Does Marketing Capability matter in determining the Effectiveness of Sport Sponsorships?

Kamran Eshghi
Ph.D. Student, Marketing
Degroote School of Business
McMaster University
1280 Main St. W., Hamilton, ON, Canada, L8S 4M4
Phone: +1-905-525-9140 x 26170
eshghik@mcmaster.ca

Sourav Ray
Associate Professor, Marketing
Degroote School of Business
McMaster University
1280 Main St. W., Hamilton, ON, Canada, L8S 4M4
Phone: +1-905-525-9140 x 22370
sray@mcmaster.ca

Hesam Shahriari
Assistant Professor, Finance
College of Business
Prairie View A&M University
Agri and Business Building, Prairie View, Texas 77446
Phone: +1-936-261-9255
hhshahriari@pvamu.edu

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ABSTRACT

Despite the significant academic and corporate interest in sports sponsorships, and despite the significant financial stakes these present (sports sponsorship is almost a $15 billion business in North America alone), the literature is equivocal both on the impact as well as on the determinants of the effectiveness of these activities. While some papers report sports sponsorships enhance shareholder value, others report the opposite or no impact at all. Moreover, while a growing body of the marketing literature has investigated the impact of marketing capability in determining the effectiveness of marketing strategy and firm performance, we know little about how it impacts the effectiveness of sports sponsorships. In a partial attempt to address these gaps we painstakingly create a database of sports sponsorship announcements over fourteen years, complementing it with manually collected stock market data and firm level financial and marketing information. We then conduct an event study to show sports sponsorship announcements positively impact shareholder value. We find the magnitude of impact to be comparable to new product and branding announcements. We also estimate marketing capabilities of the firms in our sample and show that firms are able to generate greater shareholder value from their sports sponsorships efforts in the presence of higher marketing capability. We find that marketing capability can also mitigate the negative effect of financial risk burdens that prevents a firm from realizing the value from sport sponsorships. Our results are robust to considerations of sample selection bias, confounding and unobserved events, and outlier observations.

Keywords: Sport Sponsorship; Marketing Capability; Event Study; Stochastic Frontier Estimation; Two-stage Heckman Selection Model; Abnormal Returns.

INTRODUCTION

Sponsorship, especially sports sponsorship, is a significant part of the strategic marketing mix deployed globally. In 2015, global sponsorship spending reached $57.5 billion and is expected to reach $60.2 billion in 2016 (IEG 2016). North America accounts for about a third of this spending; almost 70% of this being spent on sports events and leagues. Such sports sponsorship is not seen as just another marketing communication tool. In fact, commentators suggest that sports sponsorship is a more effective tool for it is better able to stand out among the clutter of more traditional marketing communications (Meenaghan 2013). Practice certainly seems to have caught on to this notion, with the growth of sponsorship spending surpassing that of advertising in the past four years (IEG 2016). The interest is also reflected in a growing body of research investigating the effectiveness of sport sponsorships (*cf*. Cornwell et al., 2005; Clark et al. 2009).

Despite this large body of work, it is hard to draw robust conclusions about the effectiveness of sport sponsorships. Research findings are often contradictory. For example, some studies conclude sports sponsorships are effective, by finding sport sponsorship announcements have a positive effect on stock returns (Miyazaki and Morgan 2001; Pruitt et al., 2004; Cornwell et al., 2005). However, several other studies look at the same relationships and report a negative or no effect (Farrell and Frame 1997; Tsiotsou 2011; Mazodier and Rezaee 2013). Thus, concerns about the effectiveness of sports sponsorships linger (Ukman 2015).

Much of these concerns center on the idea that sports sponsorships are not effective in creating and claiming value on their own and depend on a slew of other marketing efforts (Ukman 2015). For example, Bell Canada sponsors both Toronto Maple Leafs (NHL) and Toronto Raptors (NBA). At the same time, Bell Canada purchases on-site ad spots at the Air Canada Center (home stadium), provides facilities to attendees in all broadcast press

conferences, and purchases ad broadcast time on major TV channels such as TSN and Sportsnet[1]. Presumably, these are complementary activities that help Bell leverage the benefits of their sponsorship dollars. While, both academic and professional commentators continue to emphasize the need for more research in this area (Olson and Thjømøe 2009); there is no consistent theme in the research literature on what, if any, marketing resources need to be deployed to enhance the effectiveness of sports sponsorships.

In a partial attempt to address this gap, we draw upon the Resource-Based View (RBV) and signaling theory to investigate the role of a firm's marketing capability in determining the effectiveness of its sports sponsorship investments. Marketing capability refers to the efficiency with which firms convert their marketing resources, into desired performance objectives such as sales, market share, product or brand enhancement, etc. (Dutta et al., 1999; Narasimhan et al., 2006). Such resources are reflected in the myriad marketing activities such as trade promotion, customer relationship management, and marketing research. Thus, activities such as on-site ad spots in sport venues, relationship building with attendees and reporters during and after a sport match, and purchasing simultaneous TV and radio broadcasts, as mentioned in the Bell Canada example, would only be as effective as the firm's marketing capability permits them to be. We believe such capability is a critical factor in how firms create and claim value from its sponsorship efforts. Surprisingly, despite the large body of research on sport sponsorship, little attention has been devoted to marketing capability and its role in determining the effectiveness of sport sponsorships.

In principle, our approach is similar to a growing list of papers that has studied the role of marketing capability as an important determinant of how firms derive strategy dividends (*cf.* Mishra and Modi 2016; Xiong and Bharadwaj 2013; Wiles et al., 2012; Song et al., 2005; Dutta

[1] Main Canadian sports TV channels.

et al. 1999). This literature has to deal with three key challenges. First, marketing capability and its substantive impact are often mired in a myriad of contextual details. This requires that the body of research look for generalizability across a multiplicity of contexts. Our paper contributes to this endeavor by expanding the set of contexts to include sports sponsorships.

Second, marketing capability, as a latent construct, presents a number of measurement challenges. Key informant perceptual measures offer one possible route but have limitations (*cf.* Jaakkola et al. 2010). Since capability is defined as a matter of "efficiency," such perceptual measures can be laden with significant managerial bias. To address this, much of the recent literature are adopting methods that attempt to anchor the measurement on more grounded input-output statistics (*cf.* Wiles et al. 2012). Our paper takes this second approach by deploying the Stochastic Frontier Estimation (SFE) method to measure marketing capability from grounded measures. This technique moves away from the need to depend on perceptual measures by inferring capabilities from the efficiency with which different firms convert inputs (e.g. marketing expenses and trademarks) into outputs (e.g. sales).

Third, in understanding the impact of capability on the dividends firms derive from their strategy, the literature has to calibrate the "value" such strategy creates for the firm. While there is little argument that marketing actions affect firm value through a gamut of customer, market and financial impact (Rust et al. 2004); measurement of such activities and their impact in terms of the value created is non-trivial. Indeed, as recently as in 2014, Marketing Science Institute's research priorities called for greater research in the area. To that end, we adopt the perspective common in the finance and marketing literature that value is reflected in the abnormal stock returns from public firms' announcements. This derives from the viewpoint that stock prices offer a convenient, as well as a robust measure, to track value creation because they not only

index firm valuation but tend to rapidly incorporate all available information related to the profitability of the firm (Malkiel and Fama 1970). So, we seek to measure the impact of sports sponsorships on stock prices. In particular, we use the event study methodology to measure stock price reaction to sports sponsorship announcements (*cf.* Johnston 2007). To interpret our results, we draw upon signaling theory to suggest that sports sponsorship announcements effectively signal corporate strategic fit and financial solvency; information that then gets incorporated into stock prices.

To summarize, our main substantive contribution is to investigate the role of marketing capability in determining the effectiveness of sports sponsorships. We find a firm's marketing capability plays an important complementary role. Firms are rewarded more by the stock market and investors when they possess strong marketing capability. This reward is both direct as well as indirect, mitigating the negative effect of financial risk for the firms investing in sports sponsorships. To the best of our knowledge, we are the first to demonstrate these empirically. In the process, we expand the generalizability of the results in a growing list of papers that document the important role marketing capability plays in determining the return on marketing efforts.

Methodologically, in addition to using the stochastic frontier estimation (SFE) model, to measure marketing capability, we deal with an important bias not often dealt with in the literature. Systematic but unobserved differences between firms that engage in sports sponsorships and firms that do not, could lead to inconsistent and biased estimates. We control for the effect of such selection bias in our sample by collecting additional data outside of our core sample and using the two stage Heckman selection model. While event studies are

increasingly common in marketing (Sorescu et al., 2017), we are among the first to control for such bias in sponsorship studies.

The rest of paper is organized as follows. We first review the related literature and develop our main research propositions by drawing upon the signaling and RBV theories. Subsequently, we present the data and method in detail, followed by the results. We conclude by discussing the implications, limitations, and suggestions for further study.

BACKGROUND

The typical sports sponsorship involves the sponsor investing in, and often providing a particular good or service to, the sponsored entity. For example, BMO (Bank of Montreal) has been the official shirt sponsor of Toronto FC. In return, the sponsor gets both, exposure to the fan base, as well as some level of brand association with the sport and the sponsored entity. This is of interest to the sponsor because of a potential to monetize the notoriety. Meenaghan's (1991) definition of sponsorship is apt here – it is an "investment, in cash or in kind, in any activity, in return for access to the exploitable commercial potential associated with that activity" (p. 36).

The putative definition of sponsorship notwithstanding, there is a myriad of organizational objectives that drive sponsorships. These range from relatively general ones like sales increase and creating a favorable corporate image, to more specific ones like reaching a niche audience, attracting and retaining competent employees, or, as is often the case, some convex combination of these objectives (IEG 2015). Sifting through the multiplicity of objectives to measure the effectiveness of sponsorships is a challenge and has thus, attracted much attention from researchers and practitioners in the domain of sports sponsorship (Cornwell and Maignan 1998). For marketers specifically, effectiveness of sports sponsorship is a concern

that derives directly from calls for establishing the returns on investment (ROI) of marketing expenses (Bahadir, Bharadwaj, and Srivastava 2008; Joshi and Hanssens 2010; Morgan 2012).

Not surprisingly, this effort to measure effectiveness has anchored on two key stakeholder reactions – the consumer and the shareholder (Kim, 2010). Several studies investigate consumer reactions (e.g. Carrillat, d'Astous, Bellavance, and Eid 2015). Others study firm performance through the lens of shareholder responses by focusing on stock returns of the sponsoring companies (*cf.* Pruitt et al. 2004; Cornwell et al. 2005; Clark et al. 2009; Mazodier and Rezae, 2013). Much of this latter group of studies linking sponsorship to firm performance deploys event studies.

The large body of research notwithstanding, the literature is somewhat equivocal on the role, and evidence of the effectiveness, of sports sponsorships. While sponsorships can be seen as reflecting the financial health and solvency of the sponsoring firm and thus a positive economic signal, it can also be seen as wasteful and monies better deployed in other marketing communication activities (e.g. direct to consumer advertisements). Indeed, a number of papers show that sport sponsorship announcements positively affect stock returns of the sponsoring firms around the announcement date in different contexts such as major sport leagues, NASCAR, and Olympic Games (Miyazaki and Morgan 2001; Pruitt et al. 2004; Cornwell et al. 2005). However, other studies call these results into question by reporting negative or no effect of sport sponsorship announcement on stock returns (*cf.* Farrell and Frame 1997; Tsiotsou 2011). Table 1 is a list of sport sponsorship announcement studies published between 1997-2015 which records the reported findings about the impact of the sponsorship announcements on cumulative abnormal stock returns. Notice the mixed results.

[TABLE 1 ABOUT HERE]

To add to the challenge of interpreting the effectiveness of sports sponsorships, the set of studies that have attempted to investigate the factors that explain the variation in the empirical results, is quite limited. Those that exist are often narrowly focused on financial indicators and the strategic fit between the contracting parties. For example, this literature has looked at the impact of "activation" or "leverage" - additional investments in sponsorship beyond the initial rights fee to become a sponsor – in determining the effectiveness of sports sponsorship (Quester and Thompson 2001). Crimmins and Horn (1996) show that firms that failed to invest beyond payment of rights fees did not gain from their sponsorship activities. Cornwell et al. (2005) also show that leveraging activities are necessary ingredients for the success of sport sponsorships. Nevertheless, the literature is ambiguous on the processes that determine these empirically observed "leveraging" effects. In particular, there is little by the way of a theoretical justification that incorporates a firm's unique capabilities in the domain; capabilities that give it a sustainable advantage over its competitors also engaged in similar pursuit.

Outlines of potential theoretical justifications in the broader sponsorship literature are seen in transaction cost economics (TCE) oriented reasoning (Sam et al., 2005) and in resource-based view (RBV) oriented reasoning (Amis et al., 1997). We borrow from the latter, which purport to examine how sponsorship can lead to a sustainable competitive advantage for sponsoring firm only in the presence of distinct firm capabilities.

Marketing capability, in particular, has been the focus of much recent research in marketing (*cf.* Dutta et al. 1999; Srivastava et al., 1998, 1999; Vorhies and Morgan 2005; Krasnikov and Jayachandran 2008; Xiong and Bharadwaj 2013); much of it devoted to examining its impact on firm performance.

The impact is largely seen as positive. Krasnikov and Jayachandran (2008) conduct a meta-analysis on the relationship between a firm's capabilities and its performance and find that marketing capability has a significantly stronger effect on firm performance than research and development and operational capabilities.

Nevertheless, benchmarking firm performance can be a highly context-dependent exercise, and it is no surprise that the role of marketing capability will also be mired in a myriad of contextual considerations. As such, there is an ever-expanding array of research that seeks to examine the generalizability of the tenets to different contexts. Mishra and Modi (2016) investigate the role of marketing capability in determining the effectiveness of CSR activities on stock returns. Xiong and Bharadwaj (2013) show that marketing capability mitigates the unfavorable effect of negative news on stock returns. Wiles et al. (2012) find that marketing capability plays a crucial role in creating wealth from brand merger-acquisition transactions. Song et al. (2005) investigate how marketing capability complements technology resources to drive firm performance. Dutta et al. (1999) explore the role of marketing capability in high-tech markets and its effect on firm performance. Yet, to the best of our knowledge, no study examines the role of marketing capability in sports sponsorships. Table 1 illustrates this gap.

One of the key challenges faced by researchers in the domain is that firm capabilities are not explicitly visible. As such, marketing capability is often measured using multi-item perceptual scales via key-informant surveys (Song et al. 2005; Vorhies and Morgan 2005; Jaakkola et al. 2010). However, since marketing capability is seen as the firm`s ability to efficiently use its available resources (inputs) to create market-based asset value or output (Wiles et al. 2012), and such efficiency is almost always tied to managerial performance, such measures have been criticized as being laden with biased managerial perceptions (Mezias and Starbuck

2003). There is a growing list of papers that address this by basing their measurement of marketing capability on proxy measures derived from grounded data. In keeping with this line of work, in this study, we use the stochastic frontier estimation (SFE) model, to operationalize marketing capability (see Dutta et al. 1999 and Narasimhan et al. 2006 for others who have adopted the same approach). This technique moves away from the need to depend on perceptual measures by inferring capabilities from the efficiency with which different firms convert inputs (e.g. marketing expenses and trademarks) into outputs (e.g. sales).

THEORY

The debate over whether marketing is a cost or a profit center in firms is almost as old as marketing itself, with calls for accurately calibrating the returns on marketing investment (ROMI) always being front and center for practitioners and researchers in marketing. Hanssens and Pauwels (2016) point to three important factors that drive this interest. First, they point to the fact that decisions in large companies that sometimes lead to relatively large marketing expenses (multimillion dollars) relative to expenses in other functions, like operational changes (which might be much smaller, in thousands of dollars), are often not backed by appropriate data and analytics. Second, the term "marketing" refers to several things - a philosophy (customer centricity), a function (the marketing department), and a set of activities (the marketing mix); therefore muddying the waters in terms of exactly whose returns is to be assessed. Third, even the appropriate metric to calibrate the ROMI is beset with uncertainties – with low correlation between measures of attitudinal, behavioral and financial indicators of marketing performance. Not surprisingly, each of these reasons finds resonance in queries surrounding the effectiveness of sports sponsorships. First, while it is not clear that they are necessarily among the most visible of marketing spends, sports sponsorships tend to be of large magnitudes, sometimes running into

millions of dollars. Second, while there is little doubt that these are part of the marketing mix, and mostly a marketing department controlled expenditure, it is not always clear how customer centricity influences the nature of the expenses. Last but not the least, while the effectiveness of sports sponsorships can manifest in both consumer (attitudinal, behavioral) and shareholder (financial) outcomes, convergence between the two outcomes is hobbled by fragmented evidence of the relationship within a type – as it is in the case of financial returns.

So, how does a large marketing mix expenditure like sports sponsorship generate value and come to impact shareholder returns, if at all? And exactly how can a firm's core marketing capabilities determine the effectiveness with which sports sponsorship efforts generate value for shareholders? To address these questions, we borrow from Signalling and the Resource Based View (RBV) theories.

Sports Sponsorship Announcements as Signals

The basic premise of signaling theory is that information about unobserved quality reduces information asymmetry between sellers and buyers, leading to greater verity in the assessment of value and thereby leading to more efficient transactions (Spence 2002). Lacking direct access to otherwise unobservable characteristics about a firm's financial well-being and details about a firm's business strategy (which might be information private to the managers), investors draw inferences based on observable data. Even if they wanted to, managers also face the challenge of cogently communicating details of their strategy to a wide spectrum of potential investors within the constraints of resources, ability, and concerns around unwarrantedly yielding key business information to competition. So, managers may use otherwise innocuous announcements about the firm's activities, to signal both their intent and the quality of their decisions, to increase the firm's desirability to investors and thus enhancing shareholder value (Joshi and Hanssens 2010).

Three factors are key here. One is the assumption that there is a sufficiently broad-based heterogeneity in investor sophistication and access to key information, which in the aggregate, the "market" at large makes a robust assessment of the value the announcement seeks to convey. The second is the assumption that such an aggregate assessment is made efficiently and reflects immediately through movements in the firm's stock value. Last but not the least, is the constraint that the signal is not only adequately observable and clear but also credible, to warrant investor attention (Kirmani and Rao 2000; Johnston 2010).

A key characteristic of sports sponsorship announcements is that they are immediately observable through media coverage and news. The substance of the sponsorship is generally quite clear in the announcements. While the expenses per se may not be readily visible to all, the public nature of the announcements serves to establish managerial commitment since managers can then be held to account by shareholders in case of any default on the implementation without cause. Thus, the announcements are also deemed credible signals of the firms' intent, and among other things, can also serve to signal the managers' confidence in the value-generating potential of the activity being announced (Clark et al., 2002). In particular, when a firm announces a sport sponsorship agreement, shareholders and investors independently judge the future impact of this event – judgments which manifest in up or down movements in the firm's stock returns. So, any abnormal returns following the announcement can be seen as an indicator of the net economic value generation of sport sponsorship investments.

Of course, it is not necessary that all sports sponsorships generate positive value. In particular, since these are typically large expenses, markets may sometimes just as easily deem these as unnecessary and which will not generate the expected economic returns (Mazodier and

Rezaee 2013). Negative abnormal returns following an announcement would proxy the value depleting characteristic of the activity in that case.

Given the arguments above, the impact of sports sponsorship on shareholder value is an empirical question, and we will let our data tell us what the impact is. Thus, the appropriate null proposition that will guide our subsequent empirical efforts is:

P0: *Sports Sponsorships do not impact shareholder value.*

Now, it stands to reason that all sports sponsorships are not equal. In fact, was that the case, there would not be any heterogeneity in outcomes between different types of sports sponsorships. More importantly, even if one could rank order different sports sponsorships in terms of the inherent value they hold, would different firms deploying the same types of sports sponsorships generate similar value? This is where firm heterogeneity plays a role.

RBV and the Firms' Marketing Capability

The key tenet of RBV is that firms possess different resources. These resources can impart certain unique strategic capabilities to firms which underline their sustainable competitive advantage. Thus variation in firms' performances can be attributed to the heterogeneity in such resources and capabilities (Barney 1991). Marketing capability is a key strategic capability that refers to the efficiency with which a firm converts its marketing resources, into desired performance objectives like sales, market share, product or brand enhancement, etc. (Dutta et al. 1999; Narasimhan et al. 2006). The construct has important implications.

Most effective strategic marketing textbook will assert that large expenses on deploying the marketing mix must follow a deliberate strategy; and that the effectiveness of the deployment will be dependent on the "fit" between the strategy and the contingencies faced by the firm. However, what about the firm's ability to choose the right strategy and select the appropriate

menu and schedule of deploying the marketing mix? What about choosing the combination of the different resources the firm has, the managerial control of the mix and the ongoing sense and respond mode of implementation? These are organizational concerns and a matter of the firm's marketing capability. So, the sports sponsorship expenses per se are not enough to achieve the marketing objectives of the activity, be it increased sales, brand enhancement, or some combination. Neither will expenses on related marketing activities necessarily leverage the sponsorship investments. To truly generate and claim value, the sponsoring firm will need to combine its different marketing resources efficiently. This requires a high level of marketing capability.

The implication of the above is that any value generated by sports sponsorship will inevitably be moderated by the marketing capability of the firm. Firms with higher marketing capability will be able to generate greater value from the same sponsorships, than firms with lower marketing capability. However, how would potential investors infer the marketing capability of the firm to assess what value the sports sponsorship generate and claim?

Clearly, marketing capability is not visible. However, investors have information about the company from public and private documents, including white papers, company reports, press releases, even observations of their marketing activities. The relevant information gleaned from these would include expenses in marketing and other activities, product and technology portfolio, customer and vendor relations, brand reputation and financial performance. They would thus be able to at least subjectively assess how efficiently the firm processes its inputs (marketing resources) into outputs (marketing objectives). Therefore, to the extent abnormal returns calibrate the sum total of the market impact of sports sponsorships, marketing capability will moderate the relation between sports sponsorships and abnormal returns. Specifically, we would

expect firms with higher marketing capability show a stronger relation between sports sponsorship announcements and positive abnormal returns than for firms with lower marketing capabilities.

In the same vein, we would expect marketing capability will reduce any potential negative impact of sports sponsorships. In particular, since sports sponsorships are large expenses, higher levels of book leverage or financial risk of a company, would lead the investors to view sport sponsorship announcements potentially negatively. However, a firm with strong marketing capabilities may be seen as being able to develop and execute various marketing strategies efficiently, despite being highly leveraged. Thus, marketing capabilities would mitigate the negative effect of high book leverage or financial risk.

The discussion above suggests a clear role of marketing capability, which we now present as a testable proposition:

P1: *Marketing Capability ameliorates Sports Sponsorships' effects on shareholder value*.

EMPIRICAL ANALYSES

We start documenting our empirical effort by first discussing our data. We then outline our analyses methods, models to test our propositions and some robustness checks.

Data

To testing our propositions, there are two key challenges the data needs to address. One relates to the context of the study, the other relates to data sources. We highlight these briefly below.

While we focus on the effectiveness of the sponsoring firm's sports sponsorship efforts, notice that much of modern sports entities that are being sponsored (clubs, events, sports bodies, etc.) also have their own marketing efforts. So, heterogeneity between the different sponsored entities may confound the outcomes. This can be addressed both by design and by using

appropriate modeling. On the design side, the ideal context would control for such heterogeneity or reduce the severity of the same. The prevailing Canadian sports context is somewhat unique in this sense and offers a convenient setting, as we explain below.

Unlike the US and much of Europe, Canada is among the few countries where sport sponsorship is not the fastest growing sponsorship activities among firms. In fact, while the total spending on sponsorships remains large, industry reports point to a shift away from sport sponsorship to other types of community-based sponsorships by Canadian firms (O'Reilly et al., 2014). This ends up flattening the spread of capabilities across the sports entities, all of whom now have to develop significant marketing capabilities in order to compete for the shrinking pool of dollars (Thwaites et al., 1998, p. 46).

The second challenge we deal with is that the data needed to test our propositions is rarely available in well organized, single source format. Our required data covers four types: (1) sport sponsorship announcement (date of announcement and details), (2) stock return data, (3) financial information of the sponsors (firms), and (4) company marketing data. The first two data types are needed to conduct event study and investigate the impact of sports sponsorships on shareholder value. The last two data types are needed to investigate the role of marketing capability. Unfortunately, these are not available in any well organized single dataset and require an extensive effort to manually extract and combine data from multiple sources, ranging from press clippings, stock exchange, and company records, as explained below.

Sports Sponsorship Announcements

Here, we need the date of the event (announcement, and the name of the sponsors and sport entities). We consider the sponsorship announcement date over a fourteen-year period from 2000 to 2013. This period covers several major sport events -- four Summer Olympic Games and three

Winter Olympic Games, including the 2010 Winter Olympic Games in Vancouver. We define the event day as the announcement date of an occurring or a future sport sponsorship deal between a firm and a sport entity that is covered by news agencies and the media. We mainly used Lexis-Nexis Academic to extract the announcement dates. We also used Factiva and the sponsors' and/or sponsored entities' websites to make sure that event date is accurate. Our data collection effort leads to 92 unique sport sponsorship announcements[2]. After checking for confounding events such as scandal, CEO leaving the company, five announcements were excluded from data set, making 87 unique sport sponsorship announcements.

Stock Market Data

Second, we collect stock returns data for identified firms from news and media in the previous stage from the University of Toronto's Computing in the Humanities and Social Sciences (CHASS) Data Centre. All the firms in our sample are listed on the Toronto Stock Exchange. We have to omit seven more sport sponsorship announcements from the previous stage because sponsors' stock returns data was not available for the event date or the estimation period. Therefore, we end up with 80 unique sport sponsorship announcements.

Company Financial Data

Third, we collect financial information for the identified firms from Compustat North America Fundamentals Annual data set, accessed through Wharton Research Data Service (WRDS). We

[2] One of the most critical assumptions of event study method is the isolation of the effect of the event of interest from the effect of any other event (McWilliams & Siegel, 1997). Confounding events such as the announcement of merger and acquisitions, the declaration of dividends, or big scandals could affect stock price and, subsequently, abnormal return. We eliminate the company from the sample by checking the target companies' news 20 days before and 20 days after the event using LexisNexis and Factiva.

complement this data by collecting additional and missing information from Annual reports, accessed through SEDAR[3].

Company Marketing Data

Finally, we collect marketing data that will be used to measure marketing capability. We collected data on sales, selling, general and administrative (SG&A) expenses and, and registered trademarks. We acquired data on registered trademarks from the Canadian Intellectual Property Office Trademark database. This database contains the number of registered trademarks for all Canadian firms from 1865 to the present. We also used Compustat and SEDAR again to extract sales and (SG&A) expenses[4]. We provide the details for the measurement of marketing capability in the method section.

Our final sample consists of 80 sport sponsorship announcements by 27 companies involving 62 sport clubs, entities, and events.[5]

Models and Tests of Propositions

Our empirical strategy is implemented in three stages. First, we conduct an event study to test the null proposition P0 which investigates the relation between sports sponsorship announcements and shareholder value. In the second stage, we estimate marketing capability using the stochastic frontier estimation (SFE) method. In the last stage, we test proposition P1 which investigates the role of marketing capability in ameliorating the impact of sports sponsorship on shareholder value. We discuss the specific empirical models and the tests of propositions below.

[3] System for Electronic Document Analysis and Retrieval

[4] Marketing expenses reported as part of SG&A expenses. Advertising expenses are not available for all firms over the required time period in our data set.

[5] Given the data challenges, small sample sizes are quite common for event studies in the management and marketing literature (McWilliams and Siegel,1997). For example, Johnston (2010) uses a sample of 51 sponsorship announcements while Tsiotsou (2011) uses only 11 sponsors. 80 seems a reasonably large number for our case.

Stage 1: Event study to measure impact of Sports Sponsorship Announcements

Event studies enable us to estimate the financial impact of unexpected events, by measuring the stock price reaction to that event (Johnston 2007, McWilliams and Siegel 1997). The underlying premise of the method is that financial markets are efficient, with stock prices rapidly reflecting all available information related to the profitability of the firm (Malkiel and Fama 1970). So, if the event is a meaningful one (in terms of financial impact) its effect would be seen in a significant difference in the return of the stock before and after the event. We provide more details about the methodology in the Web Appendix and only present the outline of our analyses here.

The unexpected event in our case is the sports sponsorship announcement. We start by first estimating the "abnormal returns" of the individual stocks. Abnormal returns normalize the individual stock returns against a benchmark market portfolio, parsing out the impact of the event by controlling for secular market trends. P0 is tested with a z-test to check if the change in abnormal returns is statistically significant. Positive changes would imply the announcement enhances shareholder value, and negative changes, the opposite. Since the impact can happen over multiple periods, it is customary to undertake this test over different windows (time periods) around the event, using the cumulative abnormal returns over the chosen periods. In our analysis, we check the results over nine different window lengths, ranging from within a day of the announcement, to three weeks.

Stage 2: Stochastic Frontier Estimation (SFE) to estimate Marketing Capability

Marketing capability refers to the efficiency with which the firm deploys its marketing-related activities such as trade promotion, customer relationship management, and marketing research, to achieve its business objectives such as increased sales or brand enhancement (Dutta et al.

1999). This is aptly described as an input-output perspective by Wiles et al. (2012) where high levels of marketing capability allow the firm, to more efficiently convert its available marketing resources (input) to enhance the value of its market-based assets (output). To measure this, we use SFE, employed in several earlier studies (Dutta et al. 1999; Narasimhan et al. 2006).

As inputs, we use both tangible and intangible marketing resources of the firm. Specifically, to proxy tangible marketing resources, we use the selling, general and administrative (SG&A) expense, which is the total amount of money spent in all marketing-related activities (Dutta et al. 1999)[6]. To proxy its intangible marketing resources, we use the number of trademarks owned by the firm as the other input. Following Dutta et al. (1999) we then use annual sales as the relevant market output. Thus, our subsequent analyses assume the following "marketing frontier function":

$$Sales = f\big(tangible\ mktg\ resources\ (SG\&A), intangible\ mktg\ resources\ (trademarks)\big) \quad (1)$$

SFE proceeds by first estimating the maximum output, (here, sales) the firm could have achieved, given a combination of its inputs (here, the resources). This establishes the efficient frontier. The gap between this maximum and its actual performance (realized sales) is an estimate of the firm's *inefficiency*. Thus, smaller the gap, higher is the firm's marketing capability (Dutta et al. 2005).

Specifically, we use an exponential function, using a log transformation to linearize it:

$$Sales_{it} = f(X_{it}, \beta)\, e^{\varepsilon_{it} - \eta_{it}} \quad (2)$$

$$Ln(Sales_{it}) = \alpha_0 + \alpha_1 Ln(SGA_{it}) + \alpha_2\, Ln(Tr_{it}) + \varepsilon_{it} - \eta_{it} \quad (3)$$

[6] We could not use advertising expenses for complete information on it was not available for all firms in our data.

Here, $Sales_{it}$ = Revenues of firm *i* in year t; SGA_{it} = SG&A stock for firm *i* in year t; ε_{it} is a random error term; and η_{it} is the inefficiency in converting input (resources) to output (sales). Thus, the inverse of η_{it} measures the firm's *marketing capability*.

Stage 3: Cross-sectional Regression to check the impact of Marketing Capability

In stage 3 we test P1, by investigating the impact of the firms' marketing capability (estimated in stage 2), on the cumulative abnormal returns (calculated in stage 1). Thus, our analyses proceed by regressing cumulative abnormal returns on marketing capability and other firm and event characteristics as controls.

Recall that P1 proposes that marketing capability not only enhances any potential positive impact of sports sponsorships, but also ameliorates the potential negative impact of high levels of book leverage. So, the basic model we estimate is the following cross-sectional regression:

$$CAR_{i,t}[-t_1, t_2] = \beta_0 + \beta_1 Marketing\ Capability_{i,t-1} + \beta_2 Book\ Leverage_{i,t-1} + \beta_3 Marketing\ Capability_{i,t-1} \times Book\ Leverage_{i,t-1} + \text{B•Control Variables} + \omega_{i,t} \quad (4)$$

Here, $CAR_{i,t}[-t_1,t_2]$ is the cumulative abnormal return for firm i (who has sponsored in year t) in the window between $-t_1$ and t_2. In our subsequent estimations, we focus on the [-1,0] window to capture the stock returns between a day prior to the announcement and the day of the announcement – thereby accounting for market expectations driven by potential early leaks of the announcement information. To remove any potential endogeneity issues, Marketing Capability and Book Leverage are calculated at the previous year (t-1). We use several other variables, to control for other firms and the sponsored entity level factors that may impact $CAR_{i,t}$. $\omega_{i,t}$ is random error.

The key coefficients to be tested for P1, are β_1 and β_3. We expect $\beta_1>0$ since marketing capability is expected to improve shareholder value following the announcement. With book leverage being seen as a negative drag on shareholder value, we also expect $\beta_3>0$, i.e. marketing capability will reduce the negative impact of book leverage in the relevant window.

The specification above has a key limitation which may result in statistically inconsistent estimates. In particular, systematic, yet unobserved differences between firms may determine which firms actively engage in sport sponsorships and those that do not. For example, managers may have private information about specific characteristics, like the firm's marketing capability and financial constraints, which could impact their decision to enter into a sponsorship deal (Hamilton and Nickerson 2003). So, any attempt to explain variation in $CAR_{i,t}$ using firm-level variables but only using a sample that has undertaken sports sponsorship deals, risks incorporating a selection bias in the estimates. In particular, this would violate the assumption that the error term $\omega_{i,t}$ should be uncorrelated with the regressors, leading to statistically inconsistent estimates. To tide over this problem and account for the possible selection bias we use the two-stage Heckman (1979) procedure. We explain this briefly below.

In the first step, we apply a probit selection model to estimate the probability that a firm will invest in sport sponsorship. To model this, we need variation in the sports sponsorship decision. We achieve this in two ways.

Note that our sample has firm-level observations over fourteen years, with sports sponsorship deals being done in only certain years and not others. This allows us to use all the firms in our sample to model the decision within a panel structure. We also take the firms in our sample that have a sponsorship deal in a given year and construct a matched holdout sample of publicly traded Canadian firms that have *not* been involved in sponsorship activity in that year.

For comparability, we only choose firms that operate in the same three or four-digit SIC codes and have a similar market capitalization (+/- 20%) to the focal firms in our sample. This second holdout sample is used for robustness check later.

Within the panel structure, we dichotomize the dependent variable (sport sponsorship decision in year t) to be one if the firm had a sport sponsorship deal in the year; 0 otherwise. We use two key variables to model this decision. We include the firm's marketing capability as the factor that underlines managerial confidence that the firm will be able to appropriately leverage the sponsorship investments. We also include a measure of the firm's financial constraints (Financing); higher levels of which would call to question the merit of the significant expenses involved in the sponsorship deals. We then include year dummies (a total of thirteen given our fourteen years' data) to control for any secular temporal variance in the market environment. Thus we estimate the following model:

$$Prob(Sport\ Sponsorship = 1)_{it} = \Phi\big(\gamma_0 + \gamma_1\ Marketing\ Capability_{it} +$$

$$\gamma_2\ Financial\ Constraint_{it} + \sum_{j=1}^{13} \tau_j\ Year_j + \mu_{it}\big) \qquad (5)$$

Where, Φ is the standard normal cdf, $Year_j$ is the year dummy, and μ_{it} is the error term.

We calculate Mill's lambda from the estimated parameters in the first step and include that as an additional regressor in the second step to account for potential selection bias. A significant coefficient for Mill's lambda would indicate a selection effect in our sample. The specific model we estimate is:

$$CAR_{i,t}[-1,0] = \beta_0 + \beta_1 Marketing\ Capability_{i,t-1} + \beta_2 Book\ Leverage_{i,t-1} +$$

$$\beta_3 Marketin\quad Capability_{i,t-1} \times Book\ Leverage_{i,t-1} + \beta_4\ ROE_{i,t-1} + \beta_5\ Size_{i,t-1} + \beta_6\ Entity_{\ i,t} +$$

$$\beta_7\ Mills\ Lambda_{i,t} + \omega_{i,t} \qquad (6)$$

Note that we include three control variables in the specification. Return on Equity ($ROE_{i,t-1}$) is an aggregate measure of the firm's efficiency in converting shareholder equity to profit. Thus one would expect that to also impact the shareholder value generated through sports sponsorships. The size of the firm is measured in terms of log of market value of equity ($Size_{i,t-1}$) and is used to control for scale effects of the announcements on stock returns (Clark et al. 2002; Clark et al. 2009). Both these are lagged to address potential endogeneity. We also include a dummy variable, $Entity_{i,t}$, to control for the type of entity being sponsored – sports leagues, sport federations, or professional sport clubs. We provide the details of all the variable in Table 2.

[TABLE 2 ABOUT HERE]

RESULTS

We report the pairwise correlations and descriptive statistics for the variables in Table 3. To reduce the effect of multicollinearity, we mean center the variables and the interaction terms. We also check for the Variance Inflation Factor (VIF) and tolerance values. The VIF values in our regressions range from 1.04 to 1.55 indicating collinearity is not a significant concern here.[7]

[TABLE 3 ABOUT HERE]

Results of Event Study (Stage 1)

One of the critical decisions in event studies is to decide the choose the event window. A long event window may better capture the effect of an event when there is a high possibility of advanced leakage of information. Yet, a long window reduces the power of the test statistics and can lead to false inferences regarding the significance of the event when unobserved

[7] Generally, a VIF >2.50 is considered an indicator of multicollinearity.

confounding events interfere with the effects (McWilliams and Siegel 1997). In such cases, a short event window seems better suited to control for any confounding events.

In choosing the main event window for our tests, we factored in that most important news and information are usually released to major news outlets such as the Wall Street Journal, the day before they appear in regular print media. Therefore, many investors may receive the news of the deal a day before the official announcement. So, we focus on the day of the event and the day before (-1, 0) as our main event window (*cf*. McWillamns and Seigel 1997).

However, for completeness, we also check for longer event windows. In particular, we examine cumulative abnormal returns over the following event windows around the announcement dates: (-1, 0), (-1, 1), (-2, -1), (0, +2), (-2, +2), (-3, +3), (-5, +5), (-10, +10), and (-20, +20). We report the cumulative average abnormal returns (CAARs) for all these event windows in Table 4. All statistical tests are two-tailed.

[TABLE 4 ABOUT HERE]

The event study results show that in our primary event window of interest, (-1, 0), CAAR is positive and statistically significant at the 5% level. At longer event windows the results are largely not significant. The (-1,0) event window accounts for the announcement and the fact that information may have been likely disseminated to the market the day before the specific trading day (MacKinlay 1997). Therefore, we reject the null proposition P0 that sport sponsorship does not impact the shareholder value. In fact, sport sponsorship announcements positively impact shareholder. We focus our subsequent analyses on this window.

Results of Cross-Sectional Regression (Stage 3)

We report the results of regression equation (6), the second step of the Heckman procedure, in Table 5. Here we regress $CAR_{i,t}$ on the independent variables. We limit our analyses only to the

(-1, 0) event window and run the regressions without and with the interaction term between Marketing Capability and Book Leverage (Models 1 and 2, respectively). Both models give us reasonably high levels of fit (R-Squared values of .19 to .22), with statistically significant improvement in explanatory power with the addition of the interaction term.

[TABLE 5 ABOUT HERE]

We observe that Marketing Capability has a positive and statistically significant effect on cumulative abnormal returns in Model 1 (β_1=.06, p<.05). It also has a significantly positive coefficient in Model 2 (β_1=.04, p<.1).[8] Thus, we find stronger marketing capability leads to higher cumulative abnormal return. This provides support for P1 that marketing capability increases the value of sport sponsorship for shareholders.

Notice that the coefficient for the interaction term is significantly positive (Model 2, β_3=.32, p<.1). This also provides support for P1 that marketing capability compensates the potential negative impact of high financial risk (Book Leverage). The exact impact of this is difficult to calibrate, for our coefficients for Book Leverage have the expected sign but are not significant (Model 1, β_2=-.02; Model 2, β_2=-.01, both n.s.)

While we control for ROE and Size, none of the coefficients are significant. The coefficient of Entity, which is a dummy variable that takes the value 0 for professional sports clubs, and 1 for other sport entities, is negative and significant (Model 1: β_6=-.009, p<.05, Model 2: β_6=-.009, p<.05). This suggests sponsoring professional sport clubs is associated with higher cumulative abnormal returns compared to other sports entities like sports leagues. It is difficult to intuit through this last result since we do not have more information. However, recall that the Entity variable was a control for differential marketing capabilities of different sports entities. To

[8] One challenge for small sample size estimations like ours is that the estimated coefficients are often biased towards insignificance due to relatively large standard errors. Verbeek, (2012, p. 31) suggests that α<.1 is a reasonable threshold to use for smaller sample sizes and avoid Type I error. We adopt this threshold to report our results.

the extent professional sports clubs are managed professionally and invest more in building marketing capabilities than sports leagues and federations, this result would emphasize the positive impact of marketing capabilities in enhancing the impact of sports sponsorships on shareholder value.

To check the robustness of our results, we run three additional analyses. In the first analyses, we check whether our results are simply artifacts of unobserved common factors that drive stock returns in the market and whether the results are idiosyncratic to the size of the firms in our sample. In the second analyses, we check if our results are artifacts of outliers in the sample. The last analyses check if our results hold even if we run the Heckman selection test with the independently matched holdout sample. All these tests fail to reject the null that our results are robust to these effects. The details of our robustness checks are in the Appendix.

DISCUSSIONS AND CONCLUSIONS

Our key results demonstrate that higher marketing capability lets firms generate higher value from sport sponsorships deals. Marketing capabilities also mitigate the negative effect of financial risk. These results build upon previous studies on the important role of marketing capability in impacting firm performance and value (Dutta et al. 1999; Mishra and Modi 2016).

Our results also contribute to the debate around the return on marketing investments (ROMI) of sports sponsorships. While globally, sport sponsorship is a significant part of sponsorship spending by firms with Industry reports pegging these to be more than $14 billion in North America alone (IEG 2015), the empirical literature is somewhat equivocal on the impact of such expenses. Our results show that sport sponsorships do result in a positive shareholder value. These results of this study are in line with others that show sport sponsorships positively impact stock returns (Mishra et al. 1997; Pruitt et al. 2004; Samitas et al. 2008; Johnston 2010).

Now, many firms see sport sponsorship as one that stands out among the clutter of marketing communication tools (Meenaghan 2013) and hence a desirable part of the marketing mix. Yet, the typically large expenses involved come with some nervousness and anchor a strong desire to calibrate the ROMI of sports sponsorships. So, exactly how significant is the impact of sports sponsorships? It turns out that the impact is actually quite significant.

We find that the cumulative average abnormal returns for the (-1, 0) window is .38%; that is, on average, the sponsoring firms experience 0.19% daily excess returns on the event day and the day before the event. Compare this with other reported numbers in the literature – Chaney et al (1991) report a .25% abnormal return with the announcement of a new product; Lane and Jacobson (1995) report a .32% abnormal return in response to the announcement of brand leveraging; Horsky and Swyngedouw (1987) report a .64% positive excess return on average in response to a firm's name change. So, on the face of it, the impact of sports sponsorship announcement is similar in scale to that of a new product announcement or branding.

To conclude, we make three contributions to the sponsorship literature. First, to the best of our knowledge, we are among the first to introduce marketing capability to determine the source of cross-sectional variations in stock market response to sport sponsorship announcements. In particular, we show that firms are rewarded more by the stock market and investors when they possess strong marketing capability. In the process, we also expand the generalizability of the role of marketing capability in determining the return on marketing efforts in a new context, sport sponsorship. Second, we, join a growing list of studies that infer marketing capability from an efficient deployment of marketing resources perspective, adopting the input-output specification of the SFE model. Third, the best of our knowledge, we are among

the first to account for selection bias in sponsorship studies by using the two-stage Heckman model.

Research Implications

Several recent studies highlight the crucial impact of marketing investments on firm performance in terms of profit, sales, and stock market returns (Dutta et al. 1999; Vorhies and Morgan 2005; Srinivasan et al. 2009; Xiong and Bharadwaj 2013). Our study adds to this body of evidence by proposing that marketing capability allows firms to generate more value from its marketing mix, in this case its sports sponsorships.

In the same vein, our results also add to the related literature that attempts to understand how marketing expenses such as advertising allow sponsorships at large generate value for the firm. We are the first to introduce and illustrate the critical role of marketing capability to this literature. Advertising expenses are typically used as a related variable that can influence the sponsorship effectiveness (Mishra et al. 1997). Nevertheless, in the absence of an argument as to how advertising expenses complement sponsorship, it is not clear how the expenses per se will enhance value. Indeed, Mishra et al. (1997) found no relationship between abnormal returns from sponsorship and advertising spending in their event study. The empirical research challenge is exacerbated because advertising expense is not reported by many companies in their financial reports and many firms treat sponsorship and advertising as substitutable components of their marketing mix (Xiong and Bharadwaj 2013). Focusing on marketing capability abstracts away from these challenges and offers a more robust assessment of the impact of marketing expenses on the effectiveness of sponsorships.

The research implications are not limited to the role of marketing capability. Demonstrating that firm valuation is a function of not just a marketing activity but also marketing capability, is an important contribution to the marketing-finance interface.

Managerial Implications

The results of our study provide two key managerial takeaways. First, managers should assess the marketing capability at their firm as well as the marketing budget available to them. Clearly, the effectiveness of sports sponsorships depends on the efficiency with which firms deploy their marketing resources. So, managers should contemplate several firm-specific factors when they want to invest in sport sponsorship activities. To this end, firms should have sufficient marketing and advertising budget to be able to make additional investments in terms of advertising and promotional activities in sponsorship beyond the initial rights fee (Quester and Thompson 2001). In the industry, this additional investment is called activation or leverage. The recommended activation ratio ranges from 1:1 to 8:1 in order to fully reap the benefits of sponsorship (O'Reilly and Horning, 2013).

Second, managers should carefully choose what to sponsor. They may sponsor conspicuous sports events and leagues, such as Olympic Games, NBA, NASCAR, NHL, etc. Alternatively, they may sponsor professional sport clubs, like the Toronto Maple Leafs, Montreal Canadiens, etc. that have a direct and strong bond with fans. The fans may perceive sponsors as helpful and supportive of their teams and clubs resulting in a positive affect for the firm. Our results show that firms' investments in professional sport clubs are rewarded more than their investment in mega sport events and leagues. Nevertheless, managers should keep in mind that our results do not explore a key issue – that of "fit" between the sponsoring firm and the entity being sponsored (Speed and Thompson 2000). That fit may determine the outcome and may be

more predictive than the secular effect we observe. For example, authors like Polonsky and Speed (2001), and Meenaghan (2001) report sponsorship of sport club as being less effective than those of more general sport events with a wide spectrum of audiences, such as Olympic Games and World Cup

Note also that ours is among only a handful of studies that have looked at the impact of sports sponsorships in a non-U.S. market. Most existing studies of sport sponsorship focus on the U.S. market and Olympic Games (Johnston 2007). While we do not expect significant differences in our results based on the contexts, the empirical results serve to advance our understanding and optics of sport sponsorships at large.

Limitations

Our study suffers from some limitations that provide new avenues for future research. Some of the limitations are related to the event study methodology used, and some are related to the data we collected for this study. First, event study methodology is applied when we want to test short-term reactions, thus limiting our ability to detect long-term effects of sport sponsorship deals on firm performance. Furthermore, abnormal returns are immediate reaction of investors to sport sponsorship announcement, and it may not capture the long-term strategic advantages that motivate firms to become involved in sport sponsorship activity in the first place. Third, our sample size is relatively small and necessarily limited to public firms. This imposes limits to the generalizability of our results. We are also unable to control for sponsorship characteristics in our estimations. For example, we did not have data on the amount of deal, and duration of sponsorship contract for all announcements. Only 13% of our sample contained information about the size of the deal. Including these variables in future studies may aid researchers to understand the effects more thoroughly.

REFERENCES

Amis, J., Pant, N., & Slack, T. (1997). Achieving sustainable competitive advantage: A resource-based view of sport sponsorship. *Journal of Sport Management*, *11*(1), 88-96.

Bahadir, S. C., Bharadwaj, S. G., & Srivastava, R. K. (2008). Financial value of brands in mergers and acquisitions: is value in the eye of the beholder?. *Journal of Marketing*, *72*(6), 49-64.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Becker-Olsen, K. (2003). Questioning the Name Game: An Event Study Analysis of Stadium Naming Rights Sponsorship Announcements. *International Journal of Sports Marketing & Sponsorship*, *5*(3), 9-20.

Bouchet, A., Doellman, T. W., Troilo, M., & Walkup, B. R. (2015). The Impact of International Football Matches on Primary Sponsors and Shareholder Wealth. *Journal of Sport Management, 29*(2), 200-210.

Carrillat, F. A., d'Astous, A., Bellavance, F., & Eid, F. (2015). On 'being there' A comparison of the effectiveness of sporting event sponsorship among direct and indirect audiences. *European Journal of Marketing, 49*(3/4), 621-642.

Chaney, P.K., Devinney, T.M. & Winer, R.S. (1991). The impact of new product introduction on the market value of firms. *Journal of Business*, *64*(4), 573-610.

Clark, J.M., Cornwell, T.B. & Pruitt, S.W. (2002). Heroes in the boardroom? Corporate stadium sponsorship and shareholder wealth. *Journal of Advertising Research*, *41*(6), 1-17.

Clark, J.M., Cornwell, T.B., & Pruitt, S.W. (2009). The impact of title event sponsorship announcements on shareholder wealth. *Marketing Letters*, *20*(2), 169–182.

Cobbs, J., Groza, M. D., & Pruitt, S. W. (2012). Warning flags on the race track: The global markets' verdict on F1 sponsorship. *Journal of Advertising Research*, *52*(1), 74-86.

Cornwell, T. B. & Maignan, I. (1998). An international review of sponsorship research. *Journal of Advertising*, *27*(1), 1–21.

Cornwell, T. B., Pruitt, S. W., & Clark, J. M. (2005). The relationship between major-league sports' official sponsorship announcements and the stock prices of sponsoring firms. *Journal of the Academy of Marketing Science*, *33*(4), 401–412.

Cornwell, T. B., Weeks, C. S., & Roy, D. P. (2005). Sponsorship-linked marketing: Opening the black box. *Journal of Advertising, 34*(2), 21-42.

Crimmins, J., & Horn, M. (1996). Sponsorship: From management ego trip to marketing success. *Journal of Advertising Research*, 36, 11-21.

Dutta, S., Narasimhan, O., & Rajiv, S. (1999). Success in high-technology markets: Is marketing capability critical?. *Marketing Science*, *18*(4), 547-568.

Dutta, S., Narasimhan, O. M., & Rajiv, S. (2005). Research notes and commentaries conceptualizing and measuring capabilities: Methodology and empirical application. *Strategic Management Journal, 26*(3), 277-285.

Farrell, K.A., & Frame, W. S. (1997). The value of Olympic sponsorships : Who is capturing the gold ?. *Journal of Market Focused Management, 2*(2), 171–182.

Hamilton, B. H., & Nickerson, J. A. (2003). Correcting for endogeneity in strategic management research. *Strategic Organization, 1*(1), 51-78.

Hanssens, D. M., & Pauwels, K. H. (2016). Demonstrating the value of marketing. *Journal of Marketing, 80*(6), 173-190.

Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the Econometric Society*, 153-161.

Horsky, D., & Swyngedouw, P. (1987). Does it pay to change your company's name? A stock market perspective. *Marketing Science, 6*(4), 320-335.

IEG, (2015). Sponsorship spending report. Retrievd from: http://www.sponsorship.com/IEG/files/4e/4e525456-b2b1-4049-bd51-03d9c35ac507.pdf

IEG, (2016). What sponsors want and where dollars will go in 2016. IEG Sponsorship Report, Retrieved from: http://www.sponsorship.com/IEG/files/71/711f2f01-b6fa-46d3-9692-0cc1d563d9b7.pdf

Jaakkola, M., Möller, K., Parvinen, P., Evanschitzky, H., & Mühlbacher, H. (2010). Strategic marketing and business performance: A study in three European 'engineering countries'. *Industrial Marketing Management, 39*(8), 1300-1310.

Johnston, M. A. (2007). A review of the application of event studies in marketing. *Academy of Marketing Science Review, 11*(4), 1-31.

Johnston, M. A. (2010). The impact of sponsorship announcements on shareholder wealth in Australia. *Asia-Pacific Journal of Marketing and Logistics. 22*(2), 156–178.

Joshi, A., & Hanssens, D. M. (2010). The direct and indirect effects of advertising spending on firm value. *Journal of Marketing, 74*(1), 20-33.

Kim, J. (2010). The worth of sport event sponsorship: an event study. *Journal of Management and Marketing Research, 5*(1). 1-14.

Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signaling unobservable product quality. *Journal of Marketing, 64*(2), 66-79.

Krasnikov, A., & Jayachandran, S. (2008). The relative impact of marketing, research-and-development, and operations capabilities on firm performance. *Journal of Marketing, 72*(4), 1-11.

Lane, V., & Jacobson, R. (1995). Market reactions to brand extension announcements : The effects of brand attitude and familiarity. *Journal of Marketing, 59*(1), 63–77.

Leeds, E. M., Leeds, M. A., & Pistolet, I. (2007). A stadium by any other name the value of naming rights. *Journal of Sports Economics, 8*(6), 581-595.

MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature*, 13-39.

Malkiel, B. G., & Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance, 25*(2), 383-417.

Marketing Science Institute (2014). *Research priorities 2014-2016*. Cambridge: Marketing Science Institute.

Mazodier, M., & Rezaee, A. (2013). Are sponsorship announcements good news for the shareholders? Evidence from international stock exchanges. *Journal of the Academy of Marketing Science*, 1-15.

McWilliams, A., & Siegel, D. (1997). Event studies in management research: Theoretical and empirical issues. *Academy of Management Journal, 40*(3), 626-657.

Meenaghan, T. (1991). The role of sponsorship in the marketing communications mix. *International Journal of Advertising, 10*(1), 35-47.

Meenaghan, T. (2001). Understanding sponsorship effects. *Psychology & Marketing, 18*(2), 95-122.

Meenaghan, T. (2013). Measuring sponsorship performance: challenge and direction. *Psychology & Marketing, 30*(5), 385-393.

Mezias, J. M., & Starbuck, W. H. (2003). Studying the accuracy of managers' perceptions: A research odyssey. *British Journal of Management, 14*, 3-17.

Mishra, D. P., Bobinski, G. & Bhabra, H. (1997). Assessing the economic worth of corporate event sponsorships : A stock market perspective. *Journal of Market Focused Management, 2*(2), 149–169.

Mishra, S. & Modi, S. B. (2016). Corporate Social Responsibility and Shareholder Wealth: The Role of Marketing Capability. *Journal of Marketing, 80*(1), 26-46.

Miyazaki, A. & Morgan, A. (2001). Assessing market value of event sponsoring: Corporate Olympic sponsorship. *Journal of Advertising Research, 41*(1), 9-16.

Morgan, N. A. (2012). Marketing and business performance. *Journal of the Academy of Marketing Science, 40*(1), 102-119.

Narasimhan, O., Rajiv, S., & Dutta, S. (2006). Absorptive capacity in high-technology markets: The competitive advantage of the haves. *Marketing Science, 25*(5), 510-524.

O'Reilly, N., & Horning, D. (2013). Leveraging sponsorship: The activation ratio. *Sport Management Review, 16*(4), 424-437.

O'Reilly, N. Beselt, E. & DeGrasse, A. (2014). 9th annual Canadian sponsorship landscape study. Retrieved from: http://www.sponsorshiplandscape.ca/pdf/en/2015_9th_Annual_CSLS_Final_Report.pdf

Olson, E. L., & Thjømøe, H. M. (2009). Sponsorship effect metric: assessing the financial value of sponsoring by comparisons to television advertising. *Journal of the Academy of Marketing Science, 37*(4), 504-515.

Polonsky, M. J., & Speed, R. (2001). Linking sponsorship and cause related marketing: Complementarities and conflicts. *European Journal of Marketing, 35*(11/12), 1361-1389.

Pruitt, S. W., Cornwell, T. B., & Clark, J. M. (2004). The NASCAR phenomenon: Auto racing sponsorships and shareholder wealth. *Journal of Advertising Research, 44*(3), 281–296.

Quester, P., & Thompson, B. (2001). Advertising and promotion leverage on arts sponsorship effectiveness. *Journal of Advertising Research, 41*(1), 33-47.

Rust, R. T., Ambler, T., Carpenter, G. S., Kumar, V., & Srivastava, R. K. (2004). Measuring marketing productivity: Current knowledge and future directions. *Journal of Marketing, 68*(4), 76-89.

Sam, M. P., Batty, R., & Dean, R. G. K. (2005). A transaction cost approach to sport sponsorship. *Sport Management Review, 8*(1), 1–17.

Samitas, A., Kenourgios, D., & Zounis, P. (2008). Athens' Olympic Games 2004 impact on sponsors' stock returns. *Applied Financial Economics, 18*(19), 1569-1580.

Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal, 26*(3), 259-276.

Sorescu, A., Warren, N. L., & Ertekin, L. (2017). Event study methodology in the marketing literature: an overview. *Journal of the Academy of Marketing Science, 45*(2), 186-207.

Speed, R., & Thompson, P. (2000). Determinants of sports sponsorship response. *Journal of the Academy of Marketing Science, 28*(2), 226-238.

Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *The American Economic Review, 92*(3), 434-59.

Srinivasan, S., Pauwels, K., Silva-Risso, J., & Hanssens, D. M. (2009). Product innovations, advertising, and stock returns. *Journal of Marketing, 73*(1), 24-43.

Srivastava, R. K., Shervani, T. A., & Fahey, L. (1998). Market-based assets and shareholder value: a framework for analysis. *Journal of Marketing*, 2-18.

Srivastava, R. K., Shervani, T. A., & Fahey, L. (1999). Marketing, business processes, and shareholder value: an organizationally embedded view of marketing activities and the discipline of marketing. *Journal of Marketing*, 168-179.

Thwaites, D., Aguilar-Manjarrez, R., & Kidd, C. (1998). Sports sponsorship development in leading Canadian companies: Issues & trends. *International Journal of Advertising*, *17*(1), 29-49.

Tsiotsou, R. (2011). A stakeholder approach to international and national sport sponsorship. *Journal of Business & Industrial Marketing, 26*(8), 557–565.

Tsiotsou, R., & Lalountas, D. (2005). Applying event study analysis to assess the impact of marketing communication strategies: The case of sponsorship. *Applied Financial Economics Letters, 1*(4), 259–262.

Ukman, L. (2015). *IEG's guide to sponsorship*. IEG, LLC., Illinois, Chicago.

Verbeek, M. (2012). *A guide to modern econometrics*. John Wiley & Sons.

Vorhies, D. W., & Morgan, N. A. (2005). Benchmarking marketing capabilities for sustainable competitive advantage. *Journal of Marketing, 69*(1), 80-94.

Wiles, M. A., Morgan, N. A., & Rego, L. L. (2012). The effect of brand acquisition and disposal on stock returns. *Journal of Marketing, 76*(1), 38-58.

Xiong, G., & Bharadwaj, S. (2013). Asymmetric roles of advertising and marketing capability in financial returns to news: Turning bad into good and good into great. *Journal of Marketing Research, 50*(6), 706-724.

APPENDIX

(1) Robustness check for event study -- unobserved common factors and size

We use the market model with the Canadian Financial Markets Research Centre (CFMRC) daily value-weighted index to calculate the abnormal returns. Using the daily value-weighted index is more conservative than using the equally-weighted index. The pattern of the results remains virtually unchanged when we use the equally-weighted market model and the Fama-French three-factor model[9]. This indicates that the size of the firms in our sample or the common risk factors that drive stock returns do not bias our results. Figure 1 exhibits the market model average CARs between the 40 days before and after the events.

[FIGURE 1 ABOUT HERE]

(2) Robustness check for event study -- outliers

The test statistics used in event studies tend to be sensitive to outliers (McWilliams and Siegel 1997). The effect of outliers on abnormal returns will be magnified in smaller samples. One way to deal with the outliers is to eliminate them from the dataset; but when the sample size is small, elimination is a radical approach. To assure that our results are not affected by outliers, we calculate and report non-parametric Z-test statistics (binomial Z). A binomial Z statistic of 1.00 ($p<.1$) indicates that outliers do not drive our results. Moreover, we manually check the cumulative abnormal return (CAR) diagrams for each firm around the announcement dates; we do not observe any unusual changes in CAR values that indicate the existence of any outlier.

[9] The Fama-French three factor model variables are not available for Canadian market after year 2009. Therefore, we have calculated the factors which are then used for robustness check.

(3) Robustness check for cross-sectional regression – matched holdout sample

We also test our selection model equation (first stage of Heckman model) using the matched holdout sample as discussed in the section detailing our analyses of the selection bias. Recall that our matched holdout sample comprises of publicly traded Canadian firms that have *not* been involved in sponsorship activity in that year. For comparability, we only choose firms that operate in the same three or four-digit SIC codes and have a similar market capitalization (+/- 20%) to the focal firms in our sample. A firm's choice to become a sport sponsor (sponsorship = 1) or not (sponsorship = 0) can be explained as a function of the firm's characteristics, market conditions and controls plus an error term. Thus, we re-estimate equation (5) -first stage of Heckman model- using the new matched sample of Canadian firms. The results of the second-stage of Heckman procedure with matched companies are similar to the primary selection bias model and we do not observe any significant change in magnitude, sign, and significance of the effects.

Table 1

Previous studies of the effects of sponsorship on stock returns

Source	Cum Ab. Returns	Sample	Marketing capability	Outlier Identification	Confounding Events	Type of Regression
Mishra et al. (1997)	+ve	76	Not used	Not checked or reported	Not checked or reported	Ordinary Least Square (OLS)
Farrell and Frame (1997)	Mixed (+ve and -ve)	30	Not used	Not checked or reported	Not checked or reported	Weighted Least Square (WLS)
Miyazaki and Morgan (2001)	Mixed (+ve and -ve)	27	N/A	Not checked or reported	Not checked or reported	N/A
Becker-Olsen (2003)	Mixed	39	N/A	Not checked or reported	Checked	N/A
Pruitt et al. (2004)	+ve	24	Not used	Not checked or reported	Not checked or reported	OLS
Tsiotsou and Lalountas (2005)	No effect	12	N/A	Not checked or reported	Not checked or reported	N/A
Cornwell et al. (2005)	Mixed (+ve and none)	53	Not used	Not checked or reported	Not checked or reported	OLS
Leeds et al. (2007)	No effect	53	N/A	Checked	Checked	N/A
Samitas et al. (2008)	Marginal +ve	21	N/A	Not checked or reported	Checked	N/A
Clark et al. (2009)	Mixed (-ve and none)	114	Not used	Not checked or reported	Checked	OLS
Johnston (2010)	+ve	51	N/A	Not checked or reported	Checked	N/A
Kim (2010)	+ve	49	Not used	Not checked or reported	Not checked or reported	OLS
Tsiotsou (2011)	Mixed (-ve and none)	11	N/A	Not checked or reported	Not checked or reported	N/A
Cobbs et al. (2012)	-ve	71	Not used	Not checked or reported	Not checked or reported	Logistic regression and MRM
Mazodier and Rezaee (2013)	-ve	293	Not used	Not checked or reported	Not checked or reported	OLS
Bouchet et al. (2015)	+ve	139	Not used	checked	Not checked or reported	OLS, Scholes-Williams, and simple market return adjusted method
Current study	TBD	80	Used	Checked	Checked	Two-stage Heckman selection model

Table 2

Operationalization of the independent variables

Variable	Source	Definition/Operationalization
Marketing capability$_{t-1}$	Compustat, SEDAR, CIPO.	See text.
Book Leverage$_{t-1}$	Compustat, SEDAR	Long-term debt$_{t-1}$/Total assets$_{t-1}$
ROE$_{t-1}$	Compustat	Income before extraordinary items $_{t-1}$/(common or ordinary equity$_{t-1}$ + deferred taxes$_{t-1}$)
Size$_{t-1}$	Compustat	Log of market value of equity
Year indicator variables		Dummy variables for years 2000-2012
Financing$_{t-1}$	Compustat	Debt in current liabilities$_{t-1}$/total assets$_{t-1}$
Entity	Compiled	Compiled from news announcement. Equal one if it is sport federation or league and zero if it is sport club*.

*Sport clubs include sponsored properties such as Toronto Maple Leafs and Vancouver Canucks while sport entities include events and sport leagues such NHL leagues, Olympic Games, and the Canadian Olympic Committee.

Table 3

Pairwise correlations and Descriptive Statistics

	(a) Correlations							(b) Descriptive Statistics			
Variables	**CAR**	**Book Lev**	**Mktg Capab**	**Entity**	**Size**	**ROE**	**Financ -ing**	**Mean**	**SD**	**Min**	**Max**
CAR	1.00							.003	.01	-.02	.04
Book Lev	-.08	1.00						.164	.153	.004	.55
Mktg Capab	.17	.000	1.00					.97	.0002	.9731	.9740
Entity	-.12	-.08	.05	1.00				.63	.48	0	1
Size	-.13	-.25	-.10	.11	1.00			9.39	1.46	3.72	11.23
ROE	-.11	-.09	.41	.11	.21	1.00		.10	.35	-2.81	.45
Financing	.04	-.57**	-.30	.02	.37**	-.04	1.00	.06	.05	.000	.19

** p≤.05

Table 4

Cumulative abnormal returns and test statistics for windows surrounding the event day

Event Window	Abnormal Return (%)	Standard Z	Number Positive (total)	Signed Rank test
(-1, 0)	.38	1.82**	43 of 79	324.00*
(0, 1)	.15	1.07	41 of 80	122.00
(-1, 1)	.34	1.42*	42 of 80	249.00
(-2, -1)	.09	.27	46 of 80	184.00
(0, 2)	-.05	.33	43 of 80	88.00
(-2, 2)	.03	.46	45 of 80	163
(-3, 3)	-.46	-1.23	43 of 80	-154
(-5, 5)	-.09	0.06	45 of 80	51.00
(-10, 10)	.28	.43	37 0f 80	77.00
(-20, 20)	.34	.15	42 of 80	49.00

*$p \leq .05$ (two-tailed test), **$p \leq .01$ (two-tailed test)

Table 5

Results of the Second-Stage of Heckman tests of the CAR for window (-1, 0)

	Model 1	**Model 2**
	Coefficient (t-value)	Coefficient (t-value)
Marketing Capability (β_1)	.06 (2.29)**	.04 (1.85)*
Book Leverage (β_2)	-.02 (-1.47)	-.01 (-.95)
Marketing Capability × Book Leverage (β_3)		.32 (1.87)*
ROE (β_4)	-.02 (-1.24)	-.02 (-1.34)
Size (β_5)	-.002 (-1.35)	-.002 (-1.13)
Entity (β_6)	-.009 (-2.09) **	-.009 (-2.12) **
Mill Lambda (β_7)	-.0005 (-.10)	-.001 (-.18)
Constant	.03 (1.98)*	.03 (1.80)*
Sample size	60	60
F-Value (p-value)	2.32 (<.05)	2.62 (<.05)
R-Squared	.19	.22

**p≤.05 ; *p≤.1

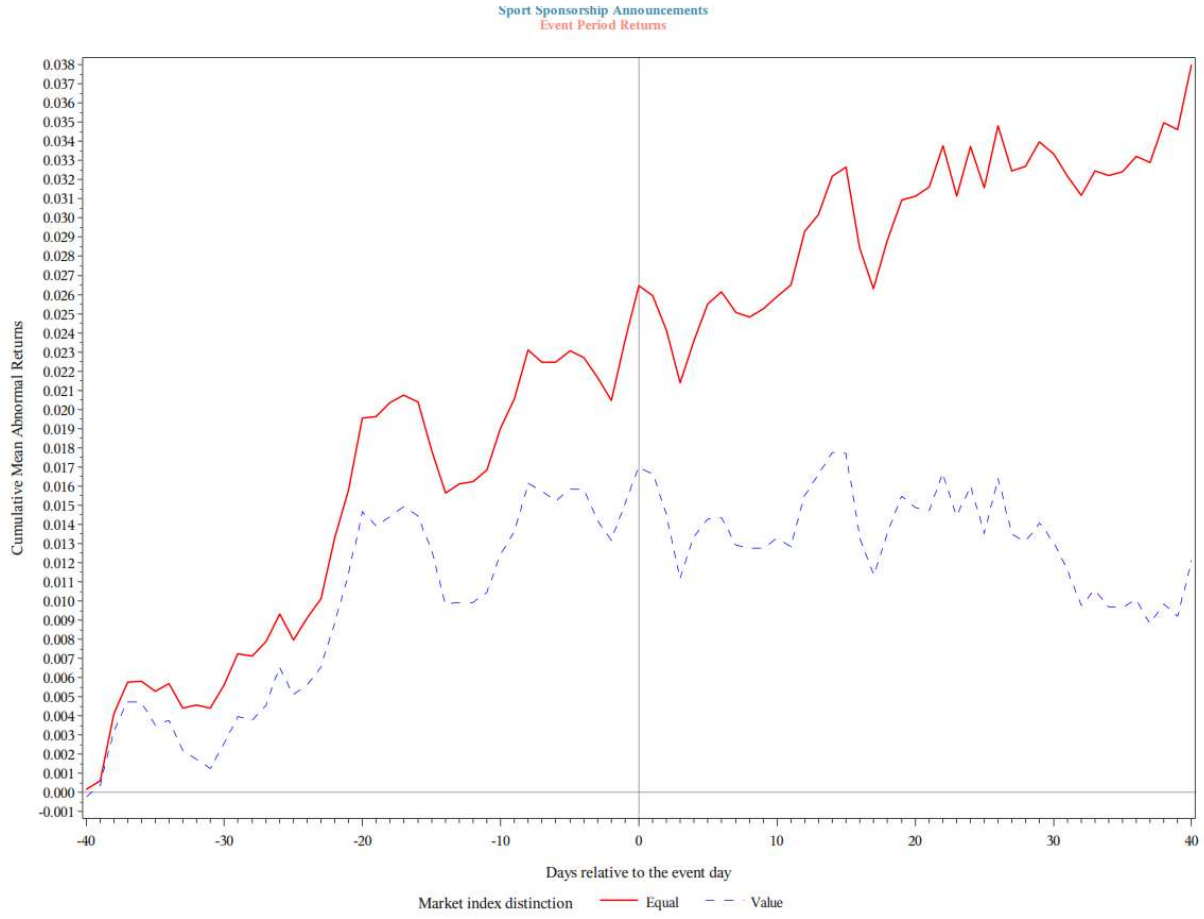

Figure 1

Cumulative abnormal return 40 days before and 40 days after event date

WEB-APPENDIX

The Event Study Methodology

The rationale for using event study methodology in the sponsorship context is that we cannot measure the direct impact of sport sponsorship on a firm's future profit and sales. Therefore, we use event study to show that whether sport sponsorship expenditure is viewed as a wise decision by the investors. Moreover, sport sponsorship and partnership could be a signal to the investors that the firm is financially solid and healthy. Sport sponsorship deals are usually associated with considerable costs. These deals are announced formally in press conferences and attract much attention and media coverage. Therefore, the abnormal returns that firm experiences around the announcement of a sport sponsorship deal are expected to reflect the net value gained or lost from the sponsorship investment. We calculate the percentage change in stock price or stock return as:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \qquad (1)$$

where P_{it} is the stock price of asset i at time t. Stock return reflects market expectations of the long-term financial impact of information arriving between $t-1$ and t.

To determine the normal return of the stock, we use the market model (separately, using value-weighted and equally-weighted market returns). The market model is widely used to estimate abnormal returns in the event study literature (Campbell, Lo, and MacKinlay 2012). The model assumes that there is a linear relationship between the return of any stock and the return of the market portfolio. The market model can be stated as the following regression model (Campbell et al., 2012):

$$R_{it} = a_i + b_i\, R_{m,t} + \ e_{i,t}; \qquad (2)$$

where $R_{i,t}$ and $R_{m,t}$ are the returns on stock i and on the market portfolio over period t, respectively, and $e_{i,t}$ is the disturbance term with $E(e_{it}) = 0$ and $Var(e_{it}) = \sigma^2$. We compare the stock return R_{it} at the event day with $E(R_{it})$, that is, the return that would have been expected if the event had not taken place. Following Brown and Warner (1985), we estimate the expected return using the market model; that is:

$$E(R_{it}) = \alpha_i + \beta_i\ R_{mt}; \qquad (3)$$

where α_i and β_i are the ordinary least squares parameter estimates obtained from the regression of R_{it} on R_{mt} over the estimation period preceding the event. Our estimation window is from 30 to 250 days prior to the event. The difference between the actual return and the estimated expected return is the abnormal return, AR_{it}, for shares of firm i at time t; that is:

$$AR_{it} = \ R_{it} - E(R_{it}) = R_{it} - \left(\hat{\alpha}_i + \hat{\beta}_i\ R_{mt}\right) \qquad (4)$$

Under the efficient market hypothesis, abnormal return AR_{it} provides an unbiased estimate of the future earnings generated by the event and is a random variable with zero mean. We test the average effect of a particular type of event by calculating the average abnormal returns across all announcements; that is:

$$AR_t = \ \sum_{i=1}^{N} {}^{AR_{it}}/_{N}\ ; \qquad (5)$$

where N is the number of sport sponsorship announcements being studied.

Abnormal returns are usually aggregated over an event window relative to the event day (i.e., the sponsorship announcement) to obtain Cumulative Abnormal Return (CAR). Information regarding the sponsorship event may leak before the actual announcement and disseminate to the

market. To address this issue and in line with previous studies, we expand the event window to the day before the announcement day (Brown and Warner 1985; Homburg, Vollmayr, and Hahn 2014). The CARs over the event period $[-t_1, t_2]$ are calculated as follows:

$$CAR_i[-t_1, t_2] = \sum_{t=-t_1}^{t_2} AR_{it} \quad (6)$$

Finally, the average of the CARs across all sport sponsorship events is calculated as follows:

$$CAAR[-t_1, t_2] = \sum_{1}^{N} \frac{CAR_i[-t_1, t_2]}{N} \quad (7)$$

where *N* is the number of announced sport sponsorship cases in the study.

WEB-APPENDIX REFERENCES

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics*, *14*(1), 3-31.

Campbell, J. Y., Lo, A. W., & MacKinlay, A. C. (2012). *The econometrics of financial markets*. Princeton University Press.

Homburg, C., Vollmayr, J., & Hahn, A. (2014). Firm value creation through major channel expansions: Evidence from an Event Study in the United States, Germany, and China. *Journal of Marketing, 78*(3), 38-61.