

# The Sponsorship Effect: Do Sport Sponsorship Announcements Impact the Firm Value of Sponsoring Firms?

Matthias Reiser<sup>1</sup>, Christoph Breuer<sup>1</sup>, and Pamela Wicker<sup>2</sup>

<sup>1</sup>German Sport University Cologne

<sup>2</sup>Griffith University

**Matthias Reiser** is a PhD candidate in the Institute of Sport Economics and Sport Management. His research interests include capital markets and sport sponsorships.

**Christoph Breuer**, PhD, is a professor of sport management in the Institute of Sport Economics and Sport Management. His primary research interests include sport systems, sponsoring, and methodology of sport management research.

**Pamela Wicker**, PhD, is a senior lecturer in the Department of Tourism, Leisure, Hotel and Sport Management. Her research interests include economics of sport consumer behavior, estimating the value of sporting success, consumer segmentation, analyzing and predicting sport participation, and the development of non-profit sport organizations.

## Abstract

This study analyzes the effect of sponsorship announcements on the firm value of sponsoring firms by investigating whether sponsorship announcements have an influence on abnormal returns on share prices. As previous research has neglected sponsorships from different regions and the comparison of sponsorships in different sports, a unique dataset of sponsorship deals between 1999 and 2010 is created ( $n=629$ ). Using event study methodology the data is analyzed for all sports in general as well as for different sub-samples including soccer, motor sports, and different regions. The results of the event study provide evidence that sport sponsorship announcements positively impact stock returns, but this impact differs among sports and regions. The regression results reveal that abnormal returns are significantly higher for sponsorships on brand level, smaller firms, and deals with national reach. The findings have implications for corporate managers and sport managers as equilibrium prices for sponsorship deals have not yet been reached.

**Keywords:** abnormal returns, event study, sponsorship, sponsorship effectiveness

## Introduction

Sponsorship in general and specifically sport sponsorship is a vital part of every major company's communication strategy in today's business world (Cornwell, 2008; Olson & Thjørmøe, 2009). Marketing professionals consider sponsorships as an important tool to build brand equity and corporate image (Cornwell, Roy, & Steinard, 2001),

especially in times of increased media fragmentation (Tripodi, 2001). Over the last two decades sport sponsorship has gained a consistently increasing share of marketing budgets and has become a key component of the marketing communication mix, which is on par with traditional tools such as advertising, public relations, sales promotions, and personal selling (Meenaghan & Shipley, 1999; Tripodi, 2001). On a global scale, the spending on sport sponsorships engagements has increased from \$20 billion in 2004 to \$29 billion in 2009 and is expected to increase to \$35 billion by 2013 (PricewaterhouseCoopers, 2010). Sponsorship deals constitute significant marketing investments for sponsoring firms. For example, Hyundai has recently resigned with the global soccer association FIFA for a total contract value of \$280 million (Fenton, 2010).

Unlike traditional marketing vehicles, sponsorships enable marketers to connect with consumers in very emotional situations and brand and corporate image can be enhanced via associations with positively viewed events (Miyazaki & Morgan, 2001). In addition, sport sponsorship also has the ultimate goal to show bottom line impact by increasing future sales and profits. Incurred direct costs (sponsorship fees) as well as indirect costs (activation costs, agency costs) are expected to be offset by future benefits in terms of increased media exposure and brand awareness, positive image building, and ultimately higher profits (Farrell & Frame, 1997). According to Mishra, Bobinski, and Bhabra (1997) public announcements of sponsorship deals contain current and unexpected information about the sponsoring firm. Investors process the news and might adjust expectations for the sponsor's future cash flow. As a result, the share price would react accordingly (Mishra et al., 1997). Up to now, there is very limited information available about the reactions of share prices to sponsorship announcements for different sports. However, this information would be important to corporate managers who are responsible for sponsorship deals as they have to justify these expenditures and also the allocation of available funds across various sports.

Therefore, the purpose of this study is to investigate the effect of sponsorship announcements on firm value. This sponsorship effect is analyzed using the concept of abnormal returns (AR). ARs are defined as the difference between expected stock returns and actual observed stock returns. This study has two main research questions: 1) Do sport sponsorship announcements have an impact on firm value? 2) Which factors determine abnormal returns following sport sponsorship announcements? Hypotheses regarding the effect of announcements on share prices are formulated and tested. Data on sport sponsorship announcements and stock prices was collected ( $n=629$ ) and analyzed using the event study approach. All analyses were carried out for the total sample (including various sports), for two specific sports (soccer, motor sports), and for different sponsor regions (Asia-Pacific, Europe, North America). The event study results indicated an overall positive effect on the firm value triggered by sport sponsorship announcements. Brand level sponsorships, firm size, and national reach had a significant positive influence on abnormal returns. The results have implications for corporate managers and stakeholders of the sponsoring firm as sponsorship announcements do impact the firm's value. The findings contribute to the body of knowledge on sponsorship effectiveness in sports by using a unique dataset of worldwide sponsorship announcements, analyzing specific sports, and including a regional perspective.

## Literature Review

To date there are a number of studies dealing with effects of sport sponsorship announcements; however, prior research is mainly focused on the US (e.g., Agrawal & Kamakura, 1995; Clark, Cornwell, & Pruitt, 2009; Miyazaki & Morgan, 2001; Samitas, Kenourgios, & Zounis, 2008). Previous research has been conducted in the context of specific sport events such as the Olympics (e.g., Farrell & Frame, 1997; Miyazaki & Morgan, 2001; Samitas et al., 2008) or for specific sponsorship types such as endorsement contracts (e.g., Agrawal & Kamakura, 1995), stadium naming rights (Clark, Cornwell, & Pruitt, 2002), and title events (e.g., Clark et al., 2009). With regard to different sports, previous research has focused on motor sports such as Indy 500 (Cornwell, Pruitt, & van Ness, 2001) and NASCAR (Pruitt, Cornwell, & Clark, 2004). All previous studies on the effect of sponsorship announcements on share prices utilized the event study approach (e.g., Agrawal & Kamakura, 1995; Clark et al., 2002; Miyazaki & Morgan, 2001).

Most prior studies documented a positive share price reaction following sponsorship announcements (e.g., Agrawal & Kamakura, 1995; Farrell & Frame, 1997; Miyazaki & Morgan, 2001), with a few examples of studies investigating different sports (e.g., Clark et al., 2009; Cornwell, Pruitt, & Clark, 2005). Agrawal and Kamakura (1995) found a positive effect based on a sample of 110 publicly announced endorsement contracts. Miyazaki and Morgan (2001) investigated the impact of 27 announcements of sponsorships related to the 1996 Olympics. The results provided evidence that acquiring Olympic sponsorship rights was valued as a profitable marketing activity by shareholders. In contrast, Farrell and Frame (1997) also analyzed the same 1996 Olympics, but reported decreasing share prices. Cornwell et al. (2005) documented a positive share price reaction following the announcement of *official product* sponsorships. In a recent study, Clark et al. (2009) used a sample of 114 title sponsorship announcements where they found overall no share price reaction.

Previous research has indicated that the sport under investigation is important (e.g., Clark et al., 2009; Cornwell et al., 2005). For example, Clark et al. (2009) found a positive impact of title sponsorships for NASCAR races, but negative reactions following the announcement of college sport title events. Cornwell et al. (2005) reported significant differences among sports in their study on *official product* sponsorships. There was a positive reaction for basketball, but no reaction for American football. Although these studies took different sports into account, the findings were solely applicable to title events and *official product* sponsorships. Only Pruitt et al. (2004) investigated the effect of NASCAR sponsorships independently of the sponsorship type and reported an increase in shareholder wealth.

The literature review reveals three main deficits in the research field of sport sponsorship effects on the firm value. First, prior research was mainly on events in the United States and therefore the reported findings may not be applicable internationally (Mishra et al., 1997). There is no study that analyzed the effect of endorsement deals on the firm value from an international perspective. Second, previous studies have concentrated on analyzing sport events and sponsorship types, rather than different sports. Until now, different sports have only been analyzed as sub-categories of specific sponsorship types. Third, the samples used in prior research have limitations in terms of size and up-to-dateness. The sample used by Clark et al. (2009) consists of 114 announcements and is the largest sample in this research area. More common are

samples sizes of less than 30 (e.g., Farrell & Frame, 1997; Miyazaki & Morgan, 2001; Samitas et al., 2008). Therefore, the current body of literature would benefit from an international study that takes the effect of sponsorship announcements on share prices in several sports and regions into account, using a comprehensive dataset.

## **Variables and Hypotheses**

The results of previous research on the endorsement effect indicated that the financial community viewed engagements in sport sponsorship activities as generally profitable investments (e.g., Agrawal & Kamakura, 1995; Clark et al., 2009; Miyazaki & Morgan, 2001). Sponsorship deals were expected to increase future sales and profits and as a result share prices of sponsoring firms should increase accordingly. Therefore, the first hypothesis (H1) suggests that announcements of sport sponsorship engagements positively impact the share price of sponsoring firms.

Moreover, it is assumed that both deal-specific and sponsor-specific characteristics have an impact on share price reactions to announcements of sport sponsorship engagements. An overview of the variables of the current study is presented in Table 1. With regard to deal-specific factors, the level of the sponsorship (brand or corporate level), the reach of the sponsorship (national vs. international), and the novelty of the sponsorship (new vs. renewed deal) can have an impact on share price reactions. First, a company does not only have to decide whether to sponsor or not, it also needs to decide whether to sponsor on company level (company name will appear in the sponsorship) or on brand level (brand name will appear in the sponsorship). Promoting on company level has the advantage that the advertising effect might spill over to several brands. Moreover, it has been reasoned that sponsorships lack the ability to convey a detailed product message and hence are more valuable in building corporate image (Meenaghan, 1991). This assumption is supported by Pruitt et al. (2004), who reported a positive effect of corporate level sponsorships on returns. Therefore, the second hypothesis (H2) states that share price reactions to announcements of sport sponsorship engagements are significantly higher for sponsorship deals on corporate level than on brand level.

Second, endorsement deals generally differ in their geographic coverage. Whereas some deals reach an international audience, others are mainly noticed nationally. Since sponsorship deals with international coverage are deemed to reach a wider audience, it can be expected that the probability for higher sales in the future increases. Hence, a positive relationship between a sponsorship's reach and share price reaction is expected. For this reason the third hypothesis (H3) predicts that share price reactions are significantly higher for sport sponsorship deals with international reach rather than only national reach. This characteristic has not yet been analyzed in previous studies.

Third, the novelty of the sponsorship deal can have an impact on the firm value. Farrell and Frame (1997) suggested that contract extensions should affect returns positively as repeat sponsors already have experience that is valuable to fully exploit all opportunities linked to the sponsorship. Moreover, recall and recognition of sponsors should be higher for repeat sponsors than for new sponsors. For this reason, the fourth hypothesis (H4) suggests that share price reactions are higher for renewed sponsorship deals (contract extensions) than for new sponsorship deals.

With regard to sponsor-specific characteristics, the firm size and the industry sector can impact the firm value of sponsoring firms. First, the sponsor's total assets are used

Table 1: Overview of Variables

Variable	Description	Scale	Mean (SD)
<b>Dependent variable</b>			
CAR	Cumulated abnormal return for days $t=-3$ to $t=+3$ (in %)	Metric	0.31 (4.35)
<b>Deal-specific factors</b>			
CORP	Level of sponsorship (0=brand level; 1=corporate level)	Dummy	0.74 (0.44)
INTERNAT	Reach of sponsorship (0=national, 1=international)	Dummy	0.53 (0.50)
NEW	Novelty of deal (0=renewed, 1=new)	Dummy	0.67 (0.47)
<b>Sponsor-specific factors</b>			
SIZE	Size of sponsor measured by total assets (in \$ billions at year-end before announcement)	Metric	200.23 (468.32)
TECH	Sponsor is from high tech industry (1=yes)	Dummy	0.14 (0.34)
<b>Controls</b>			
OLYMPICS	Sponsorship is for the Olympics (1=yes)	Dummy	0.10 (0.30)
NAMING	Sponsorship is a naming rights deal (1=yes)	Dummy	0.07 (0.25)
ASIAPAC	Sponsor from Asia/Pacific region	Dummy	0.13 (0.33)
EUROPE	Sponsor from Europe	Dummy	0.37 (0.48)
MENALA	Sponsor from Middle East, North Africa, and Latin America region	Dummy	0.02 (0.50)
NAMERICA	Sponsor from North America	Dummy	0.48 (0.14)
SPORT	Different sports (American football, baseball, basketball, golf, motor sports, tennis, soccer)	Dummy	/
F1	Sponsorship is associated with Formula 1 (0=other motor sports, 1=Formula 1 deal)	Dummy	0.51 (0.50)
NASCAR	Sponsorship is associated with NASCAR (0=other motor sports, 1=NASCAR deal)	Dummy	0.34 (0.48)

as a proxy for firm size in order to study the effect of firm sizes on sponsorship returns. Different effects are possible for firm size. On the one hand, it could be assumed that larger firms have more financial resources to provide a sponsorship activity with sufficient activation support and related marketing activities to achieve the full potential of the deal. Consequently, a positive connection between returns and firm size can be expected. There is also support for this assumption in previous research (e.g., Clark et al., 2009). On the other hand, a negative effect also seems possible. Potential advantages why larger firms could achieve higher sponsorship returns (such as more extensive activation support) are possibly neutralized by the relative increase in visibility and thereby awareness for smaller firms. Supported by a variety of marketing activities, large firms are already in the mindset of consumers, so that the incremental

awareness increase through sponsorships might be significantly higher for smaller firms and therefore more valuable for them. Findings from previous research also support the negative firm size effect (e.g., Clark et al., 2002). Therefore, the fifth hypothesis (H5) suggests that share price reactions to announcements of sport sponsorship engagements are negatively influenced by firm size.

Another sponsor-specific characteristic of interest is if the sponsor is from the high tech sector. High tech firms were defined as in Clark et al. (2002) and included sponsors from the computer, internet, telecommunications, and biotech industry. The industry classification for each sponsor, which was based on the main revenue source of a company, was included in the data set. Two independent referees have validated this classification using the Industry Classification Benchmark taxonomy developed by the FTSE Group and found no irregularities. For high tech firms it is difficult to estimate future cash flows as these firms typically do not have steady cash flows like, for example, firms from the consumer goods sector. By investing heavily in sponsorship deals, managers of high tech firms are signaling investors that they are optimistic about the future (Clark et al., 2002). Prior research supports the positive effect of sponsors from the high tech industry on firm value (e.g., Clark et al., 2002; Cornwell et al., 2005). Consequently, hypothesis six (H6) predicts that share price reactions to announcements of sport sponsorship engagements are significantly higher for firms from the high tech sector than for other firms.

## **Methods**

### *Data Collection*

The overall database was provided by The World Sponsorship Monitor (2010). Endorsement deals from around the globe, from several sports, as well as deals from specific events (e.g., Olympics), and naming rights were included in the sample. From the initial database information about sponsorship deals from the top 10 sponsored sports (criterion: number of deals in 2009 and 2010; Fenton, 2011) was extracted. The database provided information about who sponsors whom, supplemented with additional details about the sponsor's industry, the type of sponsorship, and an estimated deal value. Since deal values have rarely been publicly released, these values have been approximated based on industry interviews, benchmarking procedures, and expert opinions. To enhance the relevance of the sample, only sponsorship deals announced between Jan. 1, 1999, and Aug. 1, 2010, were considered in the analysis. The initially very comprehensive list was further condensed by excluding minor sponsorship deals (only deals from the top value quartile entered the sample, representing the universe of large sponsorship deals with a value of at least \$1.5 million). It was assumed that the likelihood for minor deals appearing in the press and capturing the attention of investors would be very low.

Starting with this list of sponsorship deals, manual searches for every deal were conducted. Deals involving sponsors that were not listed on a stock exchange were excluded from the analysis. Next, the earliest sponsorship announcement date was identified using the online databases Factiva and LexisNexis. Deals where the earliest announcement date could not be identified beyond doubt were also eliminated from the sample. Due to the internationality of the sample a few observations (<4%) were affected by the issue of non-synchronous trading hours of international stock exchange when the first announcement was made in a different time zone than the exchange where the sponsor's shares were pri-

marily traded. This time difference might have caused a late response to the announcement of some deals because exchanges might have already been closed at the time of the first announcement. Unfortunately, it was not possible to identify the exact time of the announcement, which would be needed for a possible adjustment of the announcement date. Thus, no dates were adjusted; however, the methodological approach corrects for possible event-day uncertainty by analyzing also event windows in addition to single event dates (MacKinley, 1997). Lastly, the sample was cleaned from deals affected by confounding events in a time window of  $\pm 3$  days around the announcement date. Any observation was classified as being contaminated, if the sponsorship announcement coincided with other relevant firm-specific news such as earnings announcements, for example (Mishra et al., 1997). The final data set included  $n=629$  sponsorship deals and was to the authors' knowledge the largest sample analyzed in an event study on sponsorship effectiveness. Relevant financial data (e.g., daily stock prices, daily index prices, assets) was obtained via DataStream and included in the dataset.

### *Sample Characteristics*

The descriptive statistics are summarized in Table 1. *CAR* three days prior and after the announcement date is on average positive (+0.31%). The average firm size (average total assets of \$200 billion) indicates that the firms included in the sample are quite large. Approximately one quarter of all deals (26%) promote specific brands rather than a company name and the majority of deals (67%) are first time sponsorships. In terms of geographical reach the sample is split in half, with 53% having a national reach and 47% of the deals having an international coverage. About 14% of all sponsoring firms are from the high tech industry (computer, internet, telecommunications, or biotech). With respect to the regional split of the deals, 13% were deals entered by firms from the Asia/Pacific region, 37% involved firms from Europe, 48% were sponsorship deals with North American firms, and the remaining 2% with companies from the Middle East, North Africa, or Latin America (MENALA). In terms of the nature of the sponsorship deals, 10% are Olympic deals and 7% naming right deals. The sport-specific deals can be assigned to American football (6%), baseball (6%), basketball (10%), tennis (10%), golf (13%), soccer (19%), and motor sports (19%). Out of the overall 120 motor sports deals the majority are Formula 1 related ( $n=62$ ) and the rest are deals associated with NASCAR ( $n=41$ ) or motorcycle racing ( $n=18$ ).

### *Event Study Approach*

The event study approach (Brown & Warner, 1985) to analyze share price reactions to firm relevant news has been widely applied in economics, finance, and marketing (e.g., Jones & Danbolt, 2005; Karpoff & Rankine, 1994; Koku, Jagpal, & Viswanath, 1997; MacKinley, 1997). In general, event studies analyze share price reactions to specific events and this approach is considered to be the standard methodology to evaluate the sponsorship effect on firm value (Agrawal & Kamakura, 1995). The underlying idea is to compare actual stock returns around the event day with theoretical returns that would be expected in absence of the event. The event in this study is the first announcement of the sponsorship. Building on Fama's (1970) efficient market hypothesis (EMH), event studies imply semi-strong efficient markets, namely that all publicly available information is reflected in a firm's share price (Fama, 1970). When investors receive new information (e.g., announcement of a sponsorship) the share price should react instantaneously.

Even though it may be problematic to directly link sponsorship deals to sales figures or profits, applying event study methodology in this context allows detecting if these marketing investments are viewed favorably by investors. The substantial investments and the formal announcement of endorsement contracts assure media coverage. Investors learn about this marketing activity and independently assess the impact on future profitability. Based on EMH, the sponsor's share price should react accordingly (Agrawal & Kamakura, 1995). Using event studies in the marketing context offers a unique way to measure the net present value (NPV) of events like sponsorship announcements. Changes in share prices following the announcement reflect the difference between investors' expectations about future profits and total costs (e.g., sponsorship fees, activation costs) arising from the sponsorship deal (Clark et al., 2009).

### Data Analysis

The data analysis consists of three main steps and is performed in STATA. All steps of the data analysis are carried out for the entire sample as well as for two specific sports (soccer, motor sports) and three regions (North America, Europe, and Asia/Pacific). To allow comparisons with prior event studies testing the financial effectiveness of sponsorship programs an  $\alpha$ -level of 0.1 is used for all statistical tests (e.g., Clark et al., 2002, 2009; Farrell & Frame, 1997; Tsiotsoua & Lalountas, 2005).

First, following Brown and Warner (1995), the market model is utilized to calculate daily deviations from expected returns. The market model describes the normal or expected return of firm  $i$  on day  $t$  ( $R_{i,t}$ ) as a function of the return of a market index:

$$(1) R_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t}$$

with  $\alpha$  and  $\beta$  being the market model parameters,  $R_{m,t}$  the return of the market index  $m$  on day  $t$ , and  $e_{i,t}$  the statistical margin of error. The unexpected return or AR is then defined as:

$$(2) AR_{i,t} = r_{i,t} - R_{i,t}$$

with  $r_{i,t}$  being the actual return of stock  $i$  on day  $t$  and  $R_{i,t}$  the expected return as defined above. Market model parameters were estimated using an estimation window of -120 trading days (6 months), beginning on day  $t=-130$  to  $t=-11$ . Day  $t=0$  marks the announcement date. In case this date fell on one of the stock exchange closing days across the various countries (e.g., weekend, holidays) the next possible trading day was defined as  $t=0$ . The event window stretches from day  $t=-3$  to  $t=3$ . The analysis of event windows corrects for possible uncertainty in the identification of actual announcement dates and accounts for information leakages and late stock market reactions.

Next, daily ARs are averaged across all firms in the sample in order to test statistical significance on an aggregate level. Average abnormal return (AAR) across all events on day  $t$  is defined as:

$$(3) AAR_t = \frac{1}{N} \cdot \sum_{i=1}^N AR_{i,t}$$

with  $AR_{i,t}$  being the abnormal return following event  $i$  on day  $t$  and  $N$  the total number of events in the sample. These average abnormal returns are cumulated over different time windows (e.g.,  $t_1=-2$  to  $t_2=+2$ ) within the event period. The cumulated average abnormal return (CAAR) between day  $t_1$  and  $t_2$  is defined as follows:

$$(4) CAAR_{t_1,t_2} = \sum_{i=t_1}^{t_2} AAR_t$$



These CAARs enable to test the significance of the cumulative effect of sponsorship announcements. To test the statistical significance of AAR and CAAR and consequently to test the first hypothesis (H1), Boehmer, Musumeci, and Poulsen's (BMP, 1991) standardized cross-sectional  $t$ -test is applied (Farrell & Frame, 1997). This parametric test is well specified for event studies using daily stock returns as it overcomes the potential problem of event-induced heteroskedasticity (Binder, 1998). The BMP test statistic is defined as:

$$(5) \quad t_{BMP} = \frac{\frac{1}{N} \cdot \sum_{i=1}^N SAR_{i,E}}{\sqrt{\frac{1}{N(N-1)} \cdot \sum_{i=1}^N (SAR_{i,E} - \sum_{i=1}^N \frac{SAR_{i,E}}{N})^2}}$$

with  $SAR_{i,E}$  being the standardized abnormal return following event  $i$  in period  $E$  and  $N$  the total number of events in sample. The standardized abnormal return following event  $i$  in period  $E$  ( $SAR_{i,E}$ ) included in formula (5) is defined as follows:

$$(6) \quad SAR_{i,E} = \frac{AR_{i,E}}{\sqrt{Ts_i^2}}$$

with  $AR_{i,E}$  being the abnormal return following event  $i$  in period  $E$ ,  $T$  the total number of days in period  $E$ , and  $s_i$  the standard deviation of  $AR$  of event  $i$  during estimation period.

As the second step of the data analysis, a non-parametric rank test is performed to further strengthen the significance of the results and to determine that the results are not driven by extreme outliers. This test is considered the standard procedure in the event study methodology as the normality assumption implicit in the  $t$ -test might be violated. Instead of using the value of  $AR$  the rank-test uses its ordinal information. As a result, the  $z$ -statistic is not influenced by the variance in the distribution of returns (Agrawal & Kamakura, 1995). For every country in the sample the corresponding leading share index is used as a proxy for  $R_m$  (e.g., Dow Jones for the US, FTSE 100 for UK). It is important to note that the results reported in this study are robust against changes in model specifications. Similar results are obtained using a 12-month estimation period, different approaches for expected return calculations (mean adjusted return, market adjusted return), and the selection of national stock market indexes (e.g., S&P 500 instead of Dow Jones for US). It is tested if  $AR$  can be detected for sponsoring firms, which would be revealed by a significant difference between expected stock returns and actual observed stock returns.

Third, multivariate regression analyses are carried out to test the hypotheses H2 to H6. It is checked whether cumulated  $AR$ s ( $CAR$ ) across  $t=-3$  and  $t=+3$  (dependent variable) are influenced by deal-specific ( $CORP$ ,  $INTERNAT$ ,  $NEW$ ) or sponsor-specific characteristics ( $SIZE$ ,  $TECH$ ).  $CAR$  between  $t=-3$  and  $t=+3$  is used as the dependent variable to account for possible information leakages before the announcement date or late market reactions. Moreover, dummy variables for regions ( $ASIAPAC$ ,  $EUROPE$ ,  $MENALA$ ,  $NAMERICA$ ), Olympic sponsorship ( $OLYMPIC$ ), naming right sponsorship ( $NAMING$ ), and specific sports ( $SPORT$ ) are included in the regression model as controls. The variables are checked for multicollinearity and endogeneity. All correla-

tion coefficients are below 0.9 (Tabachnick & Fidell, 2007) and the variance inflation factors (VIFs) are below 10 (Hair, Rolph, Tatham, & Black, 1998) indicating no problems of multicollinearity. As there is no correlation between the independent variables and the residuals, there should be no endogeneity problem (Wooldridge, 2002). The regression equation for the entire sample is written down below (with  $\sum_t^4 REGION$  representing a summary vector for all regions and  $\sum_t^8 SPORT$  for all sports included in the sample as listed in Table 1):

$$CAR = \beta_0 + \beta_1 CORP + \beta_2 INTERNAT + \beta_3 NEW + \beta_4 SIZE + \beta_5 TECH + \beta_6 OLYMPICS + \beta_7 NAMING + \sum_{i=1}^4 \beta_i REGION + \sum_{i=1}^8 \beta_i SPORT + \varepsilon \quad (7)$$

All regression models were estimated with robust standard errors to control for heteroskedasticity (MacKinnon & White, 1985; White, 1980). The regression equation for the two sub-samples soccer and motor sports is similar to equation (7), but excludes the control dummies for Olympic, naming right, and specific sport sponsorships. In the motor sports model, a Formula 1 dummy (*F1*) and a NASCAR dummy (*NASCAR*) are included as controls (reference category is motor cycle racing).

## Results

The results of the event study analysis for the overall sample including all sports (Panel A), and the sport-specific sub-samples soccer (Panel B) and motor sports (Panel C) are summarized in Table 2. The average ARs for the overall sample are positive (+0.36%) and significant ( $p < 0.01$ ) on the announcement day (Panel A). However, day 2 following the announcement registers significant negative returns (-0.09%,  $p < 0.05$ ). It is therefore important to examine the results of multi-day time windows in order to assess the cumulative impact. The CAARs for most time windows are positive and significant (e.g., days -1 to +1: +0.53%,  $p < 0.01$ ; Panel A) and no evidence for a negative reaction is found. These findings provide statistical evidence that sport sponsorship announcements positively impact stock returns. Therefore, H1 can be confirmed for the overall sample.

The results for the effect of soccer deals are displayed in Panel B of Table 2. While announcements trigger significantly negative returns on the day following the announcement ( $AAR = -0.21\%$ ,  $p < 0.05$ ), there is no statistical evidence for any share price reaction when looking at time windows. As share prices show no reaction to soccer sponsorships, or even react slightly negative, H1 cannot be confirmed for soccer. For sponsorships in motor sports, highly significant positive AARs on day 0 (+0.58%,  $p < 0.01$ ) show a positive impact of motor sport sponsorship announcements on stock returns (Panel C in Table 2). This result is also confirmed by consistently positive and significant CAARs across different time windows. For instance, between days -1 and +1 CAAR is +0.77% ( $p < 0.05$ ), thereby supporting H1 for sponsorship announcements in motor sports. It must be noted that these positive returns in motor sports are mainly driven by NASCAR deals (out of the 120 motor sport deals, 41 are NASCAR sponsorships, 62 are Formula 1 sponsorships, and the remaining 17 are motor cycling deals). The highly positive AAR on day 0 (0.92%,  $p < 0.01$ ) for NASCAR deals is also confirmed for CAARs (e.g., days -1 to +1: +1.63%,  $p < 0.01$ ), whereas returns for Formula 1 sponsorships are positive but not significant (e.g., days -1 to +1: +0.33%,  $p > 0.10$ ).

The results for the sponsorship effects for sponsors from different regions are displayed in Table 3, including North America (Panel A), Europe (Panel B), and Asia/Pacific

Table 2: (Cumulative) Average Abnormal Returns for Selected Days Around the Announcement Date

Day(s)	N	(C)AAR	$t_{BMP}$	N+ (%)	z
<b>Panel A: All sports</b>					
-2	629	0.05%	0.78	317 (50%)	-0.11
-1	629	0.06%	0.91	331 (53%)	0.63
0	629	0.36%	4.71***	344 (55%)	3.96***
+1	629	0.11%	1.23	315 (50%)	0.11
+2	629	-0.09%	-2.06**	284 (45%)	-2.39**
-1 to 0	629	0.42%	4.25***	340 (54%)	3.27***
-1 to +1	629	0.53%	4.17***	345 (55%)	3.28***
-3 to +3	629	0.32%	1.36	328 (52%)	1.47
<b>Panel B: Soccer</b>					
-2	117	-0.01%	-0.02	55 (47%)	-0.37
-1	117	0.14%	1.29	68 (58%)	0.68
0	117	0.11%	0.83	58 (50%)	-0.09
+1	117	-0.21%	-2.34**	52 (44%)	-1.86*
+2	117	0.04%	0.01	65 (56%)	0.54
-1 to 0	117	0.25%	1.56	61 (56%)	0.50
-1 to +1	117	0.04%	0.36	53 (64%)	-0.75
-3 to +3	117	-0.07%	-0.01	56 (48%)	-0.05
<b>Panel C: Motor sports</b>					
-2	120	-0.03%	-0.45	66 (55%)	0.23
-1	120	0.07%	0.11	56 (47%)	-0.41
0	120	0.58%	3.06***	74 (62%)	2.89***
+1	120	0.13%	1.13	60 (50%)	0.29
+2	120	0.02%	-0.22	56 (47%)	-0.31
-1 to 0	120	0.65%	1.97*	67 (56%)	1.74*
-1 to +1	120	0.77%	2.40**	67 (56%)	2.06**
-3 to +3	120	0.67%	1.19	70 (58%)	1.77

Note: \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ ; N+ is the number of sponsorship announcements having positive returns, percentage share in brackets.

(Panel C). Both, the average ARs for single days (day 0: +0.46%,  $p < 0.01$ ) and CAARs for time windows (days -1 to +1: +0.83%,  $p < 0.01$ ) are positive and significant for sponsors from North America (Panel A). Similar results were found for sponsors from Europe (Panel B) with positive and significant returns on the announcement day (+0.27%,  $p < 0.05$ ) and for time windows around the announcement (days 0 to +1: +0.36%,  $p < 0.05$ ). Thus, H1 can be confirmed for sponsors from North America and Europe. In contrast, significant negative ARs were detected for sponsors from the Asia/Pacific region (Panel C) on the second day following the announcement (-0.32%,  $p < 0.05$ ) and a time window surrounding the announcement (days -3 to +3: -0.66%,  $p < 0.10$ ). Because of these negative returns H1 must be rejected for the Asia/Pacific region.

The regression results for the overall sample (Model 1), for soccer (Model 2), and for motor sports (Model 3) are summarized in Table 4. With regard to the deal-specific fac-

Table 3: (Cumulative) Average Abnormal Returns for Selected Days Around the Announcement Date

Day(s)	N	(C)AAR	$t_{BMP}$	N+ (%)	z
<b>Panel A: North America</b>					
-2	305	0.08%	1.29	157 (51%)	0.18
-1	305	0.14%	1.42	165 (54%)	1.76*
0	305	0.46%	3.96***	171 (56%)	3.55***
+1	305	0.23%	1.85*	166 (54%)	1.01
+2	305	-0.03%	-1.38	135 (44%)	-1.41
-1 to 0	305	0.60%	4.10***	173 (57%)	3.63***
-1 to +1	305	0.83%	4.31***	181 (59%)	4.13***
-3 to +3	305	0.75%	2.29**	169 (55%)	2.45**
<b>Panel B: Europe</b>					
-2	231	0.08%	0.78	119 (52%)	0.52
-1	231	0.09%	0.55	123 (53%)	0.05
0	231	0.27%	2.32**	126 (55%)	1.85*
+1	231	-0.04%	-0.47	103 (45%)	-0.99
+2	231	-0.11%	-0.67	109 (47%)	-1.16
-1 to 0	231	0.36%	2.26**	120 (52%)	1.43
-1 to +1	231	0.32%	1.76*	122 (53%)	1.02
-3 to +3	231	0.05%	0.41	120 (52%)	0.60
<b>Panel C: Asia/Pacific</b>					
-2	81	-0.08%	-1.31	35 (43%)	-1.14
-1	81	-0.23%	-0.96	37 (46%)	-1.40
0	81	0.22%	1.12	41 (51%)	0.69
+1	81	-0.01%	-0.05	39 (48%)	-0.41
+2	81	-0.32%	-2.13**	33 (41%)	-1.92*
-1 to 0	81	-0.01%	-0.10	41 (51%)	-0.31
-1 to +1	81	-0.02%	-0.10	35 (43%)	-0.73
-3 to +3	81	-0.66%	-1.85*	32 (39%)	-2.09**

Note: \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ ; N+ is the number of sponsorship announcements having positive returns, percentage share in brackets.

tors, the factor *CORP* has a significant negative effect on *CAR* in Model 1 for all sports, implying that sponsorships on brand level have a higher impact on *CAR* than sponsorships on corporate level. The effect of *CORP* is neither significant in the soccer model nor in the motor sports model. Consequently, H2 must be rejected for all models. The variable *INTERNAT* has no significant effect on *CAR* in the model for all sports, whereas the results for soccer (Model 2) and motor sports (Model 3) reveal a significant negative effect. This negative effect implies that sponsorship deals with national reach have a significantly higher impact on *CAR* than sponsorship deals with international reach, which is contrary to the previous hypothesis (H3). Thus, H3 cannot be confirmed. The effect of *NEW* is not significant in all three models and therefore, H4 must be rejected. Pertaining to sponsor-specific factors, *SIZE* has a significant negative influence on *CAR*

Table 4: Summary of Regression Results for Cumulated Abnormal Return Between  $t=-3$  and  $t=+3$ 

	Model 1: All sports	Model 2: Soccer	Model 3: Motor sports
Constant	1.041 (1.79)*	3.045 (2.79)***	2.315. (1.86)*
CORP	-0.775 (-1.83)*	-0.694 (-0.87)	-0.104 (-0.14)
INTERNAT	-0.060 (-0.14)	-1.496 (-1.94)*	-4.069 (-3.27)***
NEW	-0.031 (-0.09)	-1.177 (-1.52)	0.904 (1.56)
SIZE	-0.001 (-1.34)	-0.002 (-2.40)**	-0.000 (-0.24)
TECH	0.442 (0.68)	0.796 (0.76)	0.564 (0.44)
OLYMPICS	1.417 (1.91)*	/	/
NAMING	0.352 (0.48)	/	/
ASIAPAC	-1.278 (-2.21)**	-2.395 (-2.09)**	-0.525 (-0.46)
EUROPE	-0.534 (-1.34)	-0.867 (-1.01)	0.258 (0.03)
MENALA	0.334 (0.24)	-1.025 (-0.64)	2.660 (1.67)*
SPORT dummies	<i>included</i>	/	/
F1	/	/	1.421 (1.43)
NASCAR	/	/	-1.504 (-1.21)
$R^2$	0.055	0.139	0.088
$F$	1.87	2.40	1.72
$p$	0.02**	0.02**	0.03**
$N$	629	117	120

Note: \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ ; displayed are the coefficients,  $t$ -values in brackets, robust standard errors are reported. Reference category for regions is North America. Seven sport dummies are used to capture sport-specific effects (Model 1; reference category is soccer); all SPORT dummies are not significant ( $p > 0.1$ ) except for American football ( $p < 0.05$ ). Motor sports model (model 3): reference category for motor sports dummies is motor cycle racing.

in the soccer model (Model 2), whereas the effect of *SIZE* is not significant in the overall model (Model 1) and for the motor sport model (Model 3). Therefore, H5 can only be confirmed for soccer. The variable *TECH* has no significant impact in all three models and therefore, H6 must be rejected. The region factor for *ASIAPAC* has a significant negative effect in the overall and in the soccer model and *MENALA* shows a significant positive effect in the motor sports model (Table 4).

## Discussion

The results of the study document that share prices generally reacted positively to sport sponsorship announcements. In particular, across the entire sample sponsoring

firms achieved ARs of +0.36% on the announcement date. Investors saw sponsorship deals as value creating investments with beneficial impact on future sales and profits. Overall, these substantial marketing investments were considered to be positive NPV projects that enhanced firm value. This implies, however, that deals might have been generally underpriced and that the equilibrium price level for sport sponsorship contracts has not (yet) been reached. The fact that sponsorship programs were considered as positive return projects could assist sponsored organizations in negotiating higher fees in order to allocate returns more equally. The finding of a positive sponsorship effect is in line with previous research (e.g., Agrawal & Kamakura, 1995; Clark et al., 2009; Miyazaki & Morgan, 2001).

The results also show that not all sponsorships were equal. Sponsorships in soccer were perceived as more skeptical. The negative share price reaction can be a sign that investors were pessimistic about the cost-benefit ratio for soccer deals. A potential reason for this finding can be that expected future incremental sales originated from the sponsorship could not justify the high prices paid for soccer deals. On the contrary, motor sport sponsorships generated high ARs (+0.58% on the announcement day), indicating that the investment community was very optimistic about motor sports deals. This finding is in accordance with previous results on motor sports sponsorships (Cornwell et al., 2001; Pruitt et al., 2004). Interestingly, the motor sports results were driven by NASCAR sponsorships, and not by Formula 1 deals. There are two possible reasons for this difference. First, deal prices were significantly higher for Formula 1 sponsorships. The fact that the impact of Formula 1 deals was neutral suggests that sponsorship contracts were signed at fair prices. Sponsors paid an adequate amount with regard to additional sales in the future. Second, NASCAR sponsors can build on an exceptionally loyal fan base. As Pruitt et al. (2004) note, NASCAR fans see a direct link between the performance of the teams and the contribution of sponsors. Fans are aware of the fact that "it is the sponsor that enables teams to develop better engines, better cars and to run more tests. That translates into fan loyalty." (Pruitt et al., 2004, p. 284).

The results from the regional analyses suggest that the effects of sponsorship announcements differed among regions. Whereas sponsorship was generally seen as a value creating activity for sponsors from North America and Europe, it was perceived as a negative sign in the Asia/Pacific region with negative returns. It must be noted total sponsorship expenditures of firms from the Asia/Pacific region are still on a comparatively low level and amount only to 50% of European and only to 30% of American sponsorship expenditures (PricewaterhouseCoopers, 2010). These figures indicate that sponsorship might still be in a development phase in the Asia/Pacific region and investors still need to be convinced about its effectiveness as a marketing tool.

Two deal-specific factors determined the firm value. For the entire sample, abnormal returns were determined by the level of the sponsorship (*CORP*). Contrary to the finding of previous research (Pruitt et al., 2004), deals on corporate level (e.g., promoting the firm name instead of a brand name) experienced lower returns compared to brand level deals. One explanation can be that investors are skeptical about the ability of consumers to associate the sponsored company name with specific brands, and as a result, future sales would be unaffected by the sponsorship. The factor *INERNAT* had a significant negative impact on ARs in the soccer model and in the motor sports model. A comparison with previous work is not possible as this characteristic has not

been under investigation until now. The better performance of deals with national coverage could indicate a mismatch between a sponsor's geographic target group and the sponsorship reach. For example, a global soccer event might not be the best fit for a Brazilian beer producer because (with few exceptions) the beer industry is characterized by fragmented national markets rather than a global market. The negative and insignificant effect of *NEW* is in line with previous research (e.g., Clark et al., 2002; Farrell & Frame, 1997). The argument that sponsors gain significant experience in first-time partnerships that is valuable to optimally leverage their sponsorship rights when the sponsorship is extended is not supported.

With respect to the sponsor-specific characteristics, the results indicated that *SIZE* had a negative influence on returns for soccer sponsorships. The negative effect for firm size implies that larger sponsors experienced lower ARs than smaller sponsors. This is in accordance with Clark et al.'s (2002) study on title event sponsorships. The findings support the previous assumption that potential scale advantages for larger firms in terms of extensive activation support are neutralized by additional visibility and significantly higher incremental awareness increase for smaller firms. In contrast to previous studies (e.g., Clark et al., 2009; Cornwell et al., 2005) there was no evidence in this study that firms from the high tech sector generated higher excess returns than firms from other industries.

This study has some limitations. The first limitation relates to the selection of sample firms. The selection process using a numerical cut-off value excluded smaller sponsorship deals (e.g., deals < \$1.5 million). Thus, the results are primarily applicable to large sponsorship deals. Second, the relatively low *R*<sup>2</sup>s indicate that further variables might be relevant to explain abnormal returns. For example, the level of congruence between a sponsor and the sponsored organization was found to be a relevant factor impacting ARs (Pruitt et al., 2004; Cornwell et al., 2005). However, this variable was not included in the model because of the subjective character of what constitutes a *congruent* sponsorship. Moreover, a sponsor's market share could be relevant because the marginal benefit from the sponsorship is likely to decline with higher levels of market share as a result of already high awareness scores. Unfortunately, it was not possible to obtain reliable estimates for this variable. Whereas the diversity of the sample regarding regions, industries, sponsorship types, and sports was an advantage over past literature in terms of broader generalizability of event study results, it might be a disadvantage at this point due to a lack of clear universal explanatory variables. Nevertheless, previous studies reported similar values for *R*<sup>2</sup> of less than 0.12 (e.g., Clark et al., 2009; Cornwell et al., 2001; Mishra et al., 1997) indicating that the variance in abnormal returns is difficult to explain.

Despite these limitations, the findings of this study have implications for several stakeholders. First, it is important for corporate managers and shareholders to note that the investment community considers sponsorships as overall beneficial investments. Therefore, it can be recommended that corporate managers invest in sport sponsorships as part of the communication mix. Second, the existence of ARs for sponsors should warn sport managers that the equilibrium price level for sport sponsorship contracts has not (yet) been reached. This provides grounds for upcoming negotiations to allocate overall sponsorship returns between sponsors and sport organizations more equally. Third, the results enable marketers to discuss on a quantitative basis about the

value of including sponsorships into the communication strategy, based on the evidence that sponsorships add measurable financial value to the firm. Lastly, linking marketing activities like sponsorship programs to share prices might seem farfetched since traditional measures are of more qualitative nature such as awareness scores or brand image changes. However, employing the event study approach allows drawing general conclusions about how investors react to sponsorship activities. This should be of interest for all companies attempting to maximize shareholder value.

## Conclusion

This study provided evidence on the positive impact of sponsorship announcements on firm value using the event study approach. Based on an international sample of sponsorship deals the results indicated a positive effect on the firm value caused by sport sponsorship announcements. Sponsorship deals of smaller firms, deals on brand level, and national deals were found to have significantly higher abnormal returns. Future research should further investigate the reasons why sponsorships with national reach generated higher ARs than deals with international reach using the speculated mismatch between the sponsors geographic target group and the sponsorship reach as a starting point. Next, the initial finding of the negative sponsorship effect for Asia/Pacific sponsors warrants further research on regional differences of sponsorship effectiveness. Furthermore, the impact of sponsorship withdrawals should be explored, especially in times where sponsoring firms face challenges following scandals such as Tiger Woods or Michael Phelps.

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