International Journal of Applied Sports Sciences
2016, Vol. 28, No. 1, 09-18.

ISSN 2233-7946 (Online)
ISSN 1598-2939 (Print)
http://pms.sports.re.kr/ijass.jsp

Applying the Concept of Sport Affordability to Professional Sporting Events: The Case of the Major League Baseball Games

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Abstract

The cost of attending professional sporting events has been increasing steadily but the median household income has been relatively stagnant over the last three decades. While sport fans have increasingly spent more of their income on experiencing professional sport games, little information is available on a relationship between the costs of attending professional sporting events and sport consumers' ability to pay and how this relationship has changed over time. Similar to housing affordability, this study proposed the concept of sport affordability, measured with a ratio between per capita income and the income needed to attend a sporting event and examined the degree of changes in the sport affordability index over time. The study results showed that the sport affordability index has become polarized among major league baseball teams. For 21 teams, the study showed that their sport affordability indexes have been deteriorating steadily over time but the trend was different for the other eight franchises. Policy and management implications related to equitable accessibility to sport and recreation events and marketing strategies are discussed.

Key words: sport affordability, equity, fan cost index, per capita income, professional sporting event

Introduction

The cost of attending professional sporting events has been increasing steadily while the median household income has been stagnant for the last three decades in the United States of America (US) (US Census Bureau, 2015). As a result, sport consumers are now required to spend a higher portion of their income to attend professional sport games. According to Team Marketing Report (2012), a family of four attending a major league baseball game spent an average of $197.36 for tickets, parking, concessions, and souvenirs in 2011. The cost or a family of four to attend a single MLB, NBA, NFL, or NHL game were equal to more than 30% of the median household weekly income in 2011 (Eitzen, 2012). Thus, attending professional sporting events has become a bigger financial burden even to middle income groups that represent a majority of the US population.

One reason that heightens this problem may result from economic inequality, which has been getting worse over time in the US. A report published by the Economic Policy Institute (2013) showed that the top 1% of earners collected about 20% of total income and the top 10% captured nearly half (48%) of all income in the US in 2012. Between 1980 and 2010, the

Submitted : 24 October 2015, revised : 27 November 2015
accepted : 09 March 2016
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inflation-adjusted median family income had essentially stagnated, growing at an annual rate of only 0.36% (Stiglitz, 2012). Due to a steady increase in the prices of products over the period, nevertheless, a majority of individuals felt that their inflation-adjusted income had dropped. Stiglitz added that during the last three decades, individuals in the bottom 90% class have grown their wages by 15% but those in the top 1% and in the top 0.1% have shown an increase of 150% and 300% in their incomes, respectively. The shrinkage of real income is also highly correlated with diminishing sport consumers' (i.e., spectators') purchasing power. The rising costs of attending sporting events and the decreasing real income may make many sport consumers feel they cannot comfortably afford to watch major league sporting events. Particularly, it has become quite challenging for low and middle income groups to attend such games due to their relatively high costs. As a result, a number of people are likely to be displaced and excluded from access to these sporting events.

Furthermore, the economic recession, beginning in 2007, has probably aggravated sport consumers' ability to attend sporting events. It is known that a large proportion of the burden during the economic downturn was transferred to working class families in a variety of forms, such as unemployment, foreclosure, and financial loss. The economic crisis has not only shrunken the number of middle class households in the US, but also made the society more polarized between the two ultimate classes: the top and bottom ones. The polarization of the classes indicates that the top class has gained a larger share of income and a growing number of people have moved down towards the bottom class.

Given this, it is meaningful and important for stakeholders in the sport industry to examine how sport consumers' ability to purchase sporting events, measured with the concept of sport affordability, has changed during recent decades. The purpose of this study is to compare a relationship between the costs of attending professional sporting events, particularly Major League Baseball games, and individuals' per capita income by examining the time trends of these two variables. It is hypothesized that the growth rate of the inflation-adjusted costs of attending professional sport games exceeds that of per capita income, signifying that sport affordability has been deteriorating. Examining sport affordability is a relatively new avenue in the sport and recreation management field. Due to the increasing cost of attending professional sporting events, a majority of people in the middle and low income class in the U.S. feel that it is not comfortable to afford the cost with their income. Hence, it is necessary to investigate what the current status of sport affordability is and what the concept of sport affordability implies in the context of the current U.S. economy that represents high income inequality, collapse of middle class, and the tilted playing fields in terms of economic policy. We expect that this study will provide some valuable information about sport affordability so that a variety of stakeholders, including the public, public officials, and professional sport franchises will openly discuss whether the current trends of sport affordability have been moving toward a more desirable direction that helps enhance social benefits.

The Concept of Sport Affordability

Understanding sport affordability is important in that it is closely tied to an equity issue. In the US, a majority of sport facilities exclusively used or operated by professional team owners have been funded with public subsidies. Local and state governments have used a variety of public money to help build sport facilities as a powerful tool for economic growth and urban redevelopment of communities (Santo & Mildner, 2010). Several studies, nevertheless, have reported that there are no or little economic benefits derived from professional sport franchises and sporting events to the communities (e.g., Baade, 1996; Baade & Sanderson, 1997; Noll & Zimbalist, 1997; Coates & Humphreys, 2003; Mitchell & Stewart, 2015). Additionally, even if there are some

economic benefits generated, an unequal distribution of economic consequences among different groups in the communities is another concern. According to Eitzen (2012), a small number of interest groups such as developers, owners of the sport franchises, and elected officials have primarily received most benefits from the developments; however, a majority of people in the communities have received little, if not any, economic benefits despite the fact that they mostly subsidized the sporting events and facilities through a variety of taxes.

The concept of affordability is widely used as a measure to indicate whether a consumer can afford to purchase, for example, a house or to cover educational costs. Thus, affordability is typically measured by examining the relationship between a consumer's income and the price of a product, such as sporting events and houses. For example, the housing affordability index is defined as a ratio between the median household income and the income needed to purchase a median priced house. That is, housing affordability shows what percentage of national households can afford to purchase a median-priced house (Carruthers, Dick, & Saurkar, 2005). Similarly, in the context of the sport industry, affordability can be referred to the extent to which the financial costs of attending sporting events put an individual or household in the position of having to make sacrifices to attend or the extent to which they can afford to attend sporting events when they want to. Sport affordability is determined by the price that sport consumers actually pay for a sporting event relative to their per capita income.

Some critics may argue that MLB franchises have charged different ticket prices using price dispersion (or variable pricing) and thus the cost of attendance for low income households is not relatively high (Humphreys & Soebbing, 2012). Nonetheless, this argument does not accurately take into account several important factors. First, most MLB franchises are monopolies (or duopolies in a few cities), meaning they can attempt to set a price at the profit maximization level. Without competition, MLB franchises have a strong incentive to acquire monopoly profits by setting a high price and this pattern would not change unless other competitors enter the market. Second, MLB franchises often charge heterogeneous prices, depending on the seat quality, with a different view and experience as well as the popularity of opposing teams. They have been using this strategy because it is more profitable than charging a single price. Third, the availability of comparatively low ticket prices does not mean that low income households can enjoy a game as often as high income households. Purchasing tickets is a part of the total expenditures of sport consumers and thus they often spend a considerable amount of money on fuel, parking, concessions, and merchandises. Coates and Humphreys (2007) also found that the fan cost index price elasticity is larger than the ticket price elasticity in the MLB. Fourth, related to the aforementioned point, almost all sport franchises use captive product pricing where sport products are separated and sold at a single price. Sport products are normally comprised of a core product (i.e., admission tickets) and other captive components (i.e., concessions and merchandise). For profit maximization, sport organizations often charge a relatively lower price for admission tickets to attract sport consumers but set higher prices on other related captive products (Shank, 2005). Consequently, ticket prices alone are not a good measure of sport affordability.

There is little information on a relationship between the costs of attending professional sporting events and sport consumers' ability to pay and how this relationship has changed over time. There have been only a few studies (e.g., Fountain & Finley, 2010) that dealt with sport affordability in the sport and recreation management field despite the importance of the topic related to managerial and marketing perspectives and implications. Thus, it is meaningful to examine the concept of sport affordability and the degree of changes in a sport affordability index over time.

Methods

To measure sport affordability, it is important to consider appropriate income measures. In general, disposable and discretionary income have been used widely in measuring consumers' purchasing power. Disposable income is defined as total personal income minus personal taxes in national accounts definitions. The US federal law also defines disposable income as an individual's compensation (including salary, overtime, bonuses, commission, and paid leave) after the deduction of health insurance premiums and any amounts required to be deducted. Discretionary income is disposable income (after-tax income), minus all payments that are necessary to pay current bills. That is, it is total personal income after subtracting taxes and typical expenses, such as rent or mortgage, utilities, insurance, medical, transportation, property maintenance, child support, and food, and sundries to maintain a certain standard of living. In the sport industry, therefore, it is more reasonable to use the concept of discretionary income than that of disposable income because sports are not considered essential goods or services for a human being's basic life.

However, these variables are not available despite the fact that household disposable or discretionary income better represents economic resources required to meet the needs of households. We used the average per capita income for the MSAs as the best available surrogate variable. By using per capita income, sport affordability is defined as a ratio between per capita income and the cost of attending a sporting event:

Sport affordability index = fan cost index of the events / per capita income in major cities

To eliminate the effects of inflation, we divided both fan cost index and per capita income by the consumer price index. This study used per capita income of the MSAs that have MLB franchises. However, one MLB franchise, the Toronto Blue Jays, was intentionally excluded from the analysis because of its location in Canada with a different currency and economic conditions. This study chose the MLB games and franchises based on the relative ease of access to the games with a more number of home games compared to other major sporting events (i.e., NFL, NBA and NHL).

Data

The study focused on the US Major League Baseball (MLB) and the 29 metropolitan statistical areas (MSA) that have MLB franchises, besides Toronto. The study made use of the fan cost index (FCI) and per capita income during the period between the 1991 and 2013 seasons to investigate how sport affordability of residents has changed over time in the areas. The data for the fan cost index obtained from the Team Marketing Report shows the average cost of attending professional baseball sporting events. The fan cost index comprises the prices of four adult average-price tickets, two small draft beers, four small soft drinks, four regular-size hot dogs, parking for one car, two game programs and two least expensive adult-size adjustable caps (Team Marketing Report, 2014). The data for per capita income were obtained from the Census Bureau. These two variables were adjusted using the consumer price index (CPI) and the per capita income was further divided by an arbitrary number, 250, to make units of measurement more equivalent for comparison purposes.

Results

The total percentage changes of the two variables between 1991 and 2013 (i.e., [the value of 2013 – the value of 1991] / the value in 1991) are shown in Table 1 in descending order, based on the adjusted fan cost index. While the first and second columns contain the percentage changes of the adjusted fan cost index and the adjusted per capita income, respectively, the third column compares whether the percentage change of the adjusted fan cost index is greater than or less than that

of the adjusted per capita income. Of the 29 franchises included, 21 showed that the percentage change of the adjusted fan cost index exceeded that of the adjusted per capita income, indicating that sport affordability has been deteriorating. However, the opposite was found in the other eight franchises, suggesting that sport affordability has improved during the time period. Furthermore, while a difference between the highest and lowest adjusted per capita income in the areas was 47.3 (48.3 in Houston MSA and 1.0 in Phoenix MSA), the difference between the highest and lowest adjusted fan cost index was 132.7 (114.7 for the Chicago Cubs and -18.0 for the Tampa Bay Rays), which is considerably greater. As a result, during the time period between 1991 and 2013, the degree of sport affordability has diverged substantially between the franchises.

Table 1. *Percentage Changes of the Adjusted Fan Cost Index and the Adjusted Per Capita Income between 1991 and 2013*

Franchise	% Change of Adjusted Fan Cost Index	% Change of Adjusted Per Capita Income	Comparison
Chicago Cubs	114.7	28.9	>
New York Yankees	106.9	28.2	>
Boston Red Sox	104.1	40.0	>
St. Louis Cardinals	100.4	31.8	>
Philadelphia Phillies	90.0	30.8	>
Minnesota Twins	79.1	34.6	>
Houston Astros	70.6	48.3	>
Chicago White Sox	70.2	28.9	>
Washington Nationals	65.0	26.5	>
Texas Rangers	60.4	32.6	>
Seattle Mariners	59.4	34.8	>
Los Angeles Dodgers	59.2	24.8	>
San Francisco Giants	58.2	45.4	>
Detroit Tigers	49.9	21.9	>
Colorado Rockies*	49.4	29.8	>
Kansas City Royals	47.7	32.6	>
New York Mets	47.6	28.2	>
Atlanta Braves	47.2	16.4	>
Los Angeles Angels	47.2	24.8	>
Miami Marlins*	44.3	14.9	>
Cleveland Indians	36.7	27.2	>
Cincinnati Reds	34.0	32.7	>
Milwaukee Brewers	33.2	34.4	<
Baltimore Orioles	30.0	37.7	<
Pittsburg Pirates	28.4	37.2	<
San Diego Padres	20.1	37.8	<
Oakland Athletics	5.1	45.4	<
Arizona Diamondbacks+	-13.1	1.0	<
Tampa Bay Rays+	-18.0	4.1	<

Note: * - Data available from 1993
+ - Data available from 1998

Table 2. *Sport Affordability Index in MLB Franchises between 1991 and 2013*

Franchise/Year	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013
Chicago Cubs	1.139	1.119	1.090	1.112	1.256	1.279	1.423	1.321	1.908	1.813	1.666
New York Yankees	1.182	1.136	1.163	1.325	1.284	1.301	1.232	1.214	2.297	1.754	1.614
Boston Red Sox	0.978	1.002	1.029	1.135	1.290	1.452	1.522	1.535	1.605	1.548	1.458
St. Louis Cardinals	1.038	1.110	1.153	1.279	1.413	1.476	1.442	1.547	1.593	1.574	1.521
Philadelphia Phillies	0.995	1.017	1.009	1.117	1.074	1.158	1.350	1.263	1.393	1.433	1.453
Minnesota Twins	1.026	1.097	0.981	0.884	1.068	1.002	1.073	1.052	1.168	1.345	1.331
Houston Astros	0.965	0.970	1.018	1.040	1.061	1.251	1.227	1.186	1.298	1.219	1.150
Chicago White Sox	1.096	1.125	1.059	1.037	1.074	1.203	1.303	1.271	1.433	1.570	1.320
Washington Nationals	0.977	0.915	0.788	0.763	0.627	0.802	1.127	0.887	1.286	1.101	1.305
Texas Rangers	1.183	1.170	1.172	1.296	1.257	1.172	1.046	0.992	1.083	1.037	1.209
Seattle Mariners	1.076	1.111	1.216	1.190	1.499	1.406	1.254	1.183	1.226	1.146	1.183
Los Angeles Dodgers	1.153	1.111	1.176	1.257	1.301	1.293	1.259	1.488	1.591	1.519	1.275
San Francisco Giants	1.038	1.100	1.153	1.279	1.413	1.476	1.442	1.547	1.593	1.574	1.521
Detroit Tigers	1.010	0.938	0.958	0.864	1.195	1.135	1.079	1.082	1.392	1.293	1.229
Colorado Rockies*	1.000	1.103	1.178	1.180	1.061	1.095	1.010	0.963	1.062	0.999	1.151
Kansas City Royals	1.116	1.164	0.918	1.068	1.068	0.967	0.967	0.890	1.162	1.093	1.114
New York Mets	0.929	0.904	1.023	1.267	1.310	1.343	1.214	1.230	1.493	1.296	1.151
Atlanta Braves	1.295	1.365	1.486	1.398	1.382	1.361	1.184	1.146	1.277	1.297	1.265
Los Angeles Angels	1.070	1.069	1.114	1.200	0.985	1.098	0.964	0.934	0.977	0.845	1.179
Miami Marlins*	1.000	0.815	0.803	0.822	0.876	0.829	0.921	0.874	0.986	0.913	1.256
Cleveland Indians	1.172	1.225	1.311	1.378	1.460	1.512	1.350	1.236	1.438	1.246	1.074
Cincinnati Reds	1.082	0.929	0.912	0.827	0.986	0.987	0.934	0.873	0.952	0.979	0.979
Milwaukee Brewers	1.074	0.925	0.909	0.836	0.992	0.994	0.934	0.874	0.934	0.974	0.991
Baltimore Orioles	1.303	1.335	1.335	1.319	1.110	1.171	1.120	1.019	1.025	1.014	0.945
Pittsburg Pirates	1.156	1.102	0.908	0.950	1.290	1.207	1.084	0.937	0.891	0.773	0.936
San Diego Padres	1.104	1.005	1.109	1.071	1.065	1.137	1.235	1.081	1.130	0.769	0.872
Oakland Athletics	0.939	0.868	0.719	0.596	0.688	0.801	0.773	0.742	0.907	0.788	0.723
Arizona Diamondbacks+				1.002	0.828	0.855	0.920	0.888	0.706	0.714	0.860
Tampa Bay Rays+				0.885	0.901	0.965	0.834	0.733	0.927	0.721	0.787

Note. 1.000 in 1991 unless stated otherwise
* - Data available from 1993
\+ - Data available from 1998 – 1.000 in 1998

Using the formula provided above, the sport affordability index in each franchise was calculated and is reported in Table 2. The sport affordability index was standardized as 1.0 using the base year, 1991, for most franchises. However, for those franchises that were added later as MLB expansion teams, different base years were used. For example, for Arizona Diamondbacks and Tampa Bay Rays, the sport affordability index was standardized using the base year of 1998 instead. A sport affordability index that was greater than 1, indicates that sport affordability has worsened, compared with the base year, meaning that a typical family is

required to spend a greater proportion of its household income to enjoy a MLB game. Similarly, if the index was less than 1, sport affordability in that year has improved compared with the base year. Table 2 reports the range of this index in 2013 from 0.787 and 1.666 among the 29 franchises. While the results are consistent with Table 1, most franchises showed that the sport affordability index has been deteriorating over time. Of the 29 MLB franchises, 21 showed that the sport affordability was mostly greater than 1 during the study period. In particular, the Chicago Cubs and the New York Yankees showed the highest scores of the index, 1.666 and 1.614, respectively, in 2013. Other franchises, such as Kansas City Royals and Cincinnati Reds, showed that the sport affordability index had been stable at around 1 during the study period. However, the eight other teams showed a different pattern. In 2013, these franchises showed a sport affordability index less than 1. The Tampa Bay Rays and Arizona Diamondbacks showed the lowest indexes, 0.787 and 0,860, respectively. Compared with the index scores of the Chicago Cubs and New York Yankees, they seemed to be considerably lower and thus spectators in Tampa Bay and Phoenix were likely to spend substantially less (also a smaller proportion of their household income) than those in Chicago and New York.

Based on the sport affordability index, these 29 franchises were divided into three different groups based on the trends of the sport affordability index: high, medium, and low scores. Two franchises in each group are shown in Figures 1 and 3 to illustrate the trends during the time period. In the high score group, the Chicago Cubs showed the highest increase in the sport affordability index between 1991 and 2013, followed by New York Yankees, St. Louis Cardinals and Boston Red Sox. The adjusted fan cost index scores of these franchises have increased about 100% during the study period. However, the rates of change in the adjusted per capita income in these cities (i.e., MSAs, where those professional teams reside) have been quite low, ranging from 28.2 to 40.0%. As a result, the rates of change of the fan cost index exceed that of per capita income in these cities, leading to the higher scores of the sport affordability index, with an upward trend over time (Fig. 1). This suggests that a typical family is required to spend a larger percentage of their household income on a MLB game in these cities.

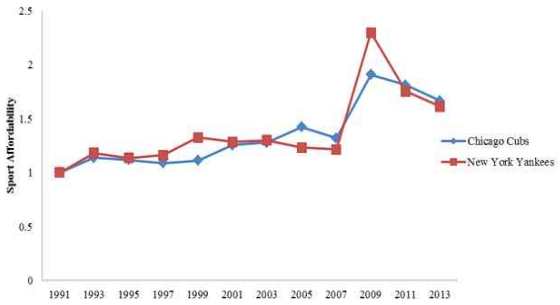

Fig. 1. Two cities with high sport affordability index scores

Similarly, franchises such as Cincinnati Reds and Kansas City Royals belonged to the medium score group. For these two teams, the rates of change between the adjusted fan cost index and adjusted per capita income did not seem to be very different. Thus, the sport affordability index has been relatively stable, at around 1 (Figure 2). For example, the percentage changes in the adjusted fan cost index and the adjusted per capita income were 47.7 and 32.6,, respectively, between 1991 and 2013 for Kansas City Royals and 34.0.and 32.7.for Cincinnati Reds. Thus, the proportion of spectators' expenditures on a MLB game from their household income has not changed much during the time period.

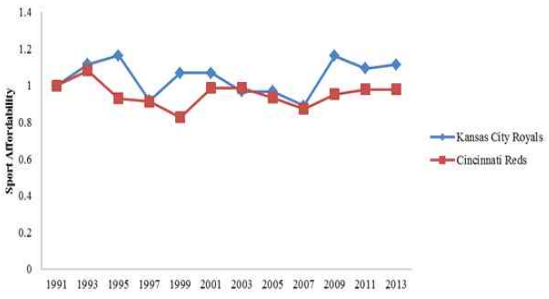

Fig. 2. Two cities with medium sport affordability index scores

Finally, the low score group included franchises such as the Arizona Diamondbacks and Tampa Bay Rays with a downward trend (Figure 3). As indicated above, nine franchises showed improved sport affordability over time and most of these teams were relatively new franchises, as a part of the MLB expansion in the 1990s, or those with comparatively bad records during the time period. The Tampa Bay Rays and Arizona Diamondbacks showed a rate change in the adjusted fan cost index of -18.0 and -13.1, but that of the adjusted per capita income was 4.0 and 1.0, respectively. Thus, the sport affordability index was well below 1.0 in 2013, indicating that a typical family in these cities was likely to spend less on watching a game from the household income.

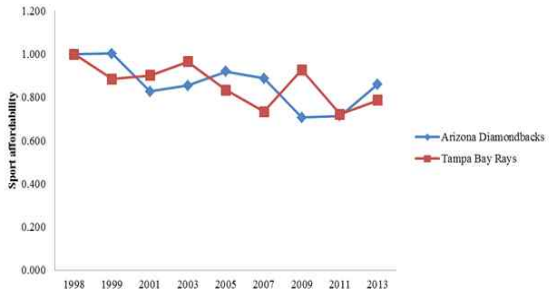

Fig. 3. *Two cities with low sport affordability index scores*

Discussion

This study showed the trends in a sport affordability index in MLB by comparing the fan cost index to per capita income of the MSA with MLB franchises over a 20-year period. Most cities showed that the growth rate of the fan cost index has been steadily higher than that of per capita income over the past 20 years. Despite some variations, the fan cost index has increased substantially over the years. However, per capita income did not show the same pattern and its growth rate seemed to be rather stagnant over the same period. In some years, real per capita income even displayed negative growth. This means that the net worth of household income has deteriorated.

Furthermore, the US economic structure and policies in favor of a small number of the rich have contributed to intensifying income inequality (Stiglitz, 2012). In particular, income inequality has been getting constantly worse for the last three decades, leading to the fact that the US ranked first with the highest income inequality among developed countries. The income of a typical full-time male worker has stagnated for over a third of a century (Stiglitz, 2012). The recent economic recession initiated since the subprime mortgage crisis occurred in 2007 has also aggravated income distribution among different income groups. The high unemployment rate and temporary and part-time jobs have contributed to producing the unstable middle class in terms of job security and quality of life.

The sport affordability index has also become polarized to a greater extent over the last two decades. Among the 29 franchises included in the analysis, 21 teams showed that their sport affordability indexes have been deteriorating steadily over time but the trends were different for the other eight MLB franchises. Interestingly, a majority of the latter franchises either has relatively small markets or were expansion teams that joined the league in 1990s. In particular, although future research is beneficial to understand underlying reasons, the polarized pattern may be more conspicuous in MLB than other professional sport leagues, which can be partially attributed to a lesser degree of a revenue sharing policy and the lack of a salary cap. The absence of such policies are likely to make it hard for small-market and/or expansion teams to compete for a good record, leading to lower revenues, tighter budgets, and then bad records again in a vicious cycle.

Examining sport affordability is an important task for both researchers and practitioners. It is worth addressing how sport affordability is related to equity among different stakeholders, accessibility to public sport and recreation programs, and marketing strategies. When examining sport affordability for consumers, it is also compelling to discuss issues related to public subsidies. While public subsidies are intended to promote social

and economic benefits of the public, their use in professional sports often raises a question of equity between the owners and players of professional franchises and sport consumers and taxpayers. Owners of professional teams seek new and improved sport facilities, mostly at taxpayer expense. From 1995 to 2005, a total of fifty-three sport facilities were financed with public money (Eitzen, 2012). Even though taxpayers subsidize the construction of these sport facilities, they are often displaced and excluded from the use of these sporting events because of the high costs.

The study results confirmed the notion that there is an escalating concern about equity between the owners of professional franchises and sport consumers. When sport facilities are built through public money, wealth is transferred from the taxpayers to the owners and the players. As a result, it is evident that public subsidies mean a transfer of wealth from the lower and middle classes to the upper class, suggesting reverse income or wealth redistribution (see Drape [2013] and Edelman [2013] for more of this discussion). Thus, the public does not have enough disposable income and ends up being less likely to be able to afford to attend the sporting events.

High prices of major professional sporting events drive average sport consumers away from stadiums, ballparks, and arenas. While ticket prices have increased at a rate that substantially exceeds the inflation rate of the economy, sport consumers' ability to attend sporting events has weakened relatively due to stagnant income growth. Like other industries, the sport industry is also very vulnerable to external economic conditions. A significant decrease in sponsorship to sporting events and budget cuts of various sport franchises and organizations showed how economic factors have negatively affected the sport industry. However, to make profits from operations of sport teams and organizations, many teams have tried to keep up the prices of admission tickets, concessions, and merchandise (Fullerton, 2007).

Another cause of the high costs of attending sporting events stems from the structure of professional sport markets. Each major professional league is a monopoly and is operated as a cartel. In professional sports, each cartel intends to restrict competition for athletes, to limit the number of franchises, and to divide markets among the league's teams. By controlling the number of franchises, each league often shows profit-maximizing behavior. Scarcity allows each league to sell higher ticket prices, to have more lucrative media arrangements, and to guarantee continued benefits from the monopoly power. Thus, it is not difficult to see the gap between the fan cost index and per capita income. The study results confirmed that most sport consumers, especially in large cities, are suffering from the costs.

Sport affordability should be considered not only from a perspective of commercial sport and recreation programs but also from a viewpoint of public sport and recreation programs. Accessibility is the flipside of affordability. While this study did not cover the sport affordability indexes of public sport and recreation programs, those will be an important future research topic. It can be reasoned that the trends in the indexes are not likely to be very different from those of the sport affordability index in this study. Public sport and recreation programs provided by local governments and schools began to require various types of user fees to participate in the activities. The high sport affordability index in public sport and recreation programs constrains many consumers in the low- and middle-income classes from participation in those programs. Thus, economically disadvantaged people cannot comfortably afford to participate in sports and recreation. Applying the concept of sport affordability to this area is necessary to gain additional insights into how to make public sport and recreation programs more accessible to the public, especially the low-income class.

Sport affordability is also closely tied to marketing strategies of sport franchises and organizations. Professional sport franchises are trying to attract their primary target market consumers, mostly in the middle class. However, when the franchises select their target market, they do not pay much attention to whether these consumers can

afford to attend sporting events and how the trends in sport affordability have changed over time. Thus, it is hard to know whether the purchasing power of the target market consumers is large enough to attend the sporting events and whether they feel comfortable to buy sporting events tickets. A sport affordability analysis allows sport franchises and organizations to select a more reliable target market and to position their products in the market. Additionally, sport affordability can be used as an important indicator that directs how sport organizations set the prices of their products and adjust those prices based on changes in various market situations.

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