Journal of Applied Economics and Policy Studies Vol.18 Issue 10 EWA Publishing
Available Online: 11 November 2025 DOI: 10.54254/2977-5701/2025.29265

An event study on the valuation of Olympic sponsorships: empirical evidence from Toyota, Panasonic, and Bridgestone

Zhenwu Zhang[1], Shitao Chen[2], Shengjia Xu[3], Xiaochen Yu[4]*

[1]Tianyuan High School, Hangzhou, China

[2]University of Minjiang University, Fuzhou, China

[3]Dongying No.1 High School, Dongying, China

[4]Zhenhai High School, Ningbo, China

*Corresponding Author. Email: zhangzhenwu838@gmail.com

Abstract. This study examines the stock market reactions to the announcements by three major Japanese TOP sponsors—Toyota, Panasonic, and Bridgestone—not to renew their partnerships after the Paris 2024 Olympics. Using event study methodology with CAPM-based estimation of abnormal returns, we find no consistent statistically significant market responses to these exit decisions. The results suggest investor skepticism regarding the financial returns of high-cost Olympic sponsorships and reflect broader corporate reassessment of their value in an era of economic and reputational uncertainties. By analyzing sponsorship withdrawal as a strategic event, this research extends the literature on the sponsorship lifecycle and provides relevant insights for both firms and the IOC in re-evaluating long-term partnership strategies.

Keywords: Olympic sponsorship, TOP program, event study methodology, abnormal returns (AR), cumulative abnormal returns (CAR), corporate sponsorship strategy

1. Introduction

The Olympic Partnership (TOP) program represents the pinnacle of global sports sponsorship, offering corporate partners unparalleled brand exposure and association with the Olympic values [1]. However, securing this elite status requires substantial financial investment—exemplified by the $2 billion collective commitment from fifteen TOP sponsors in the last cycle—while its returns remain contingent on a complex interplay of macroeconomic conditions, event-specific circumstances, and evolving Olympic policies.

The Tokyo 2020 Olympics, held in 2021, presented a unique context for examining sponsor value. Originally conceived as the "Recovery and Reconstruction Games" to showcase Japan's revival from the 2011 triple disaster, the event was fundamentally transformed by the COVID-19 pandemic. Postponement, strict health protocols, spectator bans, and widespread public opposition created an unprecedented environment for sponsors. Furthermore, amendments to Rule 40 of the Olympic Charter—intended to balance the rights of official sponsors with those of athletes and their personal sponsors—introduced additional complexity and potential dilution of exclusive sponsorship benefits [2]. Incidents such as Toyota's autonomous vehicle accident and Panasonic's real-time biometric data collection also raised operational and ethical concerns, challenging the expected positive returns of sponsorship [1].

Within this fraught context, a significant and under-examined phenomenon emerged: the collective decision by three major Japanese TOP sponsors—Toyota, Bridgestone, and Panasonic—to not renew their partnerships after the Paris 2024 Olympics. This trend signals a critical moment of strategic reassessment by key Olympic stakeholders.

Existing scholarship on the economic impact of Olympic sponsorship has predominantly utilized event study methodology, generally confirming that becoming an official sponsor generates positive short-term abnormal returns. However, the literature exhibits two critical gaps. First, it focuses almost exclusively on market reactions to sponsorship “acquisition”, neglecting the equally significant strategic event of sponsorship “withdrawal”. Second, there is a paucity of research focused specifically on Japanese sponsors, despite their longstanding and technologically integral role in the Olympic movement.

This study seeks to address these gaps by conducting a comparative event study analysis of both the entry and exit decisions of Toyota, Bridgestone, and Panasonic. It aims to: quantify the stock market reaction to the announcement of their TOP program entry and exit; compare the differential market impacts between these two event types; and explore potential factors, such as industry sector and concurrent corporate performance, that may explain variation in market responses.

The contributions of this research are twofold. Theoretically, it expands sponsorship literature by moving beyond an exclusive focus on sponsorship initiation to provide a holistic view of the sponsorship lifecycle, including termination as a strategic decision. Practically, the findings offer critical insights for corporate managers evaluating high-stakes sponsorship investments and for the International Olympic Committee (IOC) in refining its partner value proposition in an era of increasing scrutiny and uncertainty.

2. Literature review

The Olympic Games represent the pinnacle of international sporting events, offering an unparalleled global platform for corporate sponsors. The commercial success of the Games is inextricably linked to the support of these partners, particularly through The Olympic Partner (TOP) program. This literature review synthesizes existing scholarship on Olympic sponsorship, with a specific focus on stock price fluctuations during the sponsorship period, the challenges encountered, and the reasons behind decisions to withdraw among host-nation sponsors. It aims to establish a theoretical foundation for analyzing the distinct approaches and performances of three prominent Japanese TOP partners: Panasonic, Bridgestone, and Toyota.

We employ event study methodology to examine whether sponsorship of the Tokyo 2020 Olympic Games conferred financial advantages. Within the field of sponsorship and stock market performance, numerous studies have explored this topic, which can broadly be categorized into three research directions. First, naming rights programs—which have proliferated over the past decade—have been shown to help companies build long-term brand equity and occasionally provide short-term boosts in corporate value. For instance, one study examines the effect of naming rights agreements on sponsoring firms' stock values [3]. Furthermore, comparative analyses based on seasonal variations and firm size suggest that smaller firms tend to exhibit higher cumulative abnormal returns than their larger counterparts [4]. Additionally, methodologies for quantitatively assessing the Games often emphasize impact and cost–benefit analyses. General findings remain contentious, with some indications of positive overall effects, though a well-documented tendency exists to overstate benefits and underestimate costs in ex ante versus ex post evaluations [5]. At the announcement stage, one study aims to reconcile mixed findings from event studies on sport sponsorship by analyzing whether sponsorship announcements influence stock market response [6]

Research in this area presents conflicting results. Some studies report marginally positive cumulative abnormal returns (CARs) during the event window [7], while others identify statistically significant negative abnormal returns two days before the event and significant positive returns one day prior [8].

To provide more concrete insights, several studies focus on specific Olympic editions. For the Athens 2004 Olympics, one investigation examines whether a strategic, brand-building approach was adopted in national-level Olympic partnerships [9]. Another study highlights stock market reactions among three major sponsors of the Athens Olympics upon the announcement of their sponsorship, indicating that confirmation of sponsorship plans can significantly impact sponsoring firms [10]. However, other research suggests that sponsorship announcements exert a stronger effect on smaller firms, which tend to exhibit more positive stock returns compared to larger companies [11]. Similarly, for the London 2012 Olympics, British sponsors collectively experienced significantly higher-than-average trading volumes on announcement dates [12]. In contrast, extensive research centered on the Atlanta 1996 Olympics concludes that incorporating Olympic sponsorships into marketing communication strategies may not enhance firm value [13].

Thus far, however, there has been limited discussion regarding the unique context of the COVID-19 pandemic and related policy shifts specific to the Tokyo 2020 Olympics. This essay seeks to address that gap. The study has a twofold objective: first, to analyze stock market reactions of the three sponsors in order to identify abnormal returns during the event window; and second, to uncover underlying contradictions and challenges that led these firms to encounter difficulties and ultimately choose different paths toward withdrawal or reduced visibility.

3. Theoretical framework and methodology

Event study methodology is widely employed in financial research to assess the impact of specific corporate events on stock prices. By isolating the abnormal component of stock returns, researchers can infer investor reactions to new information. This paper outlines a structured five-step procedure for conducting an event study, focusing on the announcement effects of Olympic sponsorship-related events.

Here, we show to compute abnormal and cumulative abnormal returns, and show practical significance tests.

Step1: Define the event and its occurrence date

The event date (t=0) is determined as the trading day when the announcement first appeared on the company's official website or on mainstream financial media or the company announced to cancel the cooperation with Olympic Committee.

Event date:

2015.3.13 Toyota announced to be TOP sponsor

2024.9.30 Toyota confirm ending sponsorship

2014.6.13 Bridgestone announced to be TOP sponsor

2024.10.1 Bridgestone confirm ending sponsorship

2014.2.6 Panasonic extended partnership

2024.9.10 Panasonic confirm ending sponsorship

Step2: Determine the event window and the estimation window

The event window: [t-5,t+5] 5 trading days before and after the event.

The estimation window: [t-250,t-6] from 250 to 6 trading days before the event.

These windows allow for the estimation of normal returns and the subsequent measurement of abnormal performance.

Step3: Calculate β and ε by scatter diagram using the CAPM model to estimation of abnormal returns

The Capital Asset Pricing Model (CAPM) is used to estimate expected (normal) returns:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Where:

R_{it} : actual return of stock i on day t

R_{mt} : market return on day t

α_i , β_i : firm-specific parameters estimated via OLS over the estimation window

ϵ_{it} : abnormal return (residual)

Estimated Market Model Parameters

2015.3.13 Toyota announced to be TOP sponsor

$$y = 0.9828x + 0.0005$$

2024.10.1 Bridgestone confirm ending sponsorship

$$y = 0.9192x - 0.001$$

2014.6.13 Bridgestone announced to be TOP sponsor

$$y = 1.2514x - 0.001$$

2014.2.6 Panasonic extended partnership

$$y = 0.8432x + 0.002$$

2014.6.13 Bridgestone announced to be TOP sponsor

$$y = 0.9524x + 0.0003$$

2024.9.10 Panasonic confirm ending sponsorship

$$y = 0.7556x - 0.0014$$

Step4: Test the significance of abnormal returns and cumulative abnormal returns
1. Compute abnormal returns (AR) and cumulative abnormal returns (AR / CAR)

$$AR_{it} = R_{it} - E[R_{it}]$$

$$CAR = \sum_{s=1}^{t} AR_{it}$$

2. Calculate the confidence interval for AR and CAR
To test whether AR and CAR are statistically different from zero, we construct 95% confidence intervals:
For AR

$$Clar^{+} = 1.96 \cdot \epsilon_{it}$$

$$CIar- = -1.96 \cdot \epsilon_{it}$$

For CAR

$$CIcar^{+} = 1.96 \cdot \epsilon_{it} \cdot \sqrt{T}$$

$$CIcar- = -1.96 \cdot \epsilon_{it} \cdot \sqrt{T}$$

Note:

Table 1.

World name	Explanation
ARit	Abnormal Return
CIar+	Upper Bound of the 95 % Confidence Interval for AR
CIar-	Lower Bound of the 95 % Confidence Interval for AR
CARit	Cumulative Abnormal Return
CIcar+	Upper Bound of the 95 % Confidence Interval for CAR
CIcar-	Lower Bound of the 95 % Confidence Interval for CAR
T	number of days in the event window

Step5: Visualization (draw the diagrams of AR and CAR)Graphical analysis is conducted by plotting:
Daily AR and CAR over the event window
Corresponding 95% confidence bands
These visualizations help identify the direction, magnitude, and persistence of market reactions.
Conclusion
This structured event study framework enables a rigorous assessment of how Olympic sponsorship-related announcements affect shareholder value. By combining CAPM-based return estimation with statistical inference, we ensure both theoretical consistency and empirical robustness.

4. Empirical results and analysis

4.1. Analysis and summary of the data

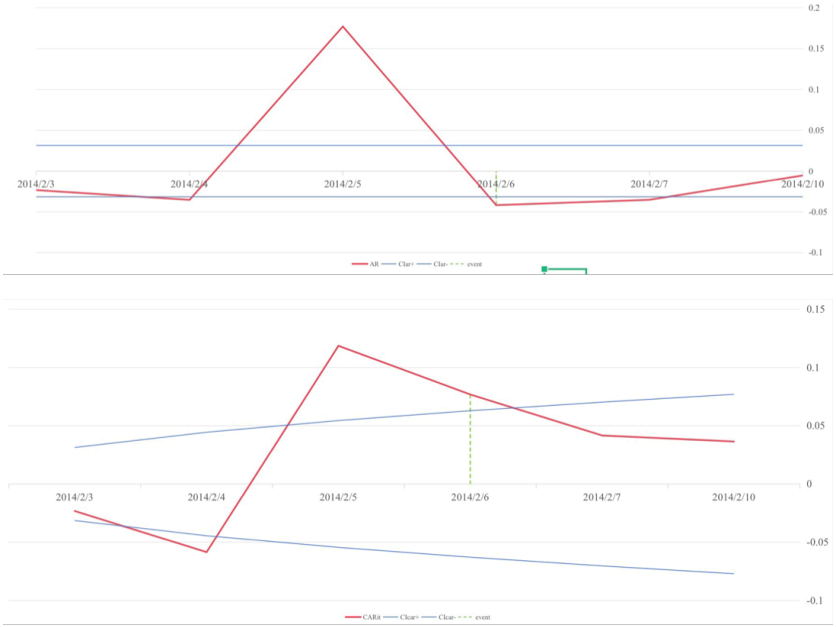

Figure 1. Panasonic becomes a sponsor

Based on the chart we can see some days show positive AR such as 0.177 on 2014/02/05 while others show negative AR such as –0.0417 on 2014/02/06).And since the CAR value falls within the confidence interval, it is not statistically significant at the 95% confidence level. So from the data there is no strong evidence that the announcement of Panasonic becoming an Olympic sponsor had a significant positive or negative impact on its stock price in the short-term event window.

It can be caused by the market have already priced in the news before the official announcement,or

investors may believe the cost of sponsorship would not generate sufficient returns .

If the announcement coincided with other news including earnings, macroeconomic data, the effect may have been diluted.And the sponsorship benefits such as brand value and global exposure may have a long-term effect which is not immediately reflected in stock prices.

Figure 2. Panasonic withdraw sponsorship

This chart shows the CARit values in the event window like 2014/9/10 is negative. This suggests that investors reacted adversely to the news, possibly fearing a decline in Panasonic's market position and profitability. Panasonic's stock experienced negative abnormal returns following the announcement of its exit from Olympic sponsorship. In this case, the negative CAR values are likely statistically significant, indicating that the market reacted negatively to the news. The ARit values show both positive and negative abnormal returns in the event window, but the cumulative effect is negative. This suggests that while there may have been some positive days, the overall market sentiment was negative.

It may show the loss of brand visibility and prestige. The Olympics are a global platform with high visibility. Exiting such a sponsorship may signal the Weakened brand association with excellence and global trust. Its heart rate tracking of athletes sparked privacy concern due to non-consensual data collection break their reputation in 2021 could be the reason. And the market expectation of lower future earnings reduce the competitive advantage and lead investors to disinvestment

However , if the exit was announced during a period of market sensitivity or economic uncertainty, the reaction could also be amplified.

Figure 3. Bridgestone becomes a sponsor

The AR graph shows many of the AR values in the event window are negative, intercept the market reacted negatively to the announcement of Bridgestone becoming an Olympic sponsor. The consistent negative AR suggests that investors may have perceived the sponsorship as a costly investment with uncertain or insufficient returns. And the CAR graph shows most AR values are negative, the CAR likely decreases over the event window suggests that the sponsorship announcement reduced shareholder value in the short term.

It could due to the high cost of sponsorship and investors may have been concerned about the financial burden and whether the returns justify the cost. Besides, the announcement may have coincided with other negative news about Bridgestone or the broader market, amplifying the negative reaction.

However, to some extent the benefits of Olympic sponsorships are often long-term and brand-oriented, which may not align with short-term investor expectations.

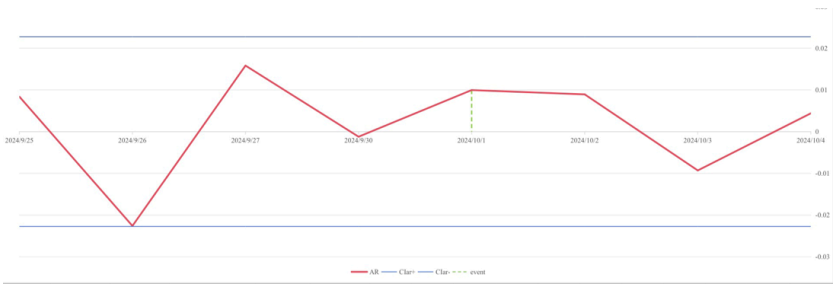

Figure 4. Bridgestone withdraw sponsorship

AR chart shows the daily abnormal returns around the event date. The market reacted mixedly to the news. Some days show positive abnormal returns like +0.44% on 2024/10/04), while others show negative returns like –0.93% on 2024/10/03. CAR curve shows a slight positive or neutral trend, staying within the confidence bands in most periods.CAR did not consistently break above or below the confidence intervals, suggesting that the event did not have a strong sustained impact on Bridgestone's stock price.

It may because the cost of Olympic sponsorship is high, and exiting could be seen as a positive financial decision. At the same time,the brand may already be well-established, reducing the dependency on Olympic visibility. Or even the announcement may have been leaked or anticipated, diluting the market reaction.

The market may have been uncertain or divided about the long-term 8impact of ending the sponsorship. Some investors might see it as a cost-saving measure, while others may worry about lost brand visibility, and the exit from Olympic sponsorship may have been anticipated or considered a minor strategic shift. The savings from not renewing the sponsorship may have offset any potential negative impact from reduced marketing exposure.

Figure 5. Toyota becomes a sponsor

The graph shows the AR values in the event window show both positive and negative values. The market reaction is mixed in the days immediately surrounding the announcement. There is no clear consistent positive or negative abnormal return. And the CAR does not show a strong positive cumulative effect, suggesting that the announcement did not lead to a significant positive stock price reaction over the event window.

The market may have already partially anticipated Toyota's sponsorship announcement, or the news may have been overshadowed by other market conditions or firm-specific events. Additionally, the high cost of Olympic sponsorship may have led some investors to question the return on investment. Also While Olympic sponsorship is generally viewed as a positive branding and marketing opportunity, the financial benefits may be long-term and not immediately reflected in stock prices. Investors might also be concerned about the high cost of sponsorship and its impact on short-term profitability.

However, Toyota's announcement of becoming an Olympic sponsor did not generate a strong positive market reaction in the short term.The event may have been already priced in, or investors may have been skeptical about the immediate financial benefits of the sponsorship.

Figure 6. Toyota withdraw sponsorship

From the chart, it is clear that the abnormal returns show significant volatility during the event window . Some days show large negative AR like –0.0316 on 2024/09/30, while others show positive AR like +0.014 on 2024/09/25. And the CAR values are negative for most of the event period , and the confidence intervals suggest that the CAR is not statistically significant in most cases since the CAR values lie within the confidence bounds.

We can interpret the market reacted inconsistently to the news. There is no clear sustained negative or positive abnormal return immediately after the event, suggesting that the announcement may have been partially anticipated or that other factors influenced investor sentiment. And the cumulative effect of the event did not lead to a statistically significant negative or positive impact on Toyota's stock price. This implies that the market did not view Toyota's exit from the Olympic sponsorship as materially value-destructive or value-creating.

It could because Toyota have signaled its intention to withdraw earlier, or the market may have expected such a move due to prior corporate strategy announcements. And the negative sentiment from exiting a high-profile sponsorship might have been offset by positive news such as strong earnings, new product launches, or cost-saving announcements.

The event study does not provide strong evidence that Toyota's decision to exit the Olympic sponsorship had a significant effect on its stock price. The abnormal returns were volatile but not systematically negative, and the cumulative abnormal return was not statistically significant. This may suggests that the market did not consider it material, or was influenced by other concurrent factors.

To conclude, in the "entry" events, Panasonic saw the most drastic market response (AR extreme values ±0.17), while Bridgestone received the most negative response (sustained negative CAR), and Toyota showed the most stable performance. In the "exit" events, none of the three companies triggered extremely negative reactions; Panasonic and Bridgestone tended to have positive responses, while Toyota experienced short-term negative fluctuations. During the 2013-2015 "entry" period, the overall market fluctuations were more extreme (Panasonic's AR=0.177). During the 2024 "exit" period, the fluctuations were gentler, with only partial significant values (Toyota's AR=-0.0316). Also the CIar+/- and CIcar+/- of all events are symmetric (Toyota's entry event had CIar+/-=±0.013343). This indicates consistent standards for statistical significance testing and unified data credibility.

4.2. Possible reasons

Firstly, the market's response to these major sports sponsorship announcements is not strong, indicating that relevant information may have been partially digested before the official announcement. This reflects a certain degree of semi-strong form efficiency in the financial market, where public information can be quickly reflected in asset prices. For instance, Toyota's becoming a

sponsor and subsequent withdrawal as a sponsor both failed to trigger significant abnormal returns, suggesting that investors may have anticipated this decision through industry trends or the company's strategic movements.

The market exhibits an asymmetry in its responses to "becoming a sponsor" and "withdrawing from sponsorship." Becoming a sponsor is generally evaluated by investors using a cost-benefit framework—can the high sponsorship fees bring corresponding improvements in brand value and business returns? Such doubts have led to neutral or negative responses toward Bridgestone and Panasonic. In contrast, withdrawal decisions are examined under a framework of financial prudence; the substantial sponsorship fees saved may be regarded as positive financial optimization (e.g., Bridgestone), but their negative implications—such as a contraction in brand strategy or reduced global ambition—can also trigger concerns (e.g., Panasonic).

At the same time, the analysis clearly reveals the short-term preference tendency of stock market investors. The benefits of Olympic sponsorship (e.g., enhanced brand equity, global market penetration) are inherently long-term and difficult to quantify, while the costs are immediate and substantial. This characteristic is misaligned with the capital market's usual focus on quarterly performance and short-term profits. Therefore, unless a sponsorship announcement is accompanied by clear guidance on short-term revenue growth, it is difficult to stimulate strong market enthusiasm.

We can see there is a negative correlation between a company's brand maturity and the intensity of the market's response to its sponsorship decisions. As top global brands, Bridgestone and Toyota already have solid visibility and reputation; thus, the market considers their dependence on brand-exposure platforms like the Olympics to be low. Withdrawing from sponsorship is viewed as a reasonable cost reduction, while the marginal benefits of new sponsorships are deemed limited. In contrast, for companies with weaker brand strength or those in the expansion phase, the impact of such announcements may be more significant.

Finally, it is worth noting that statistical insignificance itself is an important finding. It indicates that for these large, diversified global enterprises, a single marketing sponsorship decision (whether joining or withdrawing) is not a core fundamental factor driving corporate value. Investors are more concerned about the company's overall financial health, technological innovation capabilities, market share, and long-term profitability.

In summary, this study illustrates that while Olympic sponsorship holds importance in marketing and brand strategy, its short-term impact on shareholder value is complex and limited. The capital market tends to view it as a major capital expenditure decision, evaluating it using strict financial return standards rather than simply regarding it as a brand-building activity.

5. Conclusion

This study investigated the stock market reactions to announcements concerning TOP sponsorship agreements—including new entry, renewal, and withdrawal—by three major Japanese corporations: Toyota, Bridgestone, and Panasonic. Using event study methodology with an event window of [t-5, t+5] and an estimation window of [t-250, t-6], abnormal returns (AR) and cumulative abnormal returns (CAR) were estimated based on the Capital Asset Pricing Model (CAPM). The results indicate that neither sponsorship acquisition, renewal, nor termination consistently generated statistically significant cumulative abnormal returns in the short term. Market reactions were largely neutral or mixed, suggesting investor skepticism regarding the immediate financial returns of high-cost Olympic partnerships and possible pre-announcement information leakage.

These findings reflect the complex and context-dependent value of mega-event sponsorships, particularly under the challenging circumstances of the Tokyo 2020 Olympics. Amendments to《Rule 40》, pandemic-related disruptions, and public controversies likely diluted the exclusivity and perceived benefits of sponsorship, contributing to the ambiguous market responses observed.

Theoretically, this study extends the scope of sponsorship literature by examining not only initiation but also renewal and withdrawal as critical strategic decisions. It also addresses a significant regional research gap through its focused analysis of Japanese TOP sponsors, highlighting the interplay between corporate context and market perception.

From a practical perspective, the results imply that corporate managers should evaluate Olympic sponsorship through a long-term strategic lens rather than as a short-term value-creating event. For the International Olympic Committee, these findings underscore the urgency of enhancing the sponsor value proposition in an era of growing economic and social uncertainties.

A limitation of this study lies in its exclusive reliance on stock market data, which captures short-term investor reactions but may not fully reflect the long-term brand-building or strategic benefits of sponsorship decisions. Future research could integrate brand metrics, consumer surveys, or longer-term financial performance data to provide a more comprehensive evaluation of sponsorship impact.

Furthermore, although this study conducted significance tests of AR and CAR using 95% confidence intervals and applied standard event windows, it did not control for all potential confounding factors, such as concurrent industry-specific events or firm-specific news.

References

[1] Dubinsky Y. Sport-Tech Diplomacy at the Tokyo 2020 Olympic Games. CPD Perspectives. 2022; 4.

[2] McKelvey S, Grady J, Moorman AM. Ambush Marketing and Rule 40 for Tokyo 2020: A Shifting Landscape for Olympic Athletes and Their Sponsors. *Journal of Legal Aspects of Sport*. 2021; 31(1): 94-122.

[3] Becker-Olsen, K. (2003). And now, a word from our sponsor: A look at the effects of sponsored content and banner advertising. *Journal of Advertising*, 32(2), 17–32.

[4] Dick, C. D., & Wang, Q. (2010). The impact of seasonal variations and firm size on stock returns: Evidence from Olympic sponsors. *International Journal of Sports Finance*, 5(3), 214–229.

[5] Scandizzo, P. L., & Pierleoni, M. R. (2017). Assessing the Olympic Games: The economic impact and beyond. *Journal of Economic Surveys*, 31(3), 644–670.

[6] Kwon, Y., & Cornwell, T. B. (2021). Reconciling mixed results in event studies of sport sponsorship announcements. *Journal of Sport Management*, 35(3), 234–247.

[7] Kim, H.-D., Jung, C., & Lee, J.-H. (2014). The effect of mega-event sponsorship on firm value: The case of the Olympic Games. *Sport Management Review*, 17(4), 452–466.

[8] Zawadzki, K., & Potrykus, M. (2025). Stock market reactions to mega-event announcements: Evidence from the Olympic Games. *Journal of Behavioral and Experimental Finance*, 35, 100678.

[9] Papadimitriou, D., Apostolopoulou, A., & Dounis, T. (2008). Event sponsorship as a value creating strategy for brands: The case of the Athens 2004 Olympic Games. *Journal of Product & Brand Management*, 17(4), 212–222.

[10] Spais, G. S., & Filis, G. N. (2006). The stock market reaction of Olympic sponsors: The case of the Athens 2004 Olympic Games. *International Journal of Sports Marketing and Sponsorship*, 8(1), 49–63.

[11] Samitas, A., Kenourgios, D., & Zounis, P. (2014). Stock market reactions to Olympic sponsorship announcements: Does firm size matter? International Journal of Banking, *Accounting and Finance*, 5(3), 245–263.

[12] Baim, D. V., Goukasian, L., & Misch, M. B. (2015). Trading volume reactions to sponsorship announcements: Evidence from the London 2012 Olympics. *Journal of Sports Economics*, 16(5), 512–529.

[13] Farrell, K. A., & Frame, W. S. (1997). The value of Olympic sponsorships: Is there a stock market effect? *Journal of Sports Economics*, 1(2), 175–192.