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Sponsorship and shareholder value: A re-examination and extension

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ABSTRACT

A stream of studies investigates shareholder wealth effects of marketing investments into sport sponsorship properties. While research generally upholds a positive relationship between sponsorship agreements and shareholder wealth, the relationship remains unclear for several sponsorship categories. With more specific attention to research design issues, this paper replicates and extends prior research in two of these areas: official product and Olympic sponsorship announcements. This paper notes that inclusion of observations with potentially confounding events materially affects results reported by the original authors. The first study identifies a significant positive shareholder wealth effect associated with initial official product sponsorship announcement but not for renewal of such announcements. The second study resolves conflicting views from prior research regarding Olympic sponsorships. Although a negative overall relationship exists for sponsors of the 1996 Atlanta Olympics, the market's negative view of costly, top-tier global sponsorships largely drives this result.

1. Introduction

Over the past two decades, sponsorship has become a centerpiece of corporate and brand communications. In recent years, the pace of sponsorship-linked marketing expenditures has consistently outstripped that of traditional advertising, rising to an estimated $42 billion worldwide in 2008 (IEG, 2008). The growth of sponsorship is also readily apparent in the development of supporting infrastructure and policies surrounding corporate involvement in sponsorship activities (Cornwall, 2008). Sponsors now regularly employ outside agencies to assist them in areas such as proposal management, measurement, and hospitality. A recent study of Fortune 500 companies websites found one-third of these firms have made their sponsorship policy available on the Internet (Cunningham, Cornwell, & Coote, 2009). For many firms, the transformation of marketing communications through major sponsorship programs means key changes in a variety of aspects of traditional advertising and promotions, including content, media choice and placement, and the overall pattern of marketing spending (Cornwell, Weeks, & Roy, 2005). Thus, corporate sponsorship investments represent decidedly strategic managerial decisions that typically exert great influence upon many aspects of the firm's broader marketing strategy.

The dramatic growth of this medium has drawn increased interest from academic researchers, resulting in a considerable literature base in recent years. Within the context of the marketing-finance interface, a number of studies assess the impact of various categories of sponsorship announcements upon changes in shareholder wealth. Overall, marketing studies tend to confirm that investors generally hold a favorable view of these investments. The evidence relating to specific types of sponsorship announcements, however, remains less than clear. For instance, Cornwell et al. (2005) are unable to identify a significant positive abnormal return for firms announcing official sponsorship status for five major U.S. sport leagues, leading them to support their hypotheses using longer event windows. Whereas Miyazaki and Morgan (2001) interpret their results as suggesting a positive financial effect for U.S. listed firms announcing sponsorship for the 1996 Atlanta Olympics, Farrel and Frame (1997) reach the opposite conclusion in their study of sponsors of the very same event. In conflict with the Clark, Cornwell, and Pruitt (2002) study of stadia naming rights announcements, Leeds, Leeds, and Pistolet (2007)) conclude that the purchase of naming rights had little significant impact on the short-term or long-term value of the companies that bought them.

Given that the phenomena and announcement dates examined in these studies were identified using publicly available secondary data sources, these conflicting findings suggest a lack of consistency across studies in terms of research design, statistical analysis and interpretation of study results.

As the usefulness of the event study technique depends heavily upon a set of rather strong assumptions (Brown & Warner, 1980, 1985), its imprecise application may bias empirical results and

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subsequent conclusions (McWilliams & Siegel, 1997). Thus, inappropriate on inconsistent technique may unjustifiably support or discount some theories. This paper re-examines sponsorship hypotheses from three published studies to see if the research designs that the authors employed materially affected the conclusions they drew. These studies are: Cornwell et al.'s (2005) study of official major league sponsorship announcements; Miyazaki and Morgan's (2001) and Farrell and Frame's (1997) studies of 1996 Olympic sponsorships. In addition, for the official product sponsorship study, extending the sample frame and identifying additional announcements for each event type subsequent to the period investigated in the original study increase the ability to identify significant effects. The Olympic study uses additional analysis not carried out by either of the prior research teams to identify the basis for the negative returns.

2. Event study methodology

Used extensively in the finance and accounting literature, the event study method measures the effect of an unanticipated event on stock prices. The standard approach uses a regression model to predict expected returns for the firm based upon some period preceding the event. Abnormal returns (i.e., residuals) are the difference between the returns observed and those that the regression model predicts. These abnormal returns are then aggregated across firms and over time; statistical tests determine whether the abnormal returns are significant in relation to some market model, and if so, for how long (Henderson, 1990). Use of event study methodology precludes the need to analyze accounting-based measures of profit, which critics say are often not very good indicators of the true performance of firms. However, stock prices theoretically reflect the true value of firms because they presumably reflect the discounted value of all future cash flows and incorporate all relevant information.

Given that this method increasingly assesses the impact of managerial decision-making in marketing and management, considerations of correct implementation, clear reporting of results and appropriate interpretation of results are important. Readers can be confident that the conclusions from an event study are valid only if (a) they know that the researcher has truly identified abnormal returns associated with the event, and; (b) the conventional statistics used to test significance do not depart from their theoretical unit normal distribution under the null hypothesis (Campbell & Wasley, 1993). That is, the analysis must be consistent with both the theoretical and statistical assumptions underlying the technique.

3. Theoretical assumptions and research design issues

From a theoretical perspective, inference based on event study methodology relies upon the three key assumptions: markets are efficient, the event was unanticipated, and no confounding effects occurred during the event window (McWilliams & Siegel, 1997). Market efficiency implies that stock prices incorporate all relevant information that is available to traders. Since empirical research has routinely demonstrated that the stock market fully adjusts to the release of firm-specific information very quickly (e.g., Dann, Mayers, & Raab, 1977; Netter & Mitchell, 1989), McWilliams and Siegel (1997) suggest that this assumption is difficult to reconcile with use of a long event window. The second assumption's basis is the idea that an event becomes public through a press announcement, and that traders gain new information from the announcement. Leakages of information well in advance of a formal announcement make use of the event study methodology problematic, as determining when traders become aware of the new information is difficult. The third assumption is particularly critical—if other financially relevant events are occurring during the event window, isolating the impact of one particular event is difficult.

4. Statistical and inferential issues

Multivariate regression models, such as those used to estimate a firm's predicted returns in the event study, are subject to a number of statistical assumptions. Specifically, the models assume that the residuals: are normally distributed with a mean of zero, are not serially correlated, have a constant variance, and are not correlated with the explanatory variables. Further, in cases where different regressions may be run for different units of observation, such as firms, no correlation exists between residuals for those units. Simulated and empirical studies show that neglecting features of the data such as nonnormality, autocorrelation, changes in event period variance, and heteroskedasticity can lead to test statistics that do not follow their assumed distribution. For instance, Kramer's (2001) Monte Carlo results indicate that the statistical size of commonly employed test statistics showed significant bias when the data exhibited characteristics identical to those observed in actual stock returns. Using simulated data, Hein and Westfall (2004) find that traditionally calculated *p*-values are biased downward dramatically when the number of firms is large and residual distribution is heavy-tailed, causing the researcher to conclude that an event is significant too frequently.

Over the years, violations of normal distribution assumptions within event studies have led to a number of key refinements to improve their performance. For instance, Corrado (1989) advocated the use of a nonparametric rank test in the face of distributional problems. More recently, however, some authors have suggested the use of various bootstrap techniques to improve the robustness of parametric test statistics under a variety of conditions common to stock return data (e.g., Liu, 1988). Use of the bootstrap involves repeated sampling from the actual data (e.g., Chou, 1998) or even the test-statistic itself (Kramer, 1998) in order to empirically estimate the true distribution of a test statistic. Hein and Westfall (2004) report the independent sampling of residual vectors from the regression model controls type I error rates in the presence of cross-sectional correlation and even in the presence of time-series dependence structures. Kramer's (2001) Monte Carlo results report lowered type I error rates using bootstrapping without any sacrifice in power. Since the bootstrap method performs better over the range of possible distributions typically found in stock price data, Hein and Westfall (2004) suggest that using the bootstrap p-values is more prudent than using traditional p-values, and at the very least, bootstrap results should supplement traditional analysis so that investigators can evaluate the robustness of their inferences.

5. Replication and extension of selected event studies

5.1. Study 1: major league sports' official sponsorship announcements

Cornwell et al.'s (2005) proposed official sports league sponsorship offers firms a number of distinct communication and cost advantages over more generalized types of sponsorship activities. The study sought to identify whether announcements of official product sponsor designation for U.S.-based major league sports would be positively associated with abnormal stock market returns, both collectively as well as for sponsors of each sports league studied. Lists of official product sponsorships for MLB, the NBA, the NHL and the PGA came from the Web pages of each league during 2003 and 2004. Searches of the Lexis-Nexis and Factiva databases identified the date of first communication for each of 53 sponsorship announcements. Following standard practices, the authors employed the Scholes–Williams standardized cross-sectional market model (Cowan, 2000; Scholes & Williams, 1977) to test for changes in stock prices around the sponsorship announcements and was estimated over event days $t = -276$ to -25 relative to $t = 0$ day of the announcement. The CRSP value-weighted index of all stocks was the stock market proxy.

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Based upon their analysis of individual event days of the 11-day period surrounding the sponsorship announcement, the authors found no evidence to suggest that official sponsorship announcements are either positive or negative events for sponsoring firms. The authors note with some surprise that this null result differed from earlier, positive results on stadium, NASCAR and celebrity endorsement contracts (Agrawal & Kamakura, 1995; Clark et al., 2002; Mathur, Mathur, & Rangan, 1997). Subsequent tests over longer, multiple-day event windows revealed a statistically significant ($z=2.32$, $p<.05$) increase in stock prices registered by sponsoring firms for the trading week surrounding the announcement date ($t=-2, +2$). For the cross-sectional multiple regression analysis used to test the remaining hypotheses, the cumulative abnormal return level registered by each sponsor over event window ($-10, +10$) was the dependent variable based upon this window's significance for the sample as a whole, as well as for several subsamples in the sport-specific tests.

While the authors report screening for contemporaneous confounding events, no events were deleted based on this rationale, and they do not mention controlling for the effects of such announcements in the analysis. Thus, the authors must have effectively screened for firms with alternative events occurring only on the same day of the announcement. Given the large, multi-national nature of many of the firms in the sample, however, the use of longer event windows greatly exacerbates the difficulty of controlling for confounding events (McWilliams & Siegel, 1997). As the study does not mention any attempt to control for confounding events across the broader five-day (-2 to $+2$) and 21-day (-10 to $+10$) event windows, the possibility appears strong of confounding events influencing overall results. Further, absent compelling substantive or theoretic rationale provided for utilizing longer event windows (Ryngaert & Netter, 1990), their use might violate strong market efficiency assumptions.

The first step of this replication involves verification of all announcement dates reported in the initial study, using the Lexis-Nexis database, firm and league websites, and other online sources. The verification found one sponsorship announcement dated one day earlier. The next step examined all other publicly reported events that fell within the 21 days (i.e., plus or minus 10 days) and five days (i.e., plus or minus two days) surrounding the sponsorship announcement for potential confounds. McWilliams and Siegel (1997) define confounding events as those that are financially relevant to the firm, including: unexpected dividend or earnings announcements, takeover bids, merger negations, changes in key executives, restructuring, joint ventures, major contract awards, significant labor disputes, significant liability suits, and announcements of major new products. Each of these event types are positively associated with abnormal returns in previous event studies. Therefore, if these dates overlap with dates of interest investigated in the event study analysis, a report cannot tell which event is influencing changes in returns. Table 1 provides details relating to all potentially confounding events identified in the examination of the official product sponsors.

After the elimination of firms with confounding events from the sample, investigators re-ran the model using the same estimation period and the CRSP value-weighted index employed by the researchers in the original study. In the five-day (-2 to $+2$) window used to justify the abnormal returns hypothesis (H_1), four firms experienced contemporaneous events. Fifteen firms from the original sample experienced potentially confounding events within the 21-day (-10 to $+10$) event window used in the multiple regression analysis (H_3–H_7). In both cases, the control for these confounding events was elimination of these firms from the subsequent analysis. Table 2 provides results for individual days and event windows of interest from the original study in comparison to the analysis of two samples (21-day and five-day), which screened potentially confounding announcements.

Table 1
Potentially confounding events in Cornwell et al. (2005) sample.

Company	Sponsorship announcement	Confounding event[a]	Confound date
AT&T	11/4/1992	*AT&T announces strategic alliance to acquire stake in cellular provider.*	11/9/1992
AutoNation	7/14/1999	*AutoNation announces takeover of auto dealerships.*	7/9/1999
Bally's Total Fitness	8/12/1999	*Bally's Total Fitness announces 44% increase in earnings.*	8/3/1999
Bausch & Lomb	10/23/1992	*Bausch & Lomb announces sales were up 16%.*	10/14/1992
Bayer	7/16/2003	*Bayer announces 13% profit increase.*	7/25/2003
Cendant	2/9/1999	*Cendant announces earnings beat analyst expectations.*	2/10/1999
Deere & Co.	2/10/2003	*Deere & Co. announces better than expected profits.*	2/11/2003
Dell	10/29/2002	*Dell forms partnership to manufacture data storage product.*	10/28/2002
Delta Airlines	4/2/1992	*Analyst cut earnings estimates.*	3/26/1992
Fleet Financial	4/12/1999	*Fleet Financial announces 36% rise in earnings.*	4/15/1999
General Motors	10/7/2001	*Hughes Electronics Co. (GM subsidiary) announces lower earnings and net loss.*	10/17/2001
GlaxoSmithKline	7/16/2003	*GSK announces they beat profit expectations.*	7/24/2003
IBM	1/9/1992	*IBM announces earnings declined and a $2.8 billion loss.*	1/17/1992
Motorola	4/12/1999	*Motorola announces they beat earnings estimates.*	4/19/1999
Quaker Oats	12/11/2000	*PepsiCo Inc. announces acquisition of Quaker Oats.*	12/10/2000
Time Warner	1/22/2002	*Time Warner reports 14% increase in earnings.*	1/30/2002

[a] All identified potentially confounding events occurred within largest event window reported in original study ($-10, +10$).

For the 37 firms that remained following exclusion of confounding events within the 21-day event window, these significant results appear ($z=2.61$, $p<.01$) for the day of the sponsorship announcement ($t=0$) with an average abnormal return of 1.10%, and a second significant result on day $t=+2$ ($z=1.97$, $p<.05$) with an average abnormal return of 0.81%. The simple fraction of firms reporting increases in stock price is also significant for the announcement date ($z=2.90$, $p<.01$), indicating that the results of the sample z-test were not overly influenced by a small number of outlier firms (McWilliams & Siegel, 1997).

For the 49 firms that remained in the sample following exclusion of confounds within a five-day event window surrounding the announcement date, the study again finds a significant result for day $t=+2$ ($z=2.45$, $p<.05$) with an average abnormal return of 0.80%. Each of these findings is contrary to the original study results, in which investigators found no significant result for the event day or any of the days immediately preceding or following the event day. Thus, even though the deletion of firms from the original sample reduced sample size and statistical power, elimination of those firms with confounding events strengthened support for the hypothesis that official sponsorship of major sports results in positive abnormal returns.

6. Extension: initial sponsorship announcements

Cornwell et al.'s (2005) study makes no distinction between announcements of newly agreed upon marketing partnerships and renewals of pre-existing agreements. Given that the event study method is predicated on measuring the impact of new information upon the market, investigators have reason to expect that abnormal returns will be more strongly favorable for announcements involving a new marketing partnership between a sponsor and property. By

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Table 2
Comparison of mean and cumulative abnormal returns, Cornwell et al. (2005) vs. replication studies.

Event day	Cornwell et al. (2005) original study results[a]			Cornwell et al. (2005) replication minus confounds ±10 days			Cornwell et al. (2005) replication minus confounds ±2 days		
	Mean abnormal returns	Sample *z* (*Traditional*)	n+/n−	Mean abnormal returns	Sample *z* (*Bootstrap*)	n+/n−	Mean abnormal returns	Sample *z* (*Bootstrap*)	n+/n−
−5	0.31%	0.78	27:24	0.38%	0.57	20:17	0.24%	0.43	25:24
−4	−0.12%	−0.20	26:27	−0.04%	0.38	20:17	−0.16%	−0.38	23:26
−3	−0.19%	−0.02	25:28	−0.32%	−0.29	18:19	−0.15%	0.24	23:26
−2	0.09%	1.03	29:24	0.05%	0.71	19:18	0.12%	1.11	28:21
−1	0.36%	−0.05	31:22	0.12%	−0.56	18:19	−0.01%	−1.08	25:24
0	0.28%	1.11	27:26	1.10%	***2.66***	27:10	0.55%	*1.67*	25:24
+1	−0.07%	0.91	28:25	−0.11%	0.11	18:19	−0.13%	0.61	25:24
+2	0.44%	1.03	32:21	0.38%	0.87	22:15	0.53%	*1.64*	29:20
+3	−0.87%	−1.16	20:33	−1.22%	−1.54	15:22	−0.81%	−0.84	19:30
+4	−0.21%	−1.33	**14:39**	−0.26%	**−1.66**	10:17	−0.32%	*−1.64*	**11:38**
+5	0.51%	1.89	**33:20**	0.63%	0.76	23:14	0.49%	*2.04*	29:20
Event interval	**Cumulative abnormal returns**	**Sample *z* (*Traditional*)**	**n+/n−**	**Cumulative abnormal returns**	**Sample *z* (*Bootstrap*)**	**n+/n−**	**Cumulative abnormal returns**	**Sample *z* (*Bootstrap*)**	**n+/n−**
−1 to +1	0.58%	1.26	29:24	1.07%	1.175	20:17	0.41%	0.70	25:24
−2 to +2	1.11%	**2.32**	27:26	1.91%	*1.68*	20:17	1.06%	*1.75*	23:26
−5 to +5	0.53%	1.73	34:19	1.56%	1.167	22:15	0.35%	1.05	28:21
0 to +2	n/a	n/a	n/a	1.00%	**2.10**	*23:14*	0.95%	**2.26**	*30:19*

Italics = α<0.10; **bold** = α<0.05; **underlined** = α<0.01; and all sig. tests are two-tail tests.
[a] Cornwell et al. (2005) results drawn from Tables 2 and 3 in their study.

comparison, in many cases, the marketplace receives relatively little new information when the sponsorship announcement involves an extension of a relationship that is already in place. That is, much of this information is often already part of the firm's stock price. As a result, the inclusion of renewals in the sample of official sponsorship announcements is likely to understate the effects of this type of marketing investment on shareholder wealth.

Of course, some sponsorship renewals actually represent an expansion of the relationship with the potential for enlarged benefits to the sponsor firm. However, press releases do not always communicate this information effectively, and many investors may fail to recognize the announcement as containing new information. This study investigates this matter empirically by developing a comprehensive sample of official sponsorship announcements and testing the extent of abnormal returns for separate panels of initial and renewal agreements.

6.1. Methods—Study 1 (initial official product announcements)

Announcements of official sponsorship agreements for the NFL, the NBA, MLB, the NHL, the PGA, and NASCAR made subsequent to the first announcement date identified in Cornwall, Pruitt, and Clark (2005) were identified using Lexis-Nexis, corporate and league websites, and other online sources. Consistent with the original study and the six league offices, this study defines official sponsors as those companies or corporate brands that have compensated the leagues for the exclusive rights to claim that they are the official product of that league. The sample did not include title or event sponsorships. As recommended by Brown and Warner (1985), the sample scrutinized all sources to identify the date of the very first communication. In keeping with the findings of the replication study detailed earlier, this study cross-checked all data points to identify any significant confounding announcements made by the sponsoring firms. In addition, the study coded each announcement in terms of an announcement of a new marketing partnership or a renewal of an existing one. The University of Chicago's Center for Research in Security Prices (CRSP) data tapes provided the stock data analyzed in the study. A complete list of all identified official announcements and dates is freely available at www.university.edu/~gdeitz/public.

The Scholes–Williams standardized cross-sectional market model (Cowan, 2000; Scholes & Williams, 1977) tested for changes in stock prices associated with the sponsorship announcement and was estimated over event days t = −275 to −26. The Scholes–Williams approach eliminates the problems associated with nonsynchronous trading that sometimes occurs in event-based studies with firms of widely varying market values. The study analyzed a 51-day event window beginning 25 trading days prior to and ending 25 trading days following each announcement for evidence of stock price changes. The stock market proxy was the CRSP value-weighted index of all stocks. The EVENTUS program developed by Cowan Research, LLC performed all statistical calculations.

6.2. Empirical results—Study 1 (initial official sponsorship announcements)

Table 3 presents a summary of the mean abnormal returns and their associated parametric test statistics (traditional and bootstrap) for initial official sponsorship announcements. In addition, nonparametric tests reflecting the fraction of firms registering positive abnormal returns as well as the rank test-statistic also appear. Results for the overall sample for the 10 days surrounding the event reveal a significant test associated with t = +1 (z = 2.99, p<.01) with a mean abnormal return of 0.38%. In terms of nonparametric statistics, the simple fraction of firms reporting increases in stock prices day t + 1 is highly significant (α<.01) as is the rank test (z = 2.72, p<.01). Thus, contrary to Cornwell et al.'s (2005) findings, a strong and robust shareholder wealth effect is associated with the day of the initial announcement. Several event intervals including the announcement date are also significant at either the (α<.01) or (α<.05) levels, with cumulative abnormal shareholder returns averaging between 0.64% and 2.21%.

This study next divides the initial sponsorship data into separate panels of initial official product sponsorship announcement dates by league and conducts corresponding event study analyses. Based upon these results, the abnormal returns associated with initial announcements apparently result largely from the MLB, NHL and PGA announcements. In particular, the market seems to view the MLB

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Table 3
Mean abnormal return levels and the percentage of firms registering positive abnormal returns, full sample of 112 initial official sponsorship announcements.

Event day	Mean abnormal return	Parametric test statistics				Nonparametric test statistics		
		Traditional		Bootstrapped		n+/n−	Rank test	*p*-Value
		Sample *z*	*p*-Value	Sample *z*	*p*-Value			
−5	−0.27%	**−2.40**	0.02	−2.41	0.18	*44:68*	*−1.71*	*0.09*
−4	0.12%	1.26	0.21	1.27	0.27	59:53	1.08	0.28
−3	0.20%	1.50	0.13	1.50	0.22	60:52	0.89	0.37
−2	0.00%	0.54	0.59	0.54	0.65	55:57	0.35	0.74
−1	0.06%	0.13	0.90	0.13	0.86	57:55	−0.01	1.00
0	0.26%	*1.90*	*0.06*	1.90	0.11	60:52	1.61	0.11
1	**0.38%**	**2.99**	<0.01	**3.01**	0.01	**68:44**	**2.72**	<0.01
2	0.03%	−0.37	0.71	−0.37	0.69	48:64	−0.69	0.49
3	−0.44%	−1.00	0.32	−1.01	0.27	48:64	−1.57	0.12
4	−0.02%	0.36	0.72	−0.36	0.75	51:61	−0.91	0.37
5	0.26%	1.39	0.16	1.39	0.25	60:51	1.00	0.32
Event interval	Mean abnormal return	Traditional		Bootstrapped		n+/n−	Rank test	*p*-Value
		Sample *z*	*p*-Value	Sample *z*	*p*-Value			
0 to +1	0.64%	**3.45**	<0.01	**3.45**	<0.01	*67:45*	**3.06**	<0.01
−1 to +1	0.70%	**2.90**	<0.01	**2.90**	0.03	*65:47*	**2.49**	0.01
−2 to +2	0.73%	**2.32**	0.02	**2.32**	0.03	58:54	*1.78*	*0.08*
−5 to +5	0.58%	*1.65*	*0.10*	*1.65*	*0.09*	*65:47*	0.84	0.40
−10 to +10	2.21%	**2.37**	0.02	**2.37**	0.01	**72:40**	1.30	0.19
+2 to +10	0.62%	0.89	0.55	0.59	0.48	56:56	−0.15	0.88
+2 to +25	0.69%	1.12	0.26	1.12	0.26	62:50	0.10	0.92

Italics = α<0.10; **bold** = α<0.05; and **underlined** = α<0.01.
All sig. tests are two-tail tests.

and NHL announcements as attractive investments based upon average increases in shareholder wealth of between 2.25% and 3.25% for several event windows of interest for sponsors of these entities. Table 4 presents full results of this analysis.

To assess whether renewal announcements added new information to the market and received favorable response, a final event study investigated a set of 58 official product announcement renewals. With the exception of a positive event day t = −2 (z = 2.32, p<.05; mean abnormal

Table 4
Mean cumulative abnormal return levels and the percentage of firms registering positive abnormal returns over select event intervals for initial official sponsorship announcements by sport.

Event interval	Sample size	Mean cumulative abnormal return	Bootstrap		n+/n−	Rank test
			Sample *z*	*p*-Value		
Panel A: Major League Baseball (MLB)						
−1 to +1	14	2.55%	**2.43**	0.02	9:5	**2.26**
−2 to +2	14	3.34%	**2.85**	<0.01	9:5	**2.72**
−5 to +5	14	3.28%	1.52	0.17	9:5	*1.72*
0 to +1	14	3.16%	**3.14**	<0.01	9:5	**2.92**
Panel B: National Basketball Association (NBA)						
−1 to +1	17	−0.35%	0.05	0.99	9:8	−0.14
−2 to +2	17	0.25%	0.36	0.71	8:9	0.06
−5 to +5	17	1.37%	1.25	0.16	*12:5*	0.77
0 to +1	17	−0.76%	0.02	0.98	8:9	−0.29
Panel C: National Football League (NFL)						
−1 to +1	23	−0.61%	0.22	0.67	8:15	−0.42
−2 to +2	23	−0.76%	0.05	0.85	9:14	−0.30
−5 to +5	23	−0.72%	0.41	0.54	10:13	−0.06
0 to +1	23	−0.72%	1.64	0.32	13:10	0.70
Panel D: National Hockey League (NHL)						
−1 to +1	19	2.37%	**2.75**	<0.01	**14:5**	**2.83**
−2 to +2	19	2.23%	**1.73**	<0.01	13:6	*1.93*
−5 to +5	19	0.78%	0.36	0.63		−0.25
0 to +1	19	1.48%	**2.21**	<0.01	**15:4**	**2.82**
Panel E: NASCAR						
−1 to +1	25	−0.06%	0.18	0.84	14:11	0.03
−2 to +2	25	−0.42%	−0.34	0.57	11:14	−0.69
−5 to +5	25	−0.48%	−0.46	0.70	13:12	−0.50
0 to +1	25	−0.02%	0.41	0.51	12:13	0.31
Panel F: Professional Golfer's Association (PGA)						
−1 to +1	13	1.17%	**1.63**	0.02	*10:3*	*1.88*
−2 to +2	13	1.08%	1.50	0.14	7:6	1.13
−5 to +5	13	0.62%	1.38	0.12	8:5	0.65
0 to +1	13	0.86%	1.12	0.25	8:5	1.26

Italics = α<0.10; **bold** = α<0.05; **underlined** = α<0.01; and all sig. tests are two-tail tests.

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return of 0.75%), no significant dates appeared in the week of trading prior to and following the announcement. No event interval including the announcement date was significant. This study did find, however, that the event interval (−2, −1) was marginally significant (z = 1.96, p = .06), indicative of a leak to the market of information regarding renewal announcements prior to the actual announcement date. Notwithstanding this possibility, the results provided in Table 5 clearly demonstrate that the effects of renewal announcements are much weaker in comparison to the initial official product sponsorship announcements.

6.3. Study 2: 1996 Atlanta Olympic sponsorships

A second category of sponsorship is the Olympic Games. The premier sports competition for many enthusiasts, this quadrennial event remains one of the most lucrative sport properties, garnering a sizable global television audience. Despite criticisms of over-commercialism and repeated political controversies associated with the games, the Olympics enjoys positive perception among consumers, and draws corporate executives to enhance global recognition and increase revenue (Turner, 1994). Survey research shows that consumers view an Olympic sponsor as the best firm in the sponsor's industry, indicating that such sponsorships have image-enhancing value for firms. On the other hand, Meenaghan (1996) noted possible inflation of expectations of increased exposure due to rivals' ambush marketing efforts. Despite consumer assertions that they are more likely to patronize Olympic sponsor brands, studies consistently reveal that awareness is comparatively low (e.g., Adweek, 1994; Knight, 1995). Thus, the question of whether Olympic sponsorship is an economically sound marketing strategy remains a point of contention.

Two marketing studies reach opposing conclusions in examining shareholder wealth effects associated with sponsorship of the 1996 Atlanta Olympics (Farrell & Frame, 1997; Miyazaki & Morgan, 2001). Based on the lack of a significant negative returns associated with the cumulative event windows they examined, combined with the presence of a significant positive result for the (−4, 0) event window, Miyazaki and Morgan (2001) conclude that the market sees the acquisition of Olympic sponsorships as producing neutral discounted cash flows at worst, and positive discounted cash flows at best. Applying a similar research design, Farrell and Frame (1997) find negative abnormal returns ($\alpha < .10$) two days following the announcement and positive returns four days prior. Given this result, these authors analyzed cumulative abnormal returns associated with 11-day (−5, +5) and 3-day (0, +2) event windows that included those dates. Based upon finding a significant negative return for the three-day window and a null result for the 11-day window, Farrell and Frame's (1997) conclusion is that investors see such investments as poor investments, consistent with an agency–cost explanation of corporate practices. Neither study reported non-parametric test results. Therefore, the influence of outlying cases is uncertain on any result reported in either study.

6.4. Methods—Study 2 (1996 Olympic announcements 2)

Only names of sponsor firms appeared in the Miyazaki and Morgan (2001) paper, but this study cross-checked firm announcement dates reported in Farrell and Frame (1997) using Lexis-Nexis and other online sources. Neither of these papers explicitly mentions screening for confounding events that coincided with the event windows they investigated. Thirty-nine different organizations participated as official sponsors of the 1996 Olympics, with firms categorized into three incrementally exclusive classes of sponsors. Of these Atlanta Olympics sponsors, this study identifies 30 as firms publicly traded on U.S. stock exchanges at that time. Multiple analyses eliminated firms from the sample if reports of a potentially confounding event coincided with an event window reported upon in either study. Further, to account for difference in selected estimation periods and market model indices, a test of the robustness of this study's results used alternative specifications of the estimation period and market model (i.e., equally weighted versus value weighted CRSP index).

6.5. Empirical results—Study 2 (1996 Olympic sponsorship)

Using the 120-day estimation period (t = −125 to t = −6) that Miyazaki and Morgan used, this study calculated abnormal returns for the 27 firms for which no confounding event was reported within the five-day window (−4, 0). While event day t = −4 remained significant in this study's analysis (z = 1.98, p < .05), the only significant result for an event windows that included the day of the announcement was a negative test statistic for event windows (0, +2; z = −2.12, p < .05). Using the 240-day estimation period (t = −250 to t = −10) that Farrell and Frame (1997) employed, the study calculated abnormal

Table 5
Mean abnormal return levels and the percentage of firms registering positive abnormal returns, full sample of 58 official product sponsorship renewal announcements.

Event day	Mean abnormal return	Parametric test statistics				Nonparametric test statistics		
		Traditional		Bootstrapped		n+/n−	Rank test	*p*-Value
		Sample *z*	*p*-Value	Sample *z*	*p*-Value			
−5	0.48%	1.49	0.14	1.50	0.13	26:32	0.30	0.77
−4	−0.13%	−0.65	0.54	−0.63	0.51	26:32	−0.58	0.56
−3	0.36%	−0.75	0.45	−0.76	0.45	25:33	−0.59	0.55
−2	0.75%	**2.36**	0.02	**2.38**	0.02	34:24	*1.71*	0.09
−1	0.13%	0.41	0.69	0.41	0.68	30:28	0.60	0.55
0	−0.34%	−0.28	0.78	−0.28	0.78	27:31	−0.66	0.51
1	0.44%	−0.12	0.91	−0.12	1.00	23:35	−1.02	0.31
2	−0.01%	0.14	0.89	0.14	0.87	29:29	−0.19	0.85
3	−0.30%	−0.38	0.71	−0.38	0.74	28:30	−0.52	0.60
4	−0.05%	−0.48	0.63	−0.45	0.68	27:31	−0.68	0.50
5	−0.09%	−0.51	0.61	−0.52	0.65	25:33	−0.86	0.39
Event interval	Mean abnormal return	Traditional		Bootstrapped		n+/n−	Rank test	*p*-Value
		Sample *z*	*p*-Value	Sample *z*	*p*-Value			
−1 to +1	0.22%	0.02	0.99	0.02	0.98	27:31	−0.63	0.53
−2 to +2	0.97%	1.14	0.25	1.13	0.22	28:30	0.20	0.84
−5 to +5	0.52%	0.39	0.70	0.39	0.65	32:26	−0.75	0.45
−2 to −1	0.87%	**1.98**	0.05	*1.98*	0.06	30:28	*1.64*	0.10

Italics = $\alpha < 0.10$; **bold** = $\alpha < 0.05$; and **underlined** = $\alpha < 0.01$.
All sig. tests are two-tail tests.

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Table 6
Replication of Olympic sponsorship studies, effects of eliminating potential confounding events.

Event interval	Miyazaki and Morgan (2001) results		Replication results minus confounds in (−4, 0) event interval			
	Cumulative avg. abnormal return	t-Statistic	Cumulative avg. abnormal return	t-Statistic	n+/n−	Rank test
−1 to +1	−0.04%	−0.07	−0.64%	−1.67	*8:19*	**−2.07**
−1 to +2	−0.51%	−0.87	−0.96%	−1.44	9:18	**−1.99**
−4 to 0	1.24%	**2.10**	0.37%	0.65	14:13	0.52
−3 to 0	0.89%	*1.52*	−0.25%	−0.29	11:16	−0.29
0 to +1	n/a	n/a	−0.60%	*−1.89*	**7:20**	**−2.26**
0 to +2	n/a	n/a	−0.93%	**−2.12**	9:18	**−2.08**
Event day/interval	**Farrell and Frame (1997) results**		**Replication results minus confounds in (0, +2) event interval**			
	Cumulative avg. abnormal return	*z*-Statistic	Cumulative avg. abnormal return	*z*-Statistic	n+/n−	Rank test
−4	0.43%	**2.17**	0.62%	**2.06**	*19:10*	1.59
+1	−0.33%	*1.67*	−0.30%	*−1.65*	*9:20*	**−2.26**
+2	−0.43%	**2.18**	−0.37%	−1.33	13:16	−0.49
0 to +2	−0.43%	**2.20**	−0.90%	**−2.10**	*9:20*	*−1.90*
−5 to +5	−0.19%	−0.96	0.05%	−0.37	15:14	−0.45

Italics = α<0.10 and **bold** = α<0.05.
All sig. tests are two-tail tests.

returns for 29 firms, eliminating only one firm which had a potentially confounding event on the same day of the sponsorship announcement. A significant positive return again appears for event day t = −4 (z = 2.06, p<.05) with a cumulative abnormal return of 0.62%. But contrary to Farrell and Frame's (1997) findings, no significant negative abnormal returns are associated with event days t = +1 and t = +2. In evaluating event windows, however, this study found significant negative test statistics for the interval (0, +2) for both the parametric sample-z (z = −2.10, p<.05) and non-parametric rank test (z = −1.90, p = .06) tests, with an average cumulative loss of 0.90% of shareholder wealth.

Based on this re-examination of the data with alternative research designs, the study finds that the elimination of three firms with contemporaneous confounding events from the sample materially affected Miyazaki and Morgan's (2001) results, greatly weakening support for their claim that Olympic sponsorship announcements are a neutral to favorable event for firm shareholders. In fact, quite the opposite appears to be the case—examination of small event windows immediately following announcements of 1996 Olympic sponsorships were associated with a loss of shareholder wealth of nearly a percentage point. Notably, while these conclusions regarding the effects of Olympic announcements are similar to those of Farrell and Frame's, the design used in this study led to identification of an additional four firm announcement dates and elimination of one of the announcements used in their study due to the presence of a same-day confounding event. Not surprisingly for a sample of this relatively small size, these differences in the makeup of the sample result in several key differences in test results. Specifically: no significant (α<.05) abnormal return associated with any of the 11 individual days (−5 to +5) surrounding the event; and the cumulative abnormal returns found for the event window (0, +2) were more than double that found by Farrell and Frame (1997). Table 6 provides results for the re-examination of the 1996 Olympic sponsorship announcements.

In addition, this study goes one step beyond the original studies to analyze shareholder wealth effects associated with different levels of Olympic sponsorship. For the 1996 Atlanta games, three levels exist: official sponsors, centennial sponsors, and global sponsors. Global sponsors of the International Olympic Committee (IOC) are members of The Olympic Partner (TOP) program. TOP III (the 1996 Atlanta Olympics iteration of the program) marketing partners paid significantly more than those at the centennial and official sponsor level and in return received more elite marketing rights, including exclusive use of the Olympic rings logo. By examining sponsors at all three levels within a single event study analysis, the authors of the previous study made the implicit assumption that the market viewed all Olympic sponsorships in an identical manner. This study tested this assumption empirically, by running a panel of event studies for each category of sponsor. Based upon this output, the market reacted most strongly, and in a decidedly negative fashion, to the 1996 Atlanta TOP program sponsorships. Table 7 presents full panel results.

7. Discussion

This study replicates, extends and presents empirical tests of major-league sports official product sponsorship and Olympic sponsorship announcements on stock prices of sponsoring firms. For the replication and extension of the previous study (Cornwell et al., 2005) on major-league sports official product sponsorship, the study obtained announcement dates from the paper, and gathered additional announcements from the previously studied leagues (MLB, NHL, NBA, NFL, and PGA), augmented with announcements from another popular sports league, NASCAR. The results of the study suggest that shareholders favorably view official major-league sports product sponsorships. However, in re-examining shareholder reaction to official sponsorship of the 1996 Olympic Games (Farrell & Frame, 1997; Miyazaki & Morgan, 2001), this study finds that shareholders may not value sponsorship of Olympic Games in a positive light.

In Cornwell et al.'s (2005) examination of official product sponsorship announcements, investigators found no significant positive abnormal return to sponsoring firms on the announcement date (t = 0) as hypothesized. By applying the suggested recommendations of McWilliams and Siegel (1997), and eliminating those events that could potentially confound returns to shareholder wealth, and re-examining by applying the same methodology employed by the authors, this study found that official product sponsorship announcements are rewarded with positive abnormal returns on the date of the announcement (Bootstrap z = 2.66, mean abnormal return = 1.10%), and during the event window of 0 to +2 days (Bootstrap z = 2.10, mean abnormal return = 1.00%). This suggests that shareholders recognize a value in official major league sponsorship announcements, and reward them with positive abnormal returns to shareholder value. This finding could provide valuable insight for sponsorship managers who are seeking to make official sports sponsorships a part of their marketing communications strategy.

Table 3 presents a summary of the mean abnormal returns for the expanded sample of 112 initial official major league announcements. These announcements represent first-time sponsorship agreements between the sponsoring firm and their respective leagues. Results suggest that shareholders value these types of sponsorships with

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Table 7
Mean cumulative abnormal return levels and the percentage of firms registering positive abnormal returns over select event intervals for 1996 Olympics by sponsorship level.

Event interval	Sample size	Mean cumulative abnormal return	Sample *z*	*p*-Value	n+/n−	Rank test
Panel A: Official sponsors						
−1 to +1	14	−0.25%	−0.66	0.51	5:9	−0.96
−2 to +2	14	−0.58%	−0.89	0.37	8:6	−0.73
−5 to +5	14	0.34%	−0.14	0.89	7:7	0.57
0 to +1	14	−0.07%	−0.45	0.66	4:10	−0.75
0 to +2	14	−0.73%	−1.37	0.17	6:8	−1.14
−4 to 0	14	0.48%	0.55	0.58	7:7	0.43
Panel B: Centennial sponsors						
−1 to +1	8	−0.03%	−0.01	0.99	4:4	0.28
−2 to +2	8	−0.69%	−0.71	0.48	3:5	−0.14
−5 to +5	8	−0.84%	−0.66	0.51	4:4	−0.16
0 to +1	8	−0.07%	0.04	0.97	4:4	−0.11
0 to +2	8	−0.57%	−0.54	0.62	3:5	0.30
−4 to 0	8	1.14%	−0.91	0.36	6:2	*1.77*
Panel C: The Olympic Partner (TOP) program sponsors						
−1 to +1	6	−2.13%	**−2.42**	0.02	**0:6**	**−2.51**
−2 to +2	6	−1.55%	−1.31	0.19	2:4	−1.30
−5 to +5	6	−1.64%	−1.01	0.31	2:4	−0.90
0 to +1	6	−1.70%	**−2.28**	0.02	**0:6**	**−2.15**
0 to +2	6	−1.26%	*−1.29*	0.20	2:4	−1.11
−4 to 0	6	−2.34%	*−1.84*	0.07	1:5	**−2.03**

Italics = α<0.10 and **bold** = α<0.05.
All sig. tests are two-tail tests.

significant positive abnormal returns for the day after the announcement (Bootstrap z = 3.01, p = 0.01, mean abnormal return of 0.38%), while the day of the announcement produced positive abnormal returns that approached significance (Bootstrap z = 1.90, p = 0.11, mean abnormal return of 0.26%). Additionally, event windows of 0 to +1, −1 to +1, −2 to +2, and −10 to +10 all produced positive, significant mean abnormal returns, indicating further support that shareholders value initial official major league sports sponsorship agreements. A further examination of these initial sponsorship announcements by league indicates that investments in the NHL and MLB provide the strongest returns to shareholder wealth for sponsoring firms. This could be due in part to the fact that the NHL teams play 82 games a year and MLB teams play 162 games a year versus 16 games for the NFL, and NASCAR has 36 events during the season. Marketing practitioners should take note of these results and seek to invest in sponsorships that not only can provide a clear marketing communications strategy to the consumer, but should also seek to invest in sponsorships that could potentially provide more immediate financial rewards to shareholders.

To further examine the influence of the context of the sponsorship announcement on the response of shareholders, this study examined official announcements in the renewal context; results appear in Table 5. Results clearly indicate that shareholders do not view renewal announcements as favorably as initial announcements, as indicated by a non-significant negative abnormal return (z = −0.28, p = 0.78, mean abnormal return = −.034%) on the day of the announcement. However, the event window of −2 to −1 produced a positive abnormal return (z = 1.98, p = .05, mean abnormal return = 0.87%) indicating potential leakage of information prior to the announcement. Additionally, the non-significance on the announcement date suggests that shareholders may not place as great a value on existing sponsorship relationships as they do new sponsorship agreements. This topic warrants further investigation.

Results of the replication of the two studies examining the 1996 Olympic Games (Farrell & Frame, 1997; Miyazaki & Morgan, 2001) appear in Tables 6 and 7. Unlike the conclusion of Miyazaki and Morgan (2001) that Olympic sponsorship could be viewed as a neutral to positive event for shareholders, this study finds that these sponsorships are almost universally negative, with the exception of the individual date of t = −4, and the event window of t = −4 to 0. These results may indicate a leakage of information prior to official announcements. Further, an examination of the different levels of Olympic sponsorship finds that those sponsors who invested in the highest level of Olympic sponsorship, The Olympic Partner program (TOP), experienced the greatest losses to shareholder value. Potential reasons for this shareholder reaction are that Olympic sponsorships are expensive and infrequent. TOP participants paid $40 million for sponsorships during the 1996 Olympic Games, and for an event as infrequent as the Olympics, shareholders could view the investment as a poor expenditure of marketing funds.

By applying the suggested event-study guidelines advised by McWilliams and Siegel (1997) this study achieved results that were previously masked by confounding events surrounding the sponsorship announcement dates taken from the studies replicated here. Results of this study signify that shareholders do indeed value and reward firms that invest in official major league sports sponsorships while viewing investments in Olympic sponsorships as a poor investment. This shows that not all sponsorships are equal, and that a careful examination of the context of a sponsorship investment is critical.

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