

# Sport Economics Research: New Perspectives on the Demand for Sport

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## Introduction

All papers considered in this section of the digest come from the issues dated in the second half of 2023 and were published in the pre-selected journals. Of these journals, two are exclusively dedicated to sport economics related research, the *Journal of Sports Economics* (JSE), which is the official Journal of the *North American Association of Sports Economists* (NAASE) and the *International Journal of Sport Finance* (IJSF), which is the official journal of the *European Sport Economics Association* (ESEA). Furthermore, sport economics research is regularly published in either of four sport management journals, i.e., the *European Sport Management Quarterly* (ESMQ), the *Journal of Sport Management* (JSM), the *Sport Management Review* (SMR) and the *Journal of Global Sport Management* (JGSM). The following list provides a summary of overall forty-eight identified papers covering sport economics related research that have been published in either of these seven journals, from January to June 2023:

*JSE* (V24 Issues 6-8): 15 papers, with all 15 covering sport economics related research,

*IJSF* (V18 Issues 3 & 4): 10 papers, with all 10 covering sport economics related research,

*ESMQ* (V 23 Issues 4-6): 30 papers, with 4 covering sport economics-related research,

*JSM* (V37 Issues 3 - 6): 23 papers, with 2 covering sport economics related research,

*SMR* (V26 Issues 4 & 5): 16 papers, 2 covering sport economics related research,

*JGSM* (V8 Issues 3 & 4): 16 papers with 3 covering sport economics related research.

The thirty-six sports economics related papers are classified in seven categories:

**Labor markets** (such as league restrictions on player mobility; player and coach hiring, dismissal and contracts, performance and incentives; transfer markets; salary determinants; discrimination): 3 papers.

**Performance Analysis** (such as home advantage, tournament effects, and behavioral sport economics such as the effect of travel, home field, etc. on performance): 3 papers.

**Demand for Sport** (the determinants of stadium attendance, TV viewing): 11 papers.

**Sport and Vice** (financial analysis of sports gambling markets, effects of law and policy on sports wagering, doping and sport outcomes): 2 papers.

**Finance & Ownership** (such as the financial returns to investment sport, sport and financial markets, public finance and economic impact): 10 papers.

**Miscellaneous:** (other not classified topics): 7 papers.

### **New assessments on the demand for sport**

Demand for sport is a relatively broad area, but analysis of demand is fundamental to the economics of sports. At one time analysis of demand focused almost exclusively on spectator attendance at major team sport events and contests like football in Europe and Baseball in North America (see Borland and MacDonald, 2003). However, in recent years analysis of demand has expanded to consider the demand for viewing other sports and consumption of sport via media e. g. Buraimo and Simmons (2015). The demand for hosting mega events by countries, regions, and cities has received much attention. Additionally, the demand to participate in sport and recreational activities has received attention from some sports economists. Nonetheless, a concept that dates to the seminal sport economics papers (Rottenberg, 1956 & Neale, 1964) the effect of “uncertainty of outcome” continues to

receive much attention, with four papers covered by this review addressing the effect of outcome uncertainty on demand.

Rottenberg's (1956) uncertainty of outcome hypothesis (UOH) is indeed one of the most considered topics sports economics analyses of demand. Numerous studies have investigated fans' responses to outcome uncertainty in various professional and international sports contexts. Borland & MacDonald, (2003) provide a thorough review to that point in time. Within literature, the unpredictability of game-level outcomes has been primary in understanding fans' preferences to the choice of attending a game. For instance, Schreyer and Ansari (2021) found that about one-fourth of the attendance demand studies focused on identifying the effect of outcome uncertainty. Studies, including Hyun et al. discussed below, have likewise identified a U-shaped relationship between the home team quality and attendance. However, recent research on the UOH and attendance demand has more often found evidence contradicting Rottenberg's original assumptions on fan preferences. This has been observed for various professional sports leagues where a higher attendance was detected when the predictability of the game outcome was more certain for the home team's win (Coates & Humphreys, 2010). A possible explanation for this phenomenon is that fans are more willing to attend games with certain game outcomes, that is, when the home team is deemed to be the winner (Sung & Mills, 2018). Humphreys and Zhou (2015) developed a model to identify fan preferences, including the baseline utility from attending games, utility from a home team win, preference for uncertain outcomes, and loss aversion. Their model indicates that consumer preferences for uncertain outcomes and loss aversion are conflicting.

### **Selected Article Discussion**

From the *JSE*, Sport Management USA-based professors Hyun, Jones, Jee, Jordan, Du, and Lee test uncertainty of outcome given game quality in the National Basketball Association (NBA). They find a noteworthy distinction in the relationship between outcome uncertainty and attendance for high-quality games so that the relationship between high quality game and attendance was that was only marginally significant. On the other hand, for low quality games, a positive correlation was found between outcome uncertainty and attendance. Greater the uncertainty corresponded

to higher game attendance. While the attendance at nonhigh-quality games was influenced by uncertainty, high-quality games attracted fans regardless of the outcome uncertainty.

Korean Professors Sung and Pyun explore uncertainty of outcome, also in the *JSE*, via the relationship between season ticket purchasers—those who purchase the full set of tickets prior to the season—and those who buy individual game tickets in the top Korean football (soccer) league (daily buyers). They find discrepancy in demand between daily ticket purchasers and season ticket holders with respect to outcome uncertainty, preference for home team success, team performance, geographical distance between competing teams, and weekend games. Their results suggest that season ticket holders care less about their team's performance and outcome uncertainty than the daily ticket purchasers. This study is of importance because almost all prior research on demand has focused on attendance with little concern as to how those attending are divided between full season and single game purchases. This even though season ticket sales are of great importance to and marketed aggressively by clubs. The finding that the two groups have much different preferences in terms of expected game characteristics is valuable information to future research on the demand for sports.

Korean researchers Oh, Lee, and Jang extend uncertainty of outcome and demand analysis to esports and the Overwatch League, a popular spectator game available for viewers on the streaming platform Twitch. The authors' data examines viewership throughout the matches. Interestingly they find increased uncertainty of outcome during the match adds to viewership, but pre-match estimates do not show higher uncertainty to increase viewers.

## **Annotated bibliography**

**Hyun, M., Jones, G. J., Jee, W., Jordan, J. S., Du, J., & Lee, Y. (2023). Revisiting the Uncertainty of Outcome Hypothesis and the Loss Aversion Hypothesis in the National Basketball Association: Adding a Predicted Game Quality Perspective. *Journal of Sports Economics*, 24(8), 1076–1096.**

**Abstract:** The unparalleled popularity of major professional sports leagues in the United States has led to numerous sold-out events, regardless of the uncertainty surrounding the game's outcome. This phenomenon prompts us to examine the relationship between outcome uncertainty and attendance, specifically in matchups between high-quality teams compared to games involving lower-quality teams in the National Basketball Association (NBA). Based on our analyses, we have discovered a notable distinction in the relationship between outcome uncertainty and attendance in high-quality games. When analyzing high-quality games, we observed a linear relationship between these two variables that was only marginally significant. Conversely, when exploring nonhigh-quality games, a U-shaped relationship emerged between outcome uncertainty and attendance. While the attendance of nonhigh-quality games was influenced by varying levels of uncertainty, high-quality games attracted fans irrespective of the outcome uncertainty. This research provides valuable insights into the factors that contribute to the popularity and attendance of NBA games.

**Sung, H., & Pyun, H. (2023). Disaggregated Attendance Demand: Comparing Daily Ticket Purchasers and Season Ticket Holders in K-League 1. *Journal of Sports Economics*, 24(6), 717–736.**

**Abstract:** This study investigates differences in the preferences of daily ticket purchasers and season ticket holders, focusing on outcome uncertainty. Using unique game-level attendance data of both daily ticket purchasers and season ticket holders for every team in the Korean top-tier professional soccer league, we find heterogeneity in demand between daily ticket purchasers and season ticket holders with respect to outcome uncertainty, preference for home team success, team performance, geographical distance between competing teams, and weekend

games. Our results suggest that season ticket holders do not care as much about their team's performance and outcome uncertainty as daily ticket purchasers do.

**Reilly, P., Solow, J. L., & von Allmen, P. (2023). When the Stars Are Out: The Impact of Missed Games on NBA Television Audiences. *Journal of Sports Economics*, 24(7), 877–902.**

**Abstract:** Using the 2018–2019 NBA season, we examine the causes and effects of star players missing games. Focusing on 19 star players, we find that injury, proximity to the end of season, games on consecutive days, and opponent quality lead to missed games. We then estimate a model of NBA television audience size using granular data from nationally broadcast games. Doubling the proportion of star players missing games reduces TV audience by approximately 6.5 million household viewings per regular season. A rough estimate of the advertising revenue lost due to stars missing games is between \$15 and \$20 million per season.

**Oh, T., Lee, S., & Jang, H. (2023). Outcome Uncertainty and ESports Viewership: The Case of Overwatch League. *Journal of Sports Economics*, 24(8), 971–992.**

**Abstract:** The uncertainty of outcome hypothesis (UOH) explains the consumption determinants of sports fans in professional sporting events. However, only limited studies exist in the esports field, and the relationship between UOH and spectatorship in esports is still unclear. This study examined the UOH in esports by analyzing the number of viewers of an esports league on an internet-based streaming platform (Twitch). We measured within-game and ex-ante expected game uncertainty and estimated their effects on the number of real-time viewers. The results show that within-game uncertainty significantly impacts the number of viewers, but ex-ante expected game uncertainty did not.

#### **References:**

*Borland J., MacDonald R. (2003). Demand for sport. Oxford Review of Economic Policy, 19(4), 478–502.*

Buraimo B., Simmons R. (2015). Uncertainty of outcome or star quality? Television audience demand for English Premier League football. *International Journal of the Economics of Business*, 22(3), 449–469.

Coates, D., & Humphreys, B. R. (2010). Week to week attendance and competitive balance in the National Football League. *International Journal of Sport Finance*, 5(4), 239–252.

Humphreys, B. R., & Zhou, L. (2015). The Louis–Schmelling paradox and the league standing effect reconsidered. *Journal of Sports Economics*, 16(8), 835–852.

Neale, W. C. (1964). The peculiar economics of professional sports: A contribution to the theory of the firm in sporting competition and in market competition. *The Quarterly Journal of Economics*, 78(1), pp. 1-14.

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Schreyer, D., & Ansari, P. (2021). Stadium attendance demand research: A scoping review. *Journal of Sports Economics*, 23(6), 749–788.

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