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Gross Domestic Sport Product: The Size of the Sport Industry in the United States

Michael Milano and Packianathan Chelladurai
The Ohio State University

With a view of verifying the optimistic forecasts of the growth of the sport industry, the paper presents an estimate of the size of the sport industry in 2005 and compares it to a 1995 estimate provided by Meek (1997). Following the methodology of Meek and the guidelines put forth by the United States Department of Commerce, Bureau of Economic Analysis (2007), we present three estimates for the size of the Gross Domestic Sport Product (GDSP) of the United States of America in 2005—conservative estimate of $168.469 billion, moderate estimate of $189.338 billion, and the liberal estimate of $207.503 billion. A comparison of the moderate estimate with Meek's 1995 estimate shows that the size of sport industry, in relative terms, actually declined. The sources of the data, rationale for three different estimates, and the values for the components of the GDSP are described and explained.

Sport has become a dominant feature of societies around the world. As Kofi Annan, the former United Nations' Secretary General, noted "sport is a universal language that can bring people together, no matter what their origin, background, religious beliefs or economic status" (United Nations, 2005, para. 1). Its significance is highlighted by the fact that the United Nations declared the year 2005 as "The Year of Sport and Physical Education." Within the United States of America, the sport fan population is estimated to be over 200 million individuals (Trail & James, 2008). Another indication of sport's popularity within the United States is evidenced by the extensive media coverage sporting events, athletes, coaches, and sport leaders receive on a daily basis.

While the impact of sport at the social and cultural levels is significant, its economic impact has emerged as one of the dominant topics of discussion among scholars. Such discussions typically center around the total dollars spent on specific segments of the sport industry such as the money associated with sponsorship of athletes and/or teams (e.g., Shank, 2009); dollar amounts spent on the construction of sport facilities (e.g., Fried, Shapiro, & DeSchriver, 2007); total expenses incurred in youth sports (e.g., Chelladurai, 2005); the dollar value of the contributions of volunteers in sport (e.g., Chelladurai, 2006); economic worth of professional leagues (e.g., Plunkett, 2006); and the dollar value of golf operations (e.g., SRI International, 2002).

These estimates suggest that the sport industry has been growing at a phenomenal rate. Pitts and Stotlar (1996) predicted that the sport industry would grow at an average annual rate of 6.8%. Based on Molitor's (1996) prediction that the leisure sector would be the major driving force of the American economy, Chelladurai (2005) suggested that "the sport industry itself would be a driving force in the economic growth in the United States" (p. 16). Even more recently, Masteralexis, Barr, and Hums (2008) stated that "the sport industry in the United States is growing at an incredible rate" (p. 25). Similarly, Pedersen, Miloch, and Laucella (2007) noted that "the business of sport continues to expand" (p. 6) in the United States. These claims are supported by monetary figures relating to specific segments of the sport industry. For instance, the National Collegiate Athletic Association (1999) signed an eight-year agreement, commencing in 1995, for the exclusive broadcast rights to the men's basketball Division I national championship with the Columbia Broadcasting System (CBS) for a total of $1.725 billion. In comparison with the more recent 11-year $6 billion deal, beginning with the 2002–2003 academic year, the annual pay-out has increased from a value of $215.6 million to $545 million (National Collegiate Athletic Association, 1999). Similarly, the National Basketball Association's television income increased from $275 million per year in 1995 to $365 million in 2005 (Ourand & Lombardo, 2007). Finally, the National Football League's income from television broadcasting rights increased from $4.3 billion over the four year period from 1994 to 1997 (i.e., $1.1 billion annually) to $17.6 billion over the eight-year period from 1998 to 2005 (i.e., $2.2 billion annually; Rosner & Shropshire, 2004).

While these estimates and forecasts are exciting, they do not provide a holistic perspective on the growth of the sport industry as a whole. Instead, they provide estimates of disparate segments of the sport industry. For instance, does growth in the size of television broadcasting contracts or the monies spent on construction of sport facilities reflect growth in the other segments of the sport industry (e.g., leisure sport or fitness activities)? The purpose of the current study is to assess the extent to which the sport industry as a whole has grown in recent years.

Milano and Chelladurai are with The Ohio State University, Columbus, OH.

There have been three fairly recent attempts at estimating the economic value of the sport industry in its entirety—Meek's (1997) estimate of the industry at $152 billion in 1995; Broughton, Lee, and Nethery's (1999) estimate of the dollar turnover related to sport at $213 billion in 1999; and Broughton's (2002) modified estimate of sport-related dollar turnover for 2001 at $194.64 billion. While these estimates attest to the enormity of the sport industry, they do represent different conceptions of what constitutes the sport industry. Meek followed the Federal guidelines associated with the Gross Domestic Product (GDP) and calculated the amount of final consumer expenditures for products and services which relate to all forms of sport and physical activity. In contrast, Broughton and his colleagues (1999, 2002) focused on how many dollars changed hands in the transactions related to sport. Broughton (2002) noted that spending related to sports is distinctly different than a measure of the size of the sport industry which in general focuses on the amount of revenue generated. He also argued that computing "the different ways in which money changes hands provides a true sense of the mass of the sports-business industry" (Broughton, 2002; p. 25).

While Broughton's (2002) approach is legitimate in its own right given its focus on monetary transactions, it deviates from the Federal guidelines on estimating the size of an industry. Furthermore, as Broughton focused on organized sport, expenses related to certain leisure activities (e.g., recreational golf) are excluded from the estimate. In contrast, Meek's (1997) estimate encompassed all forms of sport participation and followed the Federal guidelines on estimating an industry size (Brown, 2002). Accordingly, we have followed Meek and the guidelines provided by the U.S. Department of Commerce on how to calculate the Gross Domestic Product (GDP), which is defined as the market value of goods and services produced by labor and property within the United States. The current investigation is solely concerned with evaluating the country's *Gross Domestic Sport Product* (GDSP) which refers to the "the market value of the nation's output of sport-related goods and services" (Meek, p. 16). It must be noted that our reliance on 2005 data are necessitated because of the inherent time lapse in data collection and data analysis of U.S. government databases. Finally, our approach facilitates a comparison between our 2005 estimate of the size of the sport industry and its individual segments, and Meek's industry analysis compiled a decade previously.

Delineating and Measuring the Sport Industry

In determining the size of an industry, economists typically use the North American Industry Classification System (NAICS) and access the myriad of data compiled by the United States government for each classification of industry (United States Census Bureau, 2001). Utilizing a six digit nomenclature, each NAICS digit corresponds to a sector, subsector, industry group, NAICS industry, and country (United States Census Bureau, 2001). Unfortunately, the NAICS does not classify sport as a separate industry. Instead, it places the various segments of the sport industry in other NAICS classified industries. For example, Sporting and Athletic Goods Manufacturing is classified under NAICS code 339920; Sports and Recreation Instruction is associated with NAICS code 611620; and Fitness and Recreational Sports Centers corresponds to NAICS code 713940 (United States Census Bureau, 2002). Hence, the necessary figures for estimating the GDSP have to be gleaned from data pertaining to different NAICS industry classifications.

According to the Bureau of Economic Analysis (BEA), GDP computations can be accomplished through three distinct procedures including an expenditure approach, an income approach, and a value-added approach (United States Department of Commerce, Bureau of Economic Analysis, 2007). More specifically the expenditure approach is a measurement of the sum of purchases by final users. The income approach derives the value of GDP through the sum of individual incomes in the production process. The value-added approach calculates the GDP through the subtraction of intermediate inputs from total sales at each stage in the production process (United Stated Department of Commerce, Bureau of Economic Analysis, 2007). While essentially the selection of a specific GDP approach is irrelevant as the proper execution of any of the three techniques will yield identical figures (United States Department of Commerce, Bureau of Economic Analysis, 2007), we adopted the expenditure approach due to the difficulties associated with obtaining information relating to intermediary income and value contributions. In addition, this approach is consistent with the procedures implemented by Meek (1997), whose industry estimate is our target of comparison.

Facilitated by the protocols set forth in Meek (1997) and the United Stated Department of Commerce, Bureau of Economic Analysis (2007), we conceived of the GDSP to consist of (a) Sport Consumption, (b) Sport Investments, (c) Sport-related Government Expenditures, and (d) Sport Net Exports (i.e., exports minus imports). In essence, the GDSP is comprised of sport goods and sport services "that are produced for sale in the 'market' – the generic term referring to the forum for economic transactions" (United Stated Department of Commerce, Bureau of Economic Analysis, 2007, p. 2). In addition, the GDSP includes a portion of the non market sport-related government expenditures. However, it must be noted, that the GDSP as estimated here includes products and services produced during earlier years, but purchased in 2005, and does not include sport products and services produced in 2005 which were purchased in subsequent years.

The most pivotal regulation guiding GDP industry estimates is that it restricts the calculations of GDP to the value of the "final" goods and services (United Stated Department of Commerce, Bureau of Economic Analysis, 2007). That is, the inclusion of intermediate products and/

or transactions would amount to double counting and thus a significant miscalculation and a gross overestimation of the size of an industry. For example the monetary exchange between a manufacturer and a retail outlet regarding a shipment of sporting goods would not be included in the GDSP, because the actual market value of the sporting goods is the price consumers pay during their retail transaction (Meek, 1997). As retailers implicitly include the cost expended to acquire the sporting goods in the price they charge the consumer, including the retailer's purchase would unnecessarily inflate the value of the item (Meek).

While the above example is rather simple to comprehend, the problems of double counting may be more complicated. Consider the market value of an event, which can be perceived as a combination of advertising and sponsorship revenue, fees related to broadcasting rights, and ticket sales. To avoid double counting, advertising and sponsorship monies must be segmented into two mutually exclusive categories—advertisement and sponsorship by those entities whose primary products or services are sport-related and by those entities which are not sport-related. In the former case, the advertising and sponsorship costs will ultimately be included in the final price the consumers pay for those sport products and services. Hence these expenditures are indirectly previously included in the consumption segment of the GDSP (Meek, 1997). In contrast, expenditures relating to advertising and sponsorship incurred by entities producing non sport products and services are not included in any other section of the GDSP and therefore need to be directly included in GDSP estimate (Meek).

The process of assigning a value to an event's broadcasting rights can be accomplished through two distinct approaches. One on hand, the value can be ascertained simply by incorporating the contract value the broadcasting organization paid the sport entity (e.g., FOX's $4.4 billion contract with the National Football League equates to $550 million per season; Fried et al., 2007). Alternatively, the value of an event's broadcasting rights can be determined by the fees the broadcasting agent charges other organizations interested in displaying a message during the transmission. It could be argued that the aggregation of the amounts spent by these secondary organizations (i.e., those who advertise during the broadcast of a sport event) represents the true value of the broadcast rights. However, the practice of indiscriminately including the contributions of all secondary organizations would result in the double counting of amounts paid by sport-related organizations. Accordingly, in regard to secondary organization contributions, our GDSP estimates include only the amounts expended by non sport-related organizations.

Gross Domestic Sport Product (GDSP)

Throughout our sport industry analysis, we employed two methodological strategies. First, as some of the information we relied upon were not collected on an annual basis, data relating to certain sport-related expenditures for the year 2005 were not available. In those instances, we estimated the 2005 expenditures by adjusting the most recent data for inflation by a factor derived from the Consumer Price Index (CPI) inflation calculator (United States Department of Labor, Bureau of Labor Statistics, n.d. b). Since the CPI inflation calculator restricts the upper range of inputted values at $10,000,000.00, we constructed a conversion table, as shown in Table 1. The readers are directed to Table 1 whenever we allude to the conversion of monetary figures from any given year to 2005 dollars.

Table 1 Consumer Price Index Inflation Conversion Table

Year	Value ($)	Equivalent Value ($) in 2005	Inflation Rate
1995	10,000,000.00	12,814.960.63	28%
1996	10,000,000.00	12,447,418.74	24%
1997	10,000,000.00	12,168,224.30	22%
1998	10,000,000.00	11,981,595.09	20%
1999	10,000,000.00	11,722,689.08	17%
2000	10,000,000.00	11,341,463.41	13%
2001	10,000,000.00	11,027,667.98	10%
2002	10,000,000.00	10,856,031.13	9%
2003	10,000,000.00	10,614,130.43	6%
2004	10,000,000.00	10,338,803.60	3%
2006	10,000,000.00	9,687,500.00	-3%
2007	10,000,000.00	9,419,220.42	-6%
2008	10,000,000.00	8,914,307.62	-11%

Note. Adapted from United States, Bureau of Labor Statistics. (n. d. b). *CPI inflation calculator*. Retrieved July 19, 2008, from http://bls.gov/data/inflation_calculator.htm

Second, as some of the expenditures to be included in the GDSP can potentially spark a debate over whether an item should be included or excluded, we have constructed three GDSP estimates. The low or *conservative* estimate excludes debatable expenditures while the *moderate* estimate includes fractions of the debatable expenses and the *liberal* estimate includes all debatable expenditures in their entirety. Accordingly, our conservative, moderate, and liberal estimates of 2005 GDSP are $168.469 billion, $189.338 billion, and $207.503 billion respectively (Table 2). The segmentation of these figures into specific categories (i.e., *Sport Consumption, Sport Investments, Sport-related Government Expenditures, and Sport Net Exports*) is described below.

Sport Consumption

Of the four elements embodied within the GDSP, sport consumption represents the largest component and was

Table 2 Gross Domestic Sport Product ($ Billions)

Segment	Conservative	Moderate	Liberal
Sport Consumption	153.674	169.245	182.111
Entertainment & Recreation	41.130	48.786	54.437
CEX	30.630	38.286	43.937
Pari-mutuel Net Receipts	6.200	6.200	6.200
Food & Beverage	4.300	4.300	4.300
Products & Services	99.161	105.675	112.188
Sport Equipment	23.688	23.688	23.688
Sport Apparel	40.115	40.115	40.115
Sport Footwear	15.719	15.719	15.719
Sport Movies (Box office)	0.563	0.563	0.563
Sport Magazines	0.992	0.992	0.992
Sport books	0.137	0.137	0.137
Sport Trading Cards	0.325	0.325	0.325
Sport Video Games	1.077	1.077	1.077
Fantasy Sports Entry Fees	1.395	1.395	1.395
Sport Medicine	15.150	15.150	15.150
Sport Licensing	0.000	6.514	13.027
Non Sport-related Advertising Expenditures	13.383	14.784	15.486
Sponsorship	5.500	6.372	6.808
Television & Internet Advertising	7.038	7.510	7.747
Magazines	0.845	0.902	0.931
Sport Investments	18.325	22.966	27.608
Amusement, social, and recreational buildings	4.642	9.283	13.925
Indoor Swimming Pools	0.583	0.583	0.583
Indoor Ice Rinks	0.024	0.024	0.024
Outdoor Swimming Pools	7.344	7.344	7.344
Outdoor Recreational Areas	5.732	5.732	5.732
Sport-related Government Expenditures	0.000	0.657	1.314
Sport Imports & Exports	-3.530	-3.530	-3.530
Sport Equipment—Imports	5.455	5.455	5.455
Sport Equipment—Exports	1.925	1.925	1.925
GDSP	168.469	189.338	207.503

conservatively valued at $153.674 billion (i.e., roughly 91% of the low end GDSP estimate). We followed Meek (1997) in partitioning the sport consumption component into three main categories: (a) *Entertainment and recreation*, (b) *Products and services*, (c) *Non sport-related advertising expenditures*.

Entertainment and Recreation. As per Meek (1997), the entertainment and recreation section refers to leisure, participant, and spectator sport expenditures. This category includes a diverse assortment of expenditures including dollars spent to visit sport hall of fames, participation fees associated with youth recreation leagues, tickets for intercollegiate athletics and professional sporting events, and pari-mutuel net receipts at the track (Meek).

The *Consumer Expenditure Survey* (CEX), compiled annually by the Bureau of Labor Statistics (BLS), was a particularly valuable resource in determining entertainment and recreation expenditures. The CEX places an emphasis on "collecting data related to family expenditures for goods and services used in day-to-day living" (United States Department of Labor, Bureau of Labor Statistics, 2007, p. 1). Data collection of consumer units for the CEX occurs in three-month intervals over a random sample of U.S. households and is extrapolated to the general population through a complex weighting system in which individual weights signify the number of similar consumer units in the United States (United States Department of Labor, Bureau of Labor Statistics, 2007). As some of the figures from the CEX for the first quarter of 2005 were not clearly specified or were not available, we averaged the values for the subsequent three quarters and used it as a surrogate measure for the first quarter.

Even though the CEX raw data (United States Department of Labor, Bureau of Labor Statistics, 2005) are significantly more segmented than the published BLS expenditure tables, Items 2 and 10 in Table 3 are problematic because they include disparate elements. For instance, the second item in Table 3 includes expenditures associated with golf courses, country clubs, and other social organizations. Although undoubtedly this item contains sport-related expenditures, the inclusion of other social organizations is problematic because it is not clear how much of the $6.017 billion should be allocated as a sport-related expenditure. Therefore, Item 2 in Table 3 is eliminated from the conservative estimate. Similarly, Item 10 is removed from the conservative GDSP estimate as this item fails to differentiate between sport and non sport-related entertainment or admission expenditures. However, as previously mentioned, some of the elements encompassed within Items 2 and 10 are clearly sport-related. Based on the assumption that the accounts listed under an item are of equal value, we included in our moderate estimate two thirds of the amount in Item 2 to account for the expenditures corresponding to golf courses and country clubs and to exclude the expenditures relating to social organizations. Similarly, one half of the expenditures in Item 10 were

Table 3 Entertainment and Recreation—CEX ($ Millions)

Item	Conservative	Moderate	Liberal
1) Season tickets to sport events	3,237	3,237	3,237
2) Golf courses, country clubs, and other social organizations	0	4,011	6,017
3) Health clubs, fitness centers, swimming pools, weight loss centers, or other sports and recreational organizations	7,743	7,743	7,743
4) Amount paid in fees for participating in sports such as tennis, golf, bowling, or swimming during the reference period.	7,106	7,106	7,106
5) Amount paid for single admissions to spectator sport events such as football, baseball, hockey, or soccer during the reference period.	2,719	2,719	2,719
6) Recreational lessons or other instructions for members of this CU or other persons	6,720	6,720	6,720
7) 100% Reimbursed Trips—Type of expense paid by CU = Sport expenses	252	252	252
8) Trips paid entirely by CU or Partially reimbursed Amount paid to rent sport equipment	816	816	816
9) Trips paid entirely by CU or Partially reimbursed Amount paid in fees to play sports or exercise	1,982	1,982	1,982
10) Trips paid entirely by CU or Partially reimbursed Amount spent for entertainment or admissions	0	3,645	7,290
11) Trip Expenses for Non-CU Members Sport expenses	55	55	55
Total	30,630	38,286	43,937

Note. Adapted from *Consumer Expenditure Survey, 2005: Interview survey and detailed expenditure* files [Data file]. Washington, DC: United States Department of Labor, Bureau of Labor Statistics.

included as sport-related entertainment or admission expenditures. We included the entire amounts of Items 2 and 10 in our liberal estimate.

Two other expenditure items within the entertainment and recreation subcomponent are $6.2 billion for pari-mutuel net receipts (United States Census Bureau, 2007) and $4.3 billion for food and beverage sales at sport and recreation centers (Richard K. Miller & Associates, 2006). Both of these figures in their entireties are included in all three GDSP estimates as all of these expenditures are sport-related. While pari-mutuel net receipts are restricted to gambling on horse or greyhound racing, the GDSP does not include other forms of sport gambling. The rationale behind the exclusion of sport betting is twofold. First, because of the negative stigma attached to gambling on sport events, individuals are not likely to willingly report such expenditures. Therefore, obtaining the correct monetary figure is an impossible task. Second, unlike pari-mutuel wagering which typically occurs directly at the event or alternatively in a specified location, such as an off-track betting parlor, sport gambling takes place in a multitude of arenas, many of which are completely unassociated with the competition. As such, the act of betting is disassociated with the event and consequentially does not influence the market value of the competition itself.

Finally, we have deviated from Meek (1997) and excluded souvenir expenditures. Souvenirs come in a variety of shapes and forms including apparel, equipment, trading cards, accessories, books and magazines, all of which are included in the products and services segment of the GDSP. Therefore the inclusion of these products in association with spectator sport attendance (Table 3—Items 1 and 5) would amount to double counting and overestimating the size of the sport industry.

Products and Services. The products and services component of sport consumption represents the total dollars spent on sporting goods and other sport-related products and services within the United States (Meek, 1997). The majority of this subcomponent is comprised of expenditures on sport equipment, sport apparel, and athletic footwear which aggregate to a value of $79.522 billion. It must be noted that the U.S. government does not directly collect detailed data pertaining to sport products and services, but instead relies on the data collected by other organizations. We, in turn, relied on the government's collated data for estimating the size of the sport industry.

The National Sporting Goods Association (2007) estimated that consumers spent $23.688 billion on sporting equipment and $15.719 billion on athletic footwear in 2005. As complete data for sport apparel expenditures were available only for the year 2004 (Sporting Goods Manufacturing Association International, 2005a), we converted this figure to 2005 dollars and added the value of $40.115 billion to all three GDSP estimates. While the inclusion of expenditures relating to sport equipment and athletic footwear in the GDSP estimate is straight forward, the expenditures relating to sport apparel (i.e., $40.115 billion) pose a problem due to a fundamental difference in categorization. On the one hand, as per the

NPD group, active sport apparel refers to the purchasing of clothing with the intentions of using the item when participating in active sport. On the other hand, sport apparel refers to clothing designed for active sport but not necessarily used in this manner (Sporting Goods Manufacturing Association International, 2005b). As the GDSP is solely concerned with the final market value of sport-related goods and services, purchasers' intentions are disregarded.

In addition, a variety of other sport-related products including movies, books, magazines, video games, trading cards, and fantasy sports need to be included in the GDSP (Meek, 1997). Based on information from Box Office Mojo, LLC (2008), 17 movies, identified by the researchers as members of the sport genre, yielded $562,733,710 in box office revenue for 2005. In a similar manner, we relied on data from the Audit Bureau of Circulation to compute the total value of sport magazine subscription and single copy sales for 2005 which amounted to $992,388,703 (Magazine Publishers of America, 2005). Consumer expenditures for sport books were estimated at $137 million in 2005 ("Simba projects", 2005). In regard to other sport-related expenditures, we relied on the net wholesale figures along with the typical industry markup of 30%, provided by Scott Kelnhofer, Editor of Tuff Stuff and Card Trader (personal communication, January 29, 2008), to calculate the expenditures on the sport trading cards at $325 million. In addition, we included in the GDSP estimate a value of $1.077 billion to account for 2005 consumer expenditures on sport-related video and computer games (Entertainment Software Association, 2006). Lastly, according to the Fantasy Sports Trade Association and a survey conducted by the University of Mississippi, individuals expended $1.44 billion in fantasy sport entry fees in 2006 (Verna, 2007), which, for 2005, equals $1.395 billion when discounting for inflation.

While expenditures associated with participation were discussed in the previous section, injuries resulting from physical activity are regrettably inevitable and the expenditures thereof must be included in the GDSP. According to William Zamula, senior economist for the United States Consumer Product Safety Commission (personal communication, January 22, 2008), the 2005 aggregate medical costs for medically-attended injuries were estimated at $15.15 billion for team sports and other sport activities. Unlike the U.S. Consumer Product Safety Commission's cost model which incorporates a myriad of indirect and immeasurable product costs such as work losses, pain and suffering costs, litigation costs, and a value assigned for each participant death (Miller et al., 2000), we included in our GDSP estimate only the expenditures pertaining to the diagnosis, treatment, and rehabilitation of sport-related injuries. Inclusion of secondary costs would be inappropriate as they are arbitrarily assigned to reflect compensation for pain, suffering, and even human lives.

Finally, licensed sport merchandise represents the last expenditure in the product and services subcomponent of the GDSP. *The Licensing Letter* estimated the value of the sport licensing market at $12.6 billion for 2004 (Richard K. Miller & Associates, 2006), which adjusted for inflation equals $13.03 billion for 2005. Unfortunately, officially licensed merchandise includes expenditures on an immensely diverse assortment of items (e.g., home ornamentation, apparel, personal accessories, and collectibles) and we were not able to determine the extent to which some of these expenditures would have been included in earlier categories (e.g., sport apparel). Accordingly, we eliminated the sport licensing market in its entirety from our conservative estimate of the GDSP, included half of its value in the moderate estimate and the full value in our liberal GDSP estimate.

Non Sport-Related Advertising Expenditures. In determining the sponsorship and advertising component of the GDSP, it is imperative to restrict the expenditures to those incurred by companies whose primary products and services are not in the sport industry. Inclusion of expenditures of sport-related organizations would result in the double counting of their contribution to the industry (Meek, 1997). While obtaining an aggregate value of sport advertising and sponsorship expenditures is a relatively easy endeavor, the process of identifying and including only the contributions of non sport-related entities within the United States is an arduous task. Consequently, we had to adopt various approximation techniques which are explained below.

According to the International Events Group, sport sponsorship spending in North America reached $8.31 billion in 2005 (eMarketer Inc., 2007). Utilizing a 2006 estimate regarding the sponsorship market in Canada compiled by Norm O'Reilly and Benoît Séguin (Provincial Sport Organization Council, 2007), a value of $1.066 billion, discounted for inflation was subtracted from the North American expenditure figure. Although unable to account for Mexican sponsorship, the researchers are confident that the overwhelming majority of these remaining expenditures can be accredited to the entities in the United States. Furthermore, an analysis of a list of 96 U.S. sponsors who spent more than $15 million in 2006 (International Events Group, n.d.) showed that only three companies were identified as sport organizations. These organizations, Nike, Reebok, and adidas made up 6.02% of the total spending of the top U.S. sponsors, with Nike ranking 5th among all contributors (International Events Group, n.d.). For the purposes of excluding the sponsorship revenue of sport-related organizations we doubled this figure to 12.04% for our moderate estimate of the GDSP, and quadrupled it to 24.08% in our conservative estimate of the GDSP. The resulting values for sponsorship expenditures by non sport organizations in the U.S. were approximately $5.5 billion in the conservative estimate, $6.372 in the moderate estimate, and $6.808 billion in the liberal estimate.

A similar estimation process was conducted for advertising expenditures in 2005. U.S. advertising revenue for televised and internet mediums were estimated

at $8.241 billion for 2006 (Verna, 2007), which when discounted for inflation equates to $7.983 billion for 2005. To deduct from this figure the advertising expenditures incurred by sport-related organizations, we used a 2005 top 25 list of sport advertisers and their televised media spending from Nielsen Media Research ("Penny pinchers", 2006). NFL properties represented the sole sport-related organization among these sport advertisers, with advertising expenditures equaling roughly 2.96% of the top 25 total spending ("Penny pinchers"). To exclude expenditures of sport-related entities from our estimate, we deducted four times this percentage (i.e., 11.84%) from the total advertising expenditures in our conservative estimate, twice the percentage (i.e., 5.92%) in the moderate estimate, and the original percentage (i.e., 2.96%) in the liberal estimate of the GDSP. The resultant net advertising expenditures were $7.038 billion, $7.510 billion, and $7.747 billion respectively. As for advertising expenditures in other mediums, we relied on Advertising Age's top 15 sport magazine advertising revenue figures (Richard K. Miller & Associates, 2006) to calculate the GDSP conservative estimate of $845 million, the moderate estimate of $902 million and the liberal estimate of $931 million.

It must be noted that we did not include athlete endorsements in our GDSP estimates because of a lack of detailed data on this account. Furthermore, as most athlete endorsements come from sport-related organizations, expenditures by non sport organizations would be minimal in the context of the total value of GDSP.

Sport Investments

The sport investment portion of the GDSP refers to sport-related infrastructure investments (Meek, 1997). Infrastructure investments are comprised of new construction work, additions, alterations, maintenance, and repair expenditures of sport-related construction projects. The most recent data regarding the expenditures in this area are the 2002 figures reported in the 2002 economic census administered by the U.S. Census Bureau (2006). Utilizing these data along with an inflation factor, we estimated the values for the year 2005. The construction costs associated with indoor swimming pools, indoor ice rinks, outdoor swimming pools, and outdoor recreational areas accounted for $13.683 billion (United States Census Bureau, 2006), and this figure was included in all three GDSP estimates. Conversely, the expenditures for the amusement, social, and recreational buildings item estimated at $13.925 billion (United Stated Census Bureau, 2006) needed to be modified to exclude non sport-related expenditures. Assuming that the expenditures on amusement, social, and recreation buildings were of equal value, we included one-third of the $13.925 billion in our conservative estimate, two-thirds in our moderate estimate, and the entire amount in our liberal estimate of the GDSP.

Sport-related Government Expenditures

Unique to the present analysis is the inclusion of sport-related expenditures incurred by the government. The National Association of State Park Directors reported that the operational expenditures of state park and recreational agencies totaled $2.161 billion in 2005 while simultaneously generating $0.847 billion in revenue (United States Census Bureau, 2008). Departmental operating expenditures are associated with a diverse array of recreational facilities including ski slopes, golf courses, and swimming pools (The National Association of State Park Directors, 2008). While the user fees (i.e., expenditures incurred by local citizens) are included in the consumption segment of the GDSP, the remaining operating costs (i.e., $1.314 billion) of these departments are covered by the taxes paid by the American public. As these tax dollars are spent within the realm of sport, they should be included in the GDSP estimate. It also must be borne in mind that national parklands are used by citizens for a variety of leisure activities such as walking, running, biking, and canoeing. Thus, the creation and maintenance of these designated areas most certainly fall within the domain of sport. Although a portion of these operating expenditures can be categorized as sport-related, the responsibilities of these departments vary significantly by state and as a result the percentage of non sport-related expenditures is an unknown (The National Association of State Park Directors). Consistent with earlier practice, we disregard this figure entirely in our conservative estimate, included only half of the $1.314 billion in our moderate estimate of GDSP, with the assumption that the other half of this expenditure was not sport-related, and included the entire amount of $1.314 billion in our liberal estimate.

Sport Net Exports

GDP calculations for international commerce generally include the value of exported products and services minus the value of imported products and services. Focusing on the domain of sport, the value of imported sport equipment exceeded the value of exported products; therefore the net value of this GDSP component is negative. Based on the tariff and trade data from the U.S. Department of Commerce and the U.S. International Trade Commission (International Trade Administration, Office of Consumer Goods, 2008), we estimated the value of imported and exported sport equipment at $5.455 billion and $1.924 billion respectively; resulting in a negative value of net exports of $3.531 billion. In must be noted that our GDSP estimates do not include import and export data pertaining to sport apparel, athletic footwear, and sport-related services due to lack of information.

Discussion

Following the guidelines outlined in Meek (1997) as well as the United States Department of Commerce, Bureau of Economic Analysis (2007), we estimated the size of the United States sport industry in 2005. Due to the ambiguous classification of certain expenditures related to the sport industry, we opted to either exclude such expenditures from our conservative estimate or include different percentages

of such expenditures in our moderate and liberal estimates. The most conservative estimate of the GDSP amounts to a value of $168.469 billion while the moderate and most liberal estimates are $189.338 billion and $207.503 billion respectively. While the assumptions behind our moderate estimate are yet to be verified in future research, we expect the moderate estimate to most closely resemble reality.

In terms of absolute dollars, the moderate GDSP estimate has grown approximately 24.6% in the ten years since Meek's (1997) estimate. However, Meek's estimate of $152 billion in 1995 is, in fact, equivalent to $194.787 billion in 2005 dollars when accounting for an inflation rate of 28.15% over the ten years. From this perspective, the size of the sport industry has actually shrunk over the ten years by the values of $26.318 billion and $5.449 billion when compared with our conservative and moderate estimates respectively.

We are thankful to the reviewer who pointed out that this conclusion must be tempered by the fact that the CPI is based on the fluctuations in average prices of 200 items most of which are not related to sport and, thus, the overall inflation rate may not pertain to sporting goods and services. It would be most useful and meaningful, if a sport-specific inflation index could be calculated for the years in question. Unfortunately, the government agencies do not collect such information for sport-specific goods and services. However, an examination of the inflation rates of those sport-specific items included in the CPI gives us some confidence in our speculation. For instance, the club dues and fees for participant sports and group exercise from 1997 to 2005 increased 19.40%, admission to sport events from 1997 to 2005 increased 50.40%, and fees for lessons or instructions from 1995 to 2005 increased 52.04% (United States Department of Labor, Bureau of Labor Statistics, n.d. a). These statistics lend credence to the suggestion that the sport industry might have shrunk in relative terms from 1995 to 2005.

This view is corroborated by the fact that the rank of the sport industry among the top 25 U.S. industries dropped from 11 in Meek's estimate to a rank of 16, 17, or 19 based on our liberal, moderate, and conservative estimates respectively (Table 4). It is intriguing that the ranking of the sport industry has slipped even as it simultaneously grew in absolute dollars. It must be noted that

Table 4 2005 Gross Domestic Product by Industry

Rank	Industry	Value ($ Billions)
1	Real estate	1461.3
2	Retail trade	812.7
3	Wholesale trade	723.7
4	Consturction	607.9
5	Miscellaneous professional, scientific, and technical services	542.5
6	Federal Reserve banks, credit intermediation and related activities	506.1
7	Ambulatory health care services	433.6
8	Hospital and nursing and residential care facilities	3340.0
9	Administrative and support services	344.4
10	Broadcasting and telecommunications	324.2
11	Other services, except government	288.1
12	Insurance carriers and related activities	264.5
13	Utilities	249.5
14	Management of companies and enterprises	234.9
15	Food services and drinking places	225.8
	Sport (Liberal GDSP Estimate)	*207.5*
16	Manufacturing—Chemical products	199.8
	Sport (Moderate GDSP Estimate)	*189.3*
17	Securities, commodity contracts, and investments	183.8
18	Legal Services	176.4
	Sport (Conservative GDSP Estimate)	*168.4*
19	Manufacturing—Food and beverage and tobacco products	163.7
20	Oil and gas extraction	149.6
21	Publishing industries (Includes software)	142.2
22	Computer systems design and related services	133.0
23	Manufacturing—Computer and electronic products	132.7
24	Manufacturing—Fabricated metal products	123.3
25	Truck transportation	118.6

Note. From United States Department of Commerce, Bureau of Economic analysis. (2008, April 29). *Gross-domestic-product-by-industry accounts—Value added by industry*. Retrieved July 14, 2008, from http://www.bea.gov/industry/gpotables/gpo_action?anon=74719&table_id=22072&format_type=0.

the differential in industry rankings is partially the result of the incorporation of a more detailed U.S. industry breakdown for 2005. For example, while Meek ranked *health services* as the fourth largest industry, the current ranking system splits the *health services* industry into *ambulatory health services*, the seventh largest industry and *hospital and nursing and residential care facilities,* the eighth largest industry.

One possible explanation for the drop in the relative size of the sport industry as well as its corresponding decline in the U.S. industry rankings is that Americans increased their spending on the goods and services of other industries when compared with their expenditures in the sport industry. That scenario is predicated on two distinct possibilities in regard to the demand function of sport-related goods and services. First, potentially the demand for goods and services of other industries was higher relative to the demand for sport-related goods and services. Under equivalent pricing schemes, higher demand results in a greater number of consumer purchases and consequently an industry of larger value. Alternatively, the demand for goods and services from both non sport and sport industries could have remained constant while the prices for the goods and services of non sport industries rose higher relative to the prices of sport-related goods and services.

Irrespective of the decline in the size of the sport industry from 1995, our moderate estimate of $189.338 billion still ranks as the 17th largest industry in the U.S., which was larger than any manufacturing industry except chemical products manufacturing, the securities commodity contracts and investments industry, the legal services industry, the oil and gas extraction industry, the publishing industries, the computer systems design and related services industry, and the truck transportation industry (Table 4). Clearly, the sport industry is a significant contributor to the United States economy as evidenced by the GDSP's monetary value. It is rather surprising, therefore, that the sport industry is often overlooked when discussions emerge pertaining to the growth and decline of the American economy as a whole. It is even more perplexing that the sport industry is not classified as a separate sector, subsector, or industry categorization within the North American Industry Classification System (NAICS).

Meek's (1997) estimate of $152 billion equates to 2.05% of the United States 1995 GDP whereas our moderate GDSP estimate of $189.338 amounts to only 1.52% of the United States 2005 GDP (United States Department of Commerce, Bureau of Economic Analysis, 2009). Although a decline of slightly more than half a percent may appear trivial, such a small percentage may be worth billions of dollars. Taken as a whole in relative terms, the sport industry has experienced shrinkage when our moderate GDSP estimate is compared with Meek's 1995 estimate in 2005 dollars. In addition, the industry's worth as a percentage of the U.S. GDP has declined.

To verify which of the individual components of the sport industry grew and which ones declined, we converted Meek's (1997) GDSP estimate for each segment of the sport industry to 2005 dollars and constructed a table displaying the two estimates as shown in Table 5. The comparison shows that the GDSP components of entertainment and recreation and products and services shrunk by $7.821 billion and $13.7 billion respectively; while the non sport-related advertising, sport investments, and sport net exports subcomponents increased by $5.145 billion, $7.824 billion, and $2.493 respectively. As previously stated, it must be borne in mind that our estimates of sport-related imports and exports does not include amounts related to sport apparel, athletic footwear, and sport-related services because of a lack of available data. Given the inclusion of all sport-related import and export data, we would anticipate our GDSP estimates would be reduced as the value of U.S. sport-related imports generally exceeds the value of U.S. sport-related exports.

Table 5 Moderate GDSP & Meek's 1995 GDSP Estimate in 2005 Dollars by Subcomponents

Component	Moderate GDSP (Billions $)	Meek's 1995 Estimate in 2005 Dollars ($ Billions)
Entertainment and recreation	48.786	56.607
Products and services	105.675	119.375
Non sport-related advertising	14.784	9.639
Sport investment	22.966	15.142
Sport net exports	-3.53	-6.023
Sport-related government expenditures	0.657	
Total	189.338	194.74

Note. Adapted From Meek, A. (1997). An estimate of the size and supported economic activity of the sports industry in the United States. *Sport Marketing Quarterly, 6*(4), 15–21.

In 1995, nearly $32 billion was directly expended on participation in leisure sport (Meek, 1997), which when converted to 2005 dollars equals roughly $41.008 billion. For comparison purposes, the aggregate value of moderate CEX Items 2, 3, 4, 6, 8, and 9 (Table 3) equaling $28.378 billion reflect the expenditures on participation in leisure sport for 2005. The difference of $12.63 billion represents the relative decline in expenditures relating to leisure sport participation. Further, Meek estimated that $5.3 billion was spent on admissions to spectator sport which amounts to $6.792 billion in 2005. In the current moderate GDSP estimate, the expenditures associated with spectator sport admissions are at $5.956 billion (i.e., CEX Items 1 and 5) indicating a decline of $0.836 billion.

Within the products and services subcomponent, Meek's (1997) estimate for sport equipment, apparel, and footwear accounted for over $71 billion which, when adjusted for inflation, equals approximately $90.986

billion in 2005. Alternatively, our current GDSP estimates show that the expenditures on sport equipment, apparel, and footwear sum up to only $79.522 billion (Table 2). The $11.464 billion decline in these areas may be the result of manufacturers or retailers cutting prices or simply a decision by consumers to limit their purchases in regard to these sport-related items.

The total expenditures incurred for participation in sport and physical activity in 1995 was $103 billion (Meek, 1997) which converts to $132 billion in 2005 dollars. Conversely, our estimate for participation in sport (i.e., the sum of the expenditures corresponding to sport equipment, apparel, footwear, and fees and dues related to sport participation) is $107.9 billion. The difference of $24.1 billion signifies that American spending in regard to sport participation has decreased significantly from 1995 to 2005. Once again, the decline could be either a function of a reduced cost associated with engaging in sport and physical activity or an overall decline in sport participation among Americans. Within the last decade alone, participation in school-based physical education programs within the U.S. has dropped from 42 to 29 percent among high school students (Villaire, 2008). In addition, according to The Kaiser Family Foundation (2005), children between the ages of 8 and 18 engaged in just under 6.5 hr of media consumption per day (i.e., television, other screen media, audio, print, computers, and video games), consequently limiting leisure time devoted toward physical activity. It is no surprise, therefore, that the U.S. government in recent years has encouraged Americans to engage in an active life style.

While expenditures relating to participant sport have relatively declined, it must be noted that as a whole these expenditures still constitute the largest segment of the sport industry. In 1995, sport participation expenditures amounted to 60% of the total sport industry (Chelladurai, 2005). In 2005, the direct expenditures for participation in sport and those on sport-related equipment, apparel, and footwear add up to $107.9 billion which equals roughly 57% of our moderate sport industry estimate.

There are some previously disregarded expenses of kind that need to be considered when estimating the size of the sport industry. More specifically, donations and volunteering are expenses of either money or time. In so far as donors part with their money and, in most cases, claim those donations as expenses in their income tax returns, these donations constitute expenditures incurred within the sphere of sport. Similarly, although volunteers do not spend any money, their time and effort in volunteering offset the expenditures sport organizations would have to incur in the absence of such volunteering. The Independent Sector (2004) reported that the total volunteer time in 2000 was 15.5 billion hours and that volunteer labor valued at $15.40 per hour was worth $239.2 billion. Based on reports from the Australian Bureau of Statistics (2001), the Institute for Volunteering Research (2004), and Tedrick and Henderson (1989) which suggested that more than 20% of all volunteers did so in the domain of sport, Chelladurai (2006) estimated that the economic worth of sport volunteers in the United States was valued at more than $50 billion. While it may be disputed that 20% of all volunteering was in sport or that volunteer labor is worth $15.40 per hour, it cannot be denied that the overall worth of volunteer labor in sport amounts to significant dollars. However, at this time, we cannot consider including volunteer contributions in any estimate of the GDSP until more accurate data are available.

In addition, it must be noted that governments at various levels allocate a portion of their budgets to physical activity programs. Although these amounts originate from American tax dollars, they have yet to be included in any segments of our GDSP estimates. Similarly, educational institutions incur expenses related to physical activity, which are not incorporated in any of our GDSP subcomponents. If and when segmented data for government and educational institutions become available, the value of the GDSP would be increased significantly. In the future, researchers are encouraged to secure accurate data on these expenditures as well as information pertaining to donations pledged within the realm of sport. Finally, we have not addressed the issue of economic activity supported by the sport industry. Meek (1997) indicated that the economic activity supported by the sport industry was almost twice as large as the size of the industry itself (i.e., $259 billion versus $152 billion). While the GDSP offers an accurate assessment regarding the size of the sport industry, only the implementation of a variety of measurement techniques can provide a true estimate of sport-supported economic activities.

In summary, we have offered three estimates of the size of the sport industry for 2005 because government data sources combined expenditures on sport-related and non sport-related items. A lack of information regarding donations toward sport and sport participation, the extent of government funds funneled to sport, student fees paid toward sport, and such other expenditures have not been taken into account. Given these limitations, our estimate is only an approximation of the real size of the sport industry and in our judgment the moderate GDSP estimate is the closest to reality.

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