CELEBRITY ENDORSERS' PERFORMANCE ON THE 'GROUND' AND ON THE 'FLOOR'

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Abstract

This article analyzes the relationship between two types of performances, one on the ground (of a tennis court) and the other on the floor (of the stock market). The empirical application looks into the tennis player, Rafael Nadal, and his endorsing firms. The findings show a positive reaction in the market value when the tennis player wins matches in the Grand Slams, the intriguing effect being the diminishing sensitivity pattern that such reaction shows and the absence of loss aversion.

Keywords: firm value; diminishing sensitivity; loss aversion; tennis; endorsement; celebrity endorser.

JEL codes: M31, M37

1. INTRODUCTION

Many companies rely on high-profile sports events to enhance their brand awareness through sponsorship initiatives (Farrell and Frame, 1997; Miyazaki and Morgan, 2001; Cornwell et al., 2001; Clark et al., 2009): firms provide financial support to the sports event or sports team and the firm's brand appears during the event. The literature on the topic finds a general positive effect on the endorsing firm's market value (Agrawal and Kamakura, 1995; Mathur et al., 1997), with some exceptions, such as the results of Ding et al. (2011), which stress the fact that the expenses incurred may offset the benefits derived from the endorsement strategy.

The analyses have focused on the announcement of the endorsement contract and its impact on firm value, with the expectation that a celebrity's potential success will be transferred to the company's name. According to Agrawal and Kamakura (1995), 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.

However, a question still remains unresolved. After signing the endorsement contract, how is the endorser's *performance* affecting the endorsing firm's *performance*? Farrel et al. (2000) analyzed the case of Tiger Woods, finding a positive effect on Nike's market value and no effect on Fortune Brands and American Express. In a similar context, but with no formal endorsement contracts involved, Nicolau (2011) finds a significant relationship between Real Madrid's performance in the Spanish Soccer League and the market value of the construction company ACS; and, also in soccer, Nicolau (2012) shows that the positive results of the Spanish National team in the 2010 FIFA World Cup led to a significant increase in the Spanish tourism industry's market value.

In this framework of relationships between types of performances, on the ground (of a field, a pitch, a golf course, or a tennis court) and on the floor (of the stock market), we go a step further and attempt to examine the way specific results of the celebrity endorser affect the market value of the endorsing firm. In particular, we test whether the reaction in the market value follows the pattern of diminishing sensitivity and loss aversion of Kahneman and Tversky's (1979) Prospect Theory. As greater sports contention leads to greater media coverage (Farrell et al., 2000), we expect that

the larger the advantage in the result of a victory is, the greater effect on the market value will be, but it will happen up to a point as there must be a satiation point. In other words, an "easy victory" will generate less media coverage than a close, hard-fought match. According to loss aversion, losing a match should have a greater impact than winning. We test these hypotheses on the tennis player Rafael Nadal and his endorsing companies, Banesto and Mapfre, by looking at the results of the matches of the four major tennis tournaments: the Grand Slams.

2. RESEARCH DESIGN

To examine the effect of a tennis player's performance on the value of the endorsing firms we estimate the abnormal returns derived from the player's performance in each match. We use the market model of Sharpe (1963, 1964) to gauge the variation in share prices on any given day: $R_{it} = \alpha_i + \beta_i RM_t + \varepsilon_{it}$ (1) in which R_{it} represents the returns on the firm's share i on day t, and 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 a GARCH (1,1) model (Bollerslev, 1986).

To estimate the abnormal returns derived from the results in each match, Karafiath's (1988) methodology is used. As the interest is in measuring the abnormal returns derived from the result in each match, we build a 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.

Therefore, the final market model is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \theta_i WIN_t D_{it} + \delta_i WIN_t^2 D_{it} + \tau_i LOSS_t D_{it} + \xi_i LOSS_t^2 D_{it} + \varepsilon_{it} \qquad (2)$$

According to Kahneman and Tversky's (1979) Prospect Theory, diminishing sensitivity will be detected if $\theta_i>0$ and $\delta_i<0$, and loss aversion if $\tau_i/\theta_i>1$.

We apply the empirical analysis to the case of Rafael Nadal, the best Spanish tennis player these days, and his endorsing firms: Banesto (whose endorsement contract was initiated on October 24, 2007) and Mapfre (from February 16, 2009). We collect the daily returns and build an aggregate return measure formed by the average of the two companies' daily returns, from February 16, 2009 through April 20, 2012. We focus on the Grand Slam tennis tournaments (Australian Open, Roland Garros, Wimbledon and US Open), and the results of the 85 matches that he played are obtained from the Worldwide Tennis Database and Tennis Navigator.

3. RESULTS

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 *WIN*, which represents abnormal returns for the day after Nadal winning a match; thus, Nadal's victory seems to have a positive effect on his endorsing firms' value, in line with Farrel et al. (2000). Also, a significant and negative parameter is found for the variable WIN^2, showing a diminishing sensitivity pattern and favoring the hypothesis of diminishing sensitivity.

"Insert Table 1 about here"

Graph 1 shows that winning by an advantage of one or two sets brings about a similar effect on the market value; but the impact of beating the opponent by three sets of difference is much lower.

"Insert Graph 1 about here"

It seems that, easy victories are not as hyped as closer ones; the latter gaining greater media coverage. To confirm this statement, we search the headlines made by the tennis player in the following day after each match won. We use the Factiva database for this purpose, identifying headlines in national and international newspapers. Table 2 shows the average number of headlines after each match won, for each possible set difference in the victory. A common pattern is found for total, national, and international headlines: the closer the victory, the greater the media coverage. We conduct ANOVAs and find that these differences are significant at 0.01 in all cases (total, national, and international newspapers). The Scheffé tests show significant differences in the number of news items between 1-set and 3-set victories, and between 2-set and 3-set victories; and no difference is found between 1-set and 2-set victory.

This result is confirmed again for total, national, and international newspapers, and is in line with the diminishing sensitivity found in Table 1 and displayed in Graph 1: winning by one or two sets leads to a greater effect on the market value than winning by three sets.

"Insert Table 2 about here"

Additionally, as a complement to this view of diminishing sensitivity, we attempt to see, in a descriptive way, whether it holds across matches, i.e. whether the marginal effect of each additional victory on market value diminishes. If Rafa Nadal wins multiple games in a row, people might "get used to" him winning, and the *n*th win may have little effect. If he loses a match, however, the curve might "reset" and the next win might suddenly have a much bigger impact. Graph 2 shows the abnormal returns for the *n*th match after a lost match, and a diminishing trend is observed. This result, however, is not conclusive at all, because the athlete only lost nine matches out of the eighty-five matches in the study period, what means that there are only nine observations to test whether the "curve resets". Nevertheless, while this is a preliminary result, and very descriptive in nature, it does open up a new avenue for research.

"Insert Graph 2 about here"

As for the parameters associated with the variables *LOSS* and $LOSS^2$, they seem to have no significant effect on market value. Similar to the diminishing sensitivity property, we look at the headlines made by the tennis player in the following day after each match: if Nadal did not receive as much coverage in lost as in won matches, this could help explain why there is no market response to his lost matches. Table 3 shows, however, that the average number of headlines after won and lost matches does not differ significantly from each other[1]. Also, we introduce the variable "number of headlines the day after a match" into the market model (Eq. 1), and find that it exerts a positive and significant effect ($p<0.05$) only after Nadal winning a match; if he loses a match the number of headlines does not have any significant influence ($p=0.628$).

"Insert Table 3 about here"

Therefore, we have "good news" (winning a match) bringing about positive market reactions -as expected-, and "allegedly bad news" (losing a match) having no

[1] We also control for outliers by applying the 5% trimming fraction, and the same non significant results are found in the three ANOVAs: $F=0.003$ ($p=0.956$); $F=1.277$ ($p=0.262$); $F=0.202$ ($p=0.654$).

effect at all -which is contrary to loss aversion-. It seems that this bad news is not so bad after all, or maybe they are not even bad at all. On the one hand, if we have to construe losing a tennis match as negative publicity, it is important to remember that negative publicity might not be all bad (Berger et al., 2010); and on the other hand, if we consider losing a match an "undesirable event", its effect would depend on the blameworthiness of the endorser (Louie et al., 2001).

But, to what extent is losing a tennis match an "undesirable event" that creates bad publicity? Louie et al. (2001) find that low blame undesirable events might even increase firm value as they can promote sympathy, liking and visibility of the endorser; what is more, in the case of professional athletes, they are usually afforded a hero status by their fans, who might have a higher tolerance for their blameworthy actions.

Certainly, losing a match is something "not desired", and as such, it is an "undesirable event"; but it happens within the sports arena and is part of the game. In fact, when one has to rate an athlete's attitude on the sports ground -from blamelessness to blameworthiness- to explain a sports result, it comes out as a relative question. In the particular case of Rafa Nadal, he is known to put his all into every game, and if he ends up losing it is not because of lack of effort. Obviously, his *responsibility* in the final result -for better or worse- is shared with his opponent (i.e. how well *the other* has played), so neither of them has to shoulder this responsibility a hundred percent. A different story would be if the athlete started to lose many matches in a row, as it could imply he is not in good shape. Remember, however, that we have had trouble in the sample size of lost matches because of its scarcity (for example, in the sample, no two losses were consecutive, and the average amount of wins in a row is 9, with a minimum of 3 and a maximum of 20).

Consequently, losing a match, while being undesirable, is regarded as a normal part of the game, with shared responsibility and, in the case of Rafa Nadal, something that happens not regularly and only every now and then. This can explain that, although being it an unanticipated event, the market remains neutral and there is no effect on the firm value of the endorsing firms. Indeed, the unanticipated event would be the athlete losing more than one (or two) matches in a row but, as indicated, that would be another story.

4. DISCUSSION

This article analyzes the relationship between two types of performance, one on the ground (of a tennis court, to be specific) and the other on the floor (of the stock market). The empirical application carried out on the tennis player, Rafael Nadal, and his endorsing firms shows that the market value of the firms reacts positively to the victories of the celebrity endorser in the Grand Slams, with a diminishing sensitivity pattern, in line with Kahneman and Tversky's (1979) Prospect Theory. However, loss aversion is not observed.

Firms contract celebrity endorsers with the expectation that a celebrity's potential success will be transferred to the company's name. This article shows that the performance of the celebrity is effectively transferred to the firm's value, following a pattern with which close and hard-fought victories bring about a greater effect on firm value than easy wins, and single, one-off losses do not seem to have any impact. Obviously, a key point in this context and, in turn, a relevant implication, is the right selection of the celebrity.

Two research threads can follow these results: 1) according to the preliminary results found in the diminishing sensitivity pattern "insinuated" as to the marginal effect of each additional victory on market value, it could be interesting to see, with a larger sample of lost matches, whether the "reset" of the curve exists; and 2) as each "type" of sports result (e.g. win, lost, close win, close lost, easy win, easy lost) seems to generate a different number of headlines, it could be insightful to directly relate both, number of headlines derived from a sports result and reactions in the market value.

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Table 1. Effect of Grand Slam matches on firm value

Variables	Parameters	Standard deviation	z-statistic
Market portfolio (R_m)	0.9666	0.0191	50.3
Set difference x Won match (*WIN*)	0.0107	0.0032	3.31
(Set difference x Won match)^2 (WIN^2)	-0.0035	0.0011	-3.05
Set difference x Lost match (*LOSS*)	-0.0071	0.0047	-1.49
(Set difference x Lost match)^2 ($LOSS^2$)	-0.0023	0.0018	-1.26
α	-0.0004	0.0003	-1.27
c	3E-06	8E-07	4.53
$\lambda_{Arch(1)}$	0.0548	0.0163	3.35
$\delta_{Garch(1)}$	0.9073	0.0187	48.44
F-statistic		225.57	
R-squared		0.69	

Table 2. Average number of headlines per match and per set difference

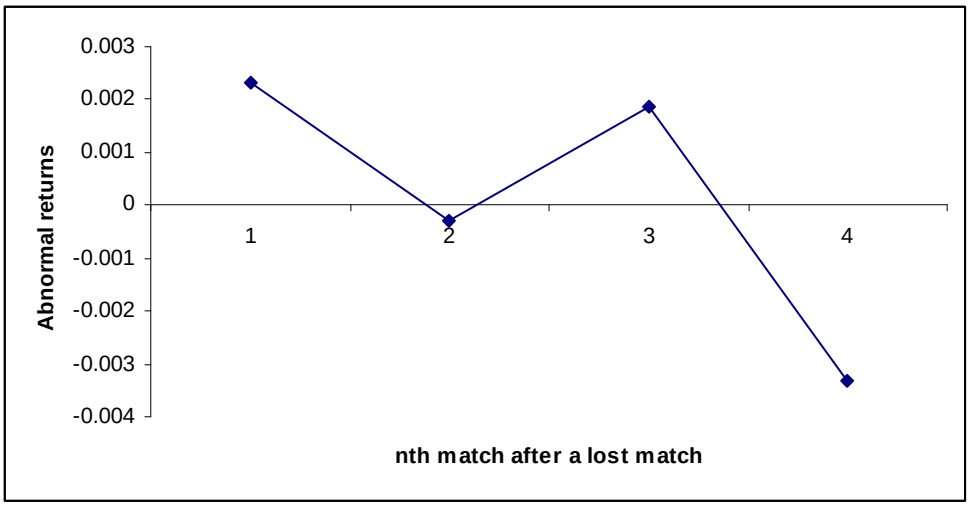
Set difference in the win	Total No. of headlines (average)	Total No. of national headlines (average)	Total No. of international headlines (average)
1	120	43	77
2	80	30	50
3	50	21	29
Anova test	10.08 ($p<0.01$)	9.71 ($p<0.01$)	8.55 ($p<0.01$)

Table 3. Average number of headlines per won and lost match

Set difference in the win	Total No. of headlines (average)	Total No. of national headlines (average)	Total No. of international headlines (average)
Won match	61	24	37
Lost match	65	19	47
Anova test	0.060 (p=0.76)	1.439 (p=0.234)	0.812 (p=0.370)

Graph 1. The effect of set difference on market value

Graph 2. Abnormal returns for the *n*th match after a lost match



The last match of the 85 matches was a lost, so we are left with 8 lost matches to analyze the reactions of the subsequent won matches. We average the abnormal returns of the won matches after each lost match; therefore, as the minimum number of consecutive victories is four, to present the average values with coherence, this graph shows the abnormal reactions for the first four won matches after a lost match (after the four match, the number of observations start to decrease).