

An Initial Look at the Economic Capital of Sports in Indianapolis



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Drew Klacik

Senior Policy Analyst
Indiana University Public Policy Institute

Doug Noonan

Director of Research
Indiana University Public Policy Institute

Associate Professor
Indiana University – Purdue University Indianapolis

Executive Summary

MAPPING THE ECONOMIC PLAYING FIELD OF SPORTS IN INDIANAPOLIS

Indianapolis has many deep ties to sports, often highlighted by marquee events and professional franchises. Accordingly, when discussing economic impacts of sports in Indianapolis, much of the attention is drawn to these big events and the visitors they draw. Yet sports in Indianapolis runs far deeper and wider than visitor spending and professional athletes. This study set out to survey the landscape of the various ways that sports touches the regional economy.



The project began with crafting a definition of the sports economy in a metro region, one not tied to preexisting (NAICS) industrial code classifications or limited to spending on events, but rather one that captured the many ways we engage in sports. It spans from marquee events and franchises all the way to volunteer referees at pee-wee soccer games, from sports medicine to cyclists and the bike shops that support them.

Crucial to this conception was opening the door for amateur, volunteer, and informal sports activity – the kinds of sports activity not amenable to a NAICS industry code classification. Vital to this approach is the recognition of the massive economic value in sports that occurs outside of market transactions – whether it is (unpaid) volunteer labor, recreational participation, or capital investments in and spillovers from sports-related infrastructure. Conventional economic impacts studies tend to overlook these critical components. And these elements set sports apart from other traditional economic “clusters.”

We've put some structure to this “playing field” for sports. And then we set out to quantify these components. Some parts are easier to measure than others. The map is inevitably a work in progress, as it's a dynamic field with new players emerging all the time. But our measures of the sports economy in Indianapolis offers a panoramic snapshot and features conservative estimates of not just *direct spending* (and avoiding

contentious multipliers) but also head-counts of jobs and participants, to convey just how connected we are to a large part of the regional economy.

WHAT WE'VE FOUND

Rather than guess at the size of the “gaps” and refine our estimates later, we present an incomplete estimate – fully expecting that future pieces will get added to the picture and the total estimate will rise over time. In other words, this is a “lower-bound” estimate. We expect that releasing this study will entice other organizations and activities to reveal themselves and we can readily incorporate them into the estimates.

Table 1 gives the summary (‘bottom-line’) estimates for direct spending and jobs. Table 2 gives the summary estimates for sports involvement through other forms of participation. Bottom line: over \$3.3 billion in direct spending, almost 10,000 jobs, and *widespread* participation ... and that’s just the start of the inquiry.

TABLE 1: DIRECT SPENDING AND FINANCIAL VALUE

Category	Revenue	Wages	Employees	Facilities
1: Global Franchises	\$ 406,000,000	\$ 201,000,000	445	\$ 903,000,000
2: National Events and Organizations	938,435,307	69,497,842	946	175,100,000
3: Organized Regional Sports	79,080,347	33,625,397	922	
4: Individual Sports	179,851,833	28,793,385	2,239	
5: Support of Sports	1,777,938,173	67,216,060	5,132	
Total	\$3,381,305,660	\$ 400,132,684	9,684	\$ 1,078,100,000

TABLE 2: PARTICIPANTS, ATTENDEES, VOLUNTEERS

Category	Participants	Attendees	Coaches	Volunteers
1: Global Franchises	176	1,750,937	28	
2: National Events and Organizations	79	1,907,129	17	6,150
3: Organized Regional Sports	147,317	2,541,783	9,647	11,961
4: Individual Sports	1,951,403			
5: Support of Sports				
Total	2,098,896	6,199,849	9,692	18,111

The sport economy in Indianapolis is large. Nearly 10,000 jobs are directly in the sports sector. Further, nearly 10,000 coaches and almost double that in other volunteers can be found spending their valuable time on organized sport. Sports generate over \$3.3 billion annually in revenue in the region, more than half of which comes from the base of the sports pyramid: Category 5 and facilities and organizations supporting sport. These estimates are incomplete and conservative: the true number for Indianapolis is much

larger. Still, the \$3.3 billion in revenues directly accruing to sports organizations and activities accounts for 2.7% of the Indianapolis metro area's economy. Both in raw terms and as a share, this exceeds the size of the sports economy in recent studies for other cities like Charlotte, NC and San Diego, CA. The annual direct contribution of sport to the Indianapolis economy is nearly 20 times the estimated impact of hosting the Super Bowl every year. One in eight Indianapolis adults participate in or attend some sports activity and 7.3% of residents actively play or participate in sports each day. This amounts to over 103,000 adult sports participants on a typical Indianapolis day (and over 70,000 attendees).

Sport is big business, and it is about time we unreservedly think of it that way. This analysis should help agencies and community organizations think more strategically about sports (especially the facilities and participation) as part of both an economic and a quality of life strategy.

AN INITIAL LOOK AT THE ECONOMIC CAPITAL OF SPORTS

Introduction

Long known as the motorsport capital of the world and more recently the self-declared amateur sports capital, Indianapolis credits sport – both professional and amateur – for much of its national and international reputation and as a key element in its emergence as a ‘major league’ city and region. Yet while civic leaders regularly cite sports as a key strategic element in the growth of Indianapolis and the occasional study touts the economic contributions of the Indianapolis Motor Speedway (Klacik 2013) or the Super Bowl (Rockport Analytics 2012), we have little understanding of how collectively important, in terms of basic outputs (jobs and wages), inputs (revenue and visitor spending), and public benefit (the benefits associated with participation) sports are to the local economy.

Historically, when thinking about sports’ ability to drive a regional economy forward, most academic (i.e., journal-based) studies conclude that sports has little economic impact (e.g., Delaney and Eckstein 2003, Siegfried and Zimbalist, 2000).¹ When focusing on the ability of sports to drive development to downtowns, both Nelson (2001) and Austrian & Rosentraub (2002) suggest that there are some positive effects while Huang and Humphreys (2014) casts doubt that stadiums actually cause the redevelopment. Most importantly, there is little evidence of studies that seek to determine what constitutes sport and then estimate the corresponding *value*, rather than “impact,” of sport to a local economy. The great bulk of academic and high-profile consulting studies on sports’ impact deal exclusively with professional sports franchises or major sporting events, and the bulk of their conclusions are thus limited to this rather elite view of sport in a metropolitan economy. Developing a full and commonly accepted definition of sport is an essential to understanding its economic contribution. Thus defining sports in the Indianapolis region is the first important task in this study. Only after sport is defined can the data regarding organizations, facilities, events, participants, spectators begin to be collected and the economic capital associated with sports in Indianapolis be estimated.

Defining Sport

There is no North American Industry Classification System (NAICS) code for sports. Thus, much like for advanced manufacturing, researchers cannot simply write a query for preexisting databases and download all sports-related business data. Although there are press clippings and other data sources available to help determine the number of visitors to the professional games and marquee events, determining the number of participants and visitors associated with youth sports and tournaments, or how many runners participate in the marathons, or how many use the Cultural Trail presents an even greater challenge.

¹ Siegfried and Zimbalist (2000, 103) pointedly observe, “Few fields of empirical economic research offer virtual unanimity of findings. Yet, independent work on the economic impact of stadiums and arenas has uniformly found that there is no statistically significant positive correlation between sports facility construction and economic development.”

The first step in the complicated and arduous process of understanding the full scope of sports is creating a collective yet specific definition of what, for economic and community purposes, constitutes sport. Most certainly sports include the high-profile professional franchises (Pacers, Colts, Fever, Indians, Indy Eleven, and soon the Indy Fuel) and the annual motorsports events at Indianapolis Motor Speedway (the 500, Brickyard, and MotoGP) and at Lucas Oil Raceway (National Hot Rod Association (NHRA) Nationals NHRA). It also includes high-profile spectator events including National Collegiate Athletic Association (NCAA) Final Fours, Olympic trials, the Big 10 Football Championship and bi-annual basketball tournaments, the Crossroads Classic, the Circle City Classic, and the once-in-a-lifetime (or will there be another?) Super Bowl. In addition to these high-profile events and professional franchises, there are lower profile spectator events including high school and college (Butler, IUPUI, and University of Indianapolis among others) sports. Then there are the governing bodies, including the Indiana Sports Corporation, the NCAA, the National Federation of State High School Associations, USA Diving, USA Gymnastics, and the Indiana High School Athletic Association (IHSAA). Participant events such as youth sports clubs and tournaments (in soccer, volleyball, basketball, softball, and baseball) and race events (e.g., Mini-Marathon, Indianapolis Marathon, Monumental Marathon) that provide opportunities for local participants while also attracting thousands of visitors to our region where they spend weekends occupying hotels rooms, dining at restaurants, buying souvenirs, and occasionally playing games. Additionally, there are participatory sports including running, biking, and training on our trails (Cultural, Monon, and many more) and at local parks, private fitness facilities, the YMCA, and elsewhere. Finally, there are companies whose income is directly attributable to sport (for some it is a 100 percent, for others it is less). These companies may be retail (e.g., Dick's Sporting Goods, local golf and bike shops), medical (e.g., Methodist Sports Medicine), or even ticket resale, the sports media, legal services, or manufacturing (e.g., the Dallara facility and hundreds of other motorsports firms, Reebok). We could go on and on, but by now it should be clear that defining sport can be quite complicated.

What we measure and what we do not

There is considerable economic activity that occurs due to active participation in sports and passive activities associated with being a fan of sports. Active participation in sports often entails specialized equipment and may require medical attention for injuries; the downstream economic impact of youth and adult participation in sports is substantial. Further, sports fans purchase apparel for favorite teams, spend time and money watching sports at the events and at restaurants and bars, participate in fantasy sports, etc. To narrow this very broad scope, **we limit our attention to revenue attributable to direct spending on sports-specialty organizations and activities. We also begin to examine employment, volunteering, direct participation in playing, coaching, and officiating of a sport², and attendance in those arenas.** Thus, by measuring direct

² Much work remains to fully quantify the number of participants in sports, for example while we currently include Indy car drivers we don't know the number of Indy Car team members who work on the race car in the pits, in the garages and at locally owned race team shops.

spending (revenues) only, we are not entertaining the controversial use of multipliers, spillover effects, and indirect spending associated with the sports economy. Further, we are generally limiting our analysis to spending (revenues) at organizations or events dedicated to sports. Organizations not identified as specializing in sport (e.g., hotels and restaurants that derive some business from sports events, department stores that sell sports apparel, hospitals that treat sports injuries) do not have the sports-related portion of their activity and revenue captured here. In essence, we make the conservative assumption that such activity does not exist. Including this revenue would likely make a large impact on our estimates. There are a few exceptions here, such as universities through their athletic departments, where at least some of their sports activities can be readily separated and identified (although still the intramural collegiate sport activity and other sport-related merchandise sales at, say, the college bookstore may be escape detection here). Eventually, the study will be expanded to include other instances where revenue or employment attributable to sports can be readily separated and identified, including media, marketing, retail, and even production.

An example can demonstrate these distinctions. If someone attends an Indy Eleven game, their spending taken as revenue by that franchise is counted in this study. If they pay another entity (that is not a sports specialty organization) for lodging, parking, or a meal before the game, then it is not included. If they support the salary of a player who then spends his income elsewhere in the city, then this sort of spending is not counted in this study. Including that spending and economic activity would yield much larger numbers, but also invites criticism. Accurately apportioning revenues for entities not specializing in sports would require considerable additional research to credibly establish their shares associated with sports. And tracing out the full indirect and induced economic impact of this kind of activity can be done (e.g., see recent studies for Charlotte, NC (Connaughton and Swartz 2014) and San Diego, CA (BW Research Partnership and National University System Institute for Policy Research 2013)) but requires additional assumptions and muddies the interpretation of the results.³ The findings here represent direct spending (revenues) and employees, participants, and attendees directly associated with sports in the metro region. That group alone represents a very large “splash” without needing to track down the more dubious “ripple effects.”

Also omitted are occasional events that rotate around the country, such as the Super Bowl or the Final Four, unless they have occurred in Central Indiana during the past year July 1, 2013 to June 30, 2014. For these kind of sports and sports-related events that occur elsewhere, their support organizations and staffing that reside in Indianapolis year-round would be included in our calculations – because our aim to measure the

³ The most challenging element of any economic impact analysis is determining the amount of new spending directly attributable to the particular economic activity. Determining the amount of new spending in sport is particularly difficult because most would argue it is entertainment and thus substitutable. For example, if I choose not to go to a football game, then I will go to a movie; if I do not join a volleyball league, then I might take a cooking class. Thus most sport-related economic impact analysis quickly devolves into an argument over what part of the indirect activity is new. We avoid this here and instead consider the size of the direct cluster.

permanent sports economy of the region.⁴ On any given year when such a major event comes to town, of course the economic activity associated with sport would be much larger. The Super Bowl in 2012, for instance, was associated with an additional \$176 million in additional spending (Rockport Analytics 2012). But, because we are examining permanent direct spending on sport by and for those in the region, much of the economic activity associated with those major events would not belong in this study anyway (as they are non-sports spending, indirect spillovers, or revenues for out-of-town organizations).

This study estimates and aggregates various economic metrics for sports' influence in the regional economy. Primary metrics are employment, wages, participation, and attendees. While these metrics are presented in the aggregate for several categories of activities and organizations, they are also presented disaggregated to various elements within categories. This decomposition allows one to identify the relative contributions of the various sources. Care should be taken, however, in aggregating *across* the metrics. For instance, revenues should generally not be summed with wages – as they are different sides of the same ledger to firms (i.e., wages are costs to whomever receives the revenues). Still, some of these metrics are very nice complements to one another. Revenues tell just part of the story, and juxtaposing the amount of participation can show a breadth of sports' impact beyond the box office. And volunteers in addition to full-time employees (FTEs) highlight this distinctive feature of the sports economy. Much of sport is volunteer, amateur, or nonprofit, and not well captured by traditional industry classification codes or by limiting the analysis to market transactions.

Measuring the revenues, employees, participants, and attendees of sports specialty organizations and events presents a very direct picture of the sports economy in Indianapolis. Even without examining how it *indirectly* ripples through the rest of the economy, the direct measurements here portray how large and pervasive sports specialty firms, jobs, and activities are within the greater Indianapolis economy. The sports ecosystem is complex and extends far beyond the high-profile sports franchises and events. Those are just some keystone species in the ecosystem, but the bulk of the energy and resources (job, spending, time) are invested in lower-profile, smaller-scale sports enterprises throughout the Indianapolis region. One need only visit a suburban youth soccer tournament to see the incredible investment and complex micro-economy at play.

⁴ For example, those employed at the NCAA offices in Indianapolis are included in the report even though the Final Four did not occur in Indianapolis during the study period

The Sports Pyramid

To start mapping out the sports ecosystem of metropolitan Indianapolis, several categories of organizations and activities routinely came to the fore in our investigations and with sports industry experts.⁵ The most obvious, high-profile, and iconic aspects of the sports economy are surely the “major league” professional franchises. This becomes our Category 1 of “Global Franchises.” Quickly after that were mentioned smaller organizations dedicated to participating in sport (i.e., the “minor league” teams) or to administering competition or events. Some of these organizations and events operate at a national scale, in national competitions, or for national audiences. We classify these in



Category 2, “National Events and Organizations.” Another, much larger set of smaller organizations participate and directly support the administration of regional and local organized sports activity. This Category 3, “Organized Regional Sports,” widens the base of the sports pyramid beneath the major league teams and capture the breadth of organized sports competitions and activity. Active participation and attendance of many residents constitute a large component of Category 3 (rather than the larger financial and

employment features of national organizations). But even this sports pyramid is incomplete without two more key components. A great deal of sport is unorganized, informal, or individual sports. Category 4, “Individual Sports,” collects all the individual engagement in sports that occurs outside of a formal competition or organization already picked up in other categories.⁶ Finally, many individuals and organizations directly support sport without themselves participating in or administering the activity – whether it is offering training facilities, bicycle repair, apparel manufacturing, physical rehabilitation, marketing, or a host of other support services. Category 5, “Sports-Related Activities,” aims to include businesses that make their money from people’s participation in (and passion for) sport.⁷

⁵ A completely unrelated study, Connaughton and Swartz (2014) analysis for Charlotte, arrives at a similar framing. They segment their MSA’s sports economy into four parts: professional and college teams, special events, major amateur and youth events, and sports video and media production. Within this similar structure, substantive differences arise as the Charlotte study casts a far more narrow net for their “support of sport” organizations and likely because Indianapolis has a larger representation of Category 2 organizations than are found in Charlotte.

⁶ This distinction is flexible enough to account for activities that touch on multiple categories. A runner using a trail to train for a marathon, for example, would have their trail use for training counted in Category 4 but their participation in the large event counted in Category 3.

⁷ It bears emphasis here that Category 5 is not conceived of indirect, spillover, or multiplier spending that ripples out from spending directly on sports. Category 5 is still direct spending on sports-related activity immediately related to sports. For instance, it includes sports medicine revenues but not spending on other medical services by people who earn their income from sports.

CHARTING THE SPORTS PYRAMID OF INDIANAPOLIS

Category 1: Global Franchises

We start off with the most high profile sport activities. At the top of the sports pyramid sit the three major sports franchises/facilities in the Indianapolis region. These two franchises (the Indianapolis Colts and the Indiana Pacers) and one facility (the Indianapolis Motor Speedway or IMS) are “major league” and international in stature and hold recurring events. These global franchises establish and lead Indianapolis’ international brand and reputation in sports.⁸

While there has been much debate about the validity of sports-related economic impact studies, there are estimated impact studies for all three of the Category One franchises. The Indianapolis Motor Speedway study was completed in 2013 and considered not just the three races but also the maintenance of the facility operations as well and racing league operations and the teams associated with racing that are located in Indianapolis, the estimated annual impact was \$510 million.⁹ The Indianapolis Colts study was completed in 2014 and estimated the annual economic impact of the Colts home games to be \$150 million.¹⁰ The Indiana Pacers study was completed in 2010 and their impact was estimated to be \$55 million annually.¹¹ When thinking of sport as economic capital, the estimated impact is less important than the quantity of direct jobs and wages, spectators, and the value of the facility.

Indianapolis Colts

The Indianapolis Colts annually play two preseason and eight in-season games at Lucas Oil Stadium. Total attendance at regular season Colts games in 2014 was 527,606 (espn.com) and an additional 125,789 attended (or purchased tickets for the two preseason games (IDI attendance report)). *Forbes* magazine reports that the Colts franchise in 2013 was valued at \$1.4 billion and earned \$285 million in revenue with \$60.7 million in operating revenue (<http://www.forbes.com/teams/indianapolis-colts/> November 2014).¹² The total number of non-player Colt employees is 153 (Colts.com current employees), including 21 coaches, although no payroll is provided or available. In

⁸ Major events like the Super Bowl, when it is hosted in Indianapolis, would also belong in this top category. In practice, however, the financial flows and jobs associated with an occasional event like the Super Bowl would not be captured in our approach as much of the revenues and jobs accrued to non-local specialty firms (e.g., the NFL) or to organizations only partially dedicated to sports (e.g., hotels).

⁹ <http://www.indianapolismotorspeedway.com/redbullgp/news/show/52049-ims-events-add-510-million-annually-into-indiana-economy/>

¹⁰ <http://www.wthr.com/story/5891299/colts-play-off-game-has-economic-impact>

¹¹ <http://www.wthr.com/story/12455873/cib-releases-pacers-economic-impact-study>

¹² <http://www.forbes.com/teams/indianapolis-colts/> (November 2014)

addition to these employees, there are the players. An NFL roster is limited to 80 players during training camp and the regular season roster is 53 on the regular squad and up to 10 on the practice squad. The maximum total salary for an NFL team is \$123 million and the league minimum salary is \$109.47 million.¹³

Lucas Oil Stadium is the game day home for the Colts. The construction cost has been reported as \$720 million. The Colts contributed \$100 million and the city of Indianapolis and the State of Indiana contributed the rest. Lucas Oil Stadium is operated by the Capital Improvements Board and functions as a multi-purpose facility when not used by the Colts. In addition to the NFL games the stadium has hosted NCAA tournaments, the Big 10 Football Championship as well as many concerts, national trade shows and conventions, IHSAA tournaments, international and national band competitions, and numerous other national and local amateur sports events.¹⁴

Indiana Pacers

The Indiana Pacers play 41 regular season games (and in some years additional playoff games) at Bankers Life Fieldhouse. Total regular season attendance in 2013-14 was 717,542.¹⁵ There were also ten home playoffs games after the 2013-14 season with approximately 180,000 additional fans. *Forbes* magazine reports that the Pacers franchise is worth \$475 million and earned \$121 million in revenue during the 2013/14 season.¹⁶ The Pacers (via Pacers Sports and Entertainment, which includes the Fever) employ 216 individuals who work full-time and 54 additional individuals on a per-game or as-needed basis.¹⁷ Finally the Pacers can have up to 15 players on their roster, they also have seven coaches and trainers.¹⁸ Their 2014-15 player salary totals \$77.8 million (basketball-reference.com) and should be rising quickly in coming years.

Bankers Life Field House is the home of the Pacers, the arena opened in 1999 and cost \$183 million (about \$79 million from public sector).¹⁹ In addition to the Pacers, the Fieldhouse has hosted the Indiana Fever Women's National Basketball Association (WNBA) teams, high school and college basketball, concerts and other entertainment performances, high school graduations, and conventions and meetings.

Indianapolis Motor Speedway

The Indianapolis Motor Speedway facility has traditionally hosted three major races (the Indianapolis 500, the Brickyard 400, and the Indianapolis GP). The IU Public Policy Institute recently released a study of the economy contributions of IMS (Klacic 2013) that estimated its total contribution to the Indiana economy to be over \$510 million. The estimate is based on the events (though limited to approximately 200,000 out of state

¹³ <http://bleacherreport.com/articles/1665623-how-does-the-salary-cap-work-in-the-nfl#articles/1665623-how-does-the-salary-cap-work-in-the-nfl>

¹⁴ <http://www.lucasoilstadium.com/about.aspx>

¹⁵ <http://espn.go.com/nba/attendance>

¹⁶ <http://www.forbes.com/teams/indiana-pacers> (November 2014)

¹⁷ <http://www.bankerslifefieldhouse.com/arena-information/staff-directory/>

¹⁸ www.nba.com/pacers/news/about_pse.html

¹⁹ <http://www.insidearenas.com/eastern/BankersLifeFieldhouse.htm>

spectators), operations and maintenance of the facility, as well as Indy Car leagues and teams located in Indianapolis. The facility is privately owned a very little detail about direct employment, facility value, and other factors are available for public consumption.²⁰ However, we do know the number of drivers participating in the Indianapolis 500, Brickyard 400, and MotoGP.

	Employees	Wages	Spectators	Participants	Facility Value	Franchise Value
Colts	214	\$123M +	653,395	63	\$720M	\$1,400M
Pacers	231	\$78M +	897,542	15	\$183M	\$475M
IMS	?	?	200,000+	98	?	?

Category 2: National Organizations, Teams, Events and Organizations

The category in the sports pyramid includes a wide range of teams, events, and organizations that are national in stature as well as franchises in the second tier of professional sports leagues. In order to be national in stature an event could be a national championship (for example a Final Four) or on national or regional television (for example an NCAA regional tournament or the Big Ten championship). Also included in Category 2 are other professional sports teams including the Indiana Fever (WNBA), Indianapolis Indians (AAA baseball), Indy 11 (North American Soccer League or NASL), and soon the Indy Fuel (ECHL). Also included in the other professional sports category is Lucas Oil Raceway Park, which hosts the NHRA Nationals and many other races. Additionally, Category 2 includes sports (administration) organizations of national stature. Included in this category are the NCAA, USA Diving, USA Football, USA Gymnastics, USA Track and Field, and the Indy Sports Corporation (which competes for national events). The final element included in tier two are three major sports-related annual events (conventions): the National Athletic Trainers Association annual meeting, the NFL combine, and the Performance Racing Industry Trade show (one of the three largest motorsports trade shows).

National Events

The most commonly available measure of the economic capital created by Category 2 national events is attendance or, in the case of the 500 Festival Mini-Marathon, participants (35,000). It is important to recognize that the attendance number is not a measure of unique individuals but rather the total number of fans visiting the event. These are *participant events* rather than unique individuals. For example if a fan attends the NCAA national semifinal games on Saturday and the National Championship game on Monday that would represent two attendance events (for three games!) by one fan. It is also important to note that attendees include those living in the Indianapolis region *and* those who visit from out of the region. Both resident and visitor represent economic capital. For the local resident the economic capital is earned from the experience (this may be best represented by the value of the time they spend at the event). While the

²⁰ The IU Public Policy Institute signed a confidentiality agreement with IMS that prohibits it from making available much of the input data required to complete its estimate of economic activity.

visitor also gains capital from the experience, they additionally provide economic capital for the local economy when they spend on lodging, dining, souvenirs, and transportation. Virtually all of that “visitor spending” is above-and-beyond the estimates in this study. Among the national events held recently in the Indianapolis region are NCAA basketball regionals and Final Four, Big Ten Men’s and Women’s basketball tournament, the Rowing Championship, and the Football Championship. In addition to NCAA basketball, NCAA championships in swimming and diving and rowing have been held in Indianapolis. Also included in this category are the recent Olympic Diving Team trials and the mini-marathon. Attendance data are only available for a limited number of events (though many are among the larger events) and total attendance in this category is 423,329.

Other professional sports

The second group within tier two are other professional sports. Most of these sports are minor league franchises, though the Fever plays in the women’s national professional league. The most common data available for these franchises are also attendance. The most recent data available indicate a collective attendance of over 1.3 million. Individually the teams or events included in this group are the Indiana Fever (234,921), Indianapolis Ice/Fuel (114,000)²¹, Indianapolis Indians (595,042), NHRA Nationals/Lucas Oil Raceway (250,000), and a first-year attendance of 155,873 for the Indy 11 in the NASL. These organizations list a total of 79 athletes on their roster (plus 40 more drivers at the NHRA Nationals races) alongside 17 coaches.

Horse Racing

A third group within Category 2 is horse racing. Dun & Bradstreet report total employment attributable to Indiana Downs and the off-track betting parlor in downtown Indianapolis to be 91 FTEs, total attendance for horse racing of 22,230, and total revenue of \$15,596,000.

National Sports Organizations and Headquarters

The final group within Category 2 are the national sports organizations and headquarters located in the Indianapolis region. All these organizations are not-for-profits and thus must fill out a Form 990, which is available via GuideStar and provides a complete list of employees, wages, volunteers, revenue, assets, and expenditures. Collectively there are 855 individuals (FTEs) employed by the seven national sports organizations based in Indianapolis with nearly \$70 million in annual wages. The organizations (total employees) are: the NCAA headquarters (552), USA Football (81), USA Track and Field (71), USA Gymnastics (70), Indiana Sports Corporation (49), the 500 Festival (19), and USA Diving (13).

²¹ The attendance data is for the Ice who have suspended operations, the Fuel will begin play this fall and will play at the renovated Coliseum at the state fair grounds.

	Revenue	Assets	Expenses	Wages	Employees	Volunteers
USA Diving	\$ 3,451,366	\$ 1,204,567	\$ 3,052,301	\$ 998,205	13	100
500 Festival	6,270,625	5,233,991	6,048,187	1,448,161	19	
Indiana Sports Corp	5,252,299	10,084,841	5,144,898	1,621,033	49	800
USA Gymnastics	26,830,646	9,887,204	28,466,997	4,567,154	70	1500
USA Track and Field	21,853,470	8,897,392	20,491,905	4,454,200	71	1000
USA Football	18,121,960	10,382,440	16,503,042	4,162,408	81	250
NCAA organization	841,058,941	704,419,990	791,295,359	52,246,681	552	2500
	\$922,839,307	\$750,110,425	\$871,002,689	\$69,497,842	855	6150

National Events Unrelated to a Game or Franchise

The fifth and final group within Category 2 are events that are not directly related to a game or franchise but are national in scope. The three events in this group are the NFL Combine, which occurs at Lucas Oil Stadium and attracts over 4,000 people including players, coaches, and talent evaluators to Indianapolis prior to the draft each spring. The second is the Performance Racing Industry Trade Show, which is an international event attracting 48,000 buyers and 1,200 vendors from over 70 countries to Indianapolis.²² The final national event is the National Athletic Trainers Association Annual Meeting with 10,000 members in attendance.

	Attendees
Athletic Trainers	10,000
NFL Combine	4,000
Performance Racing	48,000

Category 3: Local Organized Sports

Category 3 represents organized sports that occur at the regional or local level. Included within this tier are local colleges, the travel clubs, high school, and middle schools sports, as well as the Catholic Youth Organization (CYO) sports, little league and other youth sports, and adult sport leagues. Category 3 represents perhaps the most undercounted group of economic contributions. Among the contributions we have yet to quantify are the number of out-of-state visitors, players, and coaches attending youth sport tournaments in Central Indiana. Furthermore, we believe that many youth teams are not (yet) included in our count. We do not (yet) include the amount high schools spend on facilities, equipment, coaches, etc. Additionally, we have not yet quantified the referees, athletic administrators, and volunteers that participate in school sports. Future research can identify and incorporate referees and volunteers for clubs sports as well.

The first group in the organized regional sports tier are organizations, teams, and events related to collegiate and high school/middle schools sports. The colleges included in the study are Butler, Franklin, IUPUI, Marian, and University of Indianapolis. We have

²² http://www.performanceracing.com/tradeshows/general_info.html

identified 363 high schools and 401 middle schools within the region that participate in at least one sport. The sports range from the Indiana standard of basketball to less common sports including the increasingly popular lacrosse and rugby, as well as bowling, and ultimate Frisbee. Additionally, this category includes regional associations and organizations associated with supporting collegiate and high school sports. Among the 20 associations and organizations included in the category are: the IHSAA, the National Federation of High School Sports, the US Adult Soccer Association, the Great Lakes Valley Conference, the Great Midwest Athletic Conference, and the Heartland Collegiate Athletic Conference.

Collegiate and High School Sports

The primary data source for the collegiate sports data are the individual athletic department web sites. Among the data available at the sites are team rosters, coaches, and home game attendance. There are less data available for high school and middle schools. In many cases, the only data available are which sports the school participates in. In these cases, conservative estimates are made regarding players (for example, conservatively estimating 20 basketball players – representing varsity and junior varsity – and two coaches per high-school basketball team). Based on a listing of the high schools in Central Indiana and our estimates, we think that there were at least 104,962 players on the rosters of all collegiate and high-school/middle-school teams in the region. Additionally, there were at least 6,939 coaches and 11,961 volunteers. Not included in the estimates at this time are the referees, officials, and other staff associated with the games. Finally, we conservatively estimate that over 2.5 million spectators attend high school and collegiate football, basketball, baseball, softball, and volleyball games in the region annually.²³

Participants	Spectators	Coaches	Volunteers
104,962	2,541,783	6,939	11,961

The primary source for the revenue, wages, and employees of the 20 regional organizations included in the study is GuideStar. Based on that data, we believe that the 20 organizations earn of \$46 million in revenue and employ 302 individual with total wages of over \$14 million. Based on athletic department website data, we believe that there are 312 collegiate coaches and trainers with an estimated total wage of almost \$15 million. High-school and middle-school coaches are not included in this estimate.

Regional organizations			Colleges	
Revenue	Wages	Employees	Coaches	Wages
\$ 46,367,896	\$ 14,333,462	302	312	\$ 14,808,080

²³ This assumes 1.5 spectators per participant times the number of games scheduled. We use the low spectator count to allow for double-counting of games (e.g., the Warren Davis vs. Ben Davis game is on both schools' schedules).

Organized travel and youth sports

The second group within Category 3 is the organized travel and recreation teams associated with sports including, baseball, including little league, soccer, volleyball, softball, and basketball as well as boxing (golden gloves), swimming, cheerleading, and many other sports. Organized travel and recreational sports are perhaps the fastest growing and most difficult to track category of sports. Our research is based on a combination of web searches and personal experiences. The effort uncovered a minimum of 32 soccer clubs, 29 swimming clubs, 27 baseball clubs, 15 football clubs, 9 basketball clubs, 7 softball clubs, and a number of clubs regarding competitive gymnastics, synchronized swimming, track, tennis, hockey lacrosse, and rugby in the Indianapolis area. While not all the clubs had websites with teams, rosters, and coaches, we use the data available to estimate the missing data points based on the average club's number of teams, players, and coaches. Additionally, while not a travel league per say, we include CYO sports in this category (which introduced kickball to our definition of sport). In total we are able to identify 161 clubs and organizations. We estimate that over 42,000 players and 2,300 coaches are associated with them. The club revenue, wages, and employees data are collected from Guidestar for clubs whose name we specifically knew and who reported to IRS as not-for-profit.

Clubs	Players	Coaches
161	42,355	2,396

Clubs	Revenue	Wages	Employees
	\$ 32,712,451	\$ 4,483,855	308

Category 4: Individual Sports (running, cycling, and golf, parks and trails)

Included in Category 4 are individual sports including running, cycling, and golf. From a variety of sources, Public Policy Institute researchers are able to identify 93 organized running or cycling events. The events range in size from the Monumental Marathon (13,600 runners) to events like the RibFest 5k with 100 runners. In total, over 75,000 runners participate (i.e., participant events) in an organized running or cycling event each year. We also identify 106 golf courses within the region. If the US average number of rounds per course was played,²⁴ then nearly 2.5 million rounds of golf were played with the region. To be more conservative, we estimate that central Indiana courses on average enjoy 75% of the national average.

	Golf	Running/cycling	Parks/Pool	Trails	Parks
Participant-events	1,838,856	77,457	110,835	4,094,920	12,662,256

²⁴ http://www.turfnet.com/page/news.html/_/construction-play-number-of-golfers-decline-in-2013-r249

In addition to formal events, individuals can use parks, trails, and pools for independent training/exercise or informal play. If all parks in the region are used at the same rate as Marion County parks, then over 12.5 million visit-days (where each individual who goes to a park on a given day is a “visit-day”) occur at the region’s parks and pools. Additionally we estimate that are 409,492 day uses of the Monon Trail in Marion County per year.²⁵ If all other trails in Marion County have a combined similar usage, then there are nearly a million trail-use events per year in the County. If Hamilton and Hendricks counties, with their well-developed trail systems, have a similar rate of use and if the other counties in the study combined only achieve the same total use as the Monon, then there are over four million trail visits per year in the region.

These estimates of park and trail usage (shaded, above) are the least robust at this point. Previous research at the Public Policy Institute provides a great deal of information about certain park and trail usage. Yet extending beyond particular trails (e.g., Monon, Cultural) and beyond Marion County to the rest of the Indianapolis metropolitan region requires a basis for the extrapolation. In all likelihood, these high-profile trails and relatively more high-density parks are not reflective of the rest of the region. Rather than select an arbitrary scaling factor, we omit this large part of Category 4 in order to provide a lower-bound or conservative estimate of the total economic capital of sports. Future research can better calibrate these numbers and incorporate them. Further, and in the meantime, the time-use analysis (described below) provides an alternative approach to measuring much or even all of the time individuals spend in parks or on trails doing these kinds of sporting activities.

The revenue and employment data for golf, parks, and associations (such as the Indianapolis Police Athletic League, JCC of Indianapolis, and other multi-sporting organizations) are limited to those that reported in GuideStar or Dun & Bradstreet. The running and cycling category revenue is based solely on entry fees. Youth sports includes little league baseball, local parks and recreation leagues, and flag football as well as other local non-travel sports. As the above parks and trail use estimates are too imprecise to carry forward, we omit the parks category from the total revenue figures when aggregating in Summary section.

	Revenue	Wages	Employees
Golf	\$ 151,239,790	\$ 24,270,673	2,127
Running/Cycling	\$ 5,807,403		
Youth sports	\$ 4,367,247	\$ 606,835	45
Parks	\$ 7,821,000		
Associations	\$ 18,437,393	\$ 3,915,877	67
Total	\$ 187,672,833	\$ 28,793,385	2,239

²⁵ These estimates are based on other Public Policy Institute research projects (e.g., Lindsey et al. 2003, Rubchinskaya et al. 2008, Indiana University Public Policy Institute 2010).

Category 5: Sports-related facilities, retail operations, and support organizations

The final tier of the sports pyramid includes the facilities that support sport as well as the specialty retail operations that sell sporting equipment and specialty organizations that provide services to the individuals and organizations that participate in sport. Included among the types of sports facilities in the study are health clubs, bowling alleys, dance/gymnastics studios, gyms, batting cages, sports complexes (indoor and outdoor), and a wide range of other private facilities. (Omitted from this analysis are public facilities dedicated to sports, like public parks and school gyms, which earn minimal revenues but nonetheless provide significant value.) For those facilities for which data are available, the annual revenue attributable to operations is over \$219 million with wages over \$67 million and 5,132 employees. The data for these facilities are primarily attributable to Guidestar or Dun & Bradstreet and do not always include both wages and employees. Thus we recommend against calculating average wages from these data. There are 68 retail organizations included in the study and many have multiple stores. Total sales for the 59 retail operations that reported data exceeded \$128 million. Additionally, there are 50 organizations identified that provided support to sporting individuals and organizations. Included in this group are medical and sports performance organizations, sports marketing, and sports-specific media. These organizations report earning nearly \$1.5 billion in revenue annually.

	Revenue	Wages	Employees
Facilities	\$ 219,878,000	\$ 67,216,030	5,132
Retail	\$ 128,541,587		
Support	\$ 1,429,518,586		

SUMMARY

The previous tables and support analyses can be summed to arrive at total measures for the size of the sports economy in greater Indianapolis. The “size” is measured here in several ways. Table 1 portrays aggregate direct spending (revenue, wages) annually, as well as the number of full-time equivalent jobs and the initial capital outlay for the major facilities. Table 2 depicts the total participation (participants, spectators, coaches, volunteers) across different categories. To reiterate, these are conservative, lower-bound estimates where several prominent types of economic activity have been omitted due to data constraints at this time. These data gaps are detailed below. Adding those values should only increase the ‘bottom-line’ totals.

Taken together, these tables illustrate the overall size of the sports ecosystem in Indianapolis in terms of dollars (Table 1) and people (Table 2). The high profile sports in Category 1 indeed account for very large revenues, wages, and especially facilities value. Yet the national events and organizations of Category 2 accrue far more revenue annually, and both groups are dwarfed by the Category 5 support facilities and firms. Of all the large total revenues directly earned by sports activities and organizations in Indianapolis, the lion’s share is earned by those in the Support of Sports category. The

base of the pyramid is wide indeed. This is also reflected when we count by people, be it full-time employees or participants or even attendees. The lower tiers touch more and more lives of Indianapolis residents. And while there are some underestimates in the top tier of the sports pyramid, we expect that the gaps at the bottom are far larger.

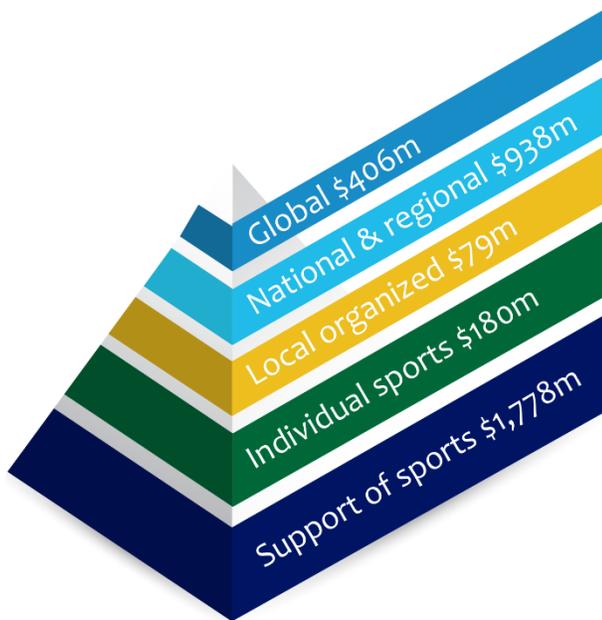
TABLE 1: DIRECT SPENDING AND FINANCIAL VALUE

Category	Revenue	Wages	Employees	Facilities
1: Global Franchises	\$ 406,000,000	\$ 201,000,000	445	\$ 903,000,000
2: National Events and Organizations	938,435,307	69,497,842	946	175,100,000
3: Organized Regional Sports	79,080,347	33,625,397	922	
4: Individual Sports	179,851,833	28,793,385	2,239	
5: Support of Sports	1,777,938,173	67,216,060	5,132	
Total	\$3,381,305,660	\$ 400,132,684	9,684	\$ 1,078,100,000

TABLE 2: PARTICIPANTS, ATTENDEES, VOLUNTEERS

Category	Participants	Attendees	Coaches	Volunteers
1: Global Franchises	176	1,750,937	28	
2: National Events and Organizations	79	1,907,129	17	6,150
3: Organized Regional Sports	147,317	2,541,783	9,647	11,961
4: Individual Sports	1,951,403			
5: Support of Sports				
Total	2,098,896	6,199,849	9,692	18,111

Note: These are lower-bound estimates. Not yet included are IMS finances, individual sports spectators and participants outside of golf and racing, some school and minor league revenue and wages, and other items as detailed in Section 5 and the Appendix. The Participants total of almost 2.1 million is problematic to interpret because Categories 1-3 reports participating individuals while Category 4 reports participant-events, and hence they ought not be summed.



The “money sports” of the Global Franchises, and Category 2 to a lesser extent, do generate far more revenue than the smaller scale and amateur sports activities in Category 3 and Category 4. But this is to be expected, as participating in those sports activities is often free, volunteer, or subsidized. There just is not much money to be spent on any given participation event associated with the regional organized sports or individual sports. The spending there is in the form time and effort, generally by the athletes themselves, by free attendees, or by volunteer staff. When these participants spend money on these sports, it is detached from the sporting event itself – they purchase equipment, get medical assistance, etc. These kinds of spending appear in Category 5. Seen in this light, the amateur sports activities in Indianapolis

are indeed “big business” and support many jobs even if the activities themselves do not include as many market transactions as the franchise sports and national events do.

Filling in the gaps

The tables also present only a partial picture of the complex ‘playing field’ of sport in the city. Some of the cells have not fully come into focus yet. Notably, the empty cells are missing estimates and some cells are seriously under-counted. The capital value of smaller-scale sports facilities (e.g., school fields and gyms, public parks and trails, regional private sports facilities) represent a potentially enormous piece of the economic capital of sport in the region. Further, estimates of participants, attendees, and volunteers for individual and informal sports (e.g., pick-up games, bike and running trail use) are omitted at this point and surely will dramatically increase the numbers in Category 4 of Table 2.

The appendix includes a table that summarizes where the data gaps are at this point. Given the complex and rapidly evolving sports landscape, waiting until all the data gaps have been filled is neither feasible nor necessary. Sufficient data inform tables 1 and 2 to paint a compelling picture of the economic value of sports in greater Indianapolis. The major gaps appear in Category 1 (IMS financial and attendance data, staff salary for franchise teams), Category 2 (minor league and national event revenues and wages, national event participants and volunteers), Category 3 (secondary school sports revenues and wages, attendees and volunteers at club and amateur sport events), Category 4 (participation outside of golf courses and running/cycling races), and Category 5 (additional facilities and firms yet undiscovered by the research team).

Time use

To get a better sense of the extent to which the general public directly spends time on sports (i.e., not those directly working in sports organizations), an analysis of time-use data is performed. The base time-use data derive from the American Time Use Survey (ATUS), a nationally representative sample includes roughly 14,000 households per year, from 2003-2013. This dataset is linked to a second dataset, the Current Population Survey, to obtain more precise information about geographic locations. These datasets are already linked in an ATUS-CPS dataset from the Bureau of Labor Statistics. The ATUS details minutes spent on various activities for a given time diary day. ATUS classifies almost 40 sports-related activities, with both time spent participating in as well as time spent attending. It ranges from popular sports like football and basketball to more obscure sports like rodeo and fencing. Although these data are high quality, the subsample for the Indianapolis metropolitan region is fairly small and estimates of time use for very specific activities are very imprecise. This is especially true for activities only performed infrequently. Hence, the time use data are far better suited to assessing things like “daily minutes spent playing sports” than things like “daily minutes spent playing rugby”. Similarly, it can provide counts of individuals participating in sports on any given day, but it is not well suited to measuring the “number of people playing sport in given year.” Time use diaries provide better indications of the intensity of participation (in minutes) than frequency of participation.

That said, the ATUS data can add another perspective to the findings in the sports pyramid above. On any given day, one in eight Indianapolis residents (age 15 and up) participate in or attend some sports activity. While 7.3% of residents actively play or participate in sports, over half of that comes from activities classified as “working out.” In raw numbers, this amounts to over 103,000 adult sports participants on a typical Indianapolis day (and over 70,000 attendees).²⁶ Extrapolating those figures out to a 365-day year reveals the immense breadth and depth of the lower tier of the sports pyramid (far outstripping the 18.8 million participant-events crudely estimated in a previous table for Category 4). The estimated participants in Category 3 and Category 4 in Table 2 are clearly lower-bounds. For the most part, the participants estimated for Category 3 are students, many of whom are under age 15 and thus would be in addition to these ATUS-based estimates.²⁷ Further, this does not take into sports participation in the form of viewership on television or other media – a number likely to greatly outweigh even these large participation numbers.

Broader impact

To give additional perspective, the time-use data can be used to suggest magnitudes of some of the participation and attendance in dollar terms. The opportunity cost of the time spent on sports activity can be used as a basis for establishing the value of time invested in sports. This is especially useful in the heavily amateur and non-profit categories 3 and 4, where participants are not paid wages. Just because the value of time is not measured in wages paid does not imply that the sports time is worthless. Far from it, as these volunteers commit valuable hours to their sport. If we use an imputed hourly wage from the ATUS-CPS dataset as the implied value-of-time,²⁸ the estimated average daily value of time invested in participating in (amateur) sports in greater Indianapolis is \$2.81.²⁹ Including all sports activity (participation, attendance, travel) brings this value up to \$3.54 per person per day. Aggregating this average across 1.4 million adults in the Indianapolis MSA and extending it over the course of a full year will yield a value of time estimate exceeding \$1.8 billion. This figure complements nicely the economic value generated by the pyramid and reported in Table 1. In a sense, Indianapolis professional and national sports activities generate some \$1.3 billion in revenues, recreational and supporting organizations generate another \$2 billion in revenues, and amateur sports opportunities generate at least \$1.8 billion more in value.

²⁶ Based on a 2013 adult population, age 18 and up, for the MSA of 1,415,349 from STATS Indiana and the Indiana Business Research Center of Indiana University (stats.indiana.edu).

²⁷ Nearly a third of the average amount of time spent playing sports by Indianapolis adults comes from the sports identified most closely with Category 3. The rest largely derives from working out, running, walking, and cardio activities. Team sports appear to occupy about a third of adults’ sports participation time (and nearly all of their attendance time), leaving a proportionally large share of participation and attendance for Category 4.

²⁸ Imputed wage begins with hourly wage if reported in the survey. If not reported, their weekly earnings divided by their usual hours worked is used. If that is also not reported, their annual family income divided by 50 times the usual number of weekly hours worked by the spouses is used. This imputed wage averages \$18.85 per hour for American adults and \$17.66 per hour in Indianapolis.

²⁹ This figure averages \$5.80 per day for the US as a whole, reflecting somewhat higher imputed wages (\$18.85 vs. \$17.66) and significantly higher average participation (18 minutes vs. 11.6 minutes). As an aside, the subset of Indianapolis residents who participated in any sports that day has an average imputed wage of \$23.06.

This sort of approach could be extended further to examine the economic benefits of time spent watching sports or volunteering (with the value of volunteer hours likely to rival or exceed wages paid in Category 3).

Two prominent features of the sports economy remain under-represented in these findings, yet they clearly provide enormous economic value and represent particularly novel features of sports as an industry. First, the capital **infrastructure** supporting sport is vast and, often, public. The sports we play can be found in a variety of facilities, from public skate parks and school facilities to grand stadiums and raceways. We play in specialized, dedicated facilities like gyms and batting cages, as well as mixed-use facilities like the local YMCA or even public roads. While many facilities are privately owned, many of the most intensively used sport facilities (by professionals, nonprofits, and amateurs alike) are publicly owned. And, of course, several high-profile private facilities receive public support and subsidy in other ways. The sports cluster identified here relies on quality infrastructure, like other conventional industries, although arguably a disproportionate share of the sports infrastructure is publicly owned. The large capital investments made in the public infrastructure that supports sport in Indianapolis is not directly measured in this report. This enormous capital stock does yield some flows of benefits – revenues, wages, opportunities to play – that are captured here. A more complete map of the Indianapolis sports economy would also start quantifying the capital invested in the sports infrastructure. With so much of the sports sector being nonprofit and amateur, the revenue flow from this capital will likely greatly underrepresent the total value of that infrastructure.

This coincides with the second special feature of the sports sector: its disproportionate share of **activity occurring outside of market transactions**. Following the money and employment trails gets a very limited picture for sport. Few other conventional industries have such widespread practicing and spectating. Unlike advanced manufacturing, biosciences, or legal services, we do not typically just leave sports to the professionals. And few vocations attract rabid spectators just to watch them practice their craft. As a consequence, sports yield great economic benefit that occurs outside of market transactions. Organizations near the top of the pyramid have strong records in capturing an increasing share of those benefits in market transactions (Siegfried and Zimbalist 2000), but the lower tiers of the pyramid represent enormous economic importance not well reflected in revenues, jobs, etc. The economic value of individuals' time committed to sport is just part of this story. The social benefits of sport, especially in these lower tiers, remains largely uncharted territory. We expect it is a vast terrain, too. These nonmarket benefits of sport represent a crucial dimension to the sports pyramid.

Improving our understanding of this nonmarket dimension is vital to improving our public policy for sport. Although putting sports' impact in nonfinancial terms might help some groups related to it better, this is not merely an exercise in finding impact not measured with dollar signs. Many nonmarket valuation techniques exist to measure these benefits with a dollar metric (e.g., Johnson et al. 2012.) These nonmarket benefits,

particularly large in Categories 3 and 4, coincide with the activities supported by public infrastructure. That some private (profit *and* nonprofit) organizations benefit from the public sports infrastructure is not something exclusive to the Category 1 or 2 organizations. It happens at all levels, and it is particularly important in supporting the individual sports in Category 4. Both of these special elements to the sports economy – the capital infrastructure and the nonmarket benefits – are overlooked in typical economic impact studies. A better understanding of the full social benefits of those investments can improve how we as a state, city, or community make those kinds of investments.

Discussion and future research

A few patterns emerge from tables 1 and 2. First, the sheer size of sport in the Indianapolis economy is indeed large. Nearly 10,000 jobs are directly in the sports sector, with over \$400,000 per year in wages paid. Further, nearly 10,000 coaches and almost double that in other volunteers can be found spending their valuable time on organized sport. Sports generate over \$3.3 billion annually in revenue in the region, more than half of which comes from the lowest tier of the sports pyramid: Category 5 and facilities and organizations supporting sport. The recent study in Charlotte, NC (Connaughton and Swartz 2014), a metro area of comparable size to Indianapolis, found sports to contribute \$1.1 billion in direct spending – 0.7% of its MSA gross domestic product (GDP). The San Diego County study (BW Research Partnership and National University System Institute for Policy Research 2013), covering a much larger metro area, found a direct impact of \$1.35 billion or 1.3% of its GDP. Both the Charlotte and the San Diego studies asserted large indirect and induced impacts, \$1.02 billion and \$892 million, respectively. (Both cities' measured *total* economic impacts fall short of Indianapolis' conservatively estimated *direct* contribution.)

While much of the attention is focused on professional sports and arguing over the economic contributions of spectator spending, what becomes very clear is that sport is an important part of central Indiana's economy. Even though sports' \$3.3 billion of revenue is incomplete, it represents a significant economic sector. To put this figure in perspective, it comprises 2.7% of the Indianapolis region GDP. The sports sector's 2.7% of the Indianapolis economic product is roughly the same as the entire transportation sector (2.6%), mining sector (2.6%), or the accommodation and food services sector (2.7%) is for the US as a whole (per Bureau of Economic Analysis statistics for 2012). Rockport Analytics (2012) estimated that hosting the 2012 Super Bowl contributed \$176 million new dollars to the Indianapolis MSA GDP. The sports economy estimated here contributes almost twenty times that amount annually.

The “amateur sports capital” identity of Indianapolis might be a misnomer. The notion of capital certainly fits, but the word “amateur” mischaracterizes the business of sport here. Indy is clearly in the post-amateur sports capital era. It has many major league and professional teams, including the Colts, Fever, Fuel, and Indy Eleven as well as the Pacers and Indians (who were already here when Indy dubbed itself the amateur sports capital).

But its approach to using sports to grow the city's economy and image has been nothing but professional. Indy has hosted a Super Bowl, six Final Fours, numerous Big 10 Championships in hoops and football, and many other events that enable visitors as well as those watching on TV to see why central Indiana is one of the thriving, great places in the Midwest.

This working paper has essentially captured much of the low hanging fruit when it comes to defining sport and has intentionally avoided any economic activity associated with visitors to any and all events ranging from Super Bowls to youth soccer tournaments. Much work remains. We have estimates for participation on the Monon Trail and at Indy parks, but we need to know more about the rest of central Indiana's trail and park systems. Additionally, more work needs to be done in terms of quantifying the value of sports venues. We also need better data on collegiate sports – especially employees and wages at the region's private schools as well as data on those that work in athletic department management and those who maintain the facilities. The study should be expanded to include more youth sports clubs and adult recreational sports. Also needed is a survey of a sample of law, marketing, media, marketing, and other firms to determine how much of their business directly relates to sports. Finally we should know how many out-of-state visitors sport is attracting to our region and how much they spend while they are here.

After analyzing the central Indiana region, it might also be valuable to know how important sport is in the rest of Indiana and how we might use sport as a tool to successfully re-energize other metropolitan areas and small towns. In addition, this methodology is readily exported to other cities that want to better understand the economic capital of sport in their regions. Improving the estimates of the nonmarket benefits of sports activities and events is particularly valuable for guiding public investments in those areas (Johnson et al. 2012). This call for future research extends to better understanding how governments can best enhance the development of the sports cluster, such as fostering geographic clustering or joint marketing, tax breaks, or more public infrastructure.

Policy Implications

Sport is big business, and it is about time we unreservedly think of it that way. Now we have to think of sports-related assets, supply chains, and – in the case of sport – invent the notion of a “participant chain” (i.e., the facilities, organizations, and individuals that serve the participants). For example, the Monon Trail, the Runners Forum shoe store, and the BlueMile Training program all are potentially part of a participant in the Mini-500 or Monumental Marathons. The city and state can move beyond motorsports to all sports, especially when thinking about suppliers and providers, and can start recognizing similar interconnections for participants, too. When we think of sport in these terms, we make the switch from a fruitless debate over visitor spending to debating the types of investment we can make in sport that also contribute to other goals (e.g., amenities that attract millennials among other purposes, additional facilities and participation options

which grow the economy and reduce obesity and diabetes). Central Indiana was the first region to use sports as an image-building strategy. This analysis should help agencies and community organizations think more strategically about sports (especially the facilities and participation) as part of both an economic and a quality of life strategy. Now it is time to view it as an important economic cluster and part of the economic development strategy, designed to make our city, region, and state more attractive, fitter, and fun.

We also have some work to do on the amateur side. It turns out that individuals in the Indy region spend seven minutes less per day participating in or attending sports than the national average, which means that adult residents of central Indiana need to spend about 143,517 more hours collectively participating in and attending sports before we are to be considered average, much less the amateur sports capital. If Indianapolis could grow its participation in sport in the region to equal national averages, then much of the categories 3 and 4 (and Category 5 by extension) measures could grow immensely. This suggests that not only are we under-counting (i.e., conservatively estimating), but we have plenty of room to grow in what we have already measured.

Thus while the competition for sport-related events has grown precipitously over the past few decades, framing sports as a cluster highlights the room for growth. There is ample opportunity to grow and develop this local cluster even more, and much of that starts with current residents and their sports-related activities. As this study has shown, sport is not just an important part of our culture but also an important part of our economy.

The findings here offer rich baseline data upon which to base informed discussions about strategic plans and interventions to enhance the benefits of sport in the region. The big business of sport is even bigger when one takes into account the value of the volunteer labor, the amateur participants, and the extensive (and often public) infrastructure that support it. The 'amateur sports capital' strategy of old and the efforts of countless for-profit and nonprofit organizations have made sport into a major part of the Indianapolis economy and identity. But what comes next? How can we do better? How can we grow and the develop the sports cluster to yield even greater benefits for the city and state? While charting out the sports pyramid to Indianapolis gives us a baseline and helps frame the discussion, additional analysis is needed to guide the answers to these policy choices. If nothing else, the results here demonstrates that the stakes are large. The next era of Indianapolis sports brings great opportunities for benefiting many Hoosier households and businesses.

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APPENDIX:

Category	What's in	What remains
1: Global Franchises	<ul style="list-style-type: none"> Colts – employment and player wages, revenue, attendance, facility Pacers – employment and player wages, revenue, attendance, facility IMS – partial attendance, drivers 	<ul style="list-style-type: none"> Colts – office/support wages Pacers – office/support wages IMS – revenue, FTEs, wages, facility value, other IMS events, full attendance
2: National Events & Organizations	<ul style="list-style-type: none"> Franchises – Indians, Fever, Indy 11, NHRA Nationals, Ice/Fuel – attendance Events – NCAA basketball regionals, Big 10 men’s and women’s basketball and football, NCAA rowing, swimming and diving, 500 Mini-Marathon Horse tracks – employment, attendance, total revenue National/regional sports organizations/headquarters: employees, wages, revenue, assets, volunteers for USA Diving, ISC, 500 Festival, USA Gymnastics, US Track and Field, USA Football, NCAA HQ Events (NFL combine, Athletic Trainers, Performance Racing Trade show) attendees 	<ul style="list-style-type: none"> Franchises – revenues, office/support wages, player wages, NHRA attendance Events – revenues, FTEs and wages, participants, volunteers Revenues, local FTEs, volunteers
3: Organized Regional Sports	<ul style="list-style-type: none"> Colleges (IUPUI, Butler, Marian, UINDY) – participants, coaches/trainers/administrators, spectators, volunteers; wages High schools (IHSAA members only) estimates of players and coaches based on sample of schools, including attendance Organizations – IHSAA, Great Lakes Valley Conference, Great Midwest Athletic Conference, Heartland Collegiate Athletic Conference Organized travel / youth sports including softball, soccer, volleyball, baseball (including little league), swimming, boxing, cheerleading, gymnastics, track, tennis, football – as identified from web searches (revenue, wages, employees for identified not-for-profits), estimates of coaches and players from web rosters 	<ul style="list-style-type: none"> Revenues, better private school wage data, referees, athletic department budgets HS administrators or HS athletic department data or budgets, facilities Additional clubs, adult leagues, attendance, volunteers, identify facilities
4: Individual Sports	<ul style="list-style-type: none"> Golf – revenue , wages, employees, participants Running/cycling – event totals and estimates, revenues associated with entry fees and revenue from major not-for-profits Parks and pools – estimates of users based on Indy Parks study, revenues from Guidestar for non-profits Trails – estimates of use based on Monon research and miles of trails Associations – wages, revenue and employees associated with individual sports Other sports (not above) 	<ul style="list-style-type: none"> Facility values, better participant estimates Additional events, improved participant estimates, other revenues Additional data for parks and pools not in Marion County, facility values Additional counts and refined estimates Additional organizations Participants
5: Sports-Related Activities	<ul style="list-style-type: none"> Facilities – health clubs, bowling alleys, dance/gymnastics studios, gyms, batting cages, sports complexes. Data from Dun & Bradstreet and web. Retail organizations – stores clearly related to sports (e.g., Dicks, Finish Line, golf shops, running stores) – data from Dun & Bradstreet Support – medical and sports training 	<ul style="list-style-type: none"> Inclusion of more not-for-profit facilities, additional facilities wages, FTEs, partial sports-related stores from Target to Gander Mountain Media, marketing, legal, and other