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Abstract
Before and since the completion of the Kentucky Speedway in June of 2000, the owners of the track have attempted to get a NASCAR Sprint Cup race, which is the highest level of competition in the sport. Before the track opened, track personnel were successful in securing Automobile Racing Club of America (ARCA), Indy Racing League (IRL), and a NASCAR Camping World Truck Series races. The Sprint Cup series race could not be secured prior to 2011. The previous owners filed a lawsuit against NASCAR and International Speedway Corporation alleging violation of the Sherman Act in the conspiracy in restraint of trade and attempting to create a monopoly. (Kentucky Speedway v. NASCAR and ISC, 2008) The federal court dismissed the case with prejudice in favor of NASCAR & ISC. In 2008, Bruton Smith, owner of Speedway Motorsports Inc. (SMI), purchased the track.

SMI immediately began to update the track to accommodate the magnitude of a NASCAR Sprint Cup race. Smith estimated spending in excess of 100 million dollars bringing the track up to expectations and standards of Sprint Cup race events (Gibson, Smith, et.al., 2011). Additionally, the state of Kentucky estimates that prior to the Sprint Cup race in July of 2011 it had spent several million dollars expanding interstate 71 in both directions in order to handle the additional inflow of traffic on race day. These investments inspired the researchers to evaluate impacts of fan spending on the local economy as well as local, state and federal taxes.

Keywords
NASCAR, Motorsports, Economic Impact, Racing

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NASCAR and the Examination of the Impact of Fan Spending on Sparta Kentucky: A Predictive Study

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Introduction and Literature Review

Stock car racing is one of the largest spectator sports in the United States with a fan base of over seventy-five million (Hugenberg & Hugenberg, 2008). The National Association of Stock Car Auto Racing (NASCAR) began in 1948 as a modest organization focused in the southeastern United States. Since racing began in 1949, NASCAR has grown to boast 17 of the top 20 highest-attended sporting events in the United States and is rated second among all regular season sports on television (Albere et al., 2010). The growth and popularity of NASCAR is nationwide and is currently expanding outside the United States. The financial benefit of NASCAR events exceeds millions of dollars across the country, and can provide an economic boom for the hosting rural communities.

Much research has been completed to determine the impact such sporting events have on economies. (Vogelsong, Graefe, & Estes 2001, Brown, Rascher, Nagel, & McEvoy 2010, and Compton & Lee 2000). The financial benefit of sporting events is one of the most researched areas in the sport management academic literature. The analysis of economic data can be beneficial for the communities involved, sponsors, marketers, event organizers, and local and state governments. It is widely accepted that sporting events are catalysts for economic growth and development both nationally and internationally (Wilson, 2006). According to Bernthal and Regan (2004), NASCAR events not only provide financial benefits, but may also improve the quality of life in rural regions by providing recreational activity, pride for the community, improved image, and employment opportunities. Economic impact analysis is however, an inexact process that is not intended to provide concrete figures. These assessments are most often conducted to justify expenditures and reinforce the case for maintaining and funding the events (Compton, 1999).

Mainstream media has also covered the economic impact of NASCAR events across the United States making the general public aware of the size and scope of NASCAR events. According to the International Speedway Corporation (ISC), the economic impact of racing in Florida tops $2.3 billion annually (Kennedy, 2007). These impacts include $1.9 billion at the Daytona International Speedway, $248 million at Homestead in Miami, and $157 million at ISC, NASCAR, and the Grand American Road Racing headquarters in Daytona. The financial impact of NASCAR is also seen in rural areas. The Kansas Speedway president estimated a $175 million impact at the fall 2010 NASCAR event and a $243 million impact annually (Klaus, 2010). At Martinsville, Virginia, one of the smallest tracks, conservative estimates place a $75 million dollar impact on one event (Hoy, 2010).

In August of 2010, NASCAR announced that it would hold a Sprint Cup Race at Kentucky Speedway during the 2011 NASCAR season. Kentucky Speedway is a 1.5-mile racing facility located in Sparta, Kentucky near the Ohio border. The impressive facility resides on nearly one thousand acres of land near the banks of the Ohio River. The Sprint Cup race announcement brought excitement to the area and increased activity to the facility including a number of capital construction projects. Seating capacity was expanded from approximately 68,000 to nearly 117,000. The facility offered its race fans a total of 35 luxury suites, 125 backstretch recreation vehicle (RV) spaces, 590 infield RV spaces, 2,000 reserved RV spaces, and space for 12,000 fans to camp (Gibson, Smith, Upright, Larson, & Teague, 2011). The current study was conducted to estimate the economic impact of events hosted at this facility.

Purpose of the Study

Before and since the completion of the Kentucky Speedway in June of 2000, the owners of the track have attempted to get a NASCAR Sprint Cup race, which is the highest level of competition in the sport. Before the track opened, track personnel were successful in securing Automobile Racing Club of America (ARCA), Indy Racing League (IRL), and a NASCAR Camping World Truck Series races. The Sprint Cup series race could not be secured prior to 2011. The previous owners filed a lawsuit against NASCAR and International Speedway Corporation alleging violation of the Sherman Act in the conspiracy in restraint of trade and attempting to create a monopoly. (Kentucky Speedway v. NASCAR and ISC, 2008) The federal court dismissed the case with prejudice in favor of NASCAR & ISC. In 2008, Bruton Smith, owner of Speedway Motorsports Inc. (SMI), purchased the track.

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Methods

For this predictive study, the researchers gathered and examined Internet data related to the NASCAR race weekend at the Kentucky Speedway that took place July 7-9, 2011. Local and state news media, as well as the Kentucky Speedway, reported that all 107,000 seats available for the weekend were sold. The researchers identified the types of facilities available for overnight stays during the 3-day event. The speedway reported that the 889 campsites at the facility were sold out. The remainder of fans most likely stayed at hotel/motels in northern Kentucky, southwestern Ohio, and southern Indiana.

The researchers then examined a previous study of economic impact that had been conducted at Darlington, South Carolina (Bernthal & Regan, 2004). Since both locations were predominately rural, the researchers felt that much of the information gathered in the Darlington study could be used as estimates for the Kentucky Speedway. Since the Darlington study was conducted in 2002, cost of living adjustments (COLA) were made and used for the Kentucky Speedway study. Respondents in the Darlington study were asked to provide the amount of money spent by their party in various categories including the city where spent, number of days spent in Darlington and the region, number of people in the party, mode of transportation, number of miles traveled to the raceway, and relevant demographics such as income, age, and zip code.

So that the local population was excluded from the predictive economic impact, the researchers estimated, conservatively, that 25% of the 107,000 attendees to the event were locals (lived within a 40 mile radius of the speedway). This meant that approximately 81,374 race fans were determined to come from outside this radius and likely spent money in the area only because of the event. The Darlington study estimated that there were 2.89 people per party interviewed. The Kentucky Speedway researchers examined data gathered from Darlington on average spent per person on tickets, concessions, retail, and lodging. Based upon these numbers and adjusting for COLA, the researchers estimated that fans at Kentucky Speedway spent an average of $65 on tickets, $7.80 on concessions, $53.75 on retail, $43.25 for hotel/motels, and $51.90 for campsites.

Calculations were made by entering these estimates into the MIG IMPLAN Model to describe, assess, and analyze the predicted economic impact of Kentucky Speedway events on the region around the track. The MIG IMPLAN model is an economic assessment software analysis program and consists of economic data which has been gathered and stored on an external hard drive (IMPLAN, 2011). The software and data modules allow individuals to determine the economic impact of an event at the national, state, county, and zip code levels. The data packages are available at varying levels which must be purchased in order for the economic analysis to be completed. Once both the software and data set for the study area is obtained it is possible to determine any number of effects of spending occurring in the area to include sporting events such as NASCAR Sprint Cup series races. The software was developed from the Money Generation Model2 (MGM2) at Michigan State University (Stynes, Propst, Chang, & Sun 2000). This model has been used to determine the impact of visitor spending at the national parks in the United States.

Analysis and Results

The following tables illustrate the estimated economic impacts of fan spending during the Kentucky Speedway NASCAR Sprint Cup race weekend. Table One (1) provides the direct, indirect, induced, and total economic impact on labor, labor income, value added, and total output of fan spending as a result of hosting the events.

Table 1 - Total Impact Summary

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	292.0	$11,581,338	$19,960,139	$31,752,771
Indirect Effect	34.8	$1,326,502	$1,827,224	$3,424,935
Induced Effect	35.8	$964,018	$2,328,248	$3,644,617
Total Effect	362.6	$13,871,858	$24,115,610	$38,822,323

Table two (2) provides a snap shot of the impact of the NASCAR events on the top ten industries in Gallatin County, Kentucky.

Table 2 - Top Ten Industries Affected

Description	Employment	Labor Income	Value Added	Output
Hotels and motels, including campgrounds	138.9	$7,265,151	$13,161,427	$22,379,667
Other amusement and recreation industries	72.7	$2,283,389	$3,496,444	$5,322,972
Retail Stores - General merchandise	71.5	$1,858,216	$3,061,475	$3,520,719
Food services and drinking places	21.0	$441,153	$632,494	$1,236,426
Newspaper publishers	8.0	$349,935	$466,474	$958,077
Services to buildings and dwellings	4.0	$85,175	$116,732	$232,039
Retail Stores - Food and beverage	3.7	$82,940	$134,939	$156,032
Real estate establishments	3.5	$46,560	$339,699	$463,104
Nursing and residential care facilities	3.2	$123,558	$133,366	$215,772
US Postal Service	2.9	$232,966	$216,080	$292,588

Tables three (3) and four (4) provide the impact of fan spending on local and state taxes and illustrate the gains made to both state and federal compulsory income.

Table 3 - Increases in State Taxes: NASCAR Event

Description	Employee Compensation	Indirect Business Tax	Households	Corporations
Dividends				$160,554
Social Ins Tax- Employee Contribution	$7,815			
Social Ins Tax- Employer Contribution	$19,411			
Indirect Bus Tax: Sales Tax		$1,739,109		
Indirect Bus Tax: Property Tax		$987,537		
Indirect Bus Tax: Motor Vehicle Lic		$35,170		
Indirect Bus Tax: Severance Tax		$60,810		
Indirect Bus Tax: Other Taxes		$104,944		
Indirect Bus Tax: S/L NonTaxes		$161,283		
Corporate Profits Tax				$71,832
Personal Tax: Income Tax			$295,071	
Personal Tax: NonTaxes (Fines- Fees			$30,474	
Personal Tax: Motor Vehicle License			$13,031	
Personal Tax: Property Taxes			$4,246	
Personal Tax: Other Tax (Fish/Hunt)			$6,866	
Total State and Local Tax	$27,226	$3,088,852	$349,689	$232,386

Table 4 - Increases in Federal Taxes: NASCAR Event

Federal Tax Description	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations
Social Ins Tax- Employee Contribution	$571,891	$340,722			
Social Ins Tax- Employer Contribution	$562,168				
Indirect Bus Tax: Excise Taxes			$190,137		
Indirect Bus Tax: Custom Duty			$61,515		
Indirect Bus Tax: Fed NonTaxes			$163,241		
Corporate Profits Tax					$258,697
Personal Tax: Income Tax				$464,025	
Total Federal Tax	$1,134,059	$340,722	$414,893	$464,025	$258,697

Discussion & Recommendations

There are several limitations coming from completing a study utilizing predictive figures based on past events. First, the estimates of the dollars spent at and around Kentucky Speedway are just that, estimates, and the results of the analysis and corresponding figures should be read with this understanding. Second, while the researchers made adjustments for cost of living (COLA) using standard governmental percentages those adjustments may, in reality, be less due to the economic recession currently being realized in the United States. Third, the data set for Gallatin County, Kentucky did not contain a sector for campgrounds or similar industry and as a result the mean costs for the RV camping spots at Kentucky Speedway were included in the hotel/motel industry sector of the IMPLAN analysis model. Lastly, the total attendance at the event is known, however, the percentage in attendance from the determined local radius could not be figured exactly. The numbers used for the impact analysis procedures, while conservatively derived, may not capture the actual composition of the attending fans.

The analysis clearly demonstrates that the NASCAR events have a positive effect on the local economy in Gallatin County and Sparta, Kentucky. It should be noted that the state of Kentucky invested several million dollars improving the interstate (I-71) for several miles in both directions leading up to the track exit. The exact dollar figure of the improvements made before the race remains uncertain. This past July's NASCAR event did not go as smoothly as Kentucky Speedway would have liked. There were an estimated 20,000 fans stuck on I-71 and therefore unable to get into the race due to inadequate parking at the venue. The owner of the track, Bruton Smith, has agreed to invest $8 million on parking improvements and the state of Kentucky has agreed to invest $3.6 million on improvements to I-71. (Mulhern 2011)

The questions for most people in the state of Kentucky and Gallatin County are whether the investments made by taxpayers are being used wisely and is the County and the State realizing a return on its investment? Table one (1), which provides total impact attributable to the event, outlines a total impact of $38.8 million on the Gallatin County's industries. The top four industry sectors according to Table two (2) clearly demonstrate that the event contributes to the personal incomes of over 300 personnel. The total output by the top four sectors in Table two (2) is $32.4 million. Since Gallatin County and the state of Kentucky made no investment in the track construction or its supporting structures, the improvements to the interstate leading into Sparta and Kentucky Speedway appear to be worthwhile. The total increases in estimated taxes to the state, as outlined in Table three (3), are nearly $3.7 million. This figure is just over the

$3.6 million commitment made by the state of Kentucky in improving I-71 and the state road leading up to the Kentucky Speedway entrance.

While the figures in this predictive study are encouraging, they do not reflect realistic numbers based upon actual event surveys. Future study, using a representative sample of attendees to the next NASCAR Sprint Cup event at Kentucky Speedway, needs to be made. Future economic impact studies of NASCAR events should be conducted at other rural and urban locations, in order to determine NASCAR's financial impact upon communities. Economic impact studies of sporting events should be compared to determine the overall effects of sport on communities and the benefits realized by supporting sport. It may also prove beneficial to assess the infrastructural investments made by taxpayers at and around NASCAR facilities in other locations.

References

A case study of four swimming events, *Managing Leisure,* 57-70.

Abere, A., Bronsteen, P., & Elzinza, K.G. (2010). The economics of NASCAR, *The Oxford Handbook of Sport Economics,* Vol. 1, 1-27.

Bernthal, M.J., & Regan, T.H. (2004). The economic impact of a NASCAR racetrack on a rural community and region, *Sport Marketing Quarterly*, *13*, 26-34.

Brown, M. T., Rascher, D. A., Nagel, M. S., & McEvoy, C. D. (2010). *Financial management in the sport industry*. Scottsdale, AZ: Holcomb Hathaway.

Compton, J.L. (1999). *Measuring the economic impact of visitors to sports tournaments and special events,* NRPA, Ashburn, VA: NRPA.

Crompton, J.L., Lee, S., & Shuster, TJ. (2001). A Guide for Undertaking Economic Impact Studies: The Springfest Example. *Journal of Travel Research, 40*, 79-87.

Gibson, F., Smith, D., Upright, P., Larson, B., & Teague, T. (August/September, 2011). Gearing up for safety at Kentucky Speedway. *Facility Manager; International Association of Venue Managers*, 10-11

Hoy, S. (August, 2010). Martinsville Speedway is on fast track for upgrades, The Roanoke Times, available online: http://www.roanoke.com/news/roanoke/wb/258347

Hugenberg, L.W. & Hugenberg. B.S. (2008). If it ain't rubbin', it ain't racin':NASCAR, American values, and fandom, *The Journal of Popular Culture, 41*, 635-657.

Kentucky Speedway, LLC. V. National Association of Stock Car Auto Racing, Inc., and International Speedway Corporation, 2008 U.S. Dist. LEXIS 1076.

Klaus, K. (October, 2010). NASCAR Sprint Cup promises $175 million economic prize, Kansas City Business Journal, available online: http://www.bizjournals.com/kansascity/stories/2010/09/27/daily59.html

Mulhern, Mike. (2011). And now Bruton Smith speaks……. Retrieved from http://www.mikemulhern.net/BreakingNow/and-now-bruton-smith-speaks

Scene Daily (Daytona Beach, FL). ISC releases its economic impact on Florida. Posted online December 21, 2007, available at: http://www.scenedaily.com/news/articles/sprintcupseries

Stynes, D.J., Propst, D.B., Chang, W.H., and Sun, Y. (2000). *Estimating regional economic impacts of park visitor spending: Money Generation Model Version 2 (MGM2)*. East Lansing, MI: Department of Park, Recreation and Tourism Resources, Michigan State University. (See MGM2 website)

Voglesong, H., Graefe, A., & Estes, C. (2001). Economic impact analysis: A look at useful methods, *Journal of Parks and Recreation,* 28-32

Wilson, R. (2006). The economic impact of local sport events: Significant, limited or otherwise? A case study of four swimming events, *Managing Leisure,* 57-70.