

This is the accepted manuscript of the article:

Nicolau, J. L. (2012). The effect of winning the 2010 FIFA World Cup on the tourism market value: The Spanish case. *Omega*, 40(5), 503-510.

<https://doi.org/10.1016/j.omega.2011.10.002>

**THE EFFECT OF WINNING THE 2010 FIFA WORLD CUP
ON THE TOURISM MARKET VALUE: THE SPANISH CASE**

Juan Luis Nicolau

Dpt. of Marketing
Faculty of Economics
University of Alicante

Ap. 99

03080 Alicante

Spain

Phone and Fax: +34 965903621

e-mail: JL.Nicolau@ua.es

THE EFFECT OF WINNING THE 2010 FIFA WORLD CUP ON THE TOURISM MARKET VALUE: THE SPANISH CASE

Abstract

The objective of this article is to analyze the effect of winning the FIFA World Cup on the tourism market value, justified by the increase in brand knowledge experienced by the winning team's country. Filling this gap in research, the empirical analysis conducted on the victory of the Spanish National soccer team in the 2010 FIFA World Cup finds a significant increase in the Spanish tourism industry's market value, and shows that the results of individual World Cup matches also have an influence on tourism firm value: winning enhances and losing diminishes firm value, with both symmetric and asymmetric patterns. Important managerial implications are drawn and discussed.

Keywords: brand equity; firm value; loss aversion; sports tourism.

1. INTRODUCTION

In the days around the 2010 World Cup final, the conclusions by Kuper and Szymanski (2009) about the winning country experiencing a 0.7% increase in its GDP spread like wildfire, generating debate as to how real this statement is and how cautiously one has to look at it (El País, 2010; El Mundo, 2010; The Wall Street Journal, 2010). Certainly, winning the World Cup is not going to bring about any long-term improvement in productivity capacity, for example; nevertheless, if we consider immaterial, intangible consequences derived from this victory, the concepts of image and branding immediately show up, which are critical core concepts for destination marketing (Baloglu and McCleary, 1999). Therefore, the objective of this article is to analyze the potential existence of an effect of winning the World Cup on the tourism market value, justified by the increase in brand knowledge for the winning team's country.

At the same time, this aim fills an existing gap in research. With the tourism market witnessing a fiercely competitive arena and destination marketing organizations looking for mechanisms to attract clients (Bonn et al., 2005; Sirgy and Su, 2000), it is no wonder that events are a key element in destination strategy (Kim and Chalip, 2004). Not for nothing is the management and marketing of events regarded as a critical area of research for tourism (Tkaczynski and Rundle-Thiele, 2010), and a large number of studies have been carried out specifically on mega-events (Delpy-Neirotti et al., 2001). These are large hyped events of world importance that are held with the expectation of having a major positive impact on the image of the host destination (Bramwell, 1997). In this regard, Ritchie (1984) and Ritchie and Aitken (1985) indicate that mega-events increase awareness of the region as a destination, help position it and improve its long-term future prosperity by increasing economic activity and creating new jobs; and, as Dwyer et al. (2005) plainly suggest, they help "put a city on the map". Among them, sports events stand out. In fact, Higham and Hinch (2002) identify sports tourism as one of the fastest growing sectors in the contemporary tourism industry, where sport event tourism plays a significant role (Funk and Bruun, 2007).

This special interest tourism, in which people "participate in a sports activity, recreationally or competitively, travel to observe sport at grassroots or elite level, and travel to visit a sports attraction" (Delpy-Neirotti, 2003) has received a great deal of attention from academics and decision-makers (Lee and Taylor, 2005; Tassiopoulos and Haydam, 2008). This is because of its ability to help re-image destinations (Smith, 2005), but especially because of its high income-generating capacity and its major economic impact on the economy of the region (Daniels et al., 2004; Dwyer et al., 2006; Lee et al., 2010); in fact, it is

considered a multi-billion global business (Tassiopoulos and Haydam, 2008). This explains why high-profile sport events are strategically included in the marketing plans of tourism destinations (Gibson, 1998).

In this context, along with the Olympic Games, the other international sports event that garners much of the attention is the FIFA World Cup. Categorized as a hallmark event (Kim et al., 2006), this mega sports event generates a myriad of tourists, creates immense publicity in the media and, as Lee and Taylor (2005) point out, showcases the host location; all of which help raise knowledge of the destination (Lee et al., 2005).

Paralleling the large number of studies on mega-events, tourism literature has analyzed—besides the usual impact analysis (e.g. Samsung Economic Research Institute (2002))—several facets of World Cup events (Lee et al., 2010), such as tourist motivations to attend (Kim and Chalip, 2004), residents' perception of its impact (Kim and Petrick, 2005; Kim et al., 2006), the environmental impacts (Collins et al., 2009) or the capacity of the event to help change the image of the destination (Kim and Morrison, 2005).

Certainly, a hallmark event such as the World Cup is designed to enhance the awareness, appeal, and profitability of a tourism destination in the short and/or long term (Ritchie, 1984), as well as advertise products to a global audience and leverage business opportunities in export and new investments (Barney et al., 2002). In this respect, all the analyses have obviously revolved around the country hosting the event, attempting to find the benefits of holding the World Cup for the destination.

However, there is a lack of research on the World Cup winner; that is, how beneficial in tourism terms is it for the country that wins the World Cup? In a way, one can think of the winning team as a publicized product derived from the event; but here, the team represents a country, i.e. a destination. Therefore, the crucial question is: is winning the World Cup going to have an effect on the tourism industry of the winning national team? This article complements prior research by attempting to answer this question. With this purpose, Section two reviews the relationship between winning the World Cup and the variation in the tourism market value, Section three describes the research design, covering the method and data used and the results obtained, and Section four shows the conclusions.

2. THE EFFECT OF WINNING THE WORLD CUP ON THE TOURISM MARKET VALUE

Several teams compete in the World Cup, but only one is crowned with a golden halo (arrow 1 in Figure 1). According to Figure 1, and as justified below, we expect that this golden halo will have a positive effect on the winning country's tourism market value via brand knowledge enhancement of the country as a destination (arrow 2). The sources of this positive effect, based mainly on the components of brand knowledge, are discussed in detail below; a discussion that will be guided by the relationships depicted in Figure 1 (note that the purpose of this figure is to outline -not to test- the relationships).

Brand knowledge is comprised of two basic elements (Keller, 1993): brand awareness (arrow 3) -which in turn implies brand recognition and brand recall-, and brand image (arrow 4) -which is determined by the different associations an individual links to the brand-. These concepts are reviewed and applied to the World Cup context.

“Insert Figure 1 about here”

In accordance with the Associative Network Memory Theory, information is held in the memory through an interrelated structure of “cognitive networks”, in which each cognitive network has various “nodes” and “links” between nodes (Collins and Loftus, 1975). For the case of any country, say Spain, the cognitive network of brand "Spain" consists of a number of concept nodes and links, and according to this theory, these nodes contain a variety of associations, such as attributes, experiences, and evaluations related to Spain. In this theoretical context, winning the World Cup is a concept node that has become associated with Spain (i.e., the brand), and the link between the World Cup winning team and its country is very strong.

Certainly, the connection of the winning team to the destination brand is very high, both quantitatively and qualitatively. In quantitative terms, i.e. how much information an individual receives when encoding it, the FIFA World Cup is a global news-generating sports event that creates huge media attention; there is no denying that the hype generated around the World Cup is gargantuan (Court and Lupton, 1997; Gartner and Shen, 1992; Govers et al., 2007). In qualitative terms, i.e. what an individual thinks of the information received, the effect created by the champion of a FIFA World Cup is unparalleled. Note that soccer, apart from being the world's most popular sport, has millions of people enthralled constantly¹; as is

¹ The relevance of soccer as an all-year-round professional sport activity has not gone unnoticed for researchers, who have examined the phenomenon from different perspectives, such as: the design of the UEFA Champions League (Scarf et al., 2009), the adequate season schedule (Drexler and Knust, 2007; Ramussen, 2008), the

often stated “soccer is much more than just a game”, sometimes possessing the traits of a global religion (Carlin, 2004), with clubs having players become stars as if they were Hollywood actors and with millions of fans around the globe following the team as well as the players. Having said this, it does not seem to be trivial for a destination brand to be linked with a first-class soccer team, as emotions aroused for the latter could be transferred to the former. These quantitative and qualitative strengths increase the probability of node activation, making the information more accessible in people’s memory and facilitating its retrieval; that is, enhancing what Keller (1993) calls “spreading activation”.

Thus, winning the World Cup becomes a secondary association for Spain, and this secondary association is both favorable (the association of the winning team with the country as a destination leads people to look for benefits, especially experiential and symbolic benefits, that can be obtained from visiting this destination) and unique (few things are more unique and differential than winning a World Cup). Irrespective of individual tastes in sports, it is a fact that the winner, as stated previously, is crowned with a golden halo.

Hence, on the one hand, winning the World Cup can notably help build a positive image that identifies and differentiates the destination brand (Baloglu and Brinberg, 1997; Cai, 2002; Mackay and Fesenmaier, 2000), which in turn, can influence consumer evaluations of the brand and, consequently, brand choice (Woodside and Lysonski, 1989). And, on the other hand, the awareness of the brand “Spain” after the 2010 World Cup is enhanced. The brand will be evoked under many different situations or circumstances much more easily and more frequently after this landmark victory, increasing “consumers’ ability to confirm prior exposure to the brand when given the brand as a cue”, i.e. *brand recognition* (Keller, 1993) and reinforcing “consumers’ ability to retrieve the brand when given the product category”, i.e. *brand recall* (Keller, 1993). Thus, when considering a list of possible vacation countries, the winning country will be recognized on that list, and more importantly, it is more likely to be recalled when forming the list. Remember that, in line with Nedungadi (1990), increasing brand awareness raises the likelihood of being part of the individual’s consideration set and, consequently, of being selected as a destination.

At this point, the central question in this World Cup context is: Does the enhanced brand knowledge of the destination have an impact on the tourism firms’ market value? Defining firm market value as the wealth created by a firm measured by its market

application of game-theoretic principles to the strategic behavior of soccer teams (Dobson and Goddard, 2010), or the analysis of efficiency in teams’ performance (Boscá et al., 2009).

capitalization (Joshi and Hanssens, 2010), we expect that the World Cup victory will have a twofold positive effect on the winning country's tourism market value via destination brand knowledge enhancement through both tangible and intangible components. Firm value is comprised of tangible and intangible values, the former including elements such as sales and profits and the latter encompassing components such as brand equity (Simon and Sullivan, 1993).

Regarding the tangible components -sales and profits-, note that as justified before: i) the enhanced destination brand awareness implies that the winning country will not only be recognized on a list of potential destinations but will also be recalled when making that list; and ii) the favorability, strength and uniqueness of the associations elicited will form a positive image. The consequence of this is an increment in the likelihood of the destination being part of the individual's consideration set and, consequently, of being selected as a vacation destination (arrow 5). This increase in potential tourists should bring about a rise in sales (arrow 6) and profits (arrow 7) on the part of tourism companies, which would represent an increase in the tangible part of the firm value (arrow 8).

Concerning the intangible component of firm value -brand equity-. Keller (1993) defines customer-based brand equity as the "differential effect of brand knowledge on consumer response to the marketing of the brand". Derived from this definition, one can observe that brand recognition and brand recall, together with the favorable, strong and unique associations have a direct impact on the destination's brand equity. Simply put, destination brand knowledge directly affects brand equity (arrow 9). At this point, the critical question is whether this positive effect of destination brand knowledge on destination brand equity also has an impact on the tourism firms' market value.

Joshi and Hanssens (2010) suggest that any action creating brand-related intangible assets should positively affect firm value. These authors explain this impact through a spillover effect, in which the brand equity created through marketing activities can spill over into investment behavior; and through a signaling effect, in which this equity enhancement can help reduce uncertainty (Tsao et al., 2006). It is important to note that in our article, it is not individual firms that are investing specifically in the event: remember that it is not a case of sponsorship or celebrity endorsers and that this is precisely what positions this study relative to the existing body of knowledge and fills this gap. Rather, it is the umbrella brand of individual tourism firms that is gaining brand knowledge. Nevertheless, insofar as the umbrella brand strategy seeks to effectively and efficiently promote multiple products with a single marketing program (Erdem, 1998) and, according to Wernerfelt's (1988) signaling

theory, attempts to reduce uncertainty, it is evident that each individual brand under the umbrella brand can benefit from this brand knowledge enhancement. Obviously, each firm will make the most of this opportunity depending on its individual resources, but in general, all of them can potentially benefit, with expected increases to their individual market value (arrow 10).

Note that, as the analysis is based on the firm's market value, we have to focus on companies trading on the Spanish stock market. It means that we are analyzing strong names for which the spillover is more likely to exist²; this assertion is made on account of Frieder and Subrahmanyams (2005) conclusions that investors are more probable to favor high-profile firms. These authors suggest that shareholders tend to invest in assets whose names are widely recognized so that they can reduce uncertainty. Also, the fact that these companies are leaders in their industries (airline and hotel, to be precise), it implies that, among all the available competing alternatives, potential tourists should tend to favor these well-known brands. That is, once they have chosen to travel to Spain, when it comes to the transportation and accommodation decisions, these brands should be positioned high on people's mind or, at the very least, they should be included in their evoked set. Either way would enhance the likelihood of being selected. On account of all of this, the central hypothesis is as follows:

H.1. *Winning the FIFA World Cup has a positive effect on the country's tourism market value.*

As a refinement of this hypothesis, we test for the existence of asymmetric shifts in market value depending on each match's results. Assuming that a relationship between sports and business results exists on account of the previous arguments, a natural question arises: which is bigger, the increment in market value as a result of winning a match or the reduction in market value as a consequence of losing it? To answer this question, we follow Kahneman and Tversky's (1979) Prospect Theory; in particular, its well-known *loss aversion* property, which has been notably analyzed, and theoretically and experimentally supported by research (e.g. Bell and Latin, 2000; Klapper et al, 2005; Lahdelma and Saminen, 2009; Wang and Webster, 2009). Loss aversion implies that people are more sensitive to losses than to gains. In this regard, this theory predicts that the absolute level of the change in demand due to a loss is greater than the corresponding impact of an equal gain. Paralleling this argument, the

² Myers' (2010) example of the spillover effect from a psychological standpoint fits in this context. He literally says that "arousal from a soccer match can fuel anger", which can lead to non-appropriate behaviors. Of course, in this example, this author talks about negative feelings, but from a financial point of view, we can extrapolate this "arousal" from soccer results to investors, bringing about either a positive or a negative reaction depending on such results.

negative impact on firm value derived from losing a match by a certain number of goals should be bigger than the positive impact from winning by the same number of goals. In other words, the result of a match in the World Cup is expected to have asymmetrical effects in such a way that lost matches have greater impact on tourist firm value than won matches, even if the goal difference, be it negative or positive, is the same. Remember that, as the popular saying goes, “soccer raises passions”, so the disappointment of a lost match is likely to be greater than the joy of winning it; and these psychological outcomes might affect the aforementioned brand associations. Accordingly, we state the following hypothesis:

H.2. *The result of a World Cup soccer match has asymmetrical effects in such a way that lost matches have greater impact on firm value than won matches, even if the goal difference, be it negative or positive, is the same.*

3. RESEARCH DESIGN

3.1. Method and data

To analyze the effect of the outcome of the World Cup on tourism market value we follow a two-stage process: i) selection of the market model specification that best fits the return series; and ii) estimation of the abnormal returns derived from World Cup results.

Selection of the market model specification

We use the market model of Sharpe (1963, 1964) as it allows us to calculate the variation in share prices on any given day. By using this model, we can estimate the normal returns that are expected when there is no other relevant information available, by means of the following expression:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

in which R_{it} represents the returns on the firm's share i on day t , and R_{mt} is the rate of returns on the market portfolio on day t . The parameters α_i and β_i represent the constant and the systematic risk on share i , respectively, and ε_{it} is the error term.

The existence of kurtosis and heteroskedasticity in the error term, which are detected in various empirical applications, would lead to defective estimates (Morgan and Morgan, 1987; Connolly and McMillan, 1989). For this reason, we estimate autoregressive conditional heteroskedasticity models to find the one that best fits the return series. The main purpose of the autoregressive conditional heteroskedasticity models considered is to model the conditional variance of returns. Such models distinguish between unconditional variance, which is constant and stationary, and conditional variance, which is modified by the available

information. The specific models appraised here are the symmetric models, ARCH by Engle (1982) and GARCH by Bollerslev (1986), and the asymmetric models, EGARCH by Nelson (1990) and TGARCH by Glosten et al. (1993) and Zakoïan (1994).

A symmetric model assumes that the effect of new information on the variance is independent of its sign. Thus, letting p be the number of lags, returns defined by means of an ARCH(p) model are obtained by the expression (1) where

$$\varepsilon_{it} = h_{it}^{1/2} \eta_{it} \text{ and } \varepsilon_{it} / \varepsilon_{it-1}, \varepsilon_{it-2}, \dots \sim N(0, h_{it})$$

being

$$\eta_{it} \text{ i.i.d. with } E(\eta_{it})=0 \text{ and } E(\eta_{it}^2)=1$$

In this context, h_{it} is the conditional variance and is represented as

$$h_{it} = c_i + \sum_{j=1}^p \lambda_{ij} \varepsilon_{it-j}^2 \quad (2)$$

where c_i and λ_{ij} are parameters to be estimated.

The generalization of this model gives rise to GARCH(p, q) models, where q is the number of lags of the autoregressive part. In this case, the conditional variance is expressed as

$$h_{it} = c_i + \sum_{j=1}^p \lambda_{ij} \varepsilon_{it-j}^2 + \sum_{k=1}^q \gamma_{ik} h_{it-k} \quad (3)$$

However, returns can sometimes show a different degree of sensitivity in the face of good or bad events. Considering such possible asymmetry, other generalizations have been proposed. The first of these is the EGARCH(p, q) model, in which the conditional variance is

$$h_{it} = \exp \left\{ c_i + \sum_{j=1}^p \left(\lambda_{ij} \left| \frac{\varepsilon_{it-j}}{h_{it-j}^{1/2}} \right| + \delta_{ij} \frac{\varepsilon_{it-j}}{h_{it-j}^{1/2}} \right) + \sum_{k=1}^q \gamma_{ik} \ln(h_{it-k}) \right\} \quad (4)$$

and finally, the TGARCH(p, q) model, whose conditional variance is represented by the expression

$$h_{it} = c_i + \sum_{j=1}^p \lambda_{ij} \varepsilon_{it-j}^2 + \phi_i \varepsilon_{it-1}^2 D_{it-1} + \sum_{k=1}^q \gamma_{ik} h_{it-k} \quad (5)$$

where $D_{it-1} = 1$ if $\varepsilon_{it-1} < 0$ and $D_{it-1} = 0$ otherwise.

To estimate these models the maximum likelihood method is used. The selection of the best model is made by employing Akaike's Information Criteria, defined as $AIC = -2 \log(L_{ML})/M + 2k/M$, in which L_{ML} represents the likelihood function, M is the number of observations and k the number of parameters in the model. This measure, apart from

considering the likelihood function, takes the parsimony of the model into account by adjusting for the number of parameters, which are considered as a penalty. According to the way AIC is defined, the model with the lowest value will be preferred.

Estimation of the abnormal returns

To estimate the abnormal returns derived from the World Cup results, we rely on Karafiath's (1988) alternative event methodology. We have to resort to this, rather than the traditional two-step event-study methodology³, because of the closeness of our events: the Spanish National team played seven matches in just eighteen days. It would not be appropriate to use an estimation period for each event, as it would imply dealing with estimation periods that are full of events. In other words, if an estimation period is used to get normal returns, it has to be clear of abnormal returns; otherwise, the estimation of α_i and β_i would be spurious, and the estimation of the abnormal returns of a given event would be affected by the abnormal returns of preceding consecutive events. However, Karafiath (1988) indicates, and Norton and Pettengill (1998) corroborate, that the results usually obtained in the traditional two steps can be obtained in a single multiple regression. In fact, Karafiath's proposal consists of appending a vector of dummy variables to the right-hand side of the market model.

To analyze the effect of the results in the World Cup final a dummy variable D_{itF} is defined that takes a value of 1 during the eighteen trading days after the final⁴. The model is as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \xi_i D_{itF} + \varepsilon_{it} \quad (6)$$

where ξ_i is a parameter that will be positive if the victory has a positive effect.

As we are also interested in the abnormal returns derived from each match result, we build a second model and introduce in expression (1) the dummy variable D_{it} , which indicates the first two trading days⁵ after the match on day t and two result variables: WIN_t and $LOSS_t$. Calling GF_t goals for (goals the team has scored) and GA_t goals against (goals the team has conceded), these two variables WIN_t and $LOSS_t$ are defined as follows:

$WIN_t = (GF_t - GA_t)D_W$, where $D_W = 1$ if $GF_t - GA_t > 0$ and $D_W = 0$ otherwise.

$LOSS_t = (GF_t - GA_t)D_L$, where $D_L = 1$ if $GF_t - GA_t < 0$ and $D_L = 0$ otherwise.

³ In the two-step process, one first estimates the market model in a pre-event estimation period to predict normal returns, and then, in a second step, one finds abnormal returns in an event window by observing the difference between actual and expected returns.

⁴ We use this period to balance the statistical test since the number of days between the first match in the World Cup and the Final match is eighteen; so, we compare the eighteen days prior to the final with the eighteen days after it.

⁵ Two days is the maximum number of days we can analyze between matches without overlapping.

The final market model is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \theta_i WIN_t D_{it} + \tau_i LOSS_t D_{it} + \varepsilon_{it} \quad (7)$$

Loss aversion will be detected if $\tau_i/\theta_i > 1$, i.e. if the parameter associated with the goal difference in a defeat is greater than the parameter related to the goal difference in a victory.

The empirical application is applied to two sub-sectors within the tourism industry: airlines and hotels. More concretely, we study the leading companies in each sub-sector in Spain: Iberia and Sol Meliá, respectively. The raw data is the daily returns on the firms during the sports event. Returns are adjusted by dividends, capital increases and splits, so that they are expressed by $R_{it} = \ln(P_t \cdot SF_t + r_t + d_t) - \ln P_{t-1}$, where P_t is the price, SF_t the split factor, r_t the subscription right and d_t the dividend paid, all of which refer to day t . As a proxy of the market portfolio R_{mt} , the IBEX-35 index is used, which is a representative index of the Spanish Stock Market. The data is obtained from the Spanish Stock Exchange Society. For the analysis of the effect of the World Cup final on the industry's market value, we build an aggregate return measure formed by the average of the two companies' daily returns; and for the analysis of the differentiate effect of won and lost World Cup matches on firm value, we analyze each company's market value independently to detect potential distinct effects. The Spanish team's results for the matches during the study period are obtained from the website www.2010mundialfutbol.com/.

3.2. Results

The first step in the analysis is the selection of the market model specification that best fits the return series. Table 1 shows each model's fit. According to the Akaike Information Criteria, for the analysis of the effect of winning the World Cup final, the specification which appears to be optimum is the EGARCH(1,1), and for the effect of the match results, the EGARCH(1,1) for Iberia and the EGARCH(1,3) for Sol Meliá (see figures in bold in Table 1).

“Insert Table 1 about here”

Once the model that best fits the return series has been determined, we proceed, in the second stage, to estimate the abnormal returns. Table 2 presents the parameter estimates for the effect of winning the World Cup final. We observe that the systematic risk -or beta of the stock- is 0.93, which is quite close to one, implying that it moves at a rate similar to the market rate. Given that this is an indicator of the stock's price volatility in relation to the rest of the market, this close-to-one beta means similar price volatility to the market and, therefore, similar risk. Regarding the parameter of interest, we find a significantly positive

parameter for the dummy variable D_{itF} , which represents abnormal returns for the eighteen days after Spain winning the World Cup final; thus, Hypothesis 1 that winning the FIFA World Cup has a positive effect on the country's tourism market value cannot be rejected, as a World Cup victory seems to have a positive effect on the winning country's tourism market value via destination brand knowledge enhancement through tangible and intangible components, in line with Joshi and Hanssens (2010).

“Insert Table 2 about here”

Table 3 shows the effects of winning or losing a match in the World Cup on each firm value. We observe that Iberia's systematic risk (beta) is around 0.66, thus it moves at a rate of about half the market rate, i.e., this less-than-one beta implies less price volatility than the market and, therefore, less risk (specifically, about half that of the market). For the case of Sol Meliá, the systematic risk is 1.32, meaning that it moves at a higher rate than the market rate, involving more price volatility than the market and, therefore, more risk.

As for the parameters of interest, we find -for both Iberia and Sol Meliá- the expected positive and significant parameters for both variables “won match x goal difference” and “lost match x goal difference”, meaning that if the National team wins (loses) a World Cup match, the company returns increase (decrease); thus, winning enhances firm value and losing diminishes it. These results mean that the effect on tourism firm value is not only contingent upon the result of the Final, but also upon the results of the matches leading up to it.

As for Hypothesis 2, we look at the difference between both parameters. For Iberia, this difference is not statistically significant (Wald test's Chi-square= 1.552; $p < 0.282$), and for Sol Meliá, it is statistically significant (Wald test's Chi-square= 9.587; $p < 0.001$), the two Sol Meliá parameters reach a ratio of 4.843 ($\tau/\theta = 4.843 > 1$). With the Sol Meliá ratio being greater than one, loss aversion is observed; therefore, we can only accept Hypothesis 2 for this company. It means that the result of a match has asymmetrical effects on firm value; specifically, lost matches have greater impact on it than won matches even if the goal difference, be it negative or positive, is the same. In other words, the negative impact on the firm value derived from losing a match by one goal is about five times the positive impact from winning by one goal. This difference in results -Sol Meliá showing asymmetrical effects and Iberia having symmetrical effects- can be a consequence of the fact that Sol Meliá is perceived as riskier than Iberia on account of their betas ($\beta_{Sol\ Meliá} = 1.328 > \beta_{Iberia} = 0.664$), so bad news items (losing a match) will be perceived as worse for the former than for the latter.

“Insert Table 3 about here”

The economic impact of winning or losing is illustrated as follows: for an average sample market value of €2,236,247,381 for Iberia and €1,019,284,135 for Sol Meliá (the result of multiplying the number of shares by their share price), positive abnormal returns of 0.27% and 0.32% respectively, derived from a win match suppose an increase in market value of €6,037,867 for Iberia and €3,261,709 for Sol Meliá, in only two days; for a lost match, negative abnormal returns of 0.17% and 1.55% represent a decrease in market value of €3,801,620 for Iberia and €15,798,904 for Sol Meliá.

One final test is necessary to confirm these results. Edmans et al. (2007) suggest that shareholders' sports sentiment can affect stock returns in such a way that the level of excitement of shareholders could influence them. Therefore, we need to test that these sentiments are not driving the reactions in the tourism market value we have detected. If shareholders' sentiment and excitement about the World Cup were affecting the reactions in share price, the movement in prices would be common for the entire Spanish Stock Market. We perform three Anova tests to find: i) whether there is a positive reaction in the whole Spanish market eighteen days after the final match; ii) whether the Spanish market reacts positively over the two days following a won match; and iii) whether the Spanish market reacts negatively over the two days following a lost match.

We use the IBEX-35 index as a measure of the whole Spanish Stock Market. We find that none of the above three tests are statistically significant. Specifically, we obtain the following statistics for the respective Anova tests: $F=0.001$ ($p<0.976$), $F=0.896$ ($p<0.356$) and $F=0.086$ ($p<0.773$). Consequently, no general reaction -either positive or negative- of the Spanish Stock Market is found and, thus, sentiment and excitement derived from the World Cup do not seem to be driving the evolution of prices.

In conclusion, although there are no general reactions in the Spanish Stock Market, either during the World Cup or after it, we do find specific reactions in the tourism industry, both “during” and “after”, on account of the awareness and associations that the champions of this tournament, “Spain's La Roja”, can bring about towards the brand of its country as a tourism destination.

4. CONCLUSIONS

FIFA World Cups are hyped events of world importance that are expected to positively impact on the knowledge of the host destination brand and, in this regard, the literature has focused on analyzing different issues around the country hosting the event, in

an attempt to observe whether the event has been good or not -and by how much- for the destination. Based on this event, this article looks at the World Cup winner and the consequences on its country's tourism industry. On account of the repercussions of winning this tournament, the link between the World Cup winning team and its country is strong, and the awareness of the brand "Spain" after the 2010 World Cup is enhanced. It implies that the brand will be evoked more easily and more frequently, increasing its recognition and recall. Moreover, in a high involvement decision framework like tourism, the characteristics of brand associations, i.e. favorability (especially in terms of expected experiential and symbolic benefits), strength (both quantitative and qualitative) and uniqueness (few things are more unique and differential than winning a World Cup), play a particularly relevant role in enhancing brand knowledge. Additionally, the country's name enjoys secondary associations and gets the advantages of sponsorship activities and celebrity endorsers without the large expenses that these strategies usually imply. Consequently, there should be an increment in the likelihood of the destination being part of the individual's consideration set and, consequently, of being selected as a vacation destination, producing a rise in sales and profits, which would represent an increase in the tangible part of the tourism firms' market value. Likewise, there is also an increase in the intangible component of these tourism firms' value, via the enhancement of their umbrella brand equity.

The empirical analysis designed to test this relationship is based on the victory of the Spanish National soccer team in the 2010 FIFA World Cup and is applied to the two most prominent Spanish tourism firms (Iberia and Sol Meliá), which are paradigmatic examples within airlines and hotel chains, respectively. We find a significant increase in the tourism industry's market value as a consequence of Spain winning the cup, because of the aforementioned positive effect of brand knowledge on firm value. Also interesting is the fact that not only does winning the cup have an effect on the tourism market value but that individual World Cup matches have an influence on firm value as well. Note, however, that while for both companies, winning enhances their firm values and losing diminishes them, for Sol Meliá these increases and decreases are asymmetric, providing evidence of loss aversion; i.e., lost matches have greater impact on its market value than won matches even if the goal difference, be it negative or positive, is the same. This raises the issue of heterogeneity in the response and thus, each firm's characteristics need to be considered. For this case, with Sol Meliá being perceived as riskier and more volatile (on account of its beta), bad news items (losing a match) will also be perceived as worse.

The findings have relevant managerial implications for both destination managers and tourism firms operating in these destinations:

i) Firm value has traditionally been used to evaluate and judge managerial decisions, but this article shows that it can also be used to measure external factors that are not even management-related but that can have an effect on firm wealth.

ii) Even though the event assessed is not management-related, it affects intangible assets; note that a large proportion of the value of today's firms is formed by intangible assets, so a way to capture any effects on them is the use of a forward-looking measure such as the firm's market value (rather than a backward-looking measure like traditional accounting-based returns on investment).

iii) The results obtained show the importance of building umbrella brand equity for the tourism industry, as the enhancement of the umbrella brand knowledge is transferred to the individual brands. Evidently, this is the purpose of building such a brand type, but this article shows additional evidence of the existence of this type of transfer, so managers can still trust the umbrella brand strategy.

iv) In line with umbrella branding, it is important to note that today it is usual to find regions interested in attaching a brand element of sport to their destination marketing profile (Kim and Chalip, 2004), usually through sponsorship activities. These actions are generally initiated by public entities in charge of tourism promotion but, according to the findings, they must be supported by private tourism organizations. This is especially relevant for tourism firms since, as has been shown, the specific reactions in the tourism industry are greater than those of the general market. Moreover, it is important to remember the singularity of this differentiation; i.e. this attribute "having a champion team associated to a destination" is not easy to copy (in fact, there is only one at any given time) and, therefore, the destination as well as the tourism firms operating in it, hold a unique competitive advantage. In a recent interview, Joan Gaspart, former president of the renowned soccer club F.C. Barcelona and chairman of a Spanish hotel group HUSA explicitly suggests that tourism firms operating in a region whose main soccer team plays in the first tier (e.g. the "Premier League" in England, the "Primera División" in Spain, the "Bundesliga" in Germany or the "Serie A" in Italy) should regard the "decision to support the team as a very intelligent investment" (Diario Información, 2010). Certainly, at the very least, and paraphrasing Dwyer et al. (2005), it would *help put the region on the map*.

v) Spanish tourism firms have to take advantage of the brand recognition and brand recall as well as the associations that brand Spain currently enjoys. No matter how easy and

potentially retrievable from memory the information is, tourism firms should use reminders that keep linking the soccer victory to the country as a destination to retain it in the individual's consideration set.

vi) Finally, the brand equity reached should be kept as long as possible. Note that, while in the short-term, the expected inclusion of the destination Spain in the consideration set and its effects on sales can be accentuated by the recentness of the victory, in the long-term, it is the brand equity the element that will facilitate the inclusion of the brand in the consideration set (arrow 11) and will lead to increased sales (arrow 12). On this account, sustainability is a critical aspect to maintain destination brand equity in this context: not only do the destinations have to promote their sustainable use but they also have to be aware that their brand equity is formed by individuals' perceptions about the destination sustainability. As people become more and more conscious about the natural environment, they will tend to favor destinations that take this aspect into account. The environment issue is relevant in all types of industries; in tourism, however, it is especially important as the environment is a facet of the tourism product itself and, therefore, it helps build the destination brand equity. Hence, firms and entities managing these products are expected to act responsibly as externalities are particularly manifested.

An important limitation of the study is that the effect may not be universal on all Spanish tourism organizations. As stated previously, we focus on quoted companies, so, the observed effects can be associated with the organizations' prominence linked to this well-known firms.

A further research possibility is the analysis of the winners in other sports. Certainly, soccer has unique characteristics, being an engrossing sport with all its Hollywood-like superstar players, but can these results be obtained in other sports? If so, it would broaden managers' room for maneuver as it would not be restricted to just one sport. Another future line of research is to assess which strategy has more impact: providing financial support to an umbrella brand that has a sports team linked to its name (as in this case) or traditional sponsorship, in which the company provides support directly to the team. Also, it would be interesting to analyze if such a victory also brings about changes in the volatility of the firm's market value, which in essence would lead us to find out whether there is a reduction in the firm risk. Finally, it would be appropriate to investigate whether these findings hold in other soccer championships such as the UEFA Champions League for the top clubs in the European national leagues or the FIFA Club World Cup for the champion clubs from the six soccer confederations, with clear implications for the tourism firms located in the city the

winning club belongs to. This would be especially interesting for the Spanish case: note that the awareness of Spain as a soccer power might already be present in relation to the continual successes of Barça and Real Madrid. However, the strength of the national team win in the World Cup might be to see "Spain" as a more universal brand as opposed to the two regions represented in the two giant Spanish clubs. Consequently, it would be compelling to check whether the impact of soccer championship victories on tourism firm's market value is contingent upon national vs. regional character of the team.

REFERENCES

- Arcelus, F.J., Kumar, S. and Srinivasan, G. (2012). Risk tolerance and a retailer's pricing and ordering policies within a newsvendor framework, *Omega*, forthcoming.
- Baloglu, S. and McCleary, K.W. (1999). A model of destination image formation. *Annals of Tourism Research*, 26, 4, 868-897.
- Baloglu, S. and Brinberg, D. (1997). Affective Images of Tourism Destinations. *Journal of Travel Research*, 35, 4, 11-15.
- Barney, R.; Wenn, S. and Martyn, s. (2002). Selling the five rings: The International Olympic Committee and the rise of Olympic commercialism. Salt lake City: the University of Utah Press.
- Bell, D.R. and Lattin, J.M. (2000), "Looking for loss aversion in scanner panel data: the confounding effect of price response heterogeneity", *Marketing Science*, 19, 2, pp. 185-200.
- Bollerslev, T. (1986) Generalized autoregressive conditional heteroskedasticity, *Journal of Econometrics*, 31, 307-327.
- Bonn, M.A.; Joseph, S.M. and Dai, M. (2005). International versus Domestic Visitors: An Examination of Destination Image Perceptions. *Journal of Travel Research*, 43, 3, 294-301.
- Boscá, J.E., Liern, V., Martínez, A. and Sala, R. (2009) Increasing offensive or defensive efficiency? An analysis of Italian and Spanish football, *Omega*, 37, 1, 63-78.
- Bramwell, B. (1997). Strategic planning before and after a mega-event. *Tourism Management*, 18, 3, 167-176.
- Cai, L.A. (2002). Cooperative branding for rural destinations. *Annals of Tourism Research*, 29, 3, 720-742.
- Carlin, J. (2004) *White angels: Beckham, Real Madrid, and the new football*. New York: Bloomsbury.
- Collins, A.M. and E.F. Loftus (1975) "A spreading-activation theory of semantic processing", *Psychology Review*, 82 (6), 407-428.
- Collins, A., Jones, C. and Munday, M. (2009). Assessing the environmental impacts of mega sporting events: Two options?. *Tourism Management*, 30, 6, 828-837.
- Connolly, R.A. and McMillan, H. (1989) Time conditional variances and event studies: the case of capital structure changes, Working paper, University of California.
- Court, B. and Lupton, R.A. (1997). Customer Portfolio Development: Modeling Destination Adopters, Inactives, and Rejecters. *Journal of Travel Research*, 36, 1, 35-43.
- Daniels, M.J.; Norman, W.C. and Henry, M.S. (2004). Estimating income effects of a sport tourism event. *Annals of Tourism Research*, 31, 1, 180-199.
- Delpy-Neirotti, L. (2003). An Introduction to Sport and Adventure Tourism. In S. Hudson (ed) *Sport and Adventure Tourism*, New York: The Haworth Hospitality Press.
- Delpy-Neirotti, L.; Bosetti, H.A. and Teed, K.C. (2001). Motivation to Attend the 1996 Summer Olympic Games. *Journal of Travel Research*, 39, 3, 327-331.
- Diario Información (2010). Interview to Joan Gaspart, October 17. www.diarioinformacion.com/alicante/2010/10/17/hoteleros-tontos-aceptar-bajar-precios-cinco-ciento/1054839.html
- Dobson, S. and Goddard, J. (2010), Optimizing strategic behaviour in a dynamic setting in professional team sports, *European Journal of Operational Research*, 205, 3, 661-669.
- Drexler, A. and Knust, S. (2007) Sports league scheduling: Graph- and resource-based models, *Omega*, 35, 5, 465-471.

- Dwyer, L.; Forsyth, P. and Spurr, R. (2005). Estimating the Impacts of Special Events on an Economy. *Journal of Travel Research*, 43, 4, 351-359.
- Dwyer, L.; Forsyth, P. and Spurr, R. (2006). Assessing the Economic Impacts of Events: A Computable General Equilibrium Approach. *Journal of Travel Research*, 45, 1, 59-66.
- Edmans, A., García, D. and Norli, Ø. (2007). Sports sentiment and stock returns. *The Journal of Finance*, 62, 4, 1967-1998.
- Edmans, A.; García, D. and Norli, El Mundo (2010). ¿Saldrá España de la crisis tras ganar el mundial?. July 12.
www.elmundo.es/mundodiner/2010/07/12/economia/1278927889.html
- El País (2010). Ganar crea Mercado. July 13.
www.elpais.com/articulo/deportes/Ganar/crea/mercado/elpdepfutmunart/20100713elpdep_23/Tes#
- Engle, R.F. (1982) Autoregressive conditional heteroskedasticity with estimates of variance of UK inflation, *Econometrica*, 50, 987-1007.
- Erdem, T. (1998). An empirical analysis of umbrella branding, *Journal of Marketing Research*, XXXV, 339-351.
- Funk, D.C. and Bruun, T.J. (2007). The role of socio-psychological and culture-education motives in marketing international sport tourism: A cross-cultural perspective. *Tourism Management*, 28, 3, 806-819.
- Frieder, L. and Subrahmanyam, A. (2005). Brand perceptions and market for common stock, *Journal of Financial and Quantitative Analysis*, 40, 1, 57-86.
- Gartner, W.C. and Shen, J. (1992). The Impact of Tiananmen Square on China's Tourism Image. *Journal of Travel Research*, 30, 4, 47-52.
- Gibson, H. (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1, 1, 45-76.
- Glosten, L.R., Jagannathan, R. and Runkle, D. (1993) On the relation between the expected value and the volatility of the normal excess return on stocks, *Journal of Finance*, 48, 1779-1801.
- Govers, R.; Go, F.M. and Kumar, K. (2007). Promoting Tourism Destination Image. *Journal of Travel Research*, 46, 1, 15-23.
- Higham, J. and Hinch, T. (2002). Tourism, sport and seasons: the challenges and potential of overcoming seasonality in the sport and tourism sectors. *Tourism Management*, 23, 2, 175-185.
- Joshi, A. and Hassens, M. (2010) "The direct and indirect effects of advertising spending on firm value", *Journal of Marketing*, 74, 20-33.
- Kahneman, D. and Tversky, A. (1979), "Prospect theory: and analysis of decision under risk", *Econometrica*, 47, 2, pp. 263-291.
- Karafiath, I. (1988) "Using Dummy Variables in the Event Methodology", *The Financial Review*, 23(3), 351-357.
- Keller, K.L. (1993) Conceptualizaing, measureing, and managing customer-based brand equity, *Journal of Marketing*, 57, 1-22.
- Kim, H.J., Gursoy, D. and Lee, S.B. (2006). The impact of the 2002 World Cup on South Korea: comparisons of pre- and post-games. *Tourism Management*, 27, 1, 86-96.
- Kim, N.S. and Chalip, L. (2004). Why travel to the FIFA World Cup? Effects of motives, background, interest, and constraints. *Tourism Management*, 25, 6, 695-707.
- Kim, S.S. and Morrison, A.M. (2005). Change of images of South Korea among foreign tourists after the 2002 FIFA World Cup. *Tourism Management*, 26, 2, 233-247.
- Kim, S.S. and Petrick, J.F. (2005). Residents' perceptions on impacts of the FIFA 2002 World Cup: the case of Seoul as a host city. *Tourism Management*, 26, 1, 25-38.

- Klapper, D., Ebling, C. and Temme, J. (2005), "Another look at loss aversion in brand choice data: can we characterize the loss averse consumer?", *International Journal of Research in Marketing*, 22, pp. 239-254.
- Kuper, S. and Szymanski, S. (2009) Soccerconomics. New York: Nation Books.
- Lahdelma, R. and Salminen, P. (2009), Prospect theory and stochastic multicriteria acceptability analysis (SMAA), *Omega*, 37, 5, 961-971.
- Lee, C.K.; Lee, Y.K. and Lee, B.K. (2005). Korea's destination image formed by the 2002 World Cup. *Annals of Tourism Research*, 32, 4, 839-858.
- Lee, C.K; Moon, S. and Mjelde, J.W. (2010). Disentangling the effects on the Korean economy of the 9/11 terrorist attacks from the short-run effects of hosting the 2002 World Cup, using the CGE model. *Tourism Economics*, 16, 3, 611-628.
- Lee, C-K. and Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega-event: the case of 2002 FIFA World Cup. *Tourism Management*, 26, 4, 595-603.
- MacKay, K.J. and Fesenmaier, D.R. (2000). An Exploration of Cross-Cultural Destination Image Assessment. *Journal of Travel Research*, 38, 4, 417-423.
- Morgan, A. and Morgan, I. (1987) Measurement of abnormal returns from small firms, *Journal of Business and Economic Statistics*, 5, 121-129.
- Myers, D.G. (2010) Exploring Psychology, Worth Publishers: New York.
- Nedungadi, P. (1990) Recall and consumer consideration sets: influencing choice without altering brand evaluations, *Journal of Consumer Research*, 17, 263-276.
- Nelson, D.B. (1990) Conditional heteroskedasticity in asset returns: a new approach, *Econometrica*, 41, 867-887.
- Norton, E. and Pettengill, G.N. (1998) "Event risk covenant rating announcement and stock returns", *Journal of Financial and Strategic Decisions*, 11, 2, 1-10.
- Rasmussen, R.V. (2008), Scheduling a triple round robin tournament for the best Danish soccer league, *European Journal of Operational Research*, 185, 2, 795-810.
- Ritchie J.R.B. and Aitken, C.E. (1985). Olympulse II - Evolving Resident Attitudes Toward the 1988 Olympic Winter Games. *Journal of Travel Research*, 23, 3, 28-33.
- Ritchie, J.R.B. (1984), Assessing the Impact of Hallmark Events: Conceptual and Research Issues. *Journal of Travel Research*, 23, 1, 2-11.
- Samsung Economic Research Institute (2002). Economic and social change after 2002 World Cup. Seoul: Samsung Economic Research Institute.
- Scarf, P., Yusof, M.M. and Bilbao, M. (2009), A numerical study of designs for sporting contests, *European Journal of Operational Research*, 198, 1, 190-198.
- Sharpe, W. (1963) "A Simplified Model for Portfolio Analysis", *Management Science*, 9, 2, 277-293
- Sharpe, W. (1964) "Capital Asset Prices - A Theory of Market Equilibrium Under Conditions of Risk," *The Journal of Finance*, 19, 3, 425-442.
- Simon, C.J. and Sullivan, M.W. (1993). "The measurement and determinants of brand equity: a financial approach", *Marketing Science*, 12, 1, 28-52.
- Sirgy M.J. and Su, C. (2000). Destination Image, Self-Congruity, and Travel Behavior: Toward an Integrative Model. *Journal of Travel Research*, 38, 4, 340-352.
- Smith, A. (2005). Reimagining the city: The Value of Sport Initiatives. *Annals of Tourism Research*, 32, 1, 217-236.
- Tassiopoulos, D. and Haydam, N. (2008). Golf tourists in South Africa: A demand-side study of a niche market in sports tourism. *Tourism Management*, 29, 5, 870-882.
- The Wall Street Journal (2010). The soccer-stimulus fallacy. July 14. online.wsj.com/article/SB10001424052748704518904575364663941316300.html

- Tkaczynski, A. and Rundle-Thiele, S.R. (2010). Event segmentation: A review and research agenda. *Tourism Management*, forthcoming.
- Tsao, H-Y., Pitt, L.F. and Berthon, P. (2006), An experimental study of brand signal quality of products in an asymmetric information environment, *Omega*, 34, 4, 397-405.
- Wang, C.X. and Webster, S. (2009), The loss-averse newsvendor problem, *Omega*, 37, 1, 93-105.
- Wernerfelt, B. (1988). Umbrella branding as a signal of new product quality: an example of signalling by posting a bond, *Rand Journal of Economics*, 19, 3, 458-466.
- Woodside, A.G. and Lysonski, S. (1989). A General Model Of Traveler Destination Choice. *Journal of Travel Research*, 27, 4, 8-14.
- Zakoian, J.M. (1994) Threshold heterokedastic models, *Journal of Economics Dynamics and Control*, 18, 931-995.
- Zhao, L., Tian, P. and Li, X. (2012). Dynamic pricing in the presence of consumer inertia, *Omega*, forthcoming.

Table 1. Selection of the model specification

Model	Iberia & Sol Meliá model	Iberia	Sol Meliá
	(after World Cup Final)	(during World Cup)	(during World Cup)
	AIC	AIC	AIC
OLS	-4.953	-4.868	-4.594
ARCH (1)	-4.859	-4.668	-4.423
ARCH (1,1)	-4.887	-4.700	-4.449
ARCH (2,1)	-4.839	-4.555	-4.265
ARCH (2,2)	-4.764	-4.506	-4.355
ARCH (1,2)	-4.809	-4.577	-4.345
ARCH (3,2)	-4.747	-4.392	-4.358
ARCH (3,3)	-4.675	-4.261	-4.276
ARCH (2,3)	-4.706	-4.451	-4.260
ARCH (3,1)	-4.769	-4.487	-4.464
ARCH (1,3)	-4.859	-4.439	-4.207
ARCH (4,4)	-4.582	-4.140	-4.317
EGARCH (1,1)	-5.112	-5.375	-4.624
EGARCH (2,1)	-4.820	-5.051	-5.116
EGARCH (2,2)	-4.751	-5.109	-5.054
EGARCH (1,2)	-5.049	-5.163	-5.298
EGARCH (3,2)	-4.911	-4.703	-5.056
EGARCH (3,3)	-4.855	-4.627	-5.105
EGARCH (2,3)	-4.954	-5.103	-5.205
EGARCH (3,1)	-4.996	-4.902	-4.994
EGARCH (1,3)	-4.980	-5.120	-5.307
EGARCH (4,4)	-4.692	-4.504	-4.878
TGARCH (1,1)	-4.933	-4.820	-4.392
TGARCH (2,1)	-4.860	-4.648	-4.223
TGARCH (2,2)	-4.798	-4.714	-4.200
TGARCH (1,2)	-4.828	-4.685	-4.241
TGARCH (3,2)	-4.770	-4.515	-4.152
TGARCH (3,3)	-4.663	-4.519	-4.326
TGARCH (2,3)	-4.744	-4.596	-4.156
TGARCH (3,1)	-4.802	-4.619	-4.612
TGARCH (1,3)	-4.783	-4.613	-4.185
TGARCH (4,4)	-4.548	-4.307	-4.165

Table 2. Effect of Winning the World Cup Final on “Iberia & Sol Meliá” market value

	R_m	D_{iIF}	α	c	λ_I	δ_I	γ_I	R-squared
Parameters	0.933 (0.065)	0.010 (0.001)	-0.002 (0.00006)	-15.843 (0.434)	0.898 (0.300)	-0.420 (0.123)	-0.819 (0.000)	0.409
z-statistic	14.193	5.173	-41.639	-36.482	2.984	-3.419	-20.518	

Table 3. Effect of World Cup match results on firm value

Variables	Equation 1 Iberia		Equation 2 Sol Meliá	
	Parameters	z-statistic	Parameters	z-statistic
Market portfolio <i>(R_m)</i>	0.664 (0.006)	109.685	1.339 (0.042)	31.54
Goal difference x Won match <i>(WIN)</i>	0.0027 (0.00006)	4.386	0.0036 (0.001)	3.519
Goal difference x Lost match <i>(LOSS)</i>	0.0017 (0.0002)	6.000	0.0157 (0.004)	3.555
α	-0.0086 (0.0002)	-29.561	0.0049 (0.001)	3.589
c	-7.057 (1.212)	-5.823	-6.222 (1.476)	-4.214
λ_t	-2.371 (0.804)	-2.948	-2.361 (1.883)	-1.253
δ_t	-1.496 (0.227)	-6.582	1.561c (0.608)	2.566
γ₁	-0.057 (0.111)	-0.518	0.549 (0.138)	3.980
γ₂			-0.385b (0.128)	-3.002
γ₃			-0.073 (0.106)	-0.688
R-squared	0.452		0.229	

Figure 1. Relationships between the World Cup winner and the tourism market value

