Distinguishing Event Spectator Spending Profiles: Projected Impacts of the 2009 U.S. Open Golf Championship

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Abstract

Spectators at mega-sport events are an aggregation of market segments with distinct consumer behaviors. Relatively few economic impact studies have distinguished spectator market segments or the event tourists crowding out other visitors, resulting in inaccurate results. Despite a plethora of prior studies, there remains a need for a refined and agile model to predict a sporting event's economic impact. The purpose of this study is to describe the ex ante model, ACE: Assessing Consumers of Events, developed to estimate spending impacts by spectators. ACE is then applied to the 2009 U.S. Women's Open Golf Championship to illustrate its data requirements and results. U.S. Open spectators are projected to spend $7.5 million in the host economy and induce a slight crowding out effect. Future applications of the ACE model are discussed.

Large-scale sport events including the 2009 U.S. Open Golf Championship require considerable planning and investments, attract international media interest, and thousands of sport tourists to host cities. Economic impact studies are one of the most common forms of evaluating mega events, and have been conducted on a wide range of events using a wide range of methods - from automobile racing (Burns, Hatch, & Mules, 1986) to World Cups (Maennig, 2007; Lee & Taylor, 2005; Baade & Matheson, 2004). Despite widespread use there is growing skepticism surrounding sport event economic impact research, in part, because of faulty studies and over-inflated findings (Crompton, 2006; Baade, Baumann, & Matheson, 2008). There are several reasons for the inaccuracies, including purposeful falsification. Crompton (2006) argues that some event studies are inflated for political reasons i.e., to justify public investment, improve public relations, etc.

Mega-events are bid upon primarily for the expected value added to the host city. An economic impact study essentially measures how value the event adds to the city. Put another way, what would be missing from the economy without the event? One can visualize a giant hand pulling an event from a city and ponder how much money would be extracted.

There are a number of operational definitions pertinent to event economic impact studies that should be described before discussing models of measurement. *Sport tourists* are visitors to a destination for the purpose of participating, viewing, or celebrating sport (Turco, Riley, and Swart, 2002). Among sport event spectators, several distinct market segments exist as identified by Preuss (2005): *Runaways, Changers, Casuals, Time Switchers, Avoiders, Extensioners, Eventers,* and *Home Stayers* (See Table 1). *Casuals* are visitors who attend a sport event but were in host community primarily for other reasons i.e., visiting friends and/or relatives, business, etc. *Day-trippers* or *excursionists* are visitors who do not stay overnight in the host community. *Primary sport event tourists* are those visiting the host community specifically because of the sport event in question. *Residents* are sport event attendees in their home community. Resident spending represents a switching of transactions from one local business i.e., dining out, cinema, theatre, etc. to another, in this case the sport event. *Time switchers* are those who purposely schedule their visit to coincide with the sport event but who would have visited at another time anyway. *Runaways* are residents who purposely leave the host city during the event due to the event. *Homestayers* are residents who purposely stay in the host city during the event due to the event. Preuss and Schutte (2008) suggest that primary sport event tourists spend at higher levels than the overnight visitors they displace in hotels and other paid accommodations. In such cases, the value-added of primary sport event tourists must be factored in the crowding out effect. *Visiting friends and relatives* (VFR) are a market segment referring to nonresidents in the host com-

munity whose primary motive is to visit friends and or relatives. *Watching friends and relatives* (WFR) are VFRs with friends and/or relatives participating in the sport event. Following the notations of Preuss, each variable is noted with a letter.

Table 1. *Sport event spectator market segments and description.*

Segment	Description
Extensioners (A)	Tourists who would have come anyway but stay longer because of the event
Eventers (B)	Persons who travel to the host city because of the event
Home Stayers (C)	Residents who opt to stay in the city and spend their money at home rather than on a vacation somewhere else at some other time in the year
Runaways (D)	Residents who leave the city and take a holiday elsewhere
Avoiders (E1, E2)	Tourists who stay away but would have come without the event
	Avoiders can either be «cancellers» (E1) - tourists who cancel their trip or they can be 'pre/post switchers' (E2) - tourists who will come earlier or later
Changers (F)	Residents who leave the city and take their holidays at the time of the event rather than at some other time in the year
Casuals (G)	Tourists who would have visited the city even without the event
Time Switchers (H)	Tourists who wanted to travel to the city but at another time

Also included by Preuss are Residents (K) who attend the event.

Adapted from Preuss, H. (2005). The economic impact of visitors at major multi-sport events. *European Sport Management Quarterly, 5*, 3, 281-301.

A sport tourism event's "pull" or drawing power is measured by its ability to attract nonresidents and induce consumer spending at and near the event venue. It is possible that visitors drawn by a major sport event may displace

others who would have visited but did not because they could not secure accommodations or they were not willing to deal with the crowds attracted by the event, termed crowding out. Other tourists and residents avoid the mega-event or are priced out and, in turn, the host city loses money that would have otherwise been spent. Crompton (2006) contends that "if each of these visitors merely replaces another potential visitor who stayed away from the community because of the congestion associated with the tourism event, there is no new economic impact." However, it has been shown that sport tourists at prestigious events are high-value tourists, spending more money on average than the tourists they crowd out (Tang & Turco, 2002).

Preuss, et al (2007) divided visitors to a mega-event into three groups based on their expenditures. The first group brings event-related consumption expenditures to the city and an inflow of funds (extensioners, eventers, home stayers – respectively A, B and C). The second group carries out income-dependent expenditures outside the city caused by the event and therefore an outflow of funds (runaways and avoiders who are cancellers – respectively D and E1). The third group is based on reallocation of funds and may add 'new' dollars to the region because of a change in their consumption (avoiders who are time switchers, casuals, time switchers and residents - respectively E2, G, H and K).

$$(A + B + C) − (D + E1) + \Delta (E2 + G + H + K) = ? \qquad (1)$$

This leads to the question whether an event generates additional consumption expenditures of visitors when inflow and outflow of funds are balanced. Preuss states:

If this equation is greater than zero there is an event-related inflow of funds, if it is smaller than zero there is an outflow. Some of the multiplier analyses of past mega-events lack this differentiated view because they did not distinguish between the various groups or because they simplified the analyses and considered all consumption expenditures.

Despite a plethora of prior studies, there remains a need for a refined and agile model to predict a sporting event's economic impact. According to Crompton (2006), many studies fail to account for variances in consumer behaviors amongst spectator market segments and the crowding out effect. Distinguishing sport event tourists by their spending behaviors will lead to more accurate economic impact estimations. For example, the Watching Friends and Relatives (WFR) market consists of sport tourists with significant others participating in the sport event. Scott and Turco (2007) and Turco, Cox, and Ally (2008) found that friends and relatives of sport event participants to comprise approximately 12% of all spectators, and spend up to three times more than other sport event tourists. Additionally, the travel behaviors of residents can influence an event's spectator size. In the case of the Sydney 2000

Olympic Games, a proportion of residents (18%) intended to leave Sydney (Runaways) and travel abroad (TFC, 1998).

The purpose of this study is to describe the ex ante model, *ACE: Assessing Consumers of Events*, used to estimate the spending impacts of event spectators. ACE is then applied to the 2009 U.S. Women's Open Golf Championship to illustrate its data requirements and results. This study provides a basis for future sporting event bidders and promoters to estimate the economic impacts of an event. With a viable and tested framework local governments and promoters can avoid overpaying for hosting an event.

The ACE model estimated that spectators to the 2009 U.S. Open Championship will spend $7.5 million in the Lehigh Valley. A second ex post study will be undertaken during the event to validate these results. The study will include participants, officials, volunteers, media, allied event businesses, and the local organizing committee; all contributors of economic benefits to the region not measured for this study.

Event Description

The 2009 U.S. Open Women's Golf Championship will be held at Saucon Valley Country Club, Bethlehem, Pennsylvania, 6-12 July. The U.S. Women's Open is the premier women's golf championship in the world. Eight of the last 15 champions have been foreign-born, whereas only four of the first 40 champions were foreign-born. South Koreans dominate the Ladies Professional Golf Association (LPGA), holding eight of the top 15 places on the 2008 prize money list.

The first three days of the tournament, Monday July 6 through Wednesday July 8 will be practice rounds. The initial field consists of 156 players. The championship rounds begin on Thursday, July 9 and continue through Sunday, July 12. Following the first two rounds (36 holes), the field of players will be cut to the lowest 60 scores, including ties, and any player within 10 strokes of the leader(s). In terms of spectators, Saucon Valley Country Club has a capacity of 25,000 per day or a sellout of 175,000 spectators for the tournament.

Geopolitical boundaries are often used to define economies for impact studies since governments maintain tax records and multiplier coefficients are computed for various jurisdictions. For the purpose of this study, the economy is designated as the Lehigh Valley, combining the neighboring cities of Allentown, Bethlehem, and Easton, Pennsylvania. Thus primary sport tourists are defined as nonresidents who travel to the Lehigh Valley to experience the 2009 U.S. Women's Open Golf Championship. The Lehigh Valley is an official metropolitan region consisting of Lehigh, Northampton, and Carbon counties in eastern Pennsylvania and Warren County on the western edge of New Jer-

sey in the United States. It is the third most populous region of Pennsylvania, following metropolitan Philadelphia and Pittsburgh. The region is called the "Lehigh Valley" because of the Lehigh River, which runs through it. There is a geological valley that lies between two large Pennsylvania mountain ranges, Blue Mountain to the north and South Mountain to the south. The Lehigh Valley is approximately 110 km west of New York City and 80 km miles north of Philadelphia. The area has a current population of 790,000 (estimated 2005) and is the fastest growing area in Pennsylvania as it is a popular bedroom community for Philadelphia, New Jersey and New York City. It is also home to eleven colleges and universities. The 2009 U.S. Open Women's Golf Championship is the premier event for the Lehigh Valley and will occur a few weeks after another significant event, the opening of the Sands Bethlehem Casino, slated to open in June of 2009, the first casino in the Lehigh Valley.

Research Methods

The ACE model starts with an event's projected attendance. For the U.S. Open, Saucon Valley Country Club can accommodate a capacity of 25,000 spectators per day Monday-Sunday for a total of 175,000 spectators. Some of these are repeat visitors. To begin the analysis, attendance and economic impact data for the past 12 U.S. Women's Opens were examined. At least nine of the last 12 had attendance over 100,000 (Table 2). These prior events were held in areas similar to the Lehigh Valley. They were typically held not directly in major cities, but in the outskirts or within driving distance (as is the Lehigh Valley) of a large metropolitan area. They were held at well-known golf courses which had previously hosted other events, as has Saucon Valley. One course, Pine Needles, located south of the research triangle area of North Carolina and driving distance from Charlotte, hosted the event twice in 2001 and 2007. Based on these similarities to other venues, it is projected that the 2009 U.S. Open will attract 100,000 spectators.

One difference between these prior events and the 2009 U.S. Women's Open is the current economic situation. This, however, has not had much of an impact on the 2009 Women's Open. One corporate sponsor withdrew but ticket sales have been strong. The recession of 2001, which started in March, but many do not believe started until after September 11, did not have much effect the Women's Open of 2001. That year Pine Needles in Southern Pines, North Carolina had 110,000 spectators. In 2002, the Women's Open in Kansas had an estimated attendance of 125,000 spectators.

To construct spectator spending profiles, several data points are required including event attendance, number of days/sessions visitors attended, whether or not attending the event was the primary reason for visiting, resi-

dency, average visitor group size, and average visitor spending by lodging, meals, event tickets, etc. An accurate event attendance projection is vital to the accuracy of the ACE model. Some events tally individual visits scanning barcodes on ticket passes but most do not. For multiple day or session events, total attendance must be adjusted to reflect the total number of primary visitors or visitor groups.

ACE adjusts event attendance totals, taking into account repeat visitation, residency of spectators, and primary reason for visiting the host community to compile distinct spending profiles for overnight and day visitors. ACE segments spectators into three categories: "Primary" out of town spectators, "Residents" of the Lehigh Valley who will attend the event and "Casuals," spectators in town for other reasons but decide to attend the U.S. Open while visiting. These are roughly the same categories as in Preuss (2005). The "Primary" out of town spectators are the "Eventers" (B). The "Residents" are also the "Residents" (K). The "Casuals" are group (G). The assumptions are slightly different for each based on situational characteristics of the spectator.

Table 2. *U.S. Women's open location and attendance*

Year	Course	City, State	Attendance
1997	Pumpkin Ridge	North Plains (Portland), OR	109,000
1998	Blackwolf Run	Kohler, WI	123,000
1999	Old Waverly	West Point, MS	101,854
2000	Merit Club	Libertyville (Chicago), IL	83,283
2001	Pine Needles	Southern Pines, NC	110,000
2002	Prairie Dunes	Hutchinson (Witchita), KS	Est. 125,000
2003	Pumpkin Ridge	North Plains (Portland), OR	Over 100,000
2004	The Orchards	South Hadley, MA	118,000
2005	Cherry Hills	Cherry Hills Village (Denver)	131,298
2006	Newport Country Club	Newport, RI	
2007	Pine Needles	Southern Pines, NC	100,400
2008	Interlachen Country Club	Edina, MN	
2009	Saucon Valley CC	Lehigh Valley, PA	Maximum 175,000

The first type of spectator group is the spending inflows: Extensioners, Eventers and Home stayers, categories A, B and C. Primary visitor (B) also

known as the Eventer. "Primary sport event tourists" are those visiting the host community specifically because of the sport event in question, the 2009 Women's U.S. Open. These spectators are in two categories: the overnight and the day-tripper. The "day-tripper" or excursionist" does not stay overnight in the host community (BD). These spectators are from outside the Lehigh Valley but return to their home each night or travel through to another destination. They could be from metro Philadelphia or New York, New Jersey or elsewhere outside the Lehigh Valley. Daytrippers do not require a hotel room but may be more inclined to do some shopping in the Lehigh Valley area, eat meals at a restaurant, and purchase petrol for their automobiles.

The primary overnight spectator (BO) resides outside the Lehigh Valley and has made a special trip to see the Women's 2009 U.S. Open. This fan requires lodging at a paid accommodation or will stay at the residence of a relative or friend. The former will eat more meals at the tournament and at local dining establishments. This spectator may spend more in souvenirs as they have made a significant commitment to attend this event.

"Home Stayers" (C) are residents who opt to stay due to the event and spend their money in the home community rather than on a vacation somewhere else at some other time in the year.

Extensioners (A) are tourists who extend their stays due to the sport event. These tourists inject additional spending into the economy during their additional days in the local economy.

The next type of spectator spending group is the spending outflows: Runaways and Avoiders – Cancellers, categories D and E1. Obviously these two categories will not have any spending in the local economy because they will not be in the local economy. They have either 'runaway' and will spend elsewhere or have cancelled their trip.

The final type of spectator spending group is the spending changers including Avoiders – Time Switchers, Casuals, Time Switchers and Residents, categories E2, G, H and K. The "Resident" (K) from the Lehigh Valley. "Residents" are sport event attendees in their home community. Resident spending typically represents a switching of transactions from one local business i.e., dining out, cinema, theatre, etc. to another, in this case the sport event. It is predicted that residents will spend the least because the U.S. Open is in their home area – there is not a special draw to the local shops or dining. However, these spectators may spend slightly more for souvenirs, as they want mementos of their local area as keepsakes.

The next type of spectator is the "Casual." "Casuals" (G) are visitors who attend a sport event but were in host community primarily for other reasons i.e., visiting friends and/or relatives, business, etc. This spectator was in the area already and decided to attend the U.S. Open. Typically their spending is not included because it is spending that would have already occurred in the

economy. However, the US Open will likely induce spending from the Casual beyond what they would have otherwise made.

Avoiders – Time Switchers and Time Switchers are the next category of spectator. Both of these groups are visitors who have changed their plans to avoid the event but will come at another time. They will have spending in the local economy but it will not be during the time of the event.

Preuss (2005) contends that pre/post event studies can measure the spending of Home stayers, Runaways, Avoiders – Time switchers, Changers and Residents. He states that during an event the following groups can be measured: Exensioners, Eventers, Home stayers, Casuals, Time switchers and Residents. Because our study is two fold, both an ex ante and ex post, it will be limited to the variables that can be estimated and then verified. Therefore, we will not include in our estimation Extensioners (A), Runaways (D), Avoiders – Cancellers (E1), Avoiders – Time switchers (E2), or Time switchers (H).

In order to ascertain that our model is solid we reviewed the deleted variables. Some variables will be nominal. Runaways (D) are the first such variable. Since the US Open is during peak summer travel season and follows the Fourth of July holiday weekend, some residents will be vacationing in the Pocono Mountain resort area or beaches along the Atlantic Ocean. Few if any will be running away from the event due to its self-contained and relatively remote local.

Secondly, Time switchers (H) are tourists who would have traveled to the city at another time. Income generated by them should not attributed to the event, though they attend event-related activities.

Avoiders (E2) are tourists who stay away but would have come without the event. We believe this group will be insignificant for the US Open because of the remoteness of the SVCC location.

Finally, Extensioners (A) will only come into play under certain circumstances. Extensioners may include Daytrippers who return for an additional day of viewing; Since the U.S. Open is considered one of golf's major tournaments, Extensioners may emerge should there be a tie score after the final round. An additional round would be played on Monday. Extensioners will be included in the ex post study if necessary.

Our modified model becomes:

$$(BO + BD + C) + \Delta(G + K) = ? \qquad\qquad (2)$$

To predict the proportionality and spending of the aforementioned spectator market segments, findings from several other studies were analyzed including the 2008 U.S. Open in San Diego, the 2006 Ryder Cup in Ireland (Watkins and Funari, 2006) and the 2005 Players Championship in Florida (Stevens, Hodges, & Mulkey, 2005). Attendance at sport event varies based

on several factors including: Geographic area, weather, event prestige, desti-
nation attractiveness, and competitors. The geographic home of the specta-
tors is important to the economic impact of the event. Are most of the spec-
tators from the host economy or are they traveling to witness the event? The
2005 Players Championship study found that 55 percent of visitors were from
the surrounding seven counties with 80 percent visiting only to attend the
tournament. In contrast the 2008 U.S. Open Championship found that 36 per-
cent of visitors were from the local San Diego area. Of the 64 percent who
were non-local, 94 percent were there primarily for the golf tournament. For
the 2006 Ryder Cup economic impact prediction Watkins and Funari assumed
that 25 percent of the attendees each day were golf enthusiasts who would
not be in Ireland if it were not for the Ryder Cup. It is predicted that most
out-of-region spectators at the 2009 U.S. Open will be primary visitors and not
casuals. We expect the U.S. Women's Open to draw a slightly different spec-
tator market than the Men's Open. ACE anticipates 45 percent of attendees
will come from the Lehigh Valley. Of the remaining spectators, 30 percent are
projected to be day-trippers, 20 percent will be overnight visitors and 5 per-
cent will be casuals.

   Another component of attendance is length of stay and number of visitor
days. The Players Championship found that local spectators attended for 2.5
days on average while non-local spectators attended for 2.2 (Stevens,
Hodges, & Mulkey, 2005). The Torrey Pines U.S. Open had the opposite
numbers. The local spectators came on average 2.2 days while the non-local
spectators came 2.8 days (2008 U.S. Open Economic Impact). It should be
noted that the 2008 U.S. Open required an additional day for a playoff. The
Ryder Cup study assumed that all spectators stayed for the entire six days of
the tournament (Watkins and Funari, 2006). None of these studies differenti-
ated the "day-tripper." Based on this research ACE predicts that both
overnight and resident spectators at the 2009 Women's Open will attend on
average 2.4 days. ACE predicts that day-trippers will make two trips to the
Lehigh Valley and will attend for an average of 2.0 days. Casuals will attend
for one day as they are only attending because they are in town for another
reason.

   A third component of attendance is visitor group size. The 2008 US Open
study found that non-residents came in relatively large groups with an aver-
age size of 3.5. The group size at the Players Championship was not calcu-
lated. ACE predicts that most spectators will come in a group of two or larg-
er and therefore a group size of 2.5 is assigned for all visitors.

   Watkins and Funari (2006) estimated the average Ryder Cup visitor would
spend €220 or $281.60 per person per day (at the 2006 exchange rate of
1.28€ per $1). Spectators at the 2008 U.S. Men's Open spent an average of
$107 on food (median $75), $126 on shopping and souvenirs (median $100),

$82 on entertainment (median $50) and $45 on transportation and parking (median $25) for a total of $360 ($250) per person per day, though some big spenders at the top end pulled up the averages. At the Players Championship, spectators spent on average $77.37 per person per day at the event. In 2009 dollars this is approximately $83.75.

Pennsylvania's leisure travelers spend on average 42 percent of their dollars for lodging accommodations (PA Department of Tourism, 2003). As of 1 August 2008 there were 5,069 hotel rooms in the Lehigh Valley area in 59 hotels along with 142 additional rooms at inns and bed and breakfast establishments. The average hotel rate for the Lehigh Valley is projected to be $94.00 or three percent higher than rate as of 1 August 2008 ($91.33 per night). Overnight leisure visitors to Pennsylvania's southeast region spent $95.40 per person per day and spent an average of 3.3 nights. Using the median numbers the ACE estimates compensate for the difference between the cost of living in San Diego and the Lehigh Valley. There is also a difference in price point between men's and women's events. Spectators are willing to pay more at a men's U.S. Open event. This assumption is supported by the cost of tickets at each of these events. A Saturday pass for the 2008 U.S. Open at Torrey Pines cost $100 while a Saturday pass for the 2009 Women's Open at Saucon Valley will cost $45.

ACE spending profiles for primary day and overnight visiting spectators, residents and casuals are revealed below and summarized in Table 3. Addressing each of the spectator market segments previously identified by Preuss et al (2007), ACE projected spectator consumer behaviors based on several assumptions:

Primary Daytrippers (Eventer, BD): $75 per day for meals and souvenirs both on and off site plus $45 for tickets to attend the event ($120 total)

Primary Overnighter (Eventer, BO): $214 per day with $94 for the hotel being split amongst the 2.5 people per group ($37.60 per person per day) and $176 in tickets, meals, souvenirs and shopping. Compared to major golf tournaments for men, the U.S. Women's Open is a slightly less prestigious event. Compensating for inflation, $214 is an accurate visitor spending estimate. This means that the average overnight visitor would spend a total of $513.60 over the 2.4 days that they attended the Women's Open.

Casuals (G): Hotel occupancy in the Lehigh Valley for July 2007 was 74 percent; Spontaneous attendance is unlikely as all tickets must be purchased in advance though some casuals could attend the Open with compensated or "comped" corporate hospitality tickets given to them as a business client on a spur-of-the-moment. Projected spending to be $60 for meals, souvenirs and tickets per day beyond what they would normally spend in the host economy.

Eventers (B): The novelty of the event combined with the popularity of golf in the Lehigh Valley lead to high levels of resident Eventers attending the U.S. Open. There are no benefits to be realized from being near the US Open

without ticketed access to the spectator areas since SVCC is geographically isolated. Residents events will spend $60 for meals, souvenirs and tickets per day beyond what they would normally spend in the host economy.

Homestayers (C): Volatility in U.S. financial markets combined with the popularity of golf in the Lehigh Valley will influence upwards the number of home stays or "staycations." Homestayers are expected to be 10% of the spectator market segment and "high-value" in terms of discretionary spending ($150 per person). Saucon Valley Country Club has 984 total members and a wait list for new members. Approximately 422 members (43%) volunteered to assist with hosting the 2009 U.S. Open. Membership costs are $50,000 with a $12,000 annual fee.

Table 2. *Projected consumer behaviors of 2009 U.S. Open Spectactors*

	Spectator market segment	% of total	Spending amount per capita per night	Length of stay/visits	Group size
Primary out of town eventer	Overnighter (BO)	20%	$214	2.4	2.5
	Daytripper (BD)	30%	$120	2.0	2.5
Resident	Resident (K)	35%	$60	2.0	2.5
	Homestayer (C)	10%	$150	1.5	2.0
Casual	Casual (G)	5%	$60	1.0	2.5

Assuming event attendance at 100,000, 2009 U.S. Open spectators will contribute a total of $7,544,879 to the Lehigh Valley economy (See Table 4). In comparison, Watkins and Funari (2006) estimated the 2006 Ryder Cup brought €26.9 million to Ireland. ACE projected all 2009 U.S. Open overnight visitors to spend $4,279,829, daytrippers $1,125,000, residents $840,000, homestayers $1,000,050 and casuals $300,000.

Increases in hotel occupancy rates above prior year levels is one indication of a sport event's value added. The Lehigh Valley Convention and Visitors Bureau reported hotel occupancy rates for July 2007 and 2008 at 67% and 73% respectively. In 2008, the Lehigh Valley had 5,069 hotel rooms in 59 hotels. There were also an additional 142 rooms in inns and bed and breakfasts for a total of 5,241 rooms. There are plans for additional rooms by the summer 2009 to accommodate the new Bethlehem Sands Casino. Using an average of the 2007 and 2008 occupancy rates, the projected average occupancy rate in the Lehigh Valley for the summer of 2009 will be 70%. Assuming that there

Table 4. *Spectator market segments and consumer behaviors 2009 U.S. open golf championships*

	Primary overnight Eventer (BO) 20%	Primary Day-Tripper Eventer (BD) 30%	Resident (K) 35%	Homestayer (C) 10%	Casual (G) 5%
Total number of spectators x type	20,000	30,000	35,000	10,000	5,000
Average days or sessions attended by visitors	2.4	2.0	2.5	1.5	1.0
Total individuals attending event	8,333	15,000	14,000	6,667	5,000
Average per capita per night-day spending	$214	$120	$60	$150	$60
Total spending in host economy by visitor groups	$4,279,829	$1,125,000	$840,000	$1,000,050	$300,000

will be a 70% occupancy rate without the Open, non U.S. Open visitors to the Lehigh Valley will use 3,669 hotel rooms, leaving 30% or 1,572 rooms for the spectators of the Open. There will be 8,333 overnight visitors attending the event. We believe that 40% of the overnight visitors will stay with friends and relatives and 60% will stay in hotels then overnight hotel visitors will require 2,000 hotel rooms. This indicates a "crowding out" of 428 hotel rooms at a rate of $94 per night for a total "crowding out" effect of $40,232. While this number may seem insignificant, it does not include other spectators such as the event competitors, officials, volunteers, media and VIPs who will also require a hotel room. According to Preuss (2005) the main limiting resource for

destinations hosting mega events (and therefore economic impact) is hotel capacity. The hotel market develops on long-term demand, not on short-term peak demand and change is slow.

Another factor not considered above is the size of the MICE spectator group which may have a large impact on the "crowding out" estimate. MICE tourists (Meetings − Incentives − Conventions − Events) include "athletes, federations, sponsors, media, sport and tourism conferences, experts and guests of the organizing committee that have to meet, organize and prepare for the multi-sport event (Preuss, 2004). These are additional visitors to the event region and inject 'new' dollars into the economy. The number of MICE tourists will increase before, during and after the event. These tourists will 'crowd out' other spectators however they also may be on expense accounts and may increase overall spending in the surrounding economy.

Discussion

An annual event such as the U.S. Open may experience significant fluctuations in attendance, spectator market segment proportionality and spending from year to year. The composition of the tournament field influences the media attention, gallery size, and its economic impact. For example, when Tiger Woods is in contention for a tournament victory, all these factors are increased. Known as the "Tiger Woods Effect," in 88 tournaments since 2003, Woods finished in the top five 54 times, pushing final-round television rating share to a 4.4 average. The 34 other events averaged a 3.4 - a 29 percent difference. In 2007, weekend ratings were 58 percent higher in tournaments in which Tiger played (Sandomir, 2008). Due to the recent retirement of Annika Sorenstam and leave of absence by Lorena Ochoa, women's professional golf is in transition. The game does not have a bankable star though Michelle Wie may be soon ready to assume this expected role.

The 2006 Ryder Cup study examined three separate groups for economic impact: those attending the event, those sport enthusiasts in the area but not attending the event and the media (Watkins and Funari, 2006). The ACE model for the 2009 U.S. Open only accounted for event spectators. An estimated 1,200 media representatives will be on hand at the 2009 U.S. Women's Open, most requiring lodging accommodations. Also important to event organizers are corporate clients and volunteers. According to MSG Promotions, Inc., a sell-out of corporate hospitality would result in approximately $5,736,720 in revenue. As of September 2008, 53 companies had reserved corporate hospitality services at the U.S. Open and most were local.

Visiting volunteers are another stakeholder group associated with mega-events. The 2009 U.S. Women's Open has secured 3,487 volunteers from 37

states. A representative of MSG Promotions, Inc. anticipated that most out of state volunteers would reserve a hotel room. Excluding volunteers from Pennsylvania (2,932) and New Jersey (260), 295 visitors would also need hotel rooms and spend money in the economy. U.S. Open volunteers are responsible for securing their own hotel rooms.

The ACE model estimated that spectators to the 2009 U.S. Open Championship will spend $7.5 million in the Lehigh Valley. An advantage of the ACE predictive model is that it can give stakeholders advanced information in the event bidding process. Though ex ante economic analysis has at times overestimated an event's economic impact errors are often as a result of faulty assumptions. The next phase of this study will be performed during and after the event (ex post analysis) and compare ACE's ex ante findings to the ex post findings. Results will be published in August 2009. The ACE predictive model will also be extended to include direct spending by volunteers, media, and the event organizing committee.

There are limitations to the ex ante approach to impact analysis. Baade et al (2008) note that ex ante economic analyses do not account for the substitution effect that occurs when spectators spend money at a sport event rather than at other venues in the local economy. ACE addresses substitution effect by factoring out Casuals, Time switchers, and those crowded out. Economists skeptical of the multipliers used in ex ante studies to calculate indirect economic benefits are justified. ACE will estimate only direct impacts of the event on the host economy.

References

2008 U.S. Open Economic Impact Analysis. Technical report prepared by San Diego State University Center for Hospitality and Tourism Research.

2003 Pennsylvania Travel Profile. Harrisburg: Pennsylvania Tourism Office.

Baade, R.A., Baumann, R., and Matheson, V.A. (2008). Selling the game: Estimating the economic impact of professional sports through taxable sales, *Southern Economic Journal*, 74 (3) 794-811

Baade, R.A. and Matheson, V.A. (2004). The quest for the cup: Assessing the economic impact of the world cup, *Regional Studies,* 38 (4) 343-354

Burns, J.P.A., Hatch, J.H., and Mules, T.J. (1986). *The Adelaide grand prix: the impact of a special event*, The Centre for South Australian Economic Studies, Adelaide

Crompton, J.L. (2006). Economic impact studies: Instruments for political shenanigans? *Journal of Travel Research,* 45 (1) 67-82

Lee, C.K. and Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega-event: the case of the 2002 FIFA World Cup, *Tourism Management*, 26, 595-603

Maennig, W. (2007). *One year later: A re-appraisal of the economics of the 2006 soccer World Cup*, Hamburg: Contemporary Economic Discussion, No. 10

Preuss, H. (2005). The economic impact of visitors at major multi-sport events, *European Sport Management Quarterly,* 5*(*3) 281-301

Preuss, H. (2004). *The economics of staging the Olympics: A comparison of the Games 1972-2008*, Edward Elgar, Cheltenham

Preuss, H. and Schutte, N. (2008). Football tourists and their contribution to the economic impact – evidence from EURO 2008 in Austria/Switzerland, Paper presented at the 2008 European Association for Sport Management Conference, Heidelberg

Preuss, H., Seguin, B. and O'Reilly, N. (2007). Profiling major sport event visitors: The 2002 Commonwealth Games, *Journal of Sport and Tourism*, 12 (1) 5-23

Sandomir, R., (2008). How big is 'Tiger Effect'? Networks will soon learn, *The New York Times* (18 June 2008). Available on-line: www.nytimes.com

Scott, A.K.S. and Turco, D.M. (2007). VFRs as a segment of the sport event tourist market, *Journal of Sport and Tourism,* 12 (1) 41-52

Stevens, T., Hodges, A., and Mulkey, D (2005). *Economic impact of THE PLAYERS Championship Golf Tournament at Ponte Vedra Beach, Florida*. Gainesville: University of Florida, Institute of Food and Agricultural Sciences, Food and Resource Economics Department

Tang, Q. and Turco, D.M. (2001). A profile of high-value event tourists, *Journal of Convention and Exhibition Management,* 3 (2) 33-40

Turco, D.M., Cox, M., and Ally, S.A. (2008). 2007 Cricket World Cup sport tourists: The Caribbean experience, Paper presented at the 2008 European Association for Sport Management Conference, Heidelberg

Turco, D.M., Riley, R.W., and Swart, K. (2002). *Sport tourism*. Fitness Information Technology, Warrington

Watkins, S.D. and Funari, N. (2006). *Likely economic impact to Ireland from the 2006 Ryder Cup*. AEG Working Paper 2006-09. Lansing, MI: Anderson Economic Group, LLC

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