

The Relationship Between Major-League Sports' Official Sponsorship Announcements and the Stock Prices of Sponsoring Firms

T. Bettina Cornwell

University of Queensland, Australia

Stephen W. Pruitt

University of Missouri at Kansas City

John M. Clark

University of Southern Mississippi

This study presents analysis of the impact of "official product" sports sponsorships with the National Football League (NFL), Major League Baseball (MLB), the National Hockey League (NHL), the National Basketball Association (NBA), and the Professional Golfers Association (PGA) on the stock prices of sponsoring firms. The primary finding of the study is that, in the main, announcements were accompanied by increases in shareholder wealth. The 53 sponsors analyzed experienced mean increases in stock valuations of about \$257 million. A multiple regression analysis of firm-specific stock price changes and selected corporate and sponsorship attributes indicates that official product sponsorships with the NBA, NHL, and PGA and those with smaller market shares were associated with the largest gains in share prices. Although corporate cash flow (a proxy for agency conflicts) is statistically unrelated to shareholder approval, sponsorships by high-technology companies were associated with stronger stock price reactions than otherwise. Finally, product congruence with the sponsored sport was positively related to changes in stock prices.

Keywords: *official; sponsorship; event study; stock prices; major-league sports*

The area of marketing communications has experienced a quiet, yet significant transformation during the past two decades. Some scholars have gone so far as to foretell the death of "traditional" advertising techniques at the hands of recent technological developments and widespread media fragmentation (Rust and Oliver 1994). Leading the way toward these changes have been the so-called nontraditional promotional techniques such as sponsorship-linked marketing.

Although alternative definitions exist, Cornwell's (1995) discussion of sponsorship-linked marketing as "the orchestration and implementation of marketing activities for the purpose of building and communicating an association to a sponsorship" encompasses the ultimate goal of most corporate sponsorship activities, particularly those involving major-league sports. Thus, the transformation of marketing communications through the use of major sponsorship programs has mandated significant changes in many aspects of traditional advertising, including content, media choice and placement, and the overall pattern of spending at many firms. Needless to say, many of these

specialized campaigns are also thematically tied to specific aspects of the sponsored events.

Although a considerable literature has developed in tandem with the growth of sponsorship-linked marketing in practice, the preponderance of this research has considered only the main or title sponsorship relationship, either implicitly (e.g., Johar and Pham 1999) or explicitly (e.g., Clark, Cornwell, and Pruitt 2002). Only recently has significant attention been paid to the influence of multiple sponsorships (Ruth and Simonin 2003) or to sponsorship portfolios (Cliffe and Motion 2005). To date, no study has specifically investigated issues related to the long-standing and popular sponsorship-linked designation of "official product."

Official product sponsorships (including official service products) can be compared to main or title sponsorships in a number of ways. First, although specific sponsorship contract amounts are typically unavailable, official product sponsorships can be as expensive in absolute terms as are title sponsorships. For example, in 2003, Nextel secured the title sponsorship of the NASCAR Nextel Cup Series for an estimated \$600 to \$750 million rights fee payment over 10 years. As a point of comparison, Gatorade (now a PepsiCo brand) paid the National Football League (NFL) approximately \$500 million over eight seasons to become "the official sports beverage of the NFL" (Markiewicz 2004). Second, like other forms of sponsorship, official sponsorships must be leveraged by collateral advertising and sales promotions. Lastly, official product sponsorships, like large-scale event sponsorships, offer national coverage, which is important for marketers seeking media exposure that parallels their national product distribution channels.

On the other hand, official product sponsorships differ in important ways from other forms of sponsorship. First, official product sponsorships are, by definition, tied more closely to product usage than are title sponsorships. Indeed, such official sponsorships are in practice often observed to be closely tied to individual events, series, or tours where the product might be used or demonstrated. Second, although all sponsorships may be financed via the bartering of products in return for recognition and sponsorship rights, the fact that official product sponsorships are almost always financed in this way, at least in part, presents unique opportunities to demonstrate the potential benefits of the product. For example, Gatorade's "official sports beverage of the NFL" sponsorship includes \$45 million annually in rights fees, \$16 million in guaranteed advertising, and \$1.2 million in free products, including Gatorade coolers and the ubiquitous Gatorade drinking cups seen on every sideline (Reuters News 2002). Finally, official product sponsorships may offer a unique, commercial grassroots support image (Schlosser 1995) and

hospitality opportunities that are strategically important with the trade (Business Wire 1998).

The purpose of this study is to quantitatively analyze the net economic value of major-league sports official product sponsorships via an examination of the stock prices of sponsoring companies around the time of initial announcement. Given that official sponsorship rights fees represent sizable investments averaging about 1 percent of total product sales for major sponsors (Pickett 2004) and are, as well, one of the most important nontelevision revenue sources for major-league sports associations (Murphy 2004), it is difficult to overstate the significance of official sponsorships to the marketing landscape. The question asked and answered in this study is simple, but important: How does the stock market value major-league sports official product sponsorships?

THE HISTORY AND BENEFITS OF OFFICIAL SPONSORSHIPS

Although it is difficult to pinpoint the first use of the term *official sponsor*, the meaning and marketing importance we ascribe to the words today might be traced back to the 1984 Olympic Games held in Los Angeles. These games were the first Olympiad to be privately financed, and the resources to produce them were raised almost exclusively through sponsorship arrangements, with those corporations making clear financial commitments rewarded by being recognized as "official sponsors." Likewise, as the communications value of large events became clearer and the line was drawn between "official sponsors" and nonsponsors, the modern science—and art—of "ambushing" was born. Sandler and Shani (1989) described ambushing as the efforts of an organization to associate itself indirectly with an event in the hope of reaping essentially the same benefits as an official sponsor.

But corporate managers soon learned that one way to clearly delineate their products from those of ambushing competitors was via the "official product" designation. Agreements with league offices clearly mandated that there could be one and only one "official phone company" or "official beer." Not surprisingly, in return for this exclusivity, leagues demanded that the rights fees paid by companies rise considerably to reflect each product's monopoly position with the league. Today, the NFL receives approximately \$100 million each year in official sponsorship payments (Murphy 2004).

Independent of the rights fees paid by sponsoring companies, official sponsorships also play an important role in the communication of league events through consumer promotions and thematically tied advertising. Moreover, and perhaps recently of overshadowing importance,

official sponsors support media spending during prime event broadcasts and so-called shoulder programming prior to major sporting events (e.g., pregame shows). As an example, after National Car Rental became the "official car rental company" of the NFL, the company committed to a threefold increase in its yearly NFL media buy (Lefton 1999).

The objectives of official sponsorships are not unlike those given for sponsoring in general, including improving goodwill; enhancing image; increasing brand and corporate awareness; improving sales or profitability, hospitality, and employee relations (Cornwell and Maignan 1998). However, official sports league sponsorships may offer a number of distinct advantages over more generalized types of sponsorship activities, including long-term connections with a loyal audience, access to league fans via databases and e-mail links (Lefton 1999), and a more direct linkage between the sponsoring product and the lived experiences of the sponsored sport.

In addition, it is possible that some managers may seek to employ official product sponsorships to directly influence individual expectations by conveying relevant new information (signals) concerning the marketing activities of their firms. To the extent that consumer and investor perceptions of a brand may be enhanced via the signal of an official league sponsor designation, their perceptions of a given sponsor or brand may be swayed by the equity perceptions of the brand. This idea of brand equity's role in perceptions has already found empirical support in a study of consumers and their perceptions regarding sponsorship match (Roy and Cornwell 2003).

PREVIOUS RESULTS

Although the literature on sponsorships is extensive, to date, there have been no studies of official product sponsorship agreements for the five most prominent sporting associations in the United States (the NFL, Major League Baseball [MLB], the National Hockey League [NHL], the National Basketball Association [NBA], and the Professional Golfers Association [PGA]). Because the majority of the literature in this area is concerned with consumer reactions to sponsorships, and because investors make decisions based in part on their expectations of consumer responses to sponsorships, several issues important to consumers are also important in the current context.

One important concept in studies of consumer responses to sponsorship is the degree of "congruence" found in the relationship between the sponsor and the event (Cornwell, Weeks, and Roy 2005). Sponsors or products that are viewed as being closely related to the event being sponsored are argued to have a number of

advantages over unrelated sponsors. Specifically, Cornwell, Pruitt, and Van Ness (2001) showed that Indianapolis 500 race-winning sponsors with direct ties to the automotive industry experienced increases in stock prices almost 3 percent higher than the sponsors of unrelated products.

In addition, several studies of the wealth effects of official title sponsorship announcements have been conducted—albeit with mixed results. Mishra, Bobinski and Bhabra (1997) considered 76 national and international sponsorships that they grouped into three categories: sports (including arenas), Olympics, and miscellaneous (which included exhibits, charities, and concerts). The authors tested only one hypothesis regarding average abnormal returns and found a positive impact of sponsorship announcements.

Finally, Miyazaki and Morgan (2001) examined 27 sponsorship announcements of the 1996 Summer Olympics and reported statistically significant increases in stock prices. However, Farrell and Frame (1997) identified 26 sponsorship announcements from the same 1996 Olympics but found statistically significant and negative share price reactions. This difference in findings might be due to the slightly different samples used and perhaps to differing dates attributed to the announcements (Farrell and Frame supplied announcement dates but Miyazaki and Morgan did not).

RESEARCH HYPOTHESES

Although past event studies of sponsorship effects have produced mixed results, the weight of earlier research suggests that sponsorship is seen by the marketplace to be a good investment. Moreover, business behavior expressed in the growth of sponsorship-linked marketing programs during the past two decades suggests that firms find cost and communication advantages. Official product sponsorships have historically offered many of the advantages of title sponsorships, such as reaching a particular demographic: "Companies like to become 'official' product or service providers of NFL teams to promote their brands with the NFL's loyal fan base" (Briger 2003). At the same time these sponsorships have been viewed as more affordable than larger sponsorship deals (Emory 1996). These facts suggest the following testable hypothesis:

Hypothesis 1: Announcements of official product sponsorships for major league sports are positively associated with abnormal stock market returns.

A priori, there are no strong reasons to believe that firms sponsoring official products in one or another of the major-league sports studied here should exhibit greater

abnormal returns than another. Some have argued that "PGA rights fees have gotten extremely high, so much that the executives at the sponsoring companies are asking themselves, 'What's our return on this?'" (Foust and Grow 2002) Unfortunately, the value for money propositions of the various league offerings differ from year to year and from relationship to relationship; good coverage audience exposure via official product sponsorship for one brand in one category could differ from another. These facts suggest a second hypothesis:

Hypothesis 2: The abnormal stock market returns of firms announcing official product sponsorships will be positive for all major-league sports studied.

In addition to these central hypotheses, it is important to explain the cross-sectional variation of any abnormal returns by considering the impact of corporate and sponsorship-specific variables on the stock price responses registered by sponsors around the time of their sponsorship announcements. Several potential relationships of interest are discussed in the following sections.

The market value of equity reflects the effects of differences in corporate scale on sponsorship returns. Generally, *ceteris paribus*, for any given fixed level of sponsorship net present value (NPV), its percentage value (the value measured in abnormal return calculations) must necessarily decline as corporate size increases. Accordingly, the direction of the correlation between the shareholder wealth effects of the sponsorships and market value is expected to be negative. Thus,

Hypothesis 3: The abnormal stock market returns of firms announcing official product sponsorships will be negatively associated with market value of equity.

Cash flow within a firm is often considered a proxy of the potential for agency expropriations by managers within the sponsoring firms. As noted by Jensen and Meckling (1976), and, in the case of the marketing literature by Crimmins and Horn (1996) and Clark et al. (2002), agency conflicts exist whenever nonowner managers place their own welfare and preferences above the desires of shareholders in any decisions involving investments of corporate assets. Because sporting sponsorships obviously carry significant potential for top-level managers to indulge their personal proclivities for the company of professional athletes and sporting events (e.g., free Super Bowl tickets) at virtually no cost to themselves, the possibility for an agency-related motive to drive at least some sponsorship decisions cannot be summarily dismissed. Furthermore, to the extent that such possibilities do exist, they will, *a priori*, be more likely to occur in firms with higher levels of free corporate cash flows, because the ef-

fectiveness of shareholder monitoring of corporate expenses declines as cash flows rise (see, e.g., Weston, Siu, and Johnson, 2002). Therefore,

Hypothesis 4: The abnormal stock market returns of firms announcing official product sponsorships will be negatively associated with cash flow.

Now, we turn to a theory of perception that has not previously been investigated in the sponsorship literature. Product market share is defined here as the proportion of the market share of each product category held by the sponsoring product prior to the initiation of the official sponsorship. The reasoning for considering firm market share in the sponsorship context stems from Weber's Law (Miller 1962), which states that a stimulus change (in this case, the value of the new sponsorship commitment to a brand) needed to produce a noticeable difference (in marketing presence such as market share) is a constant proportion of the starting level of the stimulus. Thus, the additional value a brand may achieve by virtue of its designation as an official product and the overall market share of that brand may be inversely proportional. As Weber's Law implies, companies with truly dominant market positions may find that their sponsorships are less likely to be perceived as effective in raising awareness or substantially changing image than firms starting from a much lower base. Thus,

Hypothesis 5: The abnormal stock market returns of firms announcing official product sponsorships will be negatively associated with market share.

As mentioned previously, sponsors and products seen as linked or congruent with an event experience a number of advantages over those loosely or not at all aligned with the sport. Thus, in deference to the writings of McDaniel (1999), and Crimmins and Horn (1996), who suggested that the nature of the linkage or congruence between sponsor and event is an important determinant of sponsorship success, we argue that congruent sponsorships should be more positively received by investors than incongruent sponsorships.

Hypothesis 6: The abnormal stock market returns of firms announcing official product sponsorships will be positively associated with congruent sponsorships.

Lastly, the findings of Clark et al. (2002) suggest that not only may sports sponsorships lead to significantly increased visibility for some smaller, high-technology firms, but also that the relatively large, long-term, and fixed-rights payments associated with the typical major-league official sponsorship agreement might signal to in-

vestors strong managerial beliefs regarding expected future corporate profitability. Accordingly,

Hypothesis 7: The abnormal stock market returns of firms announcing official product sponsorships will be positively associated with designation as a high-tech firm.

It is to empirical tests of these various hypotheses and related questions that the remainder of this study is specifically addressed.

DATA AND EMPIRICAL METHOD

The initial official product sponsorship lists for MLB, the NBA, the NFL, the NHL, and the PGA analyzed in this study were drawn from the Web pages of each league during 2003 and 2004 (see Table 1). Official sponsors are defined—both for the purposes of this study and by the five league offices—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. No title or event sponsorships were included in the sample. The five leagues were selected for inclusion in the analysis because, with the exception of NASCAR automobile racing, they are the most popular professional spectator sports in the United States.

As recommended by Brown and Warner (1985), care was taken to determine the date of first communication of each sponsorship via searches of the Lexis-Nexis and Factiva databases. Although the dates listed in Table 1 are thought to represent the first announcement of each sponsorship, event windows of varying lengths around the announcements were also analyzed. All data points were cross-checked for any significant contemporaneous confounding announcements by the sponsoring firms. The stock data analyzed in the study were obtained from the University of Chicago's Center for Research in Security Prices (CRSP) data tapes. Only those sponsorships initiated between January 1, 1990 and December 31, 2003 were included in the analysis.

The Scholes-Williams standardized cross-sectional market model (Cowan Research 2000; Scholes and Williams 1977) was employed to test for changes in stock prices around the sponsorship announcements and was estimated over event days $t = -275$ to -26 , relative to the day $t = 0$ first day of trading date following each sponsorship announcement. The Scholes-Williams approach was developed to eliminate the problems associated with nonsynchronous trading that sometimes occurs in event-based studies with firms of widely varying market values (which, in this study, ranges from a low of \$56 million to a high of \$136 billion).¹

A 51-day event window beginning 25 trading days prior to and ending 25 trading days following each announcement was analyzed for evidence of stock price changes due to the sponsorships.² Tests during both single-event days and specified intervals of multiple-event days of interest (e.g., event days $t = -2$ to $+2$) were performed. Following standard practice, the CRSP value-weighted index of all stocks was employed as the stock market proxy.

All statistical calculations were performed using the EVENTUS program for personal computers developed by Cowan Research, L.L.C. Interested readers are encouraged to contact the authors for details regarding the actual mathematical procedures employed in the calculation of the abnormal returns and their associated test statistics (Z).

EMPIRICAL RESULTS

Event Analysis

Table 2 presents a summary of the mean abnormal returns (MAR) and their associated test statistics (Z) for the interval from $t = -5$ to $+5$ for the overall sample of official sponsorship announcements. In addition, Table 2 also reports the number of events in the sample (53), the number of firms registering positive abnormal return changes ($N+$), and the associated test statistic (Z) for this fraction for each event day. Under the null unstated hypothesis of no-sponsorship announcement wealth effect, the mean abnormal returns for each event day should approximate zero, whereas the fraction of firms registering abnormal return increases should approximate the random chance probability of .5.

With the exception of the Z statistics for the simple fraction of firms registering positive abnormal returns over event days $t = +4$ and $+5$ (one quite negative and one quite positive), there appears to be no evidence presented in Table 2 to suggest that official sponsorship announcements are either positive or negative events for sponsoring firms. However, this null result, which differs from earlier, positive results on stadium, NASCAR, and celebrity endorsement contracts (Mathur, Mathur, and Rangan 1997; Agrawal and Kamakura 1995), is subject to a caveat, for it is possible that insignificant event returns over single event days may conceal important trends in the data that are subsequently revealed by statistical examinations over longer, multiple-day event windows.

Table 3 reports the results of tests of mean cumulative abnormal return ($MCAR$) levels over three different event windows surrounding the official sponsorship announcements. The most striking result shown in Table 3 is the large ($MCAR = 1.11$ percent) and statistically significant ($Z = 2.318$) increase in stock prices registered by the

TABLE 1
Official Sponsorship Sample

Date	Company	Sponsoring Product	Official Product or Service	League
01/20/99	Anheuser-Busch	Budweiser	Official Beer Sponsor	NBA
08/09/94	Anheuser-Busch	Ice Draft	Official Beer Sponsor	NHL
11/04/92	AT&T	All telecom products	Official Telecommunications Sponsor	NBA
04/07/97	AT&T	Phone Card	Official Pre-Paid Card	NBA
07/14/99	AutoNation	Automotive Retailer	Official Sponsor of NFL	NFL
08/12/99	Bally's Total Fitness	Fitness Center	Official Training Center	NFL
10/23/92	Bausch & Lomb	Contact Lenses	Official Contact Lenses	NBA
07/16/03	Bayer	Levitra	Official Sponsor of NFL (Men's Health)	NFL
09/08/98	Canon	Camera and Binocular	Official Camera/Binocular Supplier	NFL
02/09/99	Cendant	Century 21 Real Estate	Official Real Estate Organization	MLB
10/26/03	Charles Schwab	Brokerage	Official Investment Firm	PGA
01/23/02	Colgate-Palmolive	Speed Stick Deodorant	Official Deodorant	NHL
06/06/95	Converse	Shoes	Official Footwear	NFL
03/27/02	Coors Brewing	Beer	Official Beer Sponsor	NFL
02/10/03	Deere & Co.	Landscaping Equipment	Official Golf Course Equipment Company	PGA
10/29/02	Dell	Computer Equipment	Official Desktop, Notebook and Server	NBA
04/02/92	Delta Airlines	Airline	Official Airline	NFL
08/23/00	FedEx	Delivery Services	Official Worldwide Delivery Service	NFL
01/22/99	FedEx	Delivery Services	Official Express Delivery Service	NHL
04/12/99	Fleet Financial	Financial Services	Official Sponsor of MLB	MLB
10/07/01	General Motors	Buick	Official Car	PGA
06/22/99	Getty Images	Photography	Official Photographic Partner	MLB
11/07/01	Getty Images	Photography	Official Photo Source	NBA
02/20/02	Getty Images	Photography	Official Photographer, Photographic Partner	NHL
07/16/03	GlaxoSmithKline	Levitra	Official Sponsor of NFL (Men's Health)	NFL
01/25/99	HealthSouth	Healthcare	Official Healthcare Provider	PGA
01/09/92	IBM	Computer	Official Computer	NBA
11/06/03	ICOS	Cialis	Official Partner of the PGA Tour	PGA
01/13/03	Kellogg's	Frosted Flakes	Official Breakfast Cereal	NHL
11/06/03	Lilly	Cialis	Official Partner of the PGA Tour	PGA
03/27/97	MBNA	Credit Card	Official Credit Card Issuer	MLB
04/10/95	MBNA	Credit Card	Official Visa Credit Card Issuer	NFL
01/05/96	MBNA	Credit Card	Official MasterCard Issuer	NHL
04/12/99	Motorola	Wireless Communications Devices	Official Wireless Communications Sponsor	NFL
04/03/00	Pepsi	Lipton Iced Tea	Official Iced Tea	PGA
12/11/00	Quaker	Gatorade Energy Bar	Official Energy Bar	NBA
09/12/96	Quaker State	Automotive products	Official Car Care Sponsor	NHL
04/01/02	Schering-Plough	Clarinet	Official Prescription Allergy Medication	MLB
08/24/99	Schering-Plough	Claritin	Official Prescription Allergy Medication	MLB
07/13/93	Scotts Lawn Care	Lawn Care	Official Lawn Care Consultant	MLB
08/28/00	Select Comfort	Mattresses	Official Mattress	NFL
12/16/03	Sirius Satellite Radio	Radio	Official Satellite Radio	NFL
10/02/03	Sirius Satellite Radio	Radio	Official Satellite Radio	NHL
03/19/99	Southern Company	Electric Utility	Official Energy Company	PGA
03/05/03	Southwest Airlines	Airline	Official Airline	NBA
12/09/98	Sprint	Telecomm Services	Official Telecommunications Provider	PGA
01/30/03	Starwood Hotels	Hotel	Official Hotels and Resorts	NHL
02/12/01	Starwood Hotels	Hotel	Official Hotels and Resorts	PGA
07/31/01	Sun Microsystems	E-Commerce	Official Technology Provider	MLB
01/22/02	Time Warner	AOL	Official Internet Services Provider	NBA
06/24/97	Wendy's	Restaurant	Official Hamburger	NHL
11/10/98	Yahoo	Internet Services	Official Internet Navigation Guide	NHL
02/11/99	Venator Group	Marketing Services	Official Catalog and E-commerce Marketer	NFL

NOTE: NBA = National Basketball Association; NHL = National Hockey League; NFL = National Football League; MLB = Major-League Baseball; PGA = Professional Golfers' Association.

sponsoring firms for the trading week surrounding the announcements (event days $t = -2$ to $+2$).³ Thus, when

viewed from the standpoint of a longer event window, official sponsorships are shown to be similar to other

TABLE 2
Mean Abnormal Return Levels and the Percentage of Firms Registering Positive Abnormal Returns for the Full Sample of 53 Official Product Sponsorship Announcements

<i>Event Day</i>	<i>Mean Abnormal Return</i>	<i>Sample Z-Statistic</i>	<i>Positive Abnormal Return Changes</i>		
			<i>Size (n)</i>	<i>n+(%)</i>	<i>Z-Statistic</i>
-5	0.0031	0.78	53	27 (51)	0.43
-4	-0.0012	-0.20	53	26 (49)	0.16
-3	-0.0019	-0.02	53	25 (47)	-0.12
-2	0.0009	1.03	53	29 (55)	0.98
-1	0.0036	-0.05	53	31 (58)	1.53
0	0.0028	1.11	53	27 (51)	0.43
1	-0.0007	0.91	53	28 (53)	0.71
2	0.0044	1.03	53	32 (60)	1.81
3	-0.0087	-1.16	53	20 (38)	-1.49
4	-0.0021	-1.33	53	14 (26)	-3.14*
5	0.0051	1.89	53	33 (62)	2.08*

* Significant at the 5 percent level, two-tailed test.

TABLE 3
Mean Cumulative Abnormal Return Levels and the Percentage of Firms Registering Positive Abnormal Returns Over Select Event Intervals Around the Date of Announcement for the Full Sample of 53 Official Product Sponsorship Announcements

<i>Event Interval</i>	<i>Sample Size</i>	<i>Mean Cumulative Abnormal Return</i>	<i>Positive Abnormal Return Changes</i>		
			<i>Z-Statistic</i>	<i>n+(%)</i>	<i>Z-Statistic</i>
-1 to +1	53	0.0058	1.26	29 (55)	0.98
-2 to +2	53	0.0111	2.32*	27 (51)	0.43
-5 to +5	53	0.0053	1.73	34 (64)	1.53

* Significant at the 5 percent level, two-tailed test.

major sponsorship programs in their ability to generate significant economic value for corporate shareholders. Therefore, Hypothesis 1 is supported.

To put the noted increase in share prices into perspective, it is helpful to calculate the market's estimate of the total *dollar* NPV of the sponsorships. This value may be calculated by multiplying the cumulative mean percentage abnormal return for the sponsorship sample over the $t = -2$ to $+2$ event window by the mean market value of the sponsoring firms on event day $t = -26$.⁴ The result of this calculation is an increase in shareholder value of \$256.9 million—a figure just slightly less than the \$334 million increase in mean share prices reported by Pruitt, Cornwell, and Clark (2004) in a study of NASCAR sponsorships. Furthermore, it must be emphasized that these increases in shareholder value are net of all expenses likely to be incurred in the development of the sponsorships.

Panels A through E of Table 4 continue the analysis by providing the identical information presented in Table 3 for each of the five major-league sports included in the study. Although obviously subject to qualification due to the small sample sizes involved (which range from 8 to 14 events and which are thus examined at the 10% level), the results presented in Table 4 do suggest statistically and

economically significant cross-sectional differences in the level of the mean cumulative abnormal return (*MCAR*) levels by sport. Although the results for the NFL and MLB are indistinguishable from zero in each of the three studied event windows, those of the NBA, the NHL, and the PGA are statistically positive in some windows. Therefore, Hypothesis 2 receives only partial support.

Cross-Sectional Regressions

In an effort to further clarify several issues with respect to the studied official sponsorship announcements, multiple regression analysis was used to examine the remaining hypotheses. For this regression, the cumulative abnormal return level registered by each official sponsor over event days $t = -10$ and $+10$ served as the dependent variable, while specified sponsor and league attributes served as the independent variables.⁵

Responding to Hypotheses 3 through 7, the independent variables considered in the model include the market value of corporate equity (MARKET VALUE), the level of corporate cash flow divided by the market value of equity (CASH FLOW) calculated from data available from Standard and Poor's Research Insight data tape or

TABLE 4
Mean Cumulative Abnormal Return Levels and the Percentage of
Firms Registering Positive Abnormal Returns Over Select Event Intervals
Around the Date of Announcement of Official Product Sponsorships by Sport

<i>Event Interval</i>	<i>Sample Size</i>	<i>Mean Cumulative Abnormal Return</i>	<i>Positive Abnormal Return Changes</i>		
			<i>Z-Statistic</i>	<i>n+(%)</i>	<i>Z-Statistic</i>
Panel A: Major-League Baseball (MLB)					
-1 to +1	8	-0.0007	0.04	3 (38)	-0.63
-2 to +2	8	0.0017	0.60	3 (38)	-0.63
-5 to +5	8	0.0086	0.47	3 (38)	-0.63
Panel B: National Basketball Association (NBA)					
-1 to +1	10	-0.0035	-0.65	6 (60)	0.81
-2 to +2	10	0.0149	0.96	5 (50)	0.00
-5 to +5	10	0.0300	1.92*	7 (70)	1.45
Panel C: National Football League (NFL)					
-1 to +1	14	0.0002	0.29	6 (43)	-0.35
-2 to +2	14	0.0030	1.01	7 (50)	0.00
-5 to +5	14	-0.0041	0.63	6 (43)	-0.35
Panel D: National Hockey League (NHL)					
-1 to +1	11	0.0179	1.36	6 (55)	0.44
-2 to +2	11	0.0241	1.81*	7 (64)	1.04
-5 to +5	11	0.0003	0.64	9 (82)	2.25**
Panel E: Professional Golfers' Association (PGA)					
-1 to +1	10	0.0146	3.12**	8 (80)	1.96**
-2 to +2	10	0.0118	0.94	5 (50)	0.00
-5 to +5	10	-0.0032	0.60	6 (60)	0.70

* Significant at the 10 percent level, two-tailed test. ** Significant at the 5 percent level, two-tailed test.

company-specific sources such as corporate annual reports, the estimated market share of the sponsoring product in its individual product category (MARKET SHARE) obtained from the Market Share Reporter (Gale Research, Detroit, MI), and dummy variables that reflect if the sponsoring product was congruent with the sponsored sport or sporting lifestyle (CONGRUENT), and if the sponsoring company was in a high-technology industry (HIGH TECH).

The dummy variable CONGRUENCE was coded as related product = 1; otherwise = 0. Two judges independently categorized the sponsorships as congruent or not congruent. For the purposes of this study, "congruent" sponsorships are broadly interpreted as (1) those in which the sponsoring product either has a direct relationship to the sponsored sport (Converse shoes for the NFL) or (2) is likely to be seen or used while attending or watching televised league events (Coors or Budweiser beers), and/or (3) is clearly consistent with an active sporting lifestyle (Bally's Total Fitness Centers). Not surprisingly, the judges initially agreed in the case of 50 of the 53 sponsorships, and the remaining three were resolved after discussion.

The dummy variable HIGH TECH was coded as high-technology company = 1; otherwise = 0. Although not associated with a specific hypothesis, the individual league dummy variables for the NBA, the NFL, the NHL, and the PGA are also included in the regression to isolate the mean cross-sectional differences by league originally

noted in Panels A through E of Table 4. By construction, these dummies seek to ascertain the additional value added by each of the sports leagues vis-à-vis the mean wealth effects associated with the typical MLB sponsorship.

One independent variable absent from the regression equation is the yearly cost of the sponsorships. Unfortunately, the amount of money paid by the vast majority of the sponsoring companies is never disclosed. This situation is not surprising in light of the large amounts of bartering involved in many official major-league sponsorship arrangements. Interestingly, in a study of the share price effects of corporate stadium sponsorship announcements (Clark et al. 2002), the variable capturing adjusted sponsorship costs per year did not approach statistical significance.

Table 5 presents summary statistics for the conducted regression. The R^2 and adjusted R^2 of the model (.381 and .251, respectively) are indicative of a reasonably well-specified model. Accordingly, the F -statistic for the regression model as a whole is significant ($F = 2.939, p < 0.008$) at less than the 1 percent level.

The negative and statistically significant coefficient for the variable MARKET SHARE is consistent with a priori expectations and indicates empirical support for Weber's Law within the context of major-league sports official sponsorships. This finding supports Hypothesis 5. The coefficient of the variable (-.180) suggests that, ceteris paribus, a product or service with a 10 percent share of the

TABLE 5
Cross-Sectional Regression Analysis of Select Sponsorship Attributes and Announcement Date Cumulative Abnormal Return Levels

Variable	Coefficient	Coefficient t-Statistics	Significance
Constant	-7.9064	-1.866	0.069
Market share	-0.1799	-2.031	0.049**
Market value	-6.3E-05	-1.186	0.242
Cash flow	1.9501	0.149	0.882
High tech	11.0764	3.117	0.003**
Congruence	11.4796	3.514	0.001**
NBA	9.3489	1.971	0.055*
NFL	7.0735	1.609	0.115
NHL	12.7624	2.720	0.009**
PGA	9.5846	2.032	0.048**

F-statistic = 2.939
Significance = .008**
R² = .381
Adjusted R² = .251

* Significant at the 10 percent level, two-tailed test. ** Significant at the 5 percent level, two-tailed test.

market in a given product or service category experienced about a 7 percent larger cumulative abnormal return than did a company with a 50 percent market share.⁶ This result suggests that investors perceive companies with smaller product market shares as having more to gain from official sports sponsorships than those holding more dominant positions.

Consistent with Hypothesis 6, the coefficient for the dummy variable CONGRUENT is both positive and statistically significant ($p < .01$). Thus, stock market participants appear to believe that sponsorships with direct ties to their sponsored sports increase share prices more than sponsorships undertaken by companies in unrelated industries. The coefficient of this variable (11.480) implies that congruent sponsorships were over 11 percent more valuable to sponsoring firms than sponsorships involving unrelated products.

Supportive of the findings of earlier event study research (e.g., Clark et al. 2002), the coefficient for the variable HIGH TECH is both positive and statistically significant. The average high-technology firm experienced a net increase in shareholder wealth from their official sponsorships, over and above the present value of the expected costs of the deals, about 11 percent greater than that observed by more traditional firms such as retailers, banks, airlines, and consumer products manufacturers. Thus, Hypothesis 7 is also confirmed.

As shown in Table 5, the variables MARKET VALUE and CASH FLOW are not significant; thus, Hypotheses 3 and 4 are not supported. Interestingly, however, although insignificant, the fact that the variable CASH FLOW enters with a positive sign is counter to a priori

expectations and suggests no support for the hypothesis that, overall, agency-related factors were an important issue in the case of the 53 official product sponsorship announcements. Although the variable MARKET VALUE enters with the expected sign (negative), its lack of significance indicates that firm size is not an impediment to a successful major-league official sponsorship.

Finally, the dummy variables NBA, NFL, NHL, and PGA all enter with positive coefficients, three of which (NBA, NHL, and PGA) are significant at the 10 percent level. Thus, although baseball may be the national pastime, the results of this study are consistent with the hypothesis that baseball sponsorship values are differently perceived by investors than those involving basketball, hockey, football, or golf. While it might be tempting to interpret these findings as suggesting that NBA, NHL, and PGA sponsorships are inherently more valuable than those of MLB, this may not be correct. Rather, this may merely indicate that the baseball and football sponsorship markets may be more efficient (in the economic sense). If so, it is possible that virtually all of the gains expected to accrue from the typical baseball and football sponsorships are captured by the MLB and NFL front offices, with little left to compensate the corporation for its sponsorship investment. Stated somewhat differently, it is possible that, controlling for all other factors (awareness, image, quality, and quantity of exposures generated in the sponsorship), baseball sponsorships may just be more expensive than those involving basketball, hockey, and golf (particularly in view of golf's exceptionally affluent demographics).

CONCLUSIONS

This study has presented the first empirical tests of major-league sports official product sponsorships on stock prices. Using announcements from the five most popular professional "ball and stick" sports in the United States (baseball, basketball, football, hockey, and golf), the results of the study document that, overall, official sponsorships were perceived positively by stock market investors. Economically, the mean increase in stock prices around the time of the sponsorship announcements was about \$257 million—net of all of the costs expected to be incurred in the development of the sponsorships.

In addition to the basic-event study results, a multiple regression analysis of the individual firm abnormal returns and select sponsorship attributes was also performed. Variables significant in this analysis include product market share (negative), dummy variables indicating high-technology status (positive), the relatedness of the sponsoring product to the sponsored sport or sporting lifestyle (positive), and dummy variables indicating sponsorships involving the NBA, NHL, and PGA. Perhaps the two most

notable of these findings are that a direct product linkage to the sponsored sport is an important facet of the stock market's acceptance of an official sports sponsorship and that products with smaller market shares appear to benefit the most from their official sponsorships.

In particular, the negative and statistically significant coefficient for the market share variable suggests that sponsoring companies may receive the largest financial returns from sponsorships involving less dominant brands. This finding, which represents support for Weber's Law in a new context, indicates that the contribution to consumer awareness brought by major-league sports official product sponsorships may be more readily identified by investors when the sponsoring firm is a relatively small player in the market.

Perhaps even more interesting is the fact that the relatedness of the sponsoring product or service, even when broadly interpreted, is a positive indicator of perceived sponsorship success. Clearly, sponsorships that are reasonably linked to the sponsored event are more effective than those that are conceptually unrelated. While recent research in sponsorship recall (Cornwell et al. 2003) suggests that unrelated firms may be more effective in their sponsorship activities by articulating the nature of their relationship (e.g., photocopiers relating to auto racing based on the concept of speed), the unrelated sponsorships in this study were perceived significantly less favorably by stock market investors than those with reasonably direct ties to the sponsored sport.

The fact that the dummy variable indicating an official sponsorship undertaken by high-technology firms was positive and statistically significant presents additional evidence that sports sponsorships may be particularly effective in increasing the awareness of the consuming public of high-technology products, may serve as signals of impending (and positive) developments regarding future corporate cash flows, or both.

Interestingly, dummy variables indicating the sponsored sport suggest that, on average, sponsorships involving the NBA, the NHL, and the PGA were greeted more favorably by investors than those involving MLB and the NFL—a finding that may be due more to the overall economic efficiency of the sponsorship market of these more popular sports than to the alternative and nonsensical hypothesis that baseball and football sponsorships are inherently less valuable than those involving basketball, hockey, or golf.

The results of the study should be of interest to many constituencies, including corporate executives, investors, marketing practitioners, league sporting offices, team owners, and academic researchers. Turning first to corporate executives and investors, the wealth effects observed in response to the 53 studied official sponsorship signings indicate that, some (but probably not all) official product sponsorships are economically beneficial expenditures.

Marketing practitioners should view the stock market's endorsement of some major-league sports sponsorships as additional justification of their efforts to seek novel ways to differentiate corporations and their offerings through large-scale sponsorship programs. Similarly, the fact that companies with reasonable ties to the sponsored sport experienced the most positive reactions to the sponsorship announcements should encourage marketing professionals to seek programs with inherently strong and readily interpretable linkages between potential sponsors and sponsored events.

Sporting officials, team owners, and players should delight in both the predominant direction and the magnitude of the stock market's response to the average official sponsorship announcement. Indeed, by reducing the informational asymmetries that exist on each side of these partnerships, sponsors and team owners may be able to strike agreements that more equitably allocate the wealth gains generated by official sponsorships.

Finally, the study should be of interest to marketing scholars by providing additional evidence on the importance of demonstrating an unambiguous linkage between the sponsor and the sponsored event. In addition, the study presents additional evidence on the efficacy of employing finance-developed methodologies to help answer key questions concerning the overall value of major marketing programs.

ACKNOWLEDGMENTS

The authors are grateful for helpful comments provided by three anonymous referees and, especially, Ike Mathur (the editor). Address correspondence to Stephen W. Pruitt, Arvin Gottlieb/Missouri Endowed Chair of Business Economics and Finance, Henry W. Bloch School of Business and Public Administration, University of Missouri—Kansas City, Kansas City, MO 64110-2499; phone: (816) 235-2334; fax: (816) 235-6506; e-mail: PruittSt@umkc.edu.

NOTES

1. It should be noted that the employed Scholes-Williams adjustment imparts a conservative bias to the empirical results. For example, using the ordinary least squares (OLS) market model, the event day $t = 0$ abnormal return was 0.40 percent (t statistic 1.410), whereas using the Scholes-Williams approach, the abnormal return was 0.33 percent (t statistic 1.252).

2. As would be expected by the lack of any significant information released over the far-preevent interval, expansion of the preevent interval beyond event day $t = -25$ produced no substantive differences in the results achieved. Neither the test statistic for the interval from event days $t = -50$ to -26 nor for the interval from $t = -50$ to -1 approaches statistical significance.

3. Exactly as would be expected by the lack of relevant new information regarding the sponsorships, expansion of the event intervals gradually reduces the statistical significance of the results achieved.

4. Event day $t = -26$ is chosen for the net present value (NPV) calculations because it is the nearest day prior to the announcements yet still outside of the chosen event window. The mean market value of the 53 sponsoring firms on event day $t = -26$ was \$23.141 billion.

5. Firm-specific cumulative abnormal return levels over the event interval from days $t = -10$ to $+10$ were employed in this series of tests since there is evidence (not reported in Tables 2, 3, and 4) of longer-term revaluations in share prices in response to the studied sponsorship announcements. Specifically, the simple fraction of firms registering positive abnormal returns over this interval is significant at the 5 percent level for the sample as a whole and for several subsamples in the sport-specific tests presented in Table 4.

6. Mathematically, 50 percent multiplied by -0.1799 equals, ceteris paribus, a mean wealth decrease of 8.995%, whereas 10 percent multiplied by -0.1799 equals, again, ceteris paribus, a mean wealth decrease of only 1.799 percent. The difference between these two figures is about 7 percent in cumulative abnormal return.

REFERENCES

- Agrawal, Jagdish and Wagner A. Kamakura. 1995. "The Economic Worth of Celebrity Endorsers: An Event Study Analysis." *Journal of Marketing* 56 (3): 56-62.
- Bridger, Chet. 2003. "M&T Bank, Choice One Sign Sponsorship Deals With NFL's Buffalo Bills." *The Buffalo News*, September 8.
- Brown, Stephen J. and Jerold B. Warner. 1985. "Using Daily Stock Returns: The Case of Event Studies." *Journal of Financial Economics* 14 (1): 3-31.
- Business Wire. 1998. "Ricoh Named Official Fax of the PGA of America." January 6.
- Clark, John M., T. Bettina Cornwell, and Stephen W. Pruitt. 2002. "Corporate Stadium Sponsorship, Signaling Theory, Agency Conflicts and Shareholder Wealth." *Journal of Advertising Research* 42 (6): 16-32.
- Cliffe, Simon J. and Judy Motion. 2005. "Building Contemporary Brands: A Sponsorship-Based Strategy." *Journal of Business Research* 58 (8): 1068-1077.
- Cornwell, T. Bettina. 1995. "Sponsorship-Linked Marketing Development." *Sport Marketing Quarterly* 4 (4): 13-24.
- and Isabelle Maignan. 1998. "An International Review of Sponsorship Research." *Journal of Advertising* 27 (1): 1-21.
- , Stephen W. Pruitt, and Robert Van Ness. 2001. "An Exploratory Analysis of the Value of Winning in Motorsports: Sponsorship-Linked Marketing and Shareholder Wealth." *Journal of Advertising Research* 41 (1): 17-31.
- , Clinton Weeks, and Donald P. Roy. 2005. "Sponsorship-Linked Marketing: Opening the Blackbox." *Journal of Advertising* 34 (2): 23-45.
- , Michael S. Humphreys, Angie Maguire, and Cassandra L. Tellegen. 2003. "The Role of Articulation in Sponsorship-Linked Marketing." In *Image Advertising and Consumer Psychology*. Eds. Lynn R. Kahle and Chung-Hyun Kim. Society for Consumer Psychology Conference 2003: 8-9.
- Cowan Research. 2000. *Eventus User's Guide*. Version 6.3C. Ames, IA: Cowan Research, L.C.
- Crimmins, James and Martin Horn. 1996. "Sponsorship: From Management Ego Trip to Marketing Success." *Journal of Advertising Research* 36 (4): 11-20.
- Emory, Thomas, Jr. 1996. "Thrifty Businesses Exploit Cheap Links to Olympics." *Wall Street Journal* 227 (72): B1.
- Farrell, Kathleen A. and W. Scott Frame. 1997. "The Value of Olympic Sponsorships: Who Is Capturing the Gold?" *Journal of Market-Focused Management* 2 (2): 171-182.
- Foust, Dean and Brian Grow. 2002. "The PGA Tour: Where's the Green?" *Business Week* 3783:133.
- Jensen, Michael C. and William H. Meckling. 1976. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics* 3 (4): 305-360.
- Johar, Gita Venkataramani and Michel Tuan Pham. 1999. "Relatedness, Prominence and Constructive Sponsor Identification." *Journal of Marketing Research* 36 (3): 299-312.
- Lefton, Terry. 1999. "National Ends NFL Drought in Rental Cars." *Brandweek*, July 26, p. 4.
- Markiewicz, David A. 2004. "Pro Football: Gatorade Pours \$500M Into NFL." *The Atlanta Journal-Constitution*, p. C2.
- Mathur, Lynette Knowles, Ike Mathur, and Nanda Rangan. 1997. "The Wealth Effects Associated With a Celebrity Endorser: The Michael Jordan Phenomenon." *Journal of Advertising Research* 37 (3): 67-72.
- McDaniel, Stephen R. 1999. "An Investigation of Match-Up Effects in Sport Sponsorship Advertising: The Implications of Consumer Advertising Schemas." *Psychology and Marketing* 16 (2): 163-184.
- Miller, Richard Lee. 1962. "Dr. Weber and the Consumer." *Journal of Marketing* 26 (1): 57-61.
- Mishra, Debi, George S. Bobinski, and Harjeet S. Bhabra. 1997. "Assessing the Economic Worth of Corporate Event Sponsorships: A Stock Market Perspective." *Journal of Market Focused Management* 2:149-169.
- Miyazaki, Anthony D. and Angela G. Morgan. 2001. "Assessing Market Value of Event Sponsoring: Corporate Olympic Sponsorships." *Journal of Advertising Research* 41 (1): 9-15.
- Murphy, Bill. 2004. "Ambushing the Super Bowl (or at Least Trying to)." *Sports Business News*, September 20.
- Pickett, Brent. 2004. "As Cingular Ads Parody, Not All Sponsorships Fit the Brand-Building Bill." Retrieved September 18, from <http://www.marketingprofs.com>
- Proctor, Darrell. 2004. "A Marriage of Sports, Suds: Team Partnerships Likely to Expand With Beer Merger." *Rocky Mountain News*, July 24, p. SC.
- Pruitt, Stephen W., T. Bettina Cornwell, and John M. Clark. 2004. "The NASCAR Phenomenon: Auto Racing Sponsorships and Shareholder Wealth." *Journal of Advertising Research* 44 (3): 281-296.
- Reuters News. 2002. "PepsiCo's Gatorade, NBA in Marketing Pact," August 1.
- Roy, Donald P. and T. Bettina Cornwell. 2003. "Brand Equity's Influence on Responses to Event Sponsorships." *Journal of Product and Brand Management* 12 (6): 377-393.
- Rust, Roland T. and Richard W. Oliver. 1994. "The Death of Advertising." *Journal of Advertising* 23 (4): 71-77.
- Ruth, Julie A. and Bernard L. Simonin. 2003. "Brought to You by Brand A and Brand B: Investigating Multiple Sponsors' Influence on Consumers' Attitudes Toward Sponsored Events." *Journal of Advertising* 32 (3): 19-30.
- Sandler, Dennis M. and David Shani. 1989. "Olympic Sponsorship vs. 'Ambush' Marketing: Who Gets the Gold?" *Journal of Advertising Research* 29 (4): 9-14.
- Schlosser, Jim. 1995. "It's Official: Logos all Over GGO." *Greensboro News and Record*, April 23, p. A1.
- Scholes, Myron and Joseph T. Williams. 1977. "Estimating Betas From Nonsynchronous Data." *Journal of Financial Economics* 5 (3): 309-327.

ABOUT THE AUTHORS

T. Bettina Cornwell (b.cornwell@business.uq.edu.au) is Professor of Marketing and Leader of the Marketing cluster in the UQ Business School at the University of Queensland, Australia. She was formerly Professor of Marketing in the Fogelman College of Business and Economics at the University of Memphis. She received her Ph.D. from the University of Texas. Her research focuses on promotion and consumer behavior, especially with regard to international and public policy issues. Other articles on the topic of sponsorship-linked marketing have recently appeared in the *Journal of Advertising*, the *Journal of Advertising Research*, the *Journal of Business Research*, and *Psychology & Marketing*.

Stephen W. Pruitt (pruittst@umkc.edu) is the holder of the Arvin Gottlieb/Missouri Endowed Chair of Business Economics and Finance in the Henry W. Bloch School of Business and Public Administration at the University of Missouri-Kansas City. He received his Ph.D. from Florida State University. He has published more than 45 articles, most of which employ event study methodologies, in journals such as the *Journal of Finance*, the *Journal of Political Economy*, *Financial Management*, the *Journal of Public Policy and Marketing*, and the *Journal of Advertising Research*.

John M. Clark (clarkj@cba.usm.edu) is an assistant professor of finance at the University of Southern Mississippi. He received his Ph.D. from the University of Alabama. His research interests include options and other derivatives, investments, and the impact of real events upon the stock prices of corporations. His work has appeared in scholarly outlets such as the *Journal of Advertising Research*, the *Financial Review*, and the *Journal of Business Ethics*.

Copyright of Journal of the Academy of Marketing Science is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.