinguish between them. The output measure does not identify the number of hours worked in each

job or the proportion of jobs that are full- and part-time. It seems reasonable, however, to posit that Ocean City businesses are unlikely to hire additional full-time employees in response to additional demands created by Springfest because the extra business demand will last only for 4 days. Rather, existing employees are likely to be released from other duties to accommodate this temporary peak demand or requested to work overtime. At best, only a few very short-term additional employees may be hired.

Second, the employment estimates assume that all existing employees are fully occupied, so an injection of external visitor spending will require an increase in the level of employment within Ocean City. In the context of the front desk of a hotel, for example, the employment estimator assumes that the existing staff would be unable to handle additional guests checking in for overnight stays associated with Springfest. In many cases, however, they are sufficiently underemployed to do this, so additional staff would not be needed. In these situations, the employment coefficient is exaggerated.

A third potentially misleading corollary of employment estimates is that they imply that all new jobs will be filled by residents from within Ocean City. It is possible, however, that some proportion of them will be filled by commuters from outside the town. In these cases, it would be inappropriate to consider that all the jobs benefit the community's residents.

ESTIMATING ATTENDANCE AT SPRINGFEST

The first major challenge confronting the research team undertaking the study was to obtain an accurate estimate of attendance. Since economic impact is estimated by extrapolating data collected from a sample of visitors to the total festival attendance, its accuracy is dependent on the accuracy of attendance data. There is little point in investing resources to carefully collect the data from a sample unless the veracity of the total attendance count can be verified.

Like many festivals, entrance to the Springfest site was on foot and was not controlled. Visitors could enter from multiple access points without paying an admission price. Hence, it was not possible to verify the total attendance by counting tickets sold, by using turnstile count or car counters, or by using any of the other obvious counting methods.

There were two principal entrance points into the grounds (termed gates A and B). Decorative archways were created at these points to signal visitors that these were the main entrances. Visitors could also enter the festival grounds, however, at three other points. A sampling procedure was developed for estimating attendance because resources were not available to hire staff to count visitors entering the grounds from all five entrance points throughout the festival. Counts were taken for 15 minutes during a predetermined 1-hour period. On Friday through Sunday, which were the busiest days, counts were scheduled hourly during the peak arrival times of the day. On the off-peak hours and on Thursday, the counts were taken every second hour. Counts were always undertaken at the main entry gate A during the observed count periods. Additional counts at the other entry points were undertaken on a rotating basis.

The number of people entering the festival grounds within the 15-minute count was extrapolated to form an estimate of the number entering at that gate during the 1-hour period. Thus, if 25 people were observed entering in a 15-minute count at gate A, then the number estimated for the 1-hour period was 100.

When a count was not taken at an entry point for a specific 1-hour period, the count for that entry was made based on a count at that point at the most recent time on that day. This count was also adjusted based on the ratio of the count from the unobserved entry to an observed entry for the same hour. Thus, if a count was taken at gate A and no count was taken at gate B, but in the previous hour a count was taken for both gates A and B, then the ratio of the count between gates A and B was used to extrapolate the count to gate B. For example, if gate A had a count of 100 and gate B a count of 50 in the first hour, then the count for gate B was 50% of the gate A count. If in the following hour, the actual count at gate A was 200, then the estimate for gate B would be 100—that is, 50% of the actual count at gate A.

Since the festival grounds officially opened at 10 a.m. each day, counts were taken after 10 a.m. and up until or near closing. Some people, however, entered the festival grounds before the counts began at 10 a.m. Thus, each day staff made a visual estimate of the number who were onsite before 10 a.m., and this number was added to the daily estimate.

It was recognized that some visitors left the grounds and subsequently reentered them, and they could not be differentiated from those entering for the first time. The staff consensus was that relatively few visitors did this, and their best estimate was that 5% should be deducted from the visitor count to reflect the double entrants.

These procedures resulted in the following estimates of daily attendance: Thursday, 17,851; Friday, 20,992; Saturday, 42,352; and Sunday, 20,612. The estimated total attendance was 106,807.

DATA COLLECTION

The instrument used to collect the data is shown in Figure 2. A major goal was that the questionnaire should be short. The shorter it is, the less time it takes respondents to complete, and the more likely it is that they will cooperate in the study. To achieve this goal, it was imperative that the questionnaire should contain only essential questions. The criterion used in developing it was the following: what will be done with the information from this question? Questions that may have produced "interesting information" were not included unless that information was essential for calculating economic impact. In this section, the rationale supporting each question on the questionnaire shown in Figure 2 is explained.

1. What is the zip code at your primary home address?

This question was designed to differentiate between local and nonlocal respondents. Earlier it was pointed out that economic impact refers only to expenditures made by out-of-town visitors, so those who live in Ocean City must be screened out and eliminated from the study's calculations.

FIGURE 2
SPRINGFEST 1999: TOWN OF OCEAN CITY VISITOR SURVEY

SPRINGFEST 1999
TOWN OF OCEAN CITY VISITOR SURVEY

DATE: _____

TIME: _____

1. What is the zip code at your primary home address? _____
2. Which of the following days will you be (have you been) at this event? (Please circle **all** that apply)
 Thursday Friday Saturday Sunday
3. How many people (**including yourself**) are in your immediate group? (This is the number of people for whom you typically pay the bills, e.g., your family or close friends) _____ people
4. To better understand the economic impact of this festival, we are interested in finding out the approximate amount of money you and other visitors in your immediate group will spend, including travel to and from your home. We understand that this is a difficult question, but please do your best because your responses are very important to our efforts. **DURING THE COURSE OF YOUR VISIT, WHAT WAS THE APPROXIMATE AMOUNT YOUR IMMEDIATE GROUP WILL SPEND IN EACH OF THE FOLLOWING CATEGORIES:**

TYPE OF EXPENDITURE	Amount spent in the Ocean City area	Amount spent outside the Ocean City area
A. Food & Beverages (restaurants, concessions, cafeterias, etc.)	_____	_____
B. Night Clubs, Lounges & Bars (cover charges, drinks, etc.)	_____	_____
C. Retail Shopping (souvenirs, gifts, films, etc.)	_____	_____
D. Lodging Expenses (hotel, motel, condos, etc.)	_____	_____
E. Private Auto Expenses (gas, oil, repairs, parking fees, etc.)	_____	_____
F. Rental Car Expenses	_____	_____
G. Any Other Expenses	_____	_____
<i>Please identify:</i> _____		

5. Would you have come to the Ocean City area at this time even if this event had not been held?
 Yes _____ No _____
- 5a. If "Yes", will you stay longer in the Ocean City area than you would have done if this event had not been held?
 Yes _____ No _____
- 5b. If "Yes" (in 5a), how much longer? _____ Days
6. Would you have come to the Ocean City area in the next three months if you had not come at this time for this event?
 Yes _____ No _____

THANK YOU!!!

2. Which of the following days will you be (have you been) at this event? (Please circle *all* that apply)
 Thursday Friday Saturday Sunday

Obviously, if the event of interest was scheduled for only one day, then this question would be omitted. Responses to this question enable both per day, per person, and per day per visitor group economic impact data to be calculated. This permits agencies to compare the economic impacts of events

that have different timeframes to ascertain what types of events offer a best return to a community for the resources it invests. The per day data also enable the results from events that are surveyed to be extrapolated easily to other similar events that may be of different duration and at which no surveying is undertaken.

3. How many people (*including yourself*) are in your immediate group? (This is the number of people for

whom you typically pay the bills, e.g., your family or close friends) _____ people

This question is designed to direct respondents' thinking toward the immediate group, which is the unit of analysis used in the next question that collects the financial information. The question also permits per person and per visitor group expenditures to be calculated, which facilitate comparisons across an agency's events and extrapolation to nonsurveyed events.

Knowledge of the group size is essential in special event contexts because total expenditures are calculated by multiplying the sample responses up to the total attendance. This is illustrated in the following calculation:

$$\begin{aligned} \text{Total number of event visitors from out-of-town} &= 15,000 \\ \text{Average expenditure per respondent's} & \\ \text{immediate group} &= \$30 \\ \text{Average size of immediate group} &= 3 \\ \text{Total expenditures by out-of-town visitors} & \\ \text{to the event are} & \\ \frac{15,000}{3} \times \$30 &= \$150,000. \end{aligned}$$

This calculation could not be made without knowing the group size.

It would be inaccurate to capture only the expenditures of individual respondents because they may be paying for other people or, alternatively, others may be paying for them. The only way to avoid these error sources is to capture the expenditures of all members of the immediate group. Thus, the immediate group is emphasized in question 4, which is shown below.

4. To better understand the economic impact of this festival, we are interested in finding out the approximate amount of money you and other visitors in your immediate group will spend, including travel to and from your home. We understand that this is a difficult question, but please do your best because your responses are very important to our efforts. **DURING THE COURSE OF YOUR VISIT, WHAT WAS THE APPROXIMATE AMOUNT YOUR IMMEDIATE GROUP WILL SPEND IN EACH OF THE FOLLOWING CATEGORIES:**

Type of Expenditure	Amount Spent in the Ocean City Area	Amount Spent Outside the Ocean City Area
A. Food and beverage (restaurants, concessions, cafeterias, etc.)		
B. Night clubs, lounges, and bars (cover charges, drinks, etc.)		
C. Retail shopping (souvenirs, gifts, films, etc.)		
D. Lodging expenses (hotel, motel, condos, etc.)		
E. Private auto expenses (gas, oil, repairs, parking fees, etc.)		
F. Rental car expenses		
G. Any other expenses		
Please identify: _____		

Each category of expenditure has a different multiplier coefficient, so expenditures have to be identified by category. Experience has shown that nearly all out-of-town visitor expenditures associated with festivals fall into the first six categories shown in question 4. If expenditures are assigned to category G, it is important to specify what they were for, so they are assigned to the correct sector in the multiplier model.

Question 4 requires respondents to give their expenditures both within the area of interest and outside that area. Economic impact studies are concerned only with the amount of money spent in the area of interest, so the information reported in the second column pertaining to expenditures outside the area is discarded. Even though it is not used, this information is requested because it causes respondents to think carefully about where they spent their money. If it were omitted, there is a greater probability of respondents not reading the question carefully and incorrectly attributing all their trip expenditures to the host area.

Ideally, the headings in column 1 in this question would be defined by zip code—namely, “Amount spent in the following zip codes: _____.” Unfortunately, experience has shown that most visitors are unlikely to know the boundaries of zip code areas, so the phrase “Ocean City area” is used as a surrogate descriptor.

The expenditures reported in question 4 can only be approximations because (1) if respondents complete the questionnaire before they leave Springfest and Ocean City, they have to estimate the additional expenditures they are likely to incur, and (2) if they complete the questionnaire after the event and mail it back, then their recall memory may be faulty. This reinforces the realization that economic impact studies can only be “guestimates.”

5. Would you have come to the Ocean City area *at this time* even if this event had not been held? Yes _____ No _____
- 5a. If “Yes,” will you stay longer in the Ocean City area than you would have done if this event had not been held? Yes _____ No _____
- 5b. If “Yes” (*in 5a*), how much longer? _____ Days

Those who answered yes to question 5 were classified as casuals and were omitted from the study, unless they also answered yes to question 5a. These individuals were already in Ocean City but were attracted there by other factors. Their economic impact cannot be attributed to Springfest because it was not responsible for bringing them to Ocean City, and if they had not elected to attend, then it is likely they would have spent their money somewhere else in the town. However, if Springfest caused them to stay in the jurisdiction for more days than they would have done if the event had not been held, then their incremental expenditures on those extra days should be included in the economic impact analysis. This information is captured in questions 5a and 5b.

6. Would you have come to the Ocean City area in the next 3 months if you had not come at this time for this event? Yes _____ No _____

Question 6 was designed to identify time-switchers. Those who responded yes changed the timing of an intended visit to the community to coincide with the event. They were omitted from the analysis because their spending in the community cannot be attributed to the event since it would have

occurred without the event, albeit at a different time of the year.

Five active senior citizens were hired to undertake the survey. A training booklet was developed and used as the basis for a 1-hour training program in which they were informed of the purpose of the study, the reasons for asking each of the questions on the instrument, and the importance of their roles, and they were also instructed on how to conduct the interviews. A sampling schedule was developed that scheduled the times and entrance points at which the interviews would be conducted. At each time and entrance point, every eighth individual was interviewed. The interviews were undertaken throughout the day on all 4 days.

THE ECONOMIC IMPACT OF VISITORS

Interviews were conducted with 1,447 visitors attending Springfest, but 326 of them were Ocean City residents, defined as individuals living in zip codes 21842, 21843, 21811, and 21813. Of the 1,121 out-of-towners, 705 indicated they would have visited Ocean City if Springfest had not been held. However, 211 of these 705 reported extending their stay in Ocean City for a mean average of 1.94 days because of Springfest, so the economic impact of these additional days is attributable to the festival. In subsequent discussion, the people in this group are termed *extended stayers*. They are differentiated from the 384 "out-of-towners," whose mean length of stay was 2.10 days, for whom the festival was the primary reason for visiting Ocean City. Because economic impact is concerned only with new money coming into the town from outside its boundaries that is attributable to the Springfest event, subsequent analyses disregarded both those respondents who were local residents and those visitors who came from outside the city's boundaries but who would have come to the Ocean City area even if the event had not been held and did not extend their stay because of it.

The data and time of each interview were recorded (see Figure 2) because there was some concern that there may be differences in the expenditure patterns of those out-of-towners or extended stayers who visited Springfest on different days or at different times of the day. For example, it was suggested that those coming in the morning might spend more than those coming in the late afternoon because they were in the area longer. Similarly, it was thought that those coming on Saturdays might come from a greater distance and be willing to spend more than those who came on Thursdays. If such differences emerged, then the visitor expenditure data would have to be weighted by the attendance in those time periods to reflect such differences.

To address this concern, ANOVAs were undertaken to test for differences in the mean per person, per day expenditures in Ocean City among out-of-towners on Thursday, Friday, Saturday, and Sunday in each of the seven expenditure categories listed in question 4 (see Figure 2). A significant difference (.05) was found on only one of the seven categories (private auto expenses). Similar procedures on the extended-stayer sample indicated that none of the seven ANOVAs were significant.

To test for time of day differences in per person, per day expenditure patterns, the times at which interviews were

completed were collapsed into three categories: morning (before 12 noon), afternoon (12 noon-3 p.m.), and late afternoon (after 3 p.m.). Among out-of-towners, none of the seven ANOVAs were significant, while among the extended stayers, only the retail shopping item was significant (.04). Given that significant differences occurred on only 2 of the 28 ANOVAs, concerns were alleviated about differences in expenditure patterns of those visiting Springfest on different days or at different times of the day.

The unit of analysis for collecting the data and estimating economic impact was the immediate group, which was defined as the set of individuals for whom one person paid the expenses. The mean group sizes for the out-of-towners and extended stayers were 3.16 and 3.38, respectively. The questionnaire captured information on respondents' group expenditures associated with visiting the festival and on the number of days the group attended the event. This enabled a calculation to be made of the per person, per day expenditures.

Columns 2 and 3 of Table 1 show the average per person, per day expenditures in the Ocean City area. These were extrapolated to the proportion of festival visitors who were out-of-towners (27,811) and extended stayers (15,282) in columns 4 and 5 of Table 1. Thus, food and beverage expenditures in the Ocean City area totaled $[(18.18 \times 27,811) + (12.63 \times 15,282)]$, which yielded the \$698,598 (\$505,622 + \$192,976) shown in columns 4 and 5. These results indicate that the estimate of economic impact of visitors as measured by direct expenditures was \$1,922,000 (\$1,422,000 from out-of-towners and \$500,000 from extended stayers).

The next stage was to estimate the impact of this new money on the Ocean City economy. This was done by using the IMPLAN input-output model for the city. Columns 2 and 3 of Table 2 show that the estimated economic impact measured after sales multipliers were applied was \$2,655,000 (\$1,964,000 + \$691,000). A more useful measure of economic impact is its effect on the income of city residents. Columns 4 and 5 of Table 2 indicate that the economic impact on personal income in Ocean City was estimated at \$1,101,000 (\$819,000 + \$282,000). Finally, columns 6 and 7 of Table 2 estimate that the festival created 61 jobs.

THE ECONOMIC IMPACT OF VENDORS

Springfest attracted 161 vendors, and 93% of them came from outside Ocean City. Again, because economic impact is concerned only with new money entering into the town from outside its boundaries, the analyses disregarded vendors who were local residents. Interviews were conducted with 19 out-of-town vendors attending the festival.

The same procedures were adopted as those used to estimate the direct expenditures of visitors (see Table 1). These resulted in an estimate of the direct-expenditure economic impact of vendors of \$177,913. Using the IMPLAN input-output model for the city, the estimated economic impact of vendors measured after sales multipliers were applied was \$244,813, the economic impact on personal income was estimated at \$138,210, and the model estimated that vendors' expenditures at Springfest created 5.66 jobs.

TABLE 1
TOTAL DIRECT EXPENDITURES

Item	Per Person, per Day Expenditures in Ocean City (\$)		Total Direct Expenditures in Ocean City (\$)	
	Out-of-Towners	Extended Stayers	Out-of-Towners	Extended Stayers
Food and beverage	18.18	12.63	505,622	192,976
Night clubs, lounges, and bars	2.07	2.28	57,561	34,851
Retail shopping	15.42	7.26	428,750	110,935
Lodging expenses	11.97	7.85	332,821	119,994
Private auto expenses	3.51	2.70	97,567	41,305
Commercial transportation	0.00	0.00	0	0
Other expenses	0.00	0.00	0	0
Total	51.14	32.72	1,422,321	500,062

TABLE 2
**THE ECONOMIC IMPACT OF OUT-OF-TOWN VISITORS AND EXTENDED
STAYERS ON SALES, PERSONAL INCOME, AND EMPLOYMENT**

Item	Impact on Sales		Impact on Personal Income		Impact on Employment (jobs)	
	Out-of-Towners	Extended Stayers	Out-of-Towners	Extended Stayers	Out-of-Towners	Extended Stayers
Food and beverage	694,828	264,189	261,491	99,801	16.41	6.26
Night clubs, lounges, and bars	79,100	47,893	29,768	18,024	1.87	1.13
Retail shopping	584,178	151,151	293,722	75,998	17.17	4.44
Lodging expenses	473,198	170,606	182,678	65,862	8.02	2.89
Private auto expenses	132,930	56,275	51,708	21,890	2.07	0.88
Commercial transportation	0	0	0	0	0.00	0.00
Other expenses	0	0	0	0	0.00	0.00
Totals	1,964,234	691,114	819,367	281,575	45.55	15.61

DISCUSSION

Four points emerging from the study are worth highlighting. First, considerable effort was invested in obtaining a reasonably accurate estimate of total attendance. This was because estimates of economic impact are dependent on accurate attendance data since they are derived by extrapolating from a sample to a total visitation number.

Second, the study sample emphasized the importance of identifying those who were time-switchers and casuals. They represented 49% of all visitors to Springfest and 63% of all nonresidents who were interviewed. If the questionnaire had asked only for respondents' home zip code and, therefore, failed to differentiate them from out-of-town visitors who were attracted specifically by the festival, then there would have been a substantial overestimation of the economic impact on Ocean City attributable to Springfest.

Third, the jobs' economic impact should be carefully interpreted and the output numbers emerging from the IMPLAN model viewed with some skepticism. The data in Table 2 and the economic impact derived from vendors' expenditures suggest that 67 jobs were created as a result of Springfest. However, it seems reasonable to posit that local businesses were unlikely to hire additional full-time employees in response to additional demands created by the festival

because the extra business demand lasted only for 4 days. In this situation, the number of employees is not likely to increase. Rather, it is likely that the number of hours that existing employees are requested to work will increase, or employees will be reassigned from other duties to accommodate this temporary peak demand. At best, only a few short-term additional employees may be hired. It is highly improbable that anything like 67 jobs will be created.

Furthermore, the model assumes (1) there was no spare capacity to absorb the extra services and products purchased with this inflow of new funds and (2) that no out-of-town residents took any new jobs that did emerge. In fact, the existing staffs at hotels, restaurants, retail establishments, and so on are likely to have spare capacity to handle these visitors, and it is possible that some of the temporary part-time positions may be filled by non-Ocean City residents.

Finally, it has become commonplace for tourism agencies to report economic impact in terms of sales generated. In our view, this is of no value to elected officials or residents. It is used because it generates the highest economic impact number. But residents have no interest in sales generated—they are primarily interested in how it personally affects them in terms of personal income. The most useful economic impact indicator is that which measures the contribution to the personal incomes of residents in Ocean City, which amounted to

\$1,239,000 (see Table 2, aggregated with the personal income derived from vendors' expenditures). This is rarely used by tourism agencies because it is so small compared with the sales impact. In this case, it is almost two and a half times smaller than the sales impact. However, the conceptual model in Figure 1 illustrates that personal income is the economic indicator that is most meaningful.

Despite adherence to the basic principles of economic impact analysis and careful efforts to accurately sample visitors and estimate attendance, the resulting impacts remain "best guesses." There is likely to be some error margin in both the attendance count and sampling procedures. Furthermore, the data depend on the accuracy of responses to the questionnaire. If respondents were interviewed at the beginning of their visit, they were required to estimate both their length of stay and likely expenditures for the remainder of their trip. If the interview occurred at the end of the visit, respondents had to recall the various expenditures incurred. Even assuming good-faith efforts by respondents to provide accurate data, errors are inevitable and their margin is not calculable. Hence, the questionable assumption has to be made that the error is random and thus self-canceling.

There are two major consequences of tourism professionals failing to recognize and expose abuses in economic impact analyses. First, such mischievous studies create precedents that subsequent sponsors feel compelled to follow. For example, one of the authors was invited by a large American city to undertake a study that would assess the economic impact on the area of a 10-day festival that incorporated more than 60 sporting and cultural events. The study reported that the economic impact on personal income in the city was \$16 million. The festival's governing board vigorously contested the results, arguing that they were much too low. They observed that 2 weeks previously, the city council had heard a similar presentation from the Convention and Visitors Bureau relating to a professional rodeo event that the city hosted annually. The council was informed that the economic impact of the 3-day professional rodeo event was almost \$30 million. The conundrum confronting the festivals board was posed in the following terms:

How can we possibly accept that this festival lasting for 10 days and embracing over 60 events had a smaller economic impact than a single 3 day rodeo event? The city council provides a substantially larger budget to the festival board to stage the festival than they allocate to the rodeo board to host the professional rodeo event. When they compare the festival data which has been presented to us with those from the rodeo there is a real possibility that the festival

budget will be cut, because the festival costs much more to stage and its economic impact on the city is barely half that of the rodeo.

When a copy of the rodeo economic impact study was reviewed by the author, it was found that it abused all four of the central principles—it included local residents, included time-switchers and casuals, used sales output as the measure of economic impact, and implied that full-time jobs resulted from the visitors' expenditures. The author's response in his subsequent presentation to the city council was to replicate the presentation made to the festival board but then to extend it by referring to the rodeo study and showing that if those erroneous assumptions were applied to the festival, the comparative number to the rodeo's almost \$30 million was more than \$321 million (Crompton 1999).

Given that precedents are likely to lead to continued abuse of the central principles of economic impact analyses, then a possible second consequence is a rightful discrediting of them as valuable tools. A decade ago, Smith (1989, p. 271) observed,

The inevitable result of the misuse of economic impact methodology has been the growth of a backlash against the idea that tourism has any role to play in local economic development. Although this cynicism is rarely published in industry journals, it is expressed frequently in private conversations and sometimes even public addresses by officials.

Despite its weaknesses and limitations, the authors believe that economic impact analysis is a powerful and valuable tool if it is implemented knowledgeably and with integrity. The only effective antidote to the backlash that Smith (1989) describes is to reject misleading and mischievous applications, and the intent of this study has been to better equip tourism professionals to do this.

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