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RESEARCH NOTE

SPORTS RESULTS CREATING TOURISM VALUE:
Rafael Nadal's tennis match points worth €12,000,000

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Abstract

The purpose of this article is to examine the effect of a tennis player's performance in the Grand Slams on the market value of a leading airline from the player's country. The analysis is applied to the Spanish airline, Iberia, and the Spanish tennis player, Rafael Nadal. It shows that his victories in the matches of the Grand Slam tennis tournaments led to an increase in the market value of Iberia. The result is confirmed by both the victory itself and the difference between sets in favour and sets against in the match.

Keywords: image; firm value; loss aversion; tennis; sports tourism; airlines

INTRODUCTION

Sports 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" (Barquet et al., 2011; Delpy-Neirotti, 2003; Falk, 2015) has been widely analyzed, especially its impact on the destination (Dwyer et al., 2006; Huang et al., 2014; Liu and Gratton, 2010). In other research areas, the study of sports celebrities has focused on the endorsement contracts and their effects on the endorsing firms (Ding et al., 2011).

The combination of these two research lines leads to a topic that has been overlooked in the tourism literature: the sports celebrities' implicit promotion of their countries -as tourism destinations- via secondary associations. According to Keller (1993), secondary associations are links of the brand to other information in the

memory that does not have a direct relationship with the brand, but that consumers might identify with it and thus assume that both entities share associations. This author suggests that these secondary associations can be related to the company, the distribution channels, the country of origin and celebrity endorsers.

In this line, we can regard athletes as celebrity endorsers, thereby creating secondary associations -explicitly with the firms they are endorsing and implicitly with their country of origin-. Note that firms contract celebrity endorsers because they make advertisements more reliable, help people recognize and remember the brand name, generate affect towards the brand, and increase the likelihood of individuals choosing the endorsed brand (Agrawal and Kamakura, 1995). Analogously, and irrespective of these contracts with private firms, the athlete's country's name also gets the advantages of sponsorship activities and celebrity endorsers without the large expenses that these strategies usually imply. Note that the country's name is linked to the athlete not because of a costly sponsorship relationship but because it is an essential part of the identity of the person.

Having athletes winning major hyped sports events can have a positive impact on the knowledge of the destination brand (that is, the athletes' country). Along this line, Nicolau (2012) shows that the victory of the Spanish National soccer team in the 2010 FIFA World Cup led to a significant increase in the tourism industry's market value, because of the positive effect of brand knowledge on firm value, via brand awareness and image (Joshi and Hanssens, 2010).

While this is the only study detected in the literature that has examined the impact of sports results on tourism, we focus on an individual athlete rather than a team. We argue that, on the one hand, having an athlete winning major sports contests can notably help the athlete's country build a positive image -via secondary associations-. It

helps identify and differentiate the destination brand (Mackay and Fesenmaier, 2000), which in turn, can influence consumer evaluations of the brand and, consequently, brand choice (Woodside and Lysonski, 1989). On the other hand, the awareness of the country's brand after the athlete's victories is enhanced. The brand will be evoked under many different situations or circumstances much more easily and more frequently after the athlete's victories, 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 countries to go on holidays, the winning country will be recognized on that list, and more importantly, it is more likely to be recalled when forming the list.

To sum up, the underlying idea is that the positive impact of celebrated athletes' victories on their countries -whose names are tourism destination brands- can lead to an increase in the likelihood of the destination being included in a potential tourist's consideration set. This increase stems from enhancing the country's brand knowledge via brand awareness (brand recognition and brand recall) and secondary associations (brand image). Consequently, raising the likelihood of the destination being included in a tourist's consideration set leads to augmenting the probability of the country being chosen as a destination. Eventually, this increase in potential tourists should result in an increment in sales and profits on the part of tourism firms, with a subsequent positive effect on firm value.

Accordingly, in this research note, we test whether the performance of a tennis player in the four major tennis tournaments (the Grand Slams) has an effect on a critical tourism sub-sector, which is the airline industry. Note that the paper does not explicitly deals with passenger flows but with stock market's reactions; reactions which are made

by shareholders. Certainly, the brand enhancement is expected to have a greater effect on inbound tourism but we can only know the exact impact of this effect a posteriori. In this regard, the advantage of the method used in the paper is that we can anticipate the profits of an airline by looking at investors' reactions.

METHOD AND DATA

To examine the effect of a tennis player's performance on the value of an airline we estimate the abnormal returns derived from the player's performance in each match. We use the traditional market model to gauge the variation in share prices on any given day:

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

where R_{it} represents the returns on the firm's share i on day t; RM_t 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 (in order to control for kurtosis and heteroskedasticity in the error term, we estimate an EGARCH (1,1) model)

To calculate the abnormal returns derived from the results in each match, Karafiath's (1988) methodology is used. We add a dummy variable D_{iwt} to the expression (1), which indicates the day after winning a match. The resulting market model is as follows:

$$R_{it} = \alpha_i + \beta_i RM_t + \xi_i D_{iwt} + \varepsilon_{it} \quad (2)$$

where ξ_i is a parameter to be estimated and expected to be positive if the victory has a positive effect. Also interesting is the analysis of potential differential effects of the abnormal returns derived from each match result, i.e. whether the variation in the market value differs in magnitude when the sports result is positive (won match) or

negative (lost match). Thus, we build a second model with a dummy variable D_{it}, which indicates the first trading day after the match on day t and two result variables: WIN_t and $LOSS_t$. Calling SF_t sets in favor and SA_t sets against, these two variables WIN_t and $LOSS_t$ are defined as follows:

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

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

The final market model is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \theta_i WIN_t D_{it} + \tau_i LOSS_t D_{it} + \varepsilon_{it} \quad (3)$$

In line with Kahneman and Tversky's (1979) Prospect Theory, loss aversion will exist if $\tau_i/\theta_i>1$, i.e. if the parameter associated with the set difference in a defeat is greater than the parameter related to the set difference in a victory.

We apply the empirical analysis to Iberia, which is the leading airline in Spain, whose raw data are the daily returns on the firm during the period April 3, 2001 to January 1, 2011; and the tennis player chosen is Rafael Nadal, who is currently the best Spanish tennis player. We focus on the Grand Slam tennis tournaments (Australian Open, Roland Garros, Wimbledon and US Open), and the results for the 85 matches used are obtained from the Worldwide Tennis Database.

RESULTS

Equation 1 in Table 1 presents the parameter estimates for the effect of winning a tennis match in the Grand Slams. We find a significantly positive parameter for the variable D_{iwt}, which represents abnormal returns for the day after Nadal winning a match; thus, Nadal's victory seems to have a positive effect on Iberia's market value via destination brand knowledge enhancement, in line with Joshi and Hanssens (2010).

"Insert Table 1 about here"

Equation 2 in Table 1 shows the effects of winning or losing a match in the Grand Slams. We find a positive and significant parameter for the variable "won match $_3$ set difference" and a non-significant parameter for "lost match $_3$ set difference", meaning that Nadal's performance in the court has different effects on the firm's market value: winning enhances firm value, but contrary to loss aversion, if he loses a match the market value of Iberia is not affected. As Nadal's losing a match is something that happens not frequently and only every now and again, even being it an unanticipated event, the market seems to remain neutral.

Finally, to show the implication of this result in economic terms, we estimate the economic impact of winning. For an average sample market value of about €2 billion (the result of multiplying the number of shares by their share price), positive abnormal returns of 0.58% derived from a won match (with a set difference of one) means an increase in market value of around €12 million in one single day.

CONCLUSIONS

This research note analyzes the relationship between the performance of a celebrated tennis player in the Grand Slams and the market value of the leading airline in the player's country. We find that Nadal's victories in the matches of the Grand Slams lead to an increase in the market value of Iberia, via brand knowledge enhancement of the player's country's name. This result is confirmed by both, the victory itself and the difference between sets in favor and sets against.

This outcome opens up further avenues of research. First, the fact that Nadal's performance only has an effect on firm value when the sports result is positive proves him as an asset: having him as an endorser guarantees no losses in firm value. It means

that the endorser's characteristics are worthwhile analyzing. Second, other sports can produce (dis)similar results, so a multi-sports study could detect idiosyncrasies that might make their effects on tourism firms vary. Third, the measurement of information exchange on the social media platforms (e.g Twitter) of the destination or a specific tourism company after the athlete's performance could give an idea of how much "hype" has been generated.

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Table 1. Effect of Grand Slam matches on airline value

Variables	Equation 1		Equation 2	
	Parameters	z-statistic	Parameters	z-statistic
Market portfolio	0.7157	30.03	0.7154	30.36
(R_m)	(0.0238)		(0.0235)	
Victory	0.0058	2.29		
(D_{iwt})	(0.0025)			
Set difference x Won match			0.0058	2.30
(WIN)			(0.0025)	
Set difference x Lost match			0.0034	0.26
($LOSS$)			(0.0129)	
α	-0.00007	-0.21	-0.0001	-0.29
	(0.0003)		(0.0003)	
c	-0.3246	-11.32	-0.3927	-11.53
	(0.0286)		(0.0340)	
$\lambda_{Arch(1)}$	0.1813	15.72	0.1971	15.19
	(0.0115)		(0.0129)	
$\delta_{Garch(1)}$	-0.0377	-4.810	-0.0392	-4.67
	(0.0078)		(0.0084)	
$\gamma_{Egarch(1)}$	0.9751	330.02	0.9678	275.14
	(0.0029)		(0.0035)	
F-statistic	63.76		54.63	
R-squared	0.1344		0.1344	

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